Edge Therapeutics, Inc.
Form S-4
December 21, 2018
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As filed with the U.S. Securities and Exchange Commission on December 20, 2018

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form S-4
REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

Edge Therapeutics, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**2834**	**26-4231384**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification Number)**

300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
(800) 208-3343

(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

Brian A. Leuthner
President & Chief Executive Officer
Edge Therapeutics, Inc.
300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
(800) 208-3343

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

David S. Rosenthal, Esq. **Stephen R. Pratt, Esq.** **Dechert LLP** **Three Bryant Park** **1095 Avenue of Americas** **New York, New York 10036** **(212) 698-3616**	**Frank Bedu-Addo** **President & Chief Executive Officer** **PDS Biotechnology Corporation** **303B College Road East** **Princeton, New Jersey 08540**	**Fahd Riaz, Esq.** **Emilio Ragosa, Esq.** **DLA Piper LLP (US)** **One Liberty Place** **1650 Market Street, Suite 4900** **Philadelphia, Pennsylvania 19103** **(215) 656-3316**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement and the satisfaction or waiver of all other conditions under the Merger Agreement described herein.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box: o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of large accelerated filer, accelerated filer, smaller reporting company, and emerging growth company in Rule 12b-2 of the Exchange Act.

Large accelerated filer	o	Accelerated filer	o
Non-accelerated filer	o (Do not check if a smaller reporting company	Smaller reporting company	
Emerging growth company			

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13e-4(i) (Cross-Border Issuer Tender Offer) o

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer) o

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered[(1)(2)]	Proposed maximum offering price per share	Proposed maximum aggregate offering price[(3)]	Amount of registration fee[(4)]
Common stock, par value $0.00033 per share	10,000,000	N/A	$ 48.20	$ 0.01

(1) Represents the maximum number of shares of common stock of Edge Therapeutics, Inc., or Edge, issuable to securityholders of PDS Biotechnology Corporation, or PDS, in the proposed merger described in the proxy statement/prospectus/information statement included herein, plus an additional amount of shares of common stock of Edge to ensure a sufficient number of shares are registered in the event that an adjustment to the exchange ratio occurs as required by the merger agreement. The amount of Edge common stock to be registered is based on the estimated number of shares of Edge common stock that are expected to be issued pursuant to the merger, after giving effect to the proposed reverse stock split, assuming a pre-split exchange ratio of 6.2315 shares of Edge common stock for each outstanding share of PDS common stock. The estimated exchange ratio

calculation contained herein is based upon Edge's capitalization immediately prior to the date of this proxy statement/prospectus/information statement, and will be adjusted to account for the issuance of any additional shares of Edge common stock prior to the closing of the merger.

(2) Pursuant to Rule 416 under the Securities Act of 1933, as amended, or Securities Act, there are also being registered such additional shares of Edge common stock that may be issued because of events such as recapitalizations, stock dividends, stock splits and reverse stock splits, and similar transactions.

(3) Estimated solely for purposes of calculation of the registration fee in accordance with Rule 457(f) of the Securities Act. PDS is a private company and no market exists for its equity securities. PDS has accumulated a capital deficit; therefore, pursuant to Rule 457(f)(2) under the Securities Act, the proposed maximum offering price is one-third of the aggregate par value of PDS's capital stock being acquired in the proposed merger, which is calculated by taking one-third of the product of the par value of $0.00001 and the maximum number of shares of PDS common stock that may be exchanged in the merger, or 14,607,307 shares of PDS common stock (computed as of December 18, 2018, the latest practicable date prior to the date of filing this registration statement, and inclusive of all shares of PDS common stock issuable upon conversion of any securities convertible into or exercisable for shares of PDS common stock).

(4) Determined in accordance with Section 6(b) of the Securities Act at a rate equal to $121.20 per $1,000,000 of the proposed maximum aggregate offering price.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this proxy statement/prospectus/information statement is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This proxy statement/prospectus/information statement is not an offer to sell and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED DECEMBER 20, 2018

PROPOSED MERGER

YOUR VOTE IS VERY IMPORTANT

To the Stockholders of Edge Therapeutics, Inc. and PDS Biotechnology Corporation:

Edge Therapeutics, Inc., a Delaware corporation, or Edge, and Echos Merger Sub, Inc., a Delaware corporation and a wholly-owned subsidiary of Edge, or Echos Merger Sub, and PDS Biotechnology Corporation, a Delaware corporation, or PDS, have entered into an Agreement and Plan of Merger and Reorganization, or Merger Agreement, pursuant to which Echos Merger Sub will merge with and into PDS, with PDS surviving the merger as a wholly-owned subsidiary of the combined company. These transactions are referred to herein collectively as the merger. Following the merger, Edge will be renamed PDS Biotechnology Corporation and is sometimes referred to herein as the combined company. The merger will result in a clinical-stage immuno-oncology biotechnology company developing novel product candidates for the potential treatment of early- and late-stage cancer, with a growing pipeline of next-generation cancer immunotherapies based on the proprietary, multi-functional Versamune® technology platform.

At the closing of the merger, (a) each outstanding share of capital stock of PDS, will be converted into the right to receive approximately [•] shares of Edge common stock, or the Exchange Ratio, subject to adjustment for any reverse stock split, and (b) each outstanding PDS stock option, whether vested or unvested, and warrant that has not previously been exercised prior to the effective time of merger will be converted into a stock option or warrant, as the case may be, to purchase approximately [•] shares of Edge common stock, subject to adjustment for any reverse stock split. This Exchange Ratio is an estimate only and the final Exchange Ratio will be determined pursuant to a formula described in more detail in the Merger Agreement and in this proxy statement/prospectus/information statement. Under the Exchange Ratio formula in the Merger Agreement, as of immediately after the merger, the former PDS securityholders are expected to own approximately 70% of the aggregate number of shares of the common stock of the combined company issued and outstanding immediately following the closing of the merger, or the Post-Closing Shares, and the securityholders of Edge as of immediately prior to the closing of the merger are expected to own approximately 30% of the aggregate number of Post-Closing Shares. These percentages assume that the Exchange Ratio is not adjusted for net cash balances or otherwise, as described in the section titled The Merger Agreement below. For a more complete description of the Exchange Ratio please see the section titled The Merger Agreement-Exchange Ratio in this proxy statement/prospectus/information statement.

Shares of Edge common stock are currently listed on the Nasdaq Global Select Market under the symbol EDGE. Prior to the closing of the merger, Edge intends to file an initial listing application for the combined company with the Nasdaq Capital Market pursuant to its reverse merger rules. After the closing of the merger, the combined company expects to trade on the Nasdaq Capital Market under the symbol PDSB. On , 2018, the last trading day before the date of this proxy statement/prospectus/information statement, the closing sale price of Edge common stock was $ per share.

Edge is holding a special meeting of stockholders in order to obtain the stockholder approvals necessary to complete the merger and related matters. At the Edge special meeting, which will be held on , 2019 at , local time, at , unless postponed or adjourned to a later date, Edge will ask its stockholders, among other things, to approve the issuance of shares of Edge common stock as consideration in the merger, to approve an amendment to Edge s certificate of incorporation effecting a reverse stock split of Edge common stock at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS, and to approve an amendment to the Edge 2014 Equity Incentive Plan, each as described in this proxy statement/prospectus/information statement.

As described in this proxy statement/prospectus/information statement, certain PDS stockholders who in the aggregate own approximately [•]% of the outstanding shares of PDS common stock, and certain Edge stockholders who in the aggregate own approximately 5.8% of the outstanding shares of Edge common stock, are parties to support agreements with Edge and PDS, pursuant to which such stockholders have agreed to vote such shares in favor of approving certain of the transactions contemplated by the Merger Agreement, including the merger, and the issuance of shares of common stock pursuant to the Merger Agreement and the reverse stock split, respectively, subject to the terms of the support agreements. No meeting of PDS stockholders to adopt the Merger Agreement and approve the merger and related transactions will be held. Instead, all PDS stockholders will have the opportunity to vote to adopt the Merger Agreement and approve the merger and related transactions, by signing and returning to PDS a written consent following the registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, being declared effective by the Securities and Exchange Commission. The holders of a sufficient number of shares of PDS common stock required to adopt the Merger Agreement and approve the merger and related transactions have agreed to adopt the Merger Agreement and approve the merger and related transactions via written consent. PDS stockholders, including those who are parties to support agreements, are requested to execute written consents providing such approvals.

After careful consideration, the respective Edge and PDS boards of directors have unanimously approved the Merger Agreement and the transactions contemplated thereby, including the proposals referred to above (other than Brian Leuthner, Edge s President and Chief Executive Officer, who recused himself from the Edge board of directors vote). The Edge board of directors, or the Edge Board, unanimously recommends that its stockholders vote FOR each of the Stock Issuance Proposal, the Reverse Stock Split Proposal and the Equity Incentive Plan Proposal, each as is described in this proxy statement/prospectus/information statement, and the PDS board of directors, or the PDS Board, unanimously recommends that its stockholders sign and return the written consent indicating their approval of the merger and adoption of the Merger Agreement and related transactions to PDS.

More information about Edge, PDS and the proposed transactions are contained in this proxy statement/prospectus/information statement. Edge and PDS urge you to read this proxy statement/prospectus/information statement carefully and in its entirety. IN PARTICULAR, YOU SHOULD CAREFULLY CONSIDER THE MATTERS DISCUSSED UNDER RISK FACTORS BEGINNING ON PAGE 25.

Edge and PDS are excited about the opportunities the merger brings to both Edge and PDS stockholders, and thank you for your consideration and continued support.

Brian A. Leuthner	Frank Bedu-Addo
President & Chief Executive Officer	President & Chief Executive Officer
Edge Therapeutics, Inc.	PDS Biotechnology Corporation

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this proxy statement/prospectus/information statement. Any representation to the contrary is a criminal offense.

This proxy statement/prospectus/information statement is dated , 2019, and is first being mailed to Edge and PDS stockholders on or about , 2019.

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EDGE THERAPEUTICS, INC.
300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
(800) 208-3343

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

To Be Held On , 2019

Dear Stockholders of Edge:

On behalf of the board of directors of Edge Therapeutics, Inc., a Delaware corporation, or Edge, Edge is pleased to deliver this proxy statement/prospectus/information statement for the proposed merger between Edge and PDS, a Delaware corporation, or PDS, pursuant to which Echos Merger Sub, Inc., a wholly-owned subsidiary of Edge, will merge with and into PDS, with PDS surviving the merger as a wholly-owned subsidiary of the combined company. The special meeting of stockholders of Edge will be held on , 2019 at , local time , at , for the following purposes:

1. To consider and vote upon a proposal to approve the issuance of shares of Edge common stock pursuant to the Agreement and Plan of Merger and Reorganization, dated as of November 23, 2018, by and among Edge, Echos Merger Sub, Inc. and PDS, a copy of which is attached as *Annex A* to this proxy statement/prospectus/information statement, or the Stock Issuance Proposal;
2. To consider and vote upon an amendment to the certificate of incorporation of Edge to effect a reverse stock split of Edge common stock, at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS, the form of which is attached as *Annex B* to this proxy statement/prospectus/information statement, or the Reverse Stock Split Proposal; and
3. To consider and vote upon approving Amended and Restated Edge Therapeutics, Inc. 2014 Equity Incentive Plan, or the Restated Plan, the form of which is attached as *Annex C* to this proxy statement/prospectus/information statement, which, among other items, increases the number of shares Edge common stock available for grant under Edge's equity-based incentive compensation program, or the Equity Incentive Plan Proposal. If the Stock Issuance Proposal is not approved, the Equity Incentive Plan Proposal will be automatically withdrawn.

The Edge Board has fixed , 2019 as the record date for the determination of stockholders entitled to notice of, and to vote at, the Edge special meeting and any adjournment or postponement thereof. Only holders of record of shares of Edge common stock at the close of business on the record date are entitled to notice of, and to vote at, the Edge special meeting. At the close of business on the record date, Edge had shares of common stock outstanding and entitled to vote.

Your vote is important. The affirmative vote of the holders of a majority of the shares of Edge common stock properly cast at the Edge special meeting, presuming a quorum is present, is required for approval of the Stock Issuance Proposal. The affirmative vote of the holders of a majority of the Edge common stock outstanding on the record date for the Edge special meeting is required for the approval of the Reverse Stock Split Proposal. No Edge Proposal is conditioned upon any other Edge Proposal.

Even if you plan to attend the Edge special meeting in person, Edge requests that you sign and return the enclosed proxy to ensure that your shares will be represented at the Edge special meeting if you are unable to attend.

By Order of the Edge Board of Directors,

W. Bradford Middlekauff
Senior Vice President, General Counsel and Secretary
Berkeley Heights, NJ 07922

, 2019

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THE EDGE BOARD HAS DETERMINED AND BELIEVES THAT EACH OF THE PROPOSALS OUTLINED ABOVE IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, EDGE AND ITS STOCKHOLDERS AND HAS APPROVED EACH SUCH PROPOSAL. THE EDGE BOARD UNANIMOUSLY RECOMMENDS THAT EDGE STOCKHOLDERS VOTE FOR EACH OF THE STOCK ISSUANCE PROPOSAL AND THE REVERSE STOCK SPLIT PROPOSAL.

REFERENCES TO ADDITIONAL INFORMATION

This proxy statement/prospectus/information statement incorporates important business and financial information about Edge that is not included in or delivered with this document. You may obtain this information without charge through the SEC website (www.sec.gov) or upon your written or oral request by contacting the Secretary of Edge Therapeutics, Inc., 300 Connell Drive, Suite 4000, Berkeley Heights, NJ 07922 or by calling (908) 242-3899.

To ensure timely delivery of these documents, any request should be made no later than , 2019 to receive them before the special meeting.

For additional details about where you can find information about Edge, please see the section titled Where You Can Find More Information in this proxy statement/prospectus/information statement.

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QUESTIONS AND ANSWERS ABOUT THE MERGER

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus/information statement does not give effect to the proposed reverse stock split of Edge common stock described in the Reverse Stock Split Proposal in this proxy statement/prospectus/information statement.

The following section provides answers to frequently asked questions about the merger. This section, however, provides only summary information. For a more complete response to these questions and for additional information, please refer to the cross-referenced sections.

Q: What is the merger?

A: Edge Therapeutics, Inc., or Edge, and PDS Biotechnology Corporation, or PDS, have entered into an Agreement and Plan of Merger and Reorganization, dated November 23, 2018, or the Merger Agreement. The Merger Agreement contains the terms and conditions of the proposed business combination of Edge and PDS. Under the Merger Agreement, Echos Merger Sub, Inc., a wholly-owned subsidiary of Edge, will merge with and into PDS, with PDS surviving the merger as a wholly-owned subsidiary of the combined company. Following the merger, Edge will be renamed PDS Biotechnology Corporation and is referred to herein as the combined company. Subject to the terms and conditions of the Merger Agreement, at the effective time of the merger, or the Effective Time, (a) each outstanding share of capital stock of PDS (other than any shares held as treasury stock that will be cancelled), will be converted into the right to receive the number of shares of Edge common stock equal to the Exchange Ratio described below and (b) each outstanding PDS stock option, whether vested or unvested, and warrant that has not previously been exercised prior to the Effective Time will be assumed by Edge and converted into an option or warrant, as applicable, to purchase shares of Edge common stock, subject to adjustment for any reverse stock split, as described in the section titled Treatment of PDS Stock Options and Warrants below.

Under the Exchange Ratio formula in the Merger Agreement, as of immediately after the merger and assuming no adjustments for net cash balances as provided for in the Merger Agreement, the former PDS securityholders are expected to own approximately 70% of the aggregate number of shares of common stock of the combined company immediately following the Effective Time, the Post-Closing Shares, and the securityholders of Edge as of immediately prior to the merger are expected to own approximately 30% of the aggregate number of Post-Closing Shares. The Exchange Ratio will be fixed prior to closing to reflect Edge s and PDS s capitalization as of immediately prior to such time.

Q: What will happen to Edge if, for any reason, the merger does not close?

A: If, for any reason, the merger does not close, the Edge Board may elect to, among other things, attempt to complete another strategic transaction like the merger, attempt to sell or otherwise dispose of the various assets of Edge or continue to operate the business of Edge. If the Stock Issuance Proposal is not approved but the Reverse Stock Split Proposal is approved, the Edge board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 in order to satisfy Edge's continued listing requirements on the Nasdaq Global Select Market. Edge may be unable to identify and complete an alternative strategic transaction or continue to operate the business due to limited cash availability, and it may be required to dissolve and liquidate its assets. In such case, Edge would be required to pay all of its debts and contractual obligations, and to set aside certain reserves for potential future claims, and there can be no assurances as to the amount or timing of available cash left to distribute to stockholders after paying the debts and other obligations of Edge and setting aside funds for reserves.

Q: Why are the companies proposing to merge?

A: Edge and PDS believe that the combined company will have several potential advantages, including: (i) an immunotherapy pipeline with multiple product candidates that have demonstrated promising efficacy and safety results in pre-clinical and early-stage clinical studies, (ii) an efficient expected path to potential

commercialization, (iii) operational synergies, (iv) a combined management team with experience in immuno-oncology and public company management and (v) a board of directors with experience in immuno-oncology and public company governance.

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Following the merger, the combined company will focus on developing PDS s Versamune® platform for next generation immune-oncology products that are effective and safe across a broad range of cancer types.

For a more complete discussion of Edge s and PDS s reasons for the merger, please see the section titled The Merger—Edge Reasons for the Merger and The Merger—PDS Reasons for the Merger.

Q: Why am I receiving this proxy statement/prospectus/information statement?

A: You are receiving this proxy statement/prospectus/information statement because you have been identified as a stockholder of Edge or PDS as of the applicable record date, and you are entitled, as applicable, to vote at the Edge stockholder meeting to approve among other things the issuance of shares of Edge common stock pursuant to the Merger Agreement and reverse stock split, or sign and return the PDS written consent to adopt the Merger Agreement and approve the transactions contemplated thereby. This document serves as:

- a proxy statement of Edge used to solicit proxies for its special meeting of stockholders;
- a prospectus of Edge used to issue shares of Edge common stock in exchange for shares of PDS common stock in the merger; and
- an information statement of PDS used to solicit the written consent of its stockholders for the adoption of the Merger Agreement and the approval of the merger and related transactions.

Q: What is required to consummate the merger?

A: To consummate the merger, Edge stockholders must approve the issuance of shares of Edge common stock pursuant to the Merger Agreement and the reverse stock split. In addition, PDS stockholders must adopt the Merger Agreement and approve the merger and the transactions contemplated thereby.

The approval of the issuance of Edge common stock pursuant to the Merger Agreement by the stockholders of Edge requires the affirmative vote of the holders of a majority of the shares of Edge common stock properly cast at the Edge special meeting, presuming a quorum is present at the meeting. The approval of the reverse stock split requires the affirmative vote of the holders of a majority of the Edge common stock outstanding on the record date for the Edge special meeting.

The adoption of the Merger Agreement and the approval of the merger and related transactions by the stockholders of PDS requires the affirmative vote of the holders of a majority of the outstanding shares of PDS common stock.

In addition to the requirement of obtaining such stockholder approval and appropriate regulatory approvals, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived.

The approval of the reverse stock split is required to avoid the delisting of Edge common stock from the Nasdaq Global Select Market. Therefore, if Edge s stockholders do not approve the Reverse Stock Split Proposal to effect the reverse stock split upon the closing of the merger, Edge has been advised that The Nasdaq Stock Market LLC will commence delisting proceedings immediately following the closing of the merger. If the Stock Issuance Proposal is not approved but the Reverse Stock Approval is approved, the Edge Board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 as determined solely by the Edge Board in order to satisfy Edge s continued listing requirements on the Nasdaq Global Select Market.

Certain PDS stockholders including certain directors and executive officers who in the aggregate own approximately 82% of the outstanding shares of PDS common stock, and certain Edge stockholders including certain directors and executive officers who in the aggregate own approximately 5.8% of the outstanding shares of Edge common stock, are parties to support agreements with Edge and PDS pursuant to which such stockholders have agreed to vote for the adoption of the Merger Agreement and the merger and for the issuance of Edge common stock in the merger pursuant to the Merger Agreement and the reverse stock split, respectively, pursuant to the terms of the support agreements. In addition, following the registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, being declared effective by the SEC and pursuant to the conditions of the Merger Agreement, PDS

stockholders who are party to the support agreements will each execute written consents approving the merger and related transactions. The holders of a sufficient number of shares of PDS common stock

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required to adopt the Merger Agreement have agreed to adopt the Merger Agreement via written consent. PDS stockholders, including those who are parties to support agreements, are requested to execute written consents providing such approvals. For a more detailed discussion of the support agreements see the section titled Agreements Related to the Merger-Support Agreements and Written Consent.

For a more complete description of the closing conditions under the Merger Agreement, please see the section titled The Merger Agreement—Conditions to the Closing of the Merger.

Q: What will PDS securityholders receive in the merger?

A: As a result of the merger, PDS securityholders will become entitled to receive shares of Edge common stock equal to approximately 70% of the aggregate number of Post-Closing Shares.

For a more complete description of what PDS securityholders will receive in the merger, please see the sections titled Market Price and Dividend Information and The Merger Agreement—Merger Consideration.

Q: What will Edge securityholders receive in the merger?

A: Edge securityholders will not receive any new securities in the merger, but will instead retain ownership of their shares of Edge common stock equal to approximately 30% of the aggregate number of Post-Closing Shares.

Q: Who will be the directors of the combined company following the merger?

A: Upon the closing of the merger, the combined company's board of directors is expected to be composed of seven directors. Three of the directors will be designated by Edge, and four of the directors will be designated by PDS and will be as follows:

Name	Current Principal Affiliation
Frank Bedu-Addo, PhD.(2)	President & Chief Executive Officer, PDS
Brian A. Leuthner(1)	President & Chief Executive Officer, Edge
De Lyle W. Bloomquist(2)	Former President, Global Chemicals Business for Tata Chemicals Ltd.
Gregory Freitag, J.D., CPA(2)	General Counsel, SVP Business Development, AxoGen, Inc.
James Loughlin(1)	Former Partner, KPMG LLP
Robert Spiegel, M.D., FACP(1)	Former Chief Medical Officer, Schering-Plough Research Institute
Sir Richard Sykes(2)	Former Chief Executive Officer and Chairman of GlaxoWellcome

(1) Edge designee
(2) PDS designee

In addition, Sol J. Barer, Ph.D., current chairman of the board of directors of Edge, Chairman of the board of directors at Teva Pharmaceutical Industries Ltd. and who previously spent 24 years at Celgene as, among other positions, President, COO and CEO, as well as its Executive Chairman and Chairman, is expected to serve as an advisor to the board of directors of the combined company.

Q: Who will be the executive officers of combined company immediately following the merger?

A: Upon the closing of the merger, the executive management team of the combined company is expected to be composed of the following:

Name	Title
Frank Bedu-Addo, PhD.	Chief Executive Officer
Brian A. Leuthner	President
Gregory Conn, PhD.	Chief Scientific Officer
Andrew Saik	Chief Financial Officer

Lauren Wood, M.D.	Chief Medical Officer

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Q: What are the intended U.S. federal income tax consequences of the merger to PDS United States stockholders?

A: Each of Edge and PDS intends that the merger qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended, or the Code. In general, the material tax consequences to U.S. Holders (as defined herein) of PDS common stock are expected to be as follows:

- Each PDS stockholder should not generally recognize gain or loss upon the exchange of PDS common stock for Edge common stock pursuant to the merger, except to the extent of cash received in lieu of a fractional share of Edge common stock as described below; and
- Each PDS stockholder should recognize gain or loss to the extent any cash received in lieu of a fractional share of Edge common stock exceeds or is less than the basis of such fractional share.

However, there are many requirements that must be satisfied in order for the merger to be treated as a reorganization under Section 368(a) of the Code, some of which are based upon factual determinations, and the reorganization treatment could be affected by actions taken after the merger. If the merger failed to qualify as a reorganization under Section 368(a) of the Code, the PDS stockholders generally would recognize the full amount of gains and losses realized on the exchange of their PDS common stock in the merger.

Tax matters are very complicated, and the tax consequences of the merger to a particular PDS stockholder will depend on such stockholder s circumstances. Accordingly, you should consult your tax advisor for a full understanding of the tax consequences of the merger to you, including the applicability and effect of federal, state, local and foreign income and other tax laws. For more information, please see the section titled The Merger—Certain Material U.S. Federal Income Tax Consequences of the Merger.

Q: Do persons involved in the merger have interests that may conflict with mine as an Edge stockholder?

A: Yes. In considering the recommendation of the Edge Board with respect to issuing shares of Edge common stock pursuant to the Merger Agreement and the other matters to be acted upon by Edge stockholders at the Edge special meeting, Edge stockholders should be aware that certain members of the Edge Board and executive officers of Edge have interests in the merger that may be different from, or in addition to, interests they have as Edge stockholders.

Edge has entered into employment agreements, stock option agreements and restricted stock unit agreements with its executive officers that provide them with cash severance payments and acceleration of certain of their outstanding equity awards in the event their employment is terminated without cause or for good reason in connection with a change in control. Based on the terms of these employment agreements, Edge s executive officers whose employment with Edge will end in connection with the merger will be contractually entitled to these severance payments and benefits. Additionally, all outstanding equity awards held by Edge s executive officers will accelerate fully and vest upon the closing of the merger. As of the date of this proxy statement/prospectus/information statement, Edge s executive officers held stock options to purchase an aggregate of [•] shares of Edge common stock with a weighted average exercise price of $[•] per share (all of which are out of the money based on the closing price of Edge common stock as of [•], 2018) and held unvested restricted stock units covering [•] shares of Edge common stock. Based on data available as of the date of this proxy statement/prospectus/information statement, Edge s executive officers would be entitled to receive a total of approximately $[•] (collectively, not individually) in cash severance payments if their employment was terminated by Edge without cause or by them for good reason, in either case, in connection with the closing of the merger. For more information, please see the sections titled The Merger—Interests of the Edge Directors and Executive Officers in the Merger.

Edge s non-employee directors hold restricted stock units totaling 80,000 shares of Edge common stock and hold stock options to purchase an aggregate of 2,546,089 shares of Edge common stock with a weighted average exercise price of $4.72 per share as part of Edge s non-employee director compensation program. These stock options will by their terms vest in full upon the closing of the merger, including restricted stock units of 20,000 shares of Edge common stock and stock options for 240,607 and 64,286 shares of Edge common stock held by James Loughlin and Robert

Spiegel, M.D., FACP, respectively, each of whom is expected to remain on the combined company s board of directors. [The parties expect that Dr. Sol Barer will enter into a consulting arrangement in connection with serving as an advisor to the board of directors of

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the combined company.] [In addition, Dr. Barer, as chairman of the transactions committee of the Edge Board, will receive a one-time cash payment of $[•] for his service on such committee, and each of [•] and [•], the other members of the transactions committee, will receive $[•] for service on such committee.] For more information, please see the section titled The Merger-Interests of the Edge Directors and Executive Officers in the Merger.]

Q: Do persons involved in the merger have interests that may conflict with mine as a PDS stockholder?

A: Yes. In considering the recommendation of the PDS Board with respect to approving the merger and related transactions by written consent, PDS stockholders should be aware that certain members of the PDS Board and executive officers of PDS have interests in the merger that may be different from, or in addition to, interests they have as PDS stockholders. All of PDS's executive officers have options to purchase shares of PDS common stock which will vest and convert into options to purchase a number of shares of Edge common stock determined by the exchange ratio, rounding any resulting fractional shares down to the nearest whole share, certain of PDS's directors and executive officers are expected to become directors and executive officers of Edge upon the closing of the merger and all of PDS's directors and executive officers are entitled to certain indemnification and liability insurance coverage pursuant to the terms of the Merger Agreement. For more information, please see the section titled The Merger—Interests of the PDS Directors and Executive Officers in the Merger.

Q: As an Edge stockholder, how does the Edge Board recommend that I vote?

A: After careful consideration, the Edge Board unanimously recommends that Edge stockholders vote:

- **FOR** the Stock Issuance Proposal to consider and vote upon the issuance of shares of Edge common stock pursuant to the Merger Agreement;
- **FOR** the Reverse Stock Split Proposal to consider and vote upon the amendment to the certificate of incorporation of Edge to effect a reverse stock split of Edge common stock, at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS; and
- **FOR** the Equity Incentive Plan Proposal to consider and vote to approve the Restated Plan, which, among other items, increases the number of shares of Edge common stock available for grant under Edge's equity-based incentive compensation program.

Except as stated below, no Edge Proposal is contingent upon any other Edge Proposal. Therefore, if the Stock Issuance Proposal is not approved but the Reverse Stock Split Approval is approved, the Edge Board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 as determined solely by the Edge Board in order to satisfy Edge s continued listing requirements on the Nasdaq Global Select Market. However, if the Merger is not consummated, the Equity Incentive Plan Proposal will be automatically withdrawn.

Q: Why is Edge proposing the Equity Incentive Plan Proposal?

A: The Restated Plan, which would become effective following the consummation of the merger, is intended to maintain and strengthen Edge's ability to attract and retain key employees, directors, consultants and certain other individuals providing services to Edge and to motivate them to remain focused on long-term stockholder value.

Q: As a PDS stockholder, how does the PDS Board recommend that I vote?

A: After careful consideration, the PDS Board recommends that the PDS stockholders execute the written consent indicating their votes in favor of the adoption of the Merger Agreement and the approval of the merger and the transactions contemplated thereby.

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Q: What risks should I consider in deciding whether to vote in favor of the issuance of shares of Edge common stock pursuant to the Merger Agreement or to execute and return the written consent approving the Merger Agreement and the transactions contemplated thereby, as applicable?

A: You should carefully review this proxy statement/prospectus/information statement, including the section titled Risk Factors, which sets forth certain risks and uncertainties related to the merger, risks and uncertainties to which the combined company's business will be subject, and risks and uncertainties to which each of Edge and PDS, as an independent company, is subject.

Q: When do you expect the merger to be consummated?

A: The merger is anticipated to close as soon as possible after the Edge special meeting is held on , 2019, but Edge cannot predict the exact timing. For more information, please see the section titled The Merger Agreement-Conditions to the Closing of the Merger.

Q: What do I need to do now?

A: Edge and PDS urge you to read this proxy statement/prospectus/information statement carefully, including its annexes, and to consider how the merger affects you.

If you are an Edge stockholder, you may provide your proxy instructions in one of two different ways. First, you can mail your signed proxy card in the enclosed return envelope. Second, you may also provide your proxy instructions via the Internet by following the instructions on your proxy card or voting instruction form. Please provide your proxy instructions only once, unless you are revoking a previously delivered proxy instruction, and as soon as possible so that your shares can be voted at the special meeting of Edge stockholders.

If you are a PDS stockholder, you may execute and return your written consent to PDS in accordance with the instructions provided.

Q: What happens if I do not return a proxy card or otherwise provide proxy instructions, as applicable?

A: If you are a stockholder of record and you return a signed proxy card without marking any selections, your shares will be voted **FOR** each of the Stock Issuance Proposal, the Reverse Stock Split Proposal and the Equity Incentive Plan Proposal.

If you do not give instruction to your broker, your broker can vote your Edge shares with respect to discretionary items but not with respect to non-discretionary items. It is anticipated that the Stock Issuance Proposal and Equity Incentive Plan Proposal will be a non-discretionary items. On non-discretionary items for which you do not give your broker instructions, the Edge shares will be treated as broker non-votes. Broker non-votes will not be considered to be shares entitled to vote at the meeting and will not be counted as having been voted on the applicable proposal. The Reverse Stock Split Proposal is a matter on which a broker or other nominee are generally empowered to vote, and therefore, limited or no broker non-votes are expected with respect to those proposals.

Q: May I vote in person at the special meeting of stockholders of Edge?

A: If your shares of Edge common stock are registered directly in your name with the Edge transfer agent, you are considered to be the stockholder of record with respect to those shares, and the proxy materials and proxy card are being sent directly to you by Edge. If you are an Edge stockholder of record, you may attend the special meeting of Edge stockholders and vote your shares in person. Even if you plan to attend the Edge special meeting in person, Edge requests that you sign and return the enclosed proxy to ensure that your shares will be represented at the Edge special meeting if you are unable to attend. If your shares of Edge common stock are held in a brokerage account or by another nominee, you are considered the beneficial owner of shares held in street name, and the proxy materials are being forwarded to you by your broker or other nominee together with a voting instruction card. As the beneficial owner, you are also invited to attend the special meeting of Edge stockholders. Because a beneficial owner is not the stockholder of record, you may not vote these shares in person at the Edge special meeting unless you obtain a proxy from the broker, trustee or nominee that holds your shares, giving you the right to vote the shares at the meeting.

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Q: When and where is the special meeting of Edge stockholders being held?

A: The special meeting of Edge stockholders will be held at , at local time, on , 2019. Subject to space availability, all Edge stockholders as of the record date, or their duly appointed proxies, may attend the meeting. Since seating is limited, admission to the meeting will be on a first-come, first-served basis.

Q: If my Edge shares are held in street name by my broker, will my broker vote my shares for me?

A: Unless your broker has discretionary authority to vote on certain matters, your broker will not be able to vote your shares of Edge common stock on matters requiring discretionary authority without instructions from you. Brokers are not expected to have discretionary authority to vote for the Stock Issuance Proposal and Equity Incentive Plan Proposal. To make sure that your vote is counted, you should instruct your broker to vote your shares, following the procedures provided by your broker. Brokers are expected to have discretionary authority to vote for the Reverse Stock Split Proposal.

Q: May I change my vote after I have submitted a proxy or provided proxy instructions?

A: Edge stockholders of record, other than those Edge stockholders who are parties to support agreements, may change their vote at any time before their proxy is voted at the Edge special meeting in one of three ways. First, an Edge stockholder of record can send a written notice to the Secretary of Edge stating that it would like to revoke its proxy. Second, an Edge stockholder of record can submit new proxy instructions either on a new proxy card or via the Internet. Third, an Edge stockholder of record can attend the Edge special meeting and vote in person. Attendance alone will not revoke a proxy. If an Edge stockholder of record or a stockholder who owns Edge shares in street name has instructed a broker to vote its shares of Edge common stock, the stockholder must follow directions received from its broker to change those instructions.

Q: Who is paying for this proxy solicitation?

A: Edge and PDS will share equally the costs of printing and filing this proxy statement/prospectus/information statement and proxy card. Arrangements will also be made with brokerage firms and other custodians, nominees and fiduciaries who are record holders of Edge common stock for the forwarding of solicitation materials to the beneficial owners of Edge common stock. Edge and PDS will reimburse these brokers, custodians, nominees and fiduciaries for the reasonable out-of-pocket expenses they incur in connection with the forwarding of solicitation materials. Edge has engaged D.F. King & Co., Inc. to assist in the solicitation of proxies and provide related advice and informational support, for a service fee, plus customary disbursements, which are not expected to exceed $15,000 in total, which shall be borne by Edge.

Q: Who can help answer my questions?

A: If you are an Edge stockholder and would like additional copies, without charge, of this proxy statement/prospectus/information statement or if you have questions about the merger, including the procedures for voting your shares, you should contact Edge's proxy solicitor:

D.F. King & Co., Inc.
(800) 967-5074 (toll free)
(212) 269-5550 (collect)

If you are a PDS stockholder and would like additional copies, without charge, of this proxy statement/prospectus/information statement or if you have questions about the merger, including the procedures for voting your shares, you should contact:

PDS Biotechnology Corporation
303B College Road East
Princeton, New Jersey 08540
Attention: Chief Executive Officer

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PROSPECTUS SUMMARY

This summary highlights selected information from this proxy statement/prospectus/information statement and may not contain all of the information that is important to you. To better understand the merger, the proposals being considered at the Edge special meeting and the PDS stockholder actions that are the subject of the written consent, you should read this entire proxy statement/prospectus/information statement carefully, including the Merger Agreement and the other annexes to which you are referred to herein. For more information, please see the section titled Where You Can Find More Information.

The Parties

Edge Therapeutics, Inc.

300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
(800) 208-3343

Edge Therapeutics, Inc., or Edge, is a clinical-stage biotechnology company that seeks to discover, develop and commercialize novel, hospital-based therapies capable of transforming treatment paradigms for the management of acute, life-threatening conditions.

PDS Biotechnology Corporation

303B College Road East
Princeton, New Jersey 08540
(609) 423-1450

PDS Biotechnology Corporation, or PDS, is a private company with a growing pipeline of clinical-stage immunotherapies to treat various early-stage and late-stage cancers, including head and neck cancer, cervical cancer, anal cancer, prostate cancer, breast cancer and other cancers.

Echos Merger Sub, Inc.

300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
(800) 208-3343

Echos Merger Sub, Inc., or Merger Sub, is a wholly-owned subsidiary of Edge and was formed solely for the purposes of carrying out the merger.

The Merger

If the merger is consummated, Merger Sub will merge with and into PDS, with PDS surviving the merger as a wholly-owned subsidiary of the combined company.

Subject to the terms and conditions of the Merger Agreement, at the effective time of the merger, or the Effective Time, (a) each outstanding share of capital stock of PDS (other than any shares held as treasury stock that will be cancelled) will be converted into the right to receive a number of shares of Edge common stock equal to [•], or the Exchange Ratio, plus any cash paid in lieu of fractional shares; (b) each outstanding PDS warrant that is not exercised

prior to the Effective Time will be assumed by Edge, *provided, however*, that from and after the Effective Time, the PDS warrants will be exercisable into that number of shares of common stock of the Parent equal to (i) the Exchange Ratio multiplied by (ii) the number of shares of common stock of PDS into which such PDS warrant is exercisable as of immediately prior to the effective time, at an exercise price per share equal to (A) the exercise price per share of PDS common stock under the existing warrant divided by (B) the Exchange Ratio; and (c) each PDS stock option will fully vest and be assumed by Edge and converted into an option to purchase, on the same terms and conditions, a number of shares of Edge common stock equal to the product of (i) the number of shares of PDS common stock subject to such option, multiplied by (ii) the Exchange Ratio, at an exercise price per share of Edge common stock equal to (A) the exercise price per share of the PDS common stock subject to such option divided by (B) the Exchange Ratio. Prior to the closing, the Edge Board shall adopt resolutions to provide that (i) each unexpired and unexercised Edge option, whether vested or unvested, shall be accelerated in full, with each unexercised Edge option remaining outstanding

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immediately after the Effective Time in accordance with its terms and (ii) each outstanding and unvested Edge restricted stock unit, or Edge RSU, shall be accelerated in full effective as of immediately prior to the Effective Time and settled within five days after the Effective Time (with settlement to be one share of Edge common stock for each share of Edge common stock underlying such Edge RSU). The Exchange Ratio is an estimate only and the final Exchange Ratio will be determined pursuant to a formula described in more detail in the Merger Agreement and in this proxy statement/prospectus/information statement.

Under the Exchange Ratio formula in the Merger Agreement, as of immediately after the merger and assuming no adjustments for cash balances as provided for in the Merger Agreement, the former PDS securityholders are expected to own approximately 70% of the Post-Closing Shares, and the securityholders of Edge as of immediately prior to the merger are expected to own approximately 30% of the aggregate number of Post-Closing Shares. This Exchange Ratio will be fixed prior to closing to reflect Edge s and PDS s capitalization as of immediately prior to such time. These percentages assume that the Exchange Ratio is not adjusted for net cash balances or otherwise, as described in the section titled The Merger Agreement-Merger Consideration below. For a more complete description of the Exchange Ratio please see the section titled The Merger Agreement-Exchange Ratio in this proxy statement/prospectus/information statement.

The closing of the merger will occur no later than the second business day after the last of the conditions to the merger has been satisfied or waived, or at another time as Edge and PDS agree. Edge and PDS anticipate that the closing of the merger will occur promptly after the Edge special meeting. However, because the merger is subject to a number of conditions, neither Edge nor PDS can predict exactly when the closing will occur or if it will occur at all. After the closing of the merger, the name of the combined company will be changed from Edge Therapeutics, Inc. to PDS Biotechnology Corporation.

Reasons for the Merger

On April 30, 2018, Edge announced that it was exploring strategic alternatives that included an acquisition of another company, acquisitions or in-licensing of products or product candidates, technologies or other assets, the sale of all or substantially all of the assets of Edge, a sale of stock, a strategic merger or other business combination transactions or other transactions between Edge and a third party. Edge retained Piper Jaffray & Co., or Piper Jaffray, to serve as its financial advisor in certain aspects of the process. After a comprehensive review of strategic alternatives, on November 26, 2018, Edge announced the signing of a definitive merger agreement with PDS. Following the merger, the combined company will focus on developing PDS s growing pipeline of next-generation cancer immunotherapies based on the proprietary, multi-functional Versamune® technology platform, the development of PDS0101 for the treatment of multiple human papilloma virus (HPV)-induced cancers, including cervical, anal and head and neck cancers, and multiple preclinical programs developing Versamune®-based cancer immunotherapies in combination with checkpoint inhibitors for various late-stage cancers.

In reaching its unanimous decision (other than Brian Leuthner, who recused himself from the Edge Board vote) to approve the Merger Agreement and the transactions contemplated thereby, the Edge Board considered a number of factors, including, among others, the following:

- the historical and current information concerning Edge's business, financial performance, financial condition, operations, management and competitive position, the prospects of Edge and its product candidates, the nature of the biotechnology industry generally, including financial projections of Edge under various scenarios and its short- and long-term strategic objectives;
- that PDS's proprietary platform, as well as its immunotherapies pipeline, which includes clinical stage candidates that may address sizeable market opportunities, provide new medical benefits for patients and returns for investors;

- that the merger would provide existing Edge stockholders a significant opportunity to participate in the potential growth of the combined company following the merger;
- that the combined company is expected to be led by an experienced senior management team and a board of directors with representation from each of the current boards of directors of Edge and PDS;
- that the Phase 3, NEWTON 2 study of EG-1962 demonstrated a low probability of achieving a statistically-significant difference compared to the standard of care in the study's primary endpoint and the resulting discontinuation of the NEWTON 2 study; and

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- the terms of the Merger Agreement and associated transactions, including the relative percentage ownership of Edge securityholders and PDS securityholders immediately following the closing of the merger, the reasonableness of the fees and expenses related to the merger and the likelihood that the merger will be completed.

For more information on the Edge Board s reasons for the transaction, see the section titled The Merger—Edge Reasons for the Merger.

In reaching its unanimous decision to approve the Merger Agreement and the related transactions, the PDS Board considered a number of factors, including, among others, the following:

- the potential increased access to sources of capital at a lower cost and a broader range of investors to support PDS's commercialization efforts than it could otherwise obtain if it continued to operate as a privately held company;
- the ability to access institutional investors who may otherwise be unable to invest in a privately-held company;
- the potential to provide its current stockholders with greater liquidity by owning stock in a public company;
- the PDS board of director's belief that no alternatives to the merger were reasonably likely to create greater value for the PDS stockholders after reviewing the various strategic options to enhance stockholder value that were considered by the PDS Board;
- the expectation that the merger with Edge would be a more time- and cost-effective means to access capital than other options considered;
- the cash resources of the combined company expected to be available at the closing of the merger, including Edge's cash balance of $[ ] million as of [ ], 2018;
- the fact that shares of Edge common stock issued to PDS stockholders will be registered on a Form S-4 registration statement by Edge and will become freely tradable;
- the belief that increased visibility as a public company would provide access to additional strategic partnering transactions; and
- the expectation that the merger will be treated as a reorganization for U.S. federal income tax purposes, with the result that the PDS stockholders will not recognize taxable gain or loss for U.S. federal income tax purposes upon the exchange of PDS common stock for Edge common stock pursuant to the merger.

For more information on the PDS Board s reasons for the transaction, see the section titled The Merger—PDS Reasons for the Merger.

Opinion of the Financial Advisor to the Edge Board

The Edge Board engaged Piper Jaffray to provide financial advisory and investment banking services in connection with the Edge Board s consideration and evaluation of certain potential strategic alternatives. On November 23, 2018, Piper Jaffray rendered its oral opinion to the Edge Board (which was subsequently confirmed in writing by delivery of Piper Jaffray s written opinion dated November 23, 2018) to the effect that, as of November 23, 2018, and based upon and subject to the various assumptions and limitations set forth therein, the Exchange Ratio was fair, from a financial point of view, to Edge.

Piper Jaffray s opinion was directed to the Edge Board, and only addressed the fairness, from a financial point of view, to Edge of the Exchange Ratio and did not address any other aspect or implication of the merger. The summary of Piper Jaffray s opinion in this proxy statement/prospectus/information statement is qualified in its entirety by reference to the full text of its written opinion, which is included as *Annex D* to this proxy statement/prospectus/information statement and sets forth the assumptions made, procedures followed, matters considered and limitations on the scope of the review undertaken by Piper Jaffray in preparing its opinion. However, neither Piper Jaffray s written opinion nor the summary of its

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opinion and the related analyses set forth in this proxy statement/prospectus/information statement is intended to be, and they do not constitute, a recommendation to any Edge stockholder as to how such stockholder should act or vote with respect to the merger or any other matter.

See *Annex D* and the section of this proxy statement/prospectus/information statement entitled The Merger—Opinion of the Financial Advisor to the Edge Board.

Overview of the Merger Agreement and Agreements Related to the Merger Agreement

Merger Consideration

At the closing of the merger:

- each outstanding share of capital stock of PDS (other than any shares held as treasury stock that will be cancelled) will be converted into the right to receive approximately [•] shares of Edge common stock, plus any cash paid in lieu of fractional shares, subject to adjustment for any reverse stock split;
- each outstanding PDS warrant that is not exercised will be assumed by Edge, *provided, however*, that from and after the Effective Time, the PDS warrants will be exercisable into that number of shares of common stock of the Parent equal to (i) the Exchange Ratio multiplied by (ii) the number of shares of common stock of PDS into which such PDS warrant is exercisable as of immediately prior to the effective time, at an exercise price per share equal to (A) the exercise price per share of PDS common stock under the existing warrant divided by (B) the Exchange Ratio; and
- each PDS stock option will fully vest and be assumed by Edge and converted into an option to purchase, on the same terms and conditions, a number of shares of Edge common stock equal to the product of (i) the number of shares of PDS common stock subject to such option, multiplied by (ii) the Exchange Ratio, at an exercise price per share of Edge common stock equal to (A) the exercise price per share of the PDS common stock subject to such option divided by (B) the Exchange Ratio.

Immediately after the merger, based on the Exchange Ratio, PDS securityholders will own approximately 70% of the outstanding capital stock of the combined company, and Edge securityholders will own approximately 30% of the outstanding capital stock of the combined company. The Exchange Ratio is an estimate only and the final Exchange Ratio will be determined pursuant to a formula described in more detail in the Merger Agreement and in this proxy statement/prospectus/information statement. Adjustments to the Exchange Ratio are described in more detail in the Merger Agreement and in this proxy statement/prospectus/information statement.

The Merger Agreement does not include a price-based termination right. Accordingly, the market value of the shares of Edge common stock issued pursuant to the Merger Agreement will depend on the market value of the shares of Edge common stock at the time the merger closes and could vary significantly from the market value on the date of this proxy statement/prospectus/information statement. On December [•], 2018, the last trading day before the date of this proxy statement/prospectus/information statement, the closing sale price of Edge common stock was $[ ] per share.

Treatment of Edge Stock Options and Edge RSUs

Prior to the closing, the Edge Board will adopt resolutions to provide that (i) each unexpired and unexercised Edge option, whether vested or unvested, shall be accelerated in full, with each unexercised Edge option remaining outstanding immediately after the effective time of the merger in accordance with its terms and (ii) each outstanding and unvested Edge RSU, shall be accelerated in full effective as of immediately prior to the Effective Time and settled within five days after the Effective Time (with settlement to be one share of Edge common stock for each share of Edge common stock underlying such Edge RSU). The number of shares of Edge common stock underlying such

options and Edge RSUs and the exercise prices for such options will be appropriately adjusted to reflect Edge s proposed reverse stock split, if consummated. The terms governing options to purchase shares of Edge common stock will otherwise remain in full force and effect following the closing of the merger.

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Treatment of PDS Stock Options and Warrants

Stock Options

At the effective time of the merger, each PDS option will fully vest and will be assumed by Edge and converted into an option to purchase, on the same terms and conditions, a number of shares of Edge common stock equal to the product of (a) the number of shares of PDS common stock subject to such option, multiplied by (b) the Exchange Ratio, at an exercise price per share of Edge common stock equal to (i) the exercise price per share of the PDS common stock subject to such option divided by (ii) the Exchange Ratio.

Warrants

At the effective time of the merger, each PDS warrant that is not exercised prior to the effective time shall be assumed by Edge, *provided*, *however*, that from and after the effective time, such PDS warrants shall be exercisable into that number of shares of common stock of Edge equal to (a) the Exchange Ratio multiplied by (b) the number of shares of common stock of PDS into which such PDS warrant is exercisable as of immediately prior to the effective time, at an exercise price per share equal to (i) the exercise price per share of the common stock of PDS under the existing PDS warrant divided by (ii) the Exchange Ratio.

Permitted Bridge Financing

After the date of the Merger Agreement but prior to the effective time of the merger, PDS may issue, in a single transaction or a series of transactions, or a Permitted Bridge Financing, (a) shares of the common stock of PDS, in which event such shares shall be included in the calculation of the outstanding shares of PDS used to calculate the Exchange Ratio, or PDS Outstanding Shares, (b) PDS warrants, in which event the PDS warrants shall be included in the calculation of PDS Outstanding Shares to the extent provided in such definition and/or (c) convertible promissory notes, which promissory notes shall convert into either shares of (i) common stock of PDS prior to the closing, in which case such shares shall be included in the calculation of PDS Outstanding Shares or (ii) common stock of PDS immediately after the closing, in which case such shares shall be deducted from the calculation of the shares issued to the stockholders of PDS at the closing. In no event shall the aggregate proceeds of the Permitted Bridge Financing exceed $3,000,000 without the prior written consent of Edge.

Conditions to the Closing of the Merger

To consummate the merger, a majority of shares of Edge common stock present in person or represented by proxy at a stockholder meeting at which a quorum is present must approve the issuance of shares of Edge common stock pursuant to the Merger Agreement.

The PDS stockholders holding a majority of shares of common stock (voting as a single class) must approve and adopt the Merger Agreement and the transactions contemplated thereby, including the merger.

In addition to obtaining such stockholder approvals, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived.

Non-Solicitation

Each of Edge and PDS have agreed that, subject to certain exceptions, neither they nor any of their respective subsidiaries will authorize or permit any of their or their subsidiaries directors, officers, employees, agents, attorneys, accountants, investment bankers, advisors and representatives to, directly or indirectly:

- solicit, initiate or knowingly encourage, induce or facilitate the communication, making, submission or announcement of, any acquisition proposal or acquisition inquiry, each as defined in the Merger Agreement and as defined in the section titled The Merger Agreement—Non-Solicitation below;
- furnish any non-public information with respect to it to any person in connection with or in response to an acquisition proposal or an acquisition inquiry;
- engage in discussions or negotiations with any person with respect to any acquisition proposal or acquisition inquiry;
- subject to certain exceptions, approve, endorse or recommend an acquisition proposal;

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- execute or enter into any letter of intent or any contract contemplating or otherwise relating to any acquisition transaction, as defined in the Merger Agreement and as defined in the section titled The Merger Agreement-Non-Solicitation below; or
- publicly propose to do any of the above.

However, before obtaining the Edge stockholder approval required to consummate the merger, Edge may furnish nonpublic information regarding such party to, and may enter into discussions or negotiations with, any person in response to a bona fide written acquisition proposal, which the Edge Board determines in good faith, after consultation with Edge s financial advisor and outside legal counsel, constitutes or is reasonably likely to result in a superior offer, as defined in the Merger Agreement and as defined in the section titled The Merger Agreement—Non-Solicitation below, and is not withdrawn, if:

- neither Edge nor any of its directors, officers, employees, agents, attorneys, accountants, investment bankers, advisors and representatives has breached the non-solicitation provisions of the Merger Agreement described above;
- the Edge Board concludes in good faith based on the advice of outside legal counsel, that the failure to take such action is reasonably likely to be inconsistent with the fiduciary duties of the Edge Board under applicable law;
- Edge receives from the third-party an executed confidentiality agreement containing provisions (including nondisclosure provisions, use restrictions, non-solicitation provisions and no hire provisions) at least as favorable to such party as those contained in the confidentiality agreement between Edge and PDS; and
- substantially contemporaneously with furnishing of nonpublic information to a third-party, Edge furnishes the same information to the other party to the extent not previously furnished.

If either Edge or PDS receives an acquisition proposal or acquisition inquiry at any time during the period between November 23, 2018, and earlier to occur of (a) the Effective Time and (b) termination of the Merger Agreement, then such party must promptly, and in no event later than one business day after becoming aware of such acquisition proposal or acquisition inquiry, advise the other party orally and in writing of such acquisition proposal or acquisition inquiry, including the identity of the person making or submitting the acquisition proposal or acquisition inquiry and the material terms thereof. Each of Edge and PDS must keep the other reasonably informed with respect to the status and material terms of any such acquisition proposal or acquisition inquiry and any material modification or proposed material modification thereto.

Termination of the Merger Agreement

Either Edge or PDS can terminate the Merger Agreement under certain circumstances, which would prevent the merger from being consummated.

Termination Fees

If the Merger Agreement is terminated under certain circumstances and certain other events occur, Edge will be required to pay PDS a termination fee of $1.75 million. Moreover, if Edge fails to pay any termination fee when due, then it will be required to pay interest on and reasonable fees and expenses incurred in connection with the collection of such overdue amount in addition to the $1.75 million termination fee.

Support Agreements and Written Consent

PDS

Certain PDS stockholders are party to a support agreement with Edge, Echos Merger Sub and PDS pursuant to which, among other things, each such stockholder agreed, solely in his, her or its capacity as a PDS stockholder, to vote all of

his, her or its shares of PDS common stock in favor of the adoption and approval of the Merger Agreement and the transactions contemplated thereby and to acknowledge that the adoption and approval of the Merger Agreement is irrevocable. In addition, these PDS stockholders agreed not to, directly or indirectly, knowingly take any action that PDS is not permitted to take under the non-solicitation provisions of the Merger Agreement. The parties to these support agreements with Edge, Echos Merger Sub and PDS are:

- Frank Bedu-Addo

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- Asklepios Capital LLC
- Indiana 21st Century Fund, L.P.
- NetScientific plc
- DeLyle Bloomquist
- Sir Richard Sykes
- Ian Postlethwaite
- Gregory Freitag
- Gregory Conn, Ph.D.
- Michael King, MBA

The stockholders of PDS that are party to a support agreement with Edge consist of the holders of a majority of the shares of PDS common stock and each outstanding on the record date and entitled to vote thereon (voting as a single class).

Therefore, holders of the number of shares of PDS common stock required to approve and adopt the Merger Agreement and approve the merger and related transactions are contractually obligated to approve and adopt the Merger Agreement. Following the effectiveness of the registration statement of which this proxy statement/prospectus/information statement is a part and pursuant to the Merger Agreement, stockholders of PDS holding a sufficient number of shares to approve and adopt the Merger Agreement and thereby approve the merger and related transactions will execute written consents providing for such adoption and approval.

Edge

Certain Edge stockholders are party to a support agreement with Edge, Echos Merger Sub and PDS pursuant to which, among other things, each of such stockholders agreed, solely in his or her capacity as a stockholder, to vote all of his or her shares of Edge common stock in favor of the approval of the issuance of shares of Edge common stock pursuant to the Merger Agreement and the reverse stock split of Edge common stock. In addition, these Edge stockholders agreed not to, directly or indirectly, knowingly take any action that Edge is not permitted to take under the non-solicitation provisions of the Merger Agreement. The parties to these support agreements with Edge, Echos Merger Sub and PDS are:

- Brian A. Leuthner
- Andrew Saik
- Herbert J. Faleck, D.O.
- W. Bradford Middlekauff
- Alyssa J.S. Wyant
- Sol Barer, Ph.D.
- Liam Ratcliffe, M.D., Ph.D.
- Robert Spiegel, M.D.
- R. Loch Macdonald, M.D., Ph.D.
- Isaac Blech
- Rosemary Crane
- James Loughlin

The stockholders of Edge that are party to a support agreement with Edge, Echos Merger Sub and PDS consist of the holders of an aggregate of 1,822,915 shares of Edge common stock, representing 5.8% of the outstanding shares of Edge common stock as of September 30, 2018. These stockholders are solely comprised of the executive officers and directors of Edge.

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Lock-up Agreements

PDS

As a condition to the closing of the merger, PDS s directors, executive officers and principal stockholders, who will beneficially hold 82% of the combined company s capital stock immediately following the closing of the merger, will enter into lock-up agreements, pursuant to which such parties have agreed not to, except in limited circumstances, transfer, grant an option with respect to, sell, exchange, pledge or otherwise dispose of, or encumber any shares of PDS common stock prior to the closing of the merger, and the combined company s common stock thereafter, for 180 days following the Effective Time in the case of directors and officers continuing with the combined company, and 90 days in the case of directors and officers who will not remain with the combined company.

Edge

As a condition to the closing of the merger, Edge s directors and officers will enter into lock-up agreements, pursuant to which such parties will agree not to, except in limited circumstances, transfer, grant an option with respect to, sell, exchange, pledge or otherwise dispose of, or encumber any shares of Edge s capital stock prior to the closing of the merger, and the combined company s common stock thereafter, for 180 days following the Effective Time.

Management Following the Merger

Effective as of the closing of the merger, the combined company s executive officers are expected to be composed of members of the following current Edge and PDS management teams:

Name	**Position(s)**
Frank Bedu-Addo, Ph.D.	Chief Executive Officer, Director
Brian A. Leuthner	President, Director
Gregory Conn, Ph.D.	Chief Scientific Officer
Andrew Saik	Chief Financial Officer
Lauren Wood, M.D.	Chief Medical Officer

Transition Services Agreement

Edge and PDS may enter into a transition services agreement, pursuant to which Edge may provide PDS with certain clinical and manufacturing consulting services prior to the expected closing of the merger. Edge and PDS expect that, if such an agreement is reached, it will be on arm s-length terms, subject to mutual agreement of the parties on the scope of consulting services and the related terms of any agreement.

The Edge Special Meeting

The special meeting of stockholders of Edge will be held on , 2019 at , local time, at , for the following purposes:

- to consider and vote upon a proposal to approve the issuance of shares of Edge common stock in connection with merger, or the Stock Issuance Proposal;
- to consider and vote upon the amendment to the certificate of incorporation of Edge to effect a reverse stock split of Edge common stock, at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved by Edge

stockholders, determined solely by the Edge Board following the special meeting, or the Reverse Stock Split Proposal; and

- to transact such other business as may properly come before the Edge special meeting or any adjournment or postponement thereof.

Collectively the proposal above are referred to as the Edge Proposals. On each matter to be voted upon, stockholders have one vote for each share of Edge common stock owned as of , 2019. Votes will be counted by the inspector of election. The following table summarizes vote requirements and the effect of abstentions and broker non-votes.

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Proposal Number	Proposal Description	Vote Required for Approval	Effect of Abstentions	Effect of Broker Non-Votes
1	Stock Issuance Proposal	FOR votes from the holders of a majority of shares properly cast at a meeting at which a quorum is present	Against	None
2	Reverse Stock Split Proposal	FOR votes from the holders of a majority of outstanding shares	Against	Against
3	Equity Incentive Plan Proposal	FOR votes from the holders of a majority of shares properly cast at a meeting at which a quorum is present	Against	None

Except as stated below, no Edge Proposal is contingent upon any other Edge Proposal. Therefore, assuming all other closing conditions have been either satisfied or waived, the merger will be consummated even if the Reverse Stock Split Proposal is not approved by Edge s stockholders. However, if Edge s stockholders do not approve the Reverse Stock Split Proposal to effect the reverse stock split upon the closing of the merger, Edge has been advised that The Nasdaq Global Select Market will commence delisting proceedings immediately following the closing of the merger. If the Stock Issuance Proposal is not approved but the Reverse Stock Approval is approved, the Edge Board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 as determined solely by the Edge Board in order to satisfy Edge s continued listing requirements on The Nasdaq Global Select Market. However, if the Merger is not consummated, the Equity Incentive Plan Proposal will be automatically withdrawn.

PDS Solicitation of Written Consents

The adoption of the Merger Agreement and the approval of the merger and related transactions by the PDS stockholders requires the affirmative votes of the holders of a majority of the shares of PDS common stock (voting as a single class).

Following the registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, being declared effective by the SEC and pursuant to the conditions of the Merger Agreement, the PDS stockholders who are party to the support agreements have agreed to execute an action by written consent adopting the Merger Agreement, thereby approving the merger and related transactions. These stockholders own a sufficient number of shares of PDS common stock to adopt the Merger Agreement. No meeting of PDS stockholders to adopt the Merger Agreement and approve the merger and related transactions will be held; *however*, all PDS stockholders will have the opportunity to elect to adopt the Merger Agreement, thereby approving the merger and related transactions, by signing and returning to PDS a written consent.

In addition to the requirement of obtaining such stockholder approval and appropriate regulatory approvals, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived.

Interests of Directors and Executive Officers of Edge and PDS

Interests of the Edge Directors and Executive Officers in the Merger

In considering the recommendation of the Edge Board with respect to issuing shares of Edge common stock pursuant to the Merger Agreement and the other matters to be acted upon by Edge stockholders at the Edge special meeting, Edge stockholders should be aware that certain members of the Edge Board and executive officers of Edge have interests in the merger that may be different from, or in addition to, interests they have as Edge stockholders.

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Pursuant to the terms of their employment agreements, the Edge executive officers would be entitled to receive a total of approximately $[•] million in cash severance benefits (collectively, not individually) in the event that their employment with Edge is terminated without cause or for good reason, in either case, within [ ] [before/after] the closing of the merger, based on data available as of the date of this proxy statement/prospectus/information statement. Additionally, all outstanding equity awards held by Edge s executive officers will accelerate fully and vest upon the closing of the merger. As of the date of this proxy statement/prospectus/information statement, Edge s executive officers hold Edge RSUs totaling 453,062 shares of Edge common stock and held stock options to purchase an aggregate of 4,032,228 shares of Edge common stock with a weighted average exercise price of $7.10 per share (all of which are out of the money based on the closing price of Edge common stock as of [•], 2018) and Edge RSUs covering [•] shares of Edge common stock (which, based on the closing price of Edge common stock as of [•], 2018, had an aggregate value of [•]).

With respect to Edge s directors, Edge s non-employee directors hold Edge RSUs totaling 80,000 shares of Edge common stock and stock options to purchase an aggregate of 2,546,089 shares of Edge common stock with a weighted average exercise price of $4.72 per share as part of Edge s non-employee director compensation program. These stock options will by their terms vest in full upon the closing of the merger, including Edge RSUs of 20,000 shares of Edge common stock and stock options for 220,607 and 64,286 shares of Edge common stock held by Robert J. Spiegel, M.D., Ph.D. and James Loughlin, respectively, each of whom is expected to remain on the combined company s board of directors. [In addition, Dr. Barer, as chairman of the transactions committee of the Edge Board, will receive a one-time cash payment of $[•] for his service on such committee, and each of [•] and [•], the other members of the transactions committee, will receive $[•] for their service on such committee.]

As of December 31, 2018, directors and executive officers of Edge owned approximately 5.8% of the outstanding shares of Edge common stock. All Edge executive officers and directors have entered into support agreements in connection with the merger. The support agreements are discussed in greater detail in the section titled Agreements Related to the Merger-Support Agreements and Written Consent in this proxy statement/prospectus/information statement.

Interests of the PDS Directors and Executive Officers in the Merger

In considering the recommendation of the PDS Board with respect to approving the merger and related transactions by written consent, PDS stockholders should be aware that certain members of the board of directors and executive officers of PDS have interests in the merger that may be different from, or in addition to, interests they have as PDS stockholders. For example, some of PDS s directors and executive officers are expected to become directors and executive officers of the combined company upon the closing of the merger. Specifically, Frank Bedu-Addo, Ph.D., the current Chief Executive Officer of PDS, is expected to become the Chief Executive Officer of the combined company upon the closing of the merger. Additionally, Frank Bedu-Addo, Ph.D., Sir Richard Sykes, De Lyle W. Bloomquist and Gregory Freitag, J.D., CPA, who are current directors of PDS, will be designated to serve on the combined company s board of directors following the closing of the merger.

All PDS executive officers, directors and their affiliates have entered into support agreements in connection with the merger. The support agreements are discussed in greater detail in the section titled Agreements Related to the Merger-Support Agreements and Written Consent in this proxy statement/prospectus/information statement.

Certain PDS executive officers, directors and their affiliates currently hold shares of PDS common stock, stock options to purchase shares of common stock and unsecured promissory notes. In addition, in October 2018, the PDS Board agreed to grant each of Dr. Conn and Mr. King 137,559 stock options, and Dr. Bedu-Addo 550,235 stock options, immediately prior to the consummation of the merger.

As of , 2018, all directors and executive officers of PDS, together with their affiliates, owned [•]% of the outstanding shares of PDS common stock (on an as-converted to common stock basis) and such persons held stock options to purchase an aggregate of [•] shares of common stock with a weighted average exercise price of $[•] per share.

Based on an assumed conversion date of 2018, affiliates of certain PDS directors and certain executive officers will also convert an aggregate of $[•] million of unsecured subordinated convertible promissory notes, including accrued interest, into approximately [•] million shares of PDS common stock immediately prior to the closing of the merger pursuant to a note purchase agreement.

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The PDS Board was aware of these interests and considered them, among other matters, in its decision to approve the Merger Agreement. For more information, please see the sections titled The Merger—Interests of the PDS Directors and Executive Officers in the Merger and Certain Relationships and Related-Party Transactions—PDS.

Considerations with Respect to U.S. Federal Income Tax Consequences of the Merger

Each of Edge and PDS intends that the merger qualify as a reorganization within the meaning of Section 368(a) of the Code. In general and subject to the qualifications and limitations set forth in the section titled The Merger—Certain Material U.S. Federal Income Tax Consequences of the Merger, the material tax consequences to U.S. Holders (as defined herein) of PDS common stock are expected to be as follows:

- a PDS stockholder should not recognize gain or loss upon the exchange of PDS common stock for Edge common stock pursuant to the merger, except to the extent of cash received in lieu of a fractional share of Edge common stock as described below;
- a PDS stockholder who receives cash in lieu of a fractional share of Edge common stock in the merger should recognize capital gain or loss in an amount equal to the difference between the amount of cash received instead of a fractional share and the stockholder's tax basis allocable to such fractional share;
- a PDS stockholder's aggregate tax basis for the shares of Edge common stock received in the merger (including any fractional share interest for which cash is received) should equal the stockholder's aggregate tax basis in the shares of PDS common stock surrendered upon the closing of the merger, decreased by the amount of any tax basis allocable to a fractional share for which cash is received; and
- the holding period of the shares of Edge common stock received by a PDS stockholder in the merger should include the holding period of the shares of PDS common stock surrendered in exchange therefor provided the surrendered PDS common stock is held as a capital asset (generally, property held for investment) at the time of the merger.

Tax matters are very complicated, and the tax consequences of the merger to a particular PDS stockholder will depend on such stockholder s circumstances. Accordingly, you should consult your tax advisor for a full understanding of the tax consequences of the merger to you, including the applicability and effect of federal, state, local and foreign income and other tax laws. For more information, please see the section titled The Merger—Certain Material U.S. Federal Income Tax Consequences of the Merger.

Risk Factors

Both Edge and PDS are subject to various risks associated with their businesses and their industries. In addition, the merger, including the possibility that the merger may not be completed, poses a number of risks to each company and its respective stockholders, including the following risks:

- the Exchange Ratio is not adjustable based on the market price of Edge common stock so the merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement was signed;
- failure to complete the merger may result in Edge paying a termination fee or expenses to PDS and could harm the common stock price of Edge and future business and operations of each company;
- the merger may be completed even though material adverse changes may result from the announcement of the merger, industry-wide changes and other causes;
- the combined company may need to raise additional capital by issuing securities or debt or through licensing arrangements, which may cause significant dilution to the combined company's stockholders or restrict the combined company's operations or proprietary rights;
- certain Edge and PDS executive officers and directors have interests in the merger that are different from yours and that may influence them to support or approve the merger without regard to your interests;

- the market price of the combined company's common stock may decline as a result of the merger;

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- Edge and PDS stockholders may not realize a benefit from the merger commensurate with the ownership dilution they will experience in connection with the merger;
- during the pendency merger, Edge and PDS may not be able to enter into a business combination with another party at a favorable price because of restrictions in the Merger Agreement, which could adversely affect their respective businesses;
- certain provisions of the Merger Agreement may discourage third parties from submitting alternative takeover proposals, including proposals that may be superior to the arrangements contemplated by the Merger Agreement;
- the lack of a public market for PDS shares makes it difficult to determine the fair market value of the PDS shares, and the stockholders of PDS may receive consideration in the merger that is less than the fair market value of the PDS shares and/or Edge may pay more than the fair market value of the PDS shares; and
- if the conditions of the merger are not met, the merger will not occur.

These risks and other risks are discussed in greater detail under the section titled Risk Factors. Edge and PDS both encourage you to read and consider all of these risks carefully.

Regulatory Approvals

In the United States, Edge must comply with applicable federal and state securities laws and the rules and regulations of The Nasdaq Stock Market LLC in connection with the issuance of shares of Edge common stock pursuant to the Merger Agreement and the filing of this proxy statement/prospectus/information statement with the SEC.

Nasdaq Stock Market Listing

Edge intends to file an initial listing application for the combined company with The Nasdaq Capital Market pursuant to its reverse merger rules. However, if Edge s stockholders do not approve the Reverse Stock Split Proposal, Edge has been advised that The Nasdaq Stock Market LLC will commence delisting proceedings immediately following the closing of the merger. The combined company is obligated to use commercially reasonable efforts to take such steps as necessary to ensure the continued listing of its common stock on The Nasdaq Capital Market following the closing of the merger. It is expected that the combined company s common stock will trade under the symbol PDSB.

If the issuance of the shares of Edge common stock pursuant to the Merger Agreement is not approved but the reverse stock split proposal is, the Edge Board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 as determined solely by the Edge Board in order to satisfy Edge s continued listing requirements on The Nasdaq Global Select Market.

Anticipated Accounting Treatment

The merger will be treated by Edge as a reverse merger under the acquisition method of accounting in accordance with accounting principles generally accepted in the United States. For accounting purposes, PDS is considered to be acquiring Edge in the merger.

Appraisal Rights and Dissenters Rights

Holders of shares of Edge capital stock are not entitled to appraisal rights in connection with the merger. PDS stockholders are entitled to appraisal rights in connection with the merger under Delaware law. For more information about such rights, see the provisions of Section 262 of the Delaware General Corporation Law, or the DGCL, attached hereto as *Annex E*, and the section titled The Merger—Appraisal Rights and Dissenters Rights.

Potential PDS Financing

Although there is no current agreement in place with any potential financing source, nor any requirement to undertake a financing, under the Merger Agreement, after February 28, 2019 but prior to the Effective Time of the merger, PDS may issue, in a single transaction or a series of transactions, (a) shares of the common stock of

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PDS, (b) PDS warrants and/or (c) convertible promissory notes, which promissory notes shall convert into either shares of (i) common stock of PDS prior to the closing or (ii) common stock of Edge immediately after the closing. In no event shall the aggregate proceeds of the Permitted Bridge Financing exceed $3,000,000 without the prior written consent of Edge, not to be unreasonably withheld, conditioned or delayed. To the extent any such potential financing is consummated consistent with the foregoing, the issuance of shares would be dilutive to both Edge and PDS stockholders, after giving effect to the Exchange Ratio, and shares issued in connection with this financing would not be used in the calculation of the Exchange Ratio.

Comparison of Stockholder Rights

Both Edge and PDS are incorporated under the laws of the State of Delaware and, accordingly, the rights of the stockholders of each are currently, and will continue to be, governed by the DGCL. If the merger is completed, PDS stockholders will become stockholders of Edge, and their rights will be governed by the DGCL, the bylaws of Edge and, the certificate of incorporation of Edge. The rights of Edge stockholders contained in the certificate of incorporation and bylaws of Edge differ from the rights of PDS stockholders under the certificate of incorporation and bylaws of PDS, as more fully described under the section titled Comparison of Rights of Holders of Edge Stock and PDS Stock.

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SELECTED HISTORICAL AND UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION AND DATA

The following tables present summary historical financial data for Edge and PDS, summary unaudited pro forma condensed combined financial data for Edge and PDS, and comparative historical and unaudited pro forma per share data for Edge and PDS.

Selected Historical Condensed Financial Data of Edge

The selected condensed statements of operations data for the fiscal years ended December 31, 2017 and 2016 and the selected condensed balance sheet data as of December 31, 2017 and 2016 are derived from Edge s audited condensed financial statements included elsewhere in this proxy statement/prospectus/information statement. The selected condensed statements of operations data for the nine months ended September 30, 2018 and 2017 and the selected condensed balance sheet data as of September 30, 2018 are derived from Edge s unaudited condensed financial statements included elsewhere in this proxy statement/prospectus/information statement.

The selected historical condensed financial data below should be read in conjunction with the section titled Edge Management s Discussion and Analysis of Financial Condition and Results of Operations, Risk Factors—Risks Related to Edge and Edge s condensed financial statements and related notes included elsewhere in this proxy statement/prospectus/information statement. Edge s historical results are not necessarily indicative of the results that may be expected in any future period.

	Nine Months Ended September 30,		Years Ended December 31,	
	2018	2017	2017	2016
	(unaudited)			
Selected Condensed Statements of Operations Data (in 000's, except per share amounts):				
Total operating expenses	$ 37,053.7	$ 35,843.5	$ 51,966.6	$ 39,512.1
Net loss	$ (37,782.9)	$ (36,956.2)	$ (50,859.8)	$ (38,821.0)
Basic and diluted loss per common share	$ (1.21)	$ (1.23)	$ (1.67)	$ (1.34)
Shares used in calculation of net loss per share, basic and diluted	31,198,804	30,091,640	30,393,952	28,864,216

	As of September 30,	As of December 31,	
	2018	2017	2016
	(unaudited)		
Selected Condensed Balance Sheet Data (in 000's):			
Cash, cash equivalents and investments	$ 36,814.9	$ 88,067.6	$ 106,398.9
Total assets	$ 37,673.1	$ 92,621.1	$ 110,914.4
Total liabilities	$ 6,688.3	$ 30,249.7	$ 21,637.9
Total stockholders' equity	$ 30,984.8	$ 62,371.4	$ 89,276.6

Selected Historical Financial Data of PDS Biotechnology Corporation

The selected statements of operations data for the fiscal years ended December 31, 2017 and 2016 and the selected condensed balance sheet data as of December 31, 2017 and 2016 are derived from PDS s financial statements prepared using accounting principles generally accepted in the United States, which have been audited by an independent auditor, and are included in this proxy statement/prospectus/information statement. The statement of operations data for the nine months ended September 30, 2018 and 2017, as well as the balance sheet data as of September 30, 2018, are derived from PDS s unaudited condensed financial statements included elsewhere in this proxy statement/prospectus/information statement.

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The selected historical financial data should be read in conjunction with PDS s financial statements, related notes, other financial information, PDS Management s Discussion and Analysis of Financial Condition and Results of Operations and PDS s condensed financial statements and related notes appearing elsewhere in this proxy statement/prospectus/information statement. PDS s historical results are not necessarily indicative of results to be expected in any future period.

	Nine Months Ended September 30,		Years Ended December 31,	
	2018	2017	2017	2016
	(unaudited)			
Selected Condensed Statements of Operations Data (in 000's, except per share amounts):				
Total operating expenses	$ 2,013.3	$ 2,940.6	$ 3,420.3	$ 4,217.8
Net loss	$ (2,016.9)	$ (2,942.8)	$ (3,423.2)	$ (4,477.5)
Basic and diluted loss per common share	$ (0.20)	$ (0.32)	$ (0.37)	$ (0.54)
Shares used in calculation of net loss per share, basic and diluted	9,972,670	9,300,214	9,329,526	8,363,131

	As of September 30,	As of December 31,	
	2018	2017	2016
	(unaudited)		
Selected Condensed Balance Sheet Data (in 000's):			
Cash, cash equivalents and investments	$ 142.7	$ 175.9	$ 1,957.0
Total assets	$ 251.8	$ 340.8	$ 2,244.5
Total liabilities	$ 1,330.5	$ 950.3	$ 722.8
Total stockholders' equity (deficit)	$ (1,078.8)	$ (609.5)	$ 1,521.7

Selected Unaudited Pro Forma Condensed Combined Financial Data of Edge and PDS

The following information does not give effect to the proposed reverse stock split of Edge common stock described in the Reverse Stock Split Proposal.

The following unaudited pro forma condensed combined financial information was prepared using the acquisition method of accounting under U.S. GAAP, and gives effect to the transaction between Edge and PDS to be accounted for as a reverse acquisition, with PDS being deemed the acquiring company for accounting purposes.

The unaudited pro forma condensed combined balance sheet as of September 30, 2018 assumes that the transaction took place on September 30, 2018 and combines the historical balance sheets of Edge and PDS as of such date. The unaudited pro forma condensed combined statement of operations for the nine months ended September 30, 2018 and the year ended December 31, 2017 assumes that the transaction took place as of January 1, 2017, and combines the historical results of Edge and PDS for each period. The historical financial statements of Edge and PDS have been adjusted to give pro forma effect to events that are (i) directly attributable to the transaction, (ii) factually supportable, and (iii) with respect to the unaudited pro forma condensed combined statements of operations, expected to have a continuing impact on the combined results.

The unaudited pro forma condensed combined financial information, including the notes thereto, should be read in conjunction with the separate Edge and PDS historical financial statements, and their respective management s discussion and analysis of financial condition and results of operations. PDS s historical audited financial statements for the years ended December 31, 2017 and 2016 and unaudited financial statements for the nine months ended September 30, 2018 and 2017 are included elsewhere in this proxy statement/prospectus/information statement. Edge s historical audited condensed financial statements for the years ended December 31, 2017 and December 31, 2016 and unaudited condensed financial statements the nine months ended September 30, 2018 and 2017 are included elsewhere in this proxy statement/prospectus/information statement.

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	Nine Months Ended September 30, 2018	Year Ended December 31, 2017
Unaudited Pro Forma Condensed Combined Statements of Operations (in 000's, except per share amounts):		
Total operating expenses	$ 35,599.5	$ 55,386.9
Net loss	$ (36,332.3)	$ (54,283.0)
Basic and diluted net loss per common share	$ (0.34)	$ (0.52)

	As of September 30, 2018
Unaudited Pro Forma Condensed Combined Balance Sheet (in 000's):	
Cash, cash equivalents and investments	$ 36,435.6
Total assets	$ 38,402.9
Total liabilities	$ 5,065.2
Stockholders' equity	$ 33,337.7

Comparative Historical and Unaudited Pro Forma per Share Data

The information below reflects the historical net loss and book value per share of Edge common stock and the historical net loss and book value per share of PDS common stock in comparison with the unaudited pro forma net loss and book value per share after giving effect to the proposed merger of Edge with PDS on a pro forma basis. The unaudited pro forma net loss and book value per share does not give effect to the proposed reverse stock split of Edge common stock described in the Reverse Stock Split Proposal.

You should read the tables below in conjunction with the audited condensed financial statements of Edge for the years ended December 31, 2017 and December 31, 2016 and unaudited condensed financial statements the nine months ended September 30, 2018 and 2017 included in this proxy statement/prospectus/information statement and the audited financial statements of PDS for the years ended December 31, 2017 and 2016 and unaudited financial statements for the nine months ended September 30, 2018 and 2017 included in this proxy statement/prospectus/information statement and the related notes and the unaudited pro forma condensed combined financial information and notes related to such financial statements included elsewhere in this proxy statement/prospectus/information statement.

	Nine Months Ended September 30, 2018	Year Ended December 31, 2017
Edge Historical Per Common Share Data:		
Basic and diluted net loss per share	$ (1.21)	$ (1.67)
Book value per share	$ 0.99	$ 2.05
PDS Historical Per Common Share Data:		
Basic and diluted net loss per share	$ (0.20)	$ (0.37)
Book value per share	$ (0.11)	$ (0.07)
Combined Company Per Common Share Data:		
Basic and diluted net loss per share	$ (0.34)	$ (0.52)
Book value per share	$ 0.31	$ N/A

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MARKET PRICE AND DIVIDEND INFORMATION

Edge common stock is listed on the Nasdaq Global Select Market under the symbol EDGE. The following table presents, for the periods indicated, the range of high and low per share closing sales prices for Edge common stock as reported on the Nasdaq Global Select Market for each of the periods set forth below. PDS is a private company and its common stock is not publicly traded. These per share sales prices do not give effect to the proposed reverse stock split of Edge common stock to be implemented, if approved by the Edge stockholders, prior to the closing of the merger.

Edge Common Stock

	High	Low
Year Ending December 31, 2018		
First Quarter	$ 17.77	$ 1.12
Second Quarter	1.41	0.84
Third Quarter	1.12	0.70
Fourth Quarter	[•]	[•]
Year Ended December 31, 2017		
First quarter	$ 12.99	$ 7.62
Second quarter	10.72	8.81
Third quarter	11.51	9.20
Fourth quarter	11.16	9.07
Year Ended December 31, 2016		
First quarter	$ 13.86	$ 6.70
Second quarter	10.64	7.43
Third quarter	12.29	8.61
Fourth quarter	13.50	9.25

On , 2018, the last reported sale price of Edge common stock on the Nasdaq Global Select Market was $ per share.

Because the market price of Edge common stock is subject to fluctuation, the market value of the shares of Edge common stock that PDS stockholders will be entitled to receive in the merger may increase or decrease.

Assuming the successful application for initial listing with the Nasdaq Capital Market, following the closing of the merger, Edge expects the combined company s common stock will be listed on the Nasdaq Capital Market and will trade under Edge s new name, PDS Biotechnology Corporation and trading symbol PDSB.

As of , 2018, there were approximately stockholders of record and there were approximately beneficial stockholders of Edge common stock.

Dividend Policy

Edge has never declared or paid any cash dividends on its common stock. Edge does not intend to pay cash dividends on its common stock for the foreseeable future. In addition, the terms of Edge s outstanding indebtedness restrict its

ability to pay dividends, and any future indebtedness that Edge may incur could preclude it from paying dividends. Any future determination related to dividend policy will be made at the discretion of the Edge Board and will depend on then-existing conditions, including Edge s financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors the Edge Board may deem relevant.

PDS has never paid or declared any cash dividends on its common stock or preferred stock. If the merger does not occur, PDS does not anticipate paying any cash dividends on its common stock in the foreseeable future, and PDS intends to retain all available funds and any future earnings to fund the development and expansion of its business. Any future determination to pay dividends will be at the discretion of the PDS Board and will depend upon a number of factors, including its results of operations, financial condition, future prospects, contractual restrictions, restrictions imposed by applicable law and other factors the PDS Board deems relevant.

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RISK FACTORS

The combined company will be faced with a market environment that cannot be predicted and that involves significant risks, many of which will be beyond its control. In addition to the other information contained in this proxy statement/prospectus/information statement, you should carefully consider the material risks described below before deciding how to vote your shares of stock. In addition, you should read and consider the risks associated with the business of Edge because these risks may also affect PDS and the combined company. These risks can be found in Edge s Annual Report on Form 10-K, as updated by subsequent Quarterly Reports on Form 10-Q, all of which are filed with the SEC. You should also read and consider the other information in this proxy statement/prospectus/information statement and the other documents incorporated by reference into this proxy statement/prospectus/information statement. Please see the section titled Where You Can Find More Information.

Risks Related to the Merger

The Exchange Ratio is not adjustable based on the market price of Edge common stock so the merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement was signed.

The Merger Agreement has set the Exchange Ratio for the PDS common stock, and the Exchange Ratio is only adjustable upward or downward based on increases or decreases in the number of shares of PDS s issued and outstanding capital stock and the number of shares of PDS common stock issuable upon the exercise of all issued and outstanding equity awards, increases or decreases the number of Edge s issued and outstanding common stock, if the cash balances at closing of either Edge or PDS fall outside a pre-determined range, and the proposed reverse stock split, prior to the closing of the merger as described in the section titled The Merger-Merger Consideration. The pre-reverse stock split Exchange Ratio is [•], and the post-split Exchange Ratio will depend on the exact reverse stock split ratio that is ultimately mutually determined by Edge and PDS and certain changes in the capitalization of the two companies. Any changes in the market price of Edge common stock before the closing of the merger will not affect the number of shares PDS securityholders will be entitled to receive pursuant to the Merger Agreement. Therefore, if before the closing of the merger the market price of Edge common stock declines from the market price on the date of the Merger Agreement, then PDS stockholders could receive merger consideration with substantially lower value. Similarly, if before the closing of the merger the market price of Edge common stock increases from the market price on the date of the Merger Agreement, then PDS stockholders could receive merger consideration with substantially more value for their shares of PDS common stock than the parties had negotiated for in the establishment of the Exchange Ratio. Because the Exchange Ratio does not adjust as a result of changes in the value of Edge common stock, for each one percentage point that the market value of Edge common stock rises or declines, there is a corresponding one percentage point rise or decline, respectively, in the value of the total merger consideration issued to PDS stockholders.

Failure to complete the merger may result in Edge paying a termination fee or expenses to PDS and could harm the common stock price of Edge and future business and operations of each company.

If the merger is not completed, Edge and PDS are subject to the following risks:

- if the Merger Agreement is terminated under certain circumstances and certain events occur, Edge will be required to pay PDS a termination fee of $1.75 million;
- the price of Edge stock may decline and remain volatile; and
- costs related to the merger, such as legal, accounting and investment banking fees which Edge and PDS estimate will total approximately $[•] million, of which $[•] million must be paid even if the merger is not completed.

In addition, if the Merger Agreement is terminated and the Edge Board determines to seek another business combination, there can be no assurance that Edge or PDS will be able to find a partner willing to provide equivalent or more attractive consideration than the consideration to be provided by each party in the merger.

If the conditions to the merger are not met, the merger may not occur.

Even if the proposals referred to herein are approved by the stockholders of Edge and PDS, specified other conditions must be satisfied or waived to complete the merger. These conditions are set forth in the Merger Agreement and described in the section titled The Merger Agreement-Conditions to the Closing of the Merger.

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Edge and PDS cannot assure you that all of the conditions will be satisfied or waived. If the conditions are not satisfied or waived, the merger may not occur or will be delayed, and Edge and PDS each may lose some or all of the intended benefits of the merger.

The merger may be completed even though material adverse changes may result from the announcement of the merger, industry-wide changes or other causes.

In general, either Edge or PDS can refuse to complete the merger if there is a material adverse change affecting the other party between November 23, 2018, the date of the Merger Agreement, and the closing. However, certain types of changes do not permit either party to refuse to complete the merger, even if such change could be said to have a material adverse effect on Edge or PDS, including:

- any effect, change, event, circumstance or development in general economic or business conditions generally affecting the industries in which PDS or Edge operate;
- any act of war, armed hostilities or terrorism;
- any changes in financial, banking or securities markets;
- the taking of any action required to be taken by the Merger Agreement;
- any changes in accounting requirements or principles or any change in applicable laws, rules or regulations or the interpretation thereof;
- any effect resulting from the announcement or pendency of the merger or any related transactions;
- with respect to Edge, any change in the stock price or trading volume of Edge common stock; or
- with respect to Edge, any clinical trial programs or studies, including any adverse data, event or outcome arising out of or related to any such programs or studies.

If adverse changes occur and Edge and PDS still complete the merger, the combined company stock price may suffer. This in turn may reduce the value of the merger to the stockholders of Edge and PDS.

The combined company will need to raise additional capital by issuing securities or debt or through licensing arrangements, which may cause dilution to the combined company s stockholders or restrict the combined company s operations or proprietary rights.

The combined company may be required to raise additional funds sooner than currently planned. Additional financing may not be available to the combined company when it needs it or may not be available on favorable terms. To the extent that the combined company raises additional capital by issuing equity securities, such an issuance may cause significant dilution to the combined company s stockholders ownership and the terms of any new equity securities may have preferences over the combined company s common stock. Any debt financing the combined company enters into may involve covenants that restrict its operations. These restrictive covenants may include limitations on additional borrowing and specific restrictions on the use of the combined company s assets, as well as prohibitions on its ability to create liens, pay dividends, redeem its stock or make investments. In addition, if the combined company raises additional funds through licensing or other strategic arrangements, it may be necessary to grant licenses on terms that are not favorable to the combined company or otherwise restrict its operations.

Certain Edge and PDS executive officers and directors have interests in the merger that are different from yours and that may influence them to support or approve the merger without regard to your interests.

Certain officers and directors of Edge and PDS participate in arrangements that provide them with interests in the merger that are different from yours, including, among others, the continued service as directors, in the case of Edge, or directors and officers, in the case of PDS, of the combined company, severance and retention benefits, the acceleration of stock options and continued indemnification.

For example, Herbert J. Faleck, D.O., Edge s Chief Medical Officer, is expected to cease to serve as Chief Medical Officer on December 31, 2018, at which point Dr. Faleck s employment with Edge will end. Consistent with the terms of Dr. Faleck s existing employment agreement with Edge, upon the termination of Dr. Faleck s employment, assuming such termination occurs on December 31, 2018, and in accordance with Dr. Faleck s employment agreement, Dr. Faleck is expected to receive an aggregate of approximately $[•] in cash severance benefits.

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Furthermore, in connection with the closing of the merger, all unvested options to acquire shares of Edge common stock and Edge RSUs (including those held by Edge officers and the Edge board members (including Edge RSUs for 20,000 shares of Edge common stock and stock options for 220,607 and 64,286 shares of Edge common stock held by Robert Spiegel, M.D., FACP, and James J. Loughlin, respectively, who are expected to remain on the combined company s board of directors)) will vest in full. The exercise price of all unvested stock option awards held by the Edge board members and officers was [above] the trading price of Edge common stock as of December [•], 2018. [Additionally, the parties expect that Dr. Sol Barer will enter into a consulting arrangement in connection with serving as an advisor to the board of directors of the combined company.]

In addition, certain of Edge s executive officers are expected to become executive officers of the combined company upon the closing of the merger. Specifically, Brian Leuthner is expected to serve as President of the combined company and Andrew Saik is expected to serve as Chief Financial Officer of the combined company. Additionally, Brian Leuthner, James Loughlin and Robert Spiegel, each of whom are a current director of Edge, will be designated to serve on the combined company s board of directors following the closing of the merger.

For more information, please see the section titled The Merger-Interests of the Edge Directors and Executive Officers in the Merger.

Additionally, certain of PDS s directors and executive officers are expected to become directors and executive officers of the combined company upon the closing of the merger. Specifically, Frank Bedu-Addo, Ph.D. is expected to serve as the Chief Executive Officer, Lauren Wood, MD is expected to serve as Chief Medical Officer and Gregory Conn, Ph.D. is expected to serve as the Chief Scientific Officer of the combined company. Additionally, each of DeLyle Bloomquist, Sir Richard Sykes and Gregory Freitag, each of whom is a current director of PDS, will be designated to serve on the combined company s board of directors following the closing of the merger.

In addition, certain of PDS s executive officers and directors and affiliates of PDS s directors currently hold shares of PDS common stock and preferred stock. Affiliates of certain PDS directors and certain executive officers of PDS will convert their unsecured subordinated convertible promissory notes into shares of PDS common stock prior to the closing of the merger pursuant to the note purchase agreement. For more information, please see the section titled The Merger-Interests of the PDS Directors and Executive Officers in the Merger.

The market price of the combined company s common stock following the merger may decline as a result of the merger.

The market price of the combined company s common stock may decline as a result of the merger for a number of reasons including if:

- investors react negatively to the prospects of the combined company's business and prospects from the merger;
- the effect of the merger on the combined company's business and prospects is not consistent with the expectations of financial or industry analysts; or
- the combined company does not achieve the perceived benefits of the merger as rapidly or to the extent anticipated by financial or industry analysts.

Edge and PDS stockholders may not realize a benefit from the merger commensurate with the ownership dilution they will experience in connection with the merger.

If the combined company is unable to realize the full strategic and financial benefits currently anticipated from the merger, Edge and PDS securityholders will have experienced substantial dilution of their ownership interests in their respective companies without receiving any commensurate benefit, or only receiving part of the commensurate benefit

to the extent the combined company is able to realize only part of the strategic and financial benefits currently anticipated from the merger.

During the pendency of the merger, Edge and PDS may not be able to enter into a business combination with another party at a favorable price because of restrictions in the Merger Agreement, which could adversely affect their respective businesses.

Covenants in the Merger Agreement impede the ability of Edge and PDS to make acquisitions, subject, in the case of Edge, to certain exceptions relating to fiduciary duties, or complete other transactions that are not in the ordinary course of business pending the closing of the merger. As a result, if the merger is not completed, the

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parties may be at a disadvantage to their competitors during that period. In addition, while the Merger Agreement is in effect, each party is generally prohibited from soliciting, initiating, encouraging or entering into certain extraordinary transactions, such as a merger, sale of assets or other business combination outside the ordinary course of business, with any third-party, subject to, in the case of Edge, certain exceptions. Any such transactions could be favorable to such party s stockholders.

Certain provisions of the Merger Agreement may discourage third parties from submitting alternative takeover proposals, including proposals that may be superior to the arrangements contemplated by the Merger Agreement.

The terms of the Merger Agreement prohibit each of Edge and PDS from soliciting alternative takeover proposals or cooperating with persons making unsolicited takeover proposals, except, with respect to Edge, in certain circumstances where the Edge Board determines in good faith, after consultation with its financial advisor and outside legal counsel, that an unsolicited alternative takeover proposal constitutes or is reasonably likely to result in a superior takeover proposal. In addition, if Edge or PDS terminate the Merger Agreement under certain circumstances, including terminating because of a decision of a board of directors to recommend an alternative proposal, Edge would be required to pay a termination fee of $1.75 million to the other party. These termination fees and reimbursement obligations may Merger Agreement described above may discourage third parties from submitting alternative takeover proposals to Edge and its stockholders, and may cause the Edge Board to be less inclined to recommend an alternative proposal.

The lack of a public market for PDS shares makes it difficult to determine the fair market value of the PDS shares, and PDS stockholders may receive consideration in the merger that is less than the fair market value of the PDS shares and/or Edge may pay more than the fair market value of the PDS shares.

PDS is privately held and its capital stock is not traded in any public market. The lack of a public market makes it extremely difficult to determine PDS s fair market value. Because the percentage of Edge equity to be issued to PDS stockholders was determined based on negotiations between the parties, it is possible that the value of the Edge common stock to be received by PDS stockholders will be less than the fair market value of PDS, or Edge may pay more than the aggregate fair market value for PDS.

Risks Related to Edge

Investing in Edge common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information contained in this proxy statement/prospectus/information statement and in the other periodic and current reports and other documents it files with the SEC, before deciding to invest in its common stock. If any of the following risks materialize, Edge s business, financial condition, results of operation and future prospects will likely be materially and adversely affected. In that event, the market price of its common stock could decline and you could lose all or part of your investment.

Risks Related to the Merger and Edge s Evaluation of Strategic Alternatives

If the merger is not completed, Edge may be unsuccessful in completing an alternative transaction on terms that are as favorable as the terms of the proposed transaction with PDS, or at all, and Edge may be unable to reestablish an operating business. The Edge Board may decide to pursue a dissolution and liquidation of Edge. In such an event, the amount of cash available for distribution to Edge s stockholders will depend heavily on the timing of such liquidation as well as the amount of cash that will need to be reserved for commitments and contingent liabilities.

On March 28, 2018, Edge announced that an independent Data Monitoring Committee, or the DMC, for Edge s NEWTON 2 clinical trial for EG-1962 recommended that the NEWTON 2 study be stopped based on the DMC s conclusion that the study has a low probability of meeting its primary endpoint. Based on the DMC recommendation, Edge decided to discontinue the NEWTON 2 study and has taken steps to notify health authorities and clinical investigators participating in the study. Edge has ceased all further development of EG-1962 and Edge s other product candidates and has implemented operating cost reductions and organizational restructurings, including a reduction in Edge s workforce, to preserve Edge s cash resources. Edge s strategic focus shifted to the identification and evaluation of a range of potential strategic alternatives designed to maximize stockholder value.

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In April 2018, Edge engaged Piper Jaffray as Edge s advisor to assist with the exploration of strategic alternatives. Edge devoted substantial time and resources to exploring such strategic alternatives.

To date, Edge s current assets consist primarily of cash, cash equivalents and marketable securities, Edge s clinical assets, Edge s listing on the Nasdaq Global Market and the Merger Agreement with PDS. While Edge has entered into the Merger Agreement with PDS, the closing of the merger with PDS may be delayed or may not occur at all and there can be no assurance that the merger will deliver the anticipated benefits Edge expects or enhance shareholder value.

If Edge is unable to consummate the merger with PDS, the Edge Board may elect to pursue an alternative strategy, one of which may be a strategic transaction similar to the proposed merger with PDS. Attempting to complete an alternative transaction will be costly and time consuming, and Edge can make no assurances that such an alternative transaction would occur at all. Alternatively, the Edge Board may elect to continue operations to conduct another study of EG-1962 or decide to pursue a dissolution and liquidation of the company. In such an event, the amount of cash available for distribution to Edge s stockholders will depend heavily on the timing of such decision, as with the passage of time the amount of cash available for distribution will be reduced as Edge continues to fund its operations. In addition, if the Edge Board was to approve and recommend, and Edge s stockholders were to approve, a dissolution and liquidation of the company, Edge would be required under Delaware corporate law to pay its outstanding obligations, as well as to make reasonable provision for contingent and unknown obligations, prior to making any distributions in liquidation to Edge s stockholders. Edge s commitments and contingent liabilities may include severance obligations, regulatory and clinical obligations remaining under Edge s NEWTON 2 study, fees and expenses related to the merger and liabilities relating to investigations of or litigation against Edge and other various claims and legal actions. As a result of this requirement, a portion of Edge s assets may need to be reserved pending the resolution of such obligations. In addition, Edge may be subject to litigation or other claims related to a dissolution and liquidation. If a dissolution and liquidation were pursued, the Edge Board, in consultation with its advisors, would need to evaluate these matters and make a determination about a reasonable amount to reserve. Accordingly, holders of Edge common stock could lose all or a significant portion of their investment in the event of a liquidation, dissolution or winding up of the company.

Failure to obtain stockholder approval for the proposed reverse stock split may result in the combined company being unable to obtain compliance with minimum bid price requirements for an initial listing on any Nasdaq market tier and may result in Edge common stock being delisted from the Nasdaq Global Select Market.

Edge is required pursuant to the terms of the Merger Agreement to submit to its stockholders a proposal to approve an amendment to its certificate of incorporation to authorize the Edge Board to effect a reverse stock split of all outstanding shares of its common stock. If the Reverse Stock Split Proposal is not approved by Edge s stockholders, the combined company will likely not be able to obtain compliance with the minimum bid price requirement for an initial listing on any Nasdaq market tier and, as a consequence, to the extent the merger is consummated under such circumstances, Nasdaq will immediately provide the combined company with written notification that the combined company s common stock will be delisted.

Upon receipt of such delisting letter, the combined company will likely appeal the determination to the Nasdaq hearings panel, or the Hearing Panel. If the combined company has not regained compliance with Nasdaq listing requirements prior to such hearing, and the Hearing Panel decides to continue with delisting of the combined company, the Hearing Panel s decision may be appealed to the Nasdaq Listing and Hearing Review Council but such appeal would not stay the delisting process.

The issuance of shares of Edge common stock to PDS stockholders in the merger will dilute substantially the voting power of Edge s current stockholders.

If the merger is completed, each outstanding share of PDS common stock will be converted into the right to receive a number of shares of Edge common stock equal to the Exchange Ratio determined pursuant to the Merger Agreement. Immediately following the merger, Edge securityholders are expected to own approximately 30% of the outstanding capital stock of the combined company on a fully diluted basis, and PDS securityholders are expected to own approximately 70% of the outstanding capital stock of the combined company on a fully diluted basis. Accordingly, the issuance of shares of Edge common stock to PDS stockholders in the merger will

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reduce significantly the relative voting power of each share of Edge common stock held by Edge s current securityholders. Consequently, Edge securityholders as a group will have significantly less influence over the management and policies of the combined company after the merger than prior to the merger.

If the combined company after the merger is unable to realize the strategic and financial benefits currently anticipated from the merger, the Edge stockholders and the PDS stockholders will have experienced substantial dilution of their ownership interests in their respective companies without receiving the expected commensurate benefit, or receiving only part of the commensurate benefit to the extent the combined company is able to realize only part of the expected strategic and financial benefits currently anticipated from the merger.

The pendency of the merger could have an adverse effect on the trading price of Edge common stock and Edge s business, financial condition, results of operations or business prospects.

While there have been no significant adverse effects to date, the pendency of the merger could disrupt Edge s businesses in the following ways, including:

- the attention of Edge's management may be directed toward the closing of the merger and related matters and may be diverted from the day-to-day business operations; and
- third parties may seek to terminate or renegotiate their relationships with Edge as a result of the merger, whether pursuant to the terms of their existing agreements with Edge or otherwise.

Should they occur, any of these matters could adversely affect the trading price of Edge common stock or harm Edge s financial condition, results of operations or business prospects.

Stockholder litigation and regulatory inquiries and investigations are expensive and could harm Edge s business, financial condition and operating results and could divert management attention.

In the past, securities class action litigation and/or stockholder derivative litigation and inquiries or investigations by regulatory authorities have often followed certain significant business transactions, such as the sale of a company or announcement of any other strategic transaction, such as the merger, or the announcement of negative events, such as negative results from clinical trials. Edge is currently and may in the future be the target of this type of litigation as a result of changes in Edge s stock price, past transactions, results of clinical trials or other matters. Any stockholder litigation and/or regulatory investigations against Edge, whether or not resolved in Edge s favor, could result in substantial costs and divert Edge s management s attention from other business concerns, which could adversely affect Edge s business and cash resources and Edge s ability to consummate a potential strategic transaction or the ultimate value Edge s stockholders receive in any such transaction.

Edge is substantially dependent on Edge s remaining employees to facilitate the consummation of a strategic transaction.

On May 1, 2018, Edge announced that it planned to reduce its workforce by 29 to a total of eight full-time employees. Edge s ability to successfully complete a strategic transaction depends in large part on Edge s ability to retain certain of its remaining personnel. Despite Edge s efforts to retain these employees, one or more may terminate their employment with Edge on short notice. The loss of the services of any of these employees could potentially harm Edge s ability to consummate the merger, to run Edge s day-to-day operations, as well as fulfill Edge s reporting obligations as a public company.

There is no assurance that the proposed merger will be completed in a timely manner or at all. If the merger is not consummated, Edge s business could suffer materially and its stock price could decline.

The closing of the proposed merger is subject to a number of closing conditions, including the approval by Edge s stockholders of the issuance of shares of Edge common stock pursuant to the Merger Agreement and the proposed reverse stock split of Edge common stock and other customary closing conditions. If the conditions are not satisfied or waived, the merger will not occur or will be delayed.

If the proposed merger is not consummated, Edge may be subject to a number of material risks, and Edge s business and stock price could be adversely affected, as follows:

- Edge has incurred and expects to continue to incur significant expenses related to the proposed merger even if the merger is not consummated;

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- Edge could be obligated to pay PDS a termination fee of up to $1.75 million under certain circumstances pursuant to the Merger Agreement;
- the market price of Edge common stock may decline to the extent that the current market price reflects a market assumption that the proposed merger will be completed; and
- Edge may not be able to pursue an alternate merger transaction if the proposed merger with PDS is not completed.

Risks Related to Development and Regulatory Approval

Edge may not be able to successfully develop or obtain regulatory approval for EG-1962 or any other product candidate.

Edge has ceased all research and development activities for EG-1962 and its other product candidates. Edge currently has no drug products for sale and may never be able to develop marketable drug products. If Edge were to resume research and development activities, EG-1962 will require substantial additional clinical development, testing, and regulatory approval before Edge will be permitted to commence its commercialization. No clinical studies have been undertaken with respect to Edge s only other product candidates, EG-1964 and EG-1965. If Edge were to resume research and development activities, the clinical studies of Edge s product candidates will be, and the manufacturing and marketing of Edge s product candidates will be, subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where Edge intends to investigate and, if approved, market any product candidate. If Edge were to resume research and development activities, before obtaining regulatory approvals for the commercial sale of any product candidate, Edge would have to successfully meet a number of critical developmental milestones. For example, for EG-1962, these would include:

- providing adequate and well-controlled data that the product candidate is safe and effective and shows a significant benefit over the active comparator in patients for the intended indication;
- demonstrating that the product candidate formulation is reproducible and can meet the relevant release specifications for each market Edge intends to commercialize in; and
- completing the development and scale-up to permit manufacture of Edge’s product candidates in commercial quantities and at acceptable prices.

The time necessary to achieve these developmental milestones for any individual product candidate is long and uncertain.

If Edge were to resume research and development activities, Edge may not be able to finalize the design or formulation of any product candidate. In addition, if Edge were to resume research and development activities, Edge may select components, solvents, excipients or other ingredients to include in its product candidates that have not previously been used in approved pharmaceutical products, which may require Edge to perform additional studies and may delay clinical testing and regulatory approval of its product candidates. If Edge were to resume research and development activities, Edge may not be able to complete development of any product candidates that will be safe and effective and that will have a commercially reasonable treatment and storage period, and may not be able to commercialize and earn revenue from any products candidates. Moreover, even if a product candidate can be approved, it could be blocked by competitor patents or exclusivities.

The regulatory approval processes of the FDA and comparable foreign regulatory authorities are inherently unpredictable, and, to the extent Edge resumes research and development activities, if Edge s product candidates are subject to multiple cycles of review or Edge is ultimately unable to obtain regulatory approval for its product candidates, Edge s business will be substantially harmed. In addition, the regulatory approval processes can delay clinical trials, which can jeopardize the ability to generate revenues from the sale of products.

Of the large number of drugs in development in the United States, only a small percentage successfully complete the FDA regulatory approval process and are commercialized. Edge has ceased all research and development activities for EG-1962 and its other product candidates but to the extent that Edge resumes research and development activities, Edge will not be permitted to market any of product candidates in the United States or in other global markets until Edge receives approval of an NDA from the FDA or the requisite approval from

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such other global regulatory authorities. Successfully completing clinical studies and obtaining approval of an NDA is complex, lengthy, and expensive. The FDA or a comparable foreign regulatory authority may delay, limit or deny approval of product candidates for many reasons, including, among others:

- disagreement with, or disapproval of, the design of, procedures for, or implementation of, clinical trials;
- the inability to comply with conditions imposed by a regulatory authority regarding the scope or design of a clinical trial;
- disagreement with the sufficiency of the final content and data included in a marketing application;
- feedback from the FDA or a comparable foreign regulatory authority on results from earlier stage or concurrent preclinical and clinical studies, that might require modification to the protocol;
- a decision by the FDA or a comparable foreign regulatory authority to suspend or terminate clinical trials at any time for safety issues or for any other reason;
- challenges in meeting regulatory requirements to commence clinical trials in countries outside the United States;
- failure to conduct the trial in accordance with regulatory requirements;
- failure to demonstrate that the product candidate provides an overall benefit to risk or significant enough improvement over the comparator in the proposed indication;
- failure of the product candidate to demonstrate efficacy at the level of statistical significance required for approval;
- a negative interpretation of the data from preclinical studies or clinical trials;
- deficiencies in the manufacturing processes or failure of third party manufacturing facilities to effectively and consistently manufacture product or to pass FDA pre-approval facility inspection;
- failure to demonstrate adequate and reproducible product stability to support product commercialization;
- failure to adequately demonstrate process performance qualification prior to product commercialization;
- inability to validate analytical and microbiological methods consistent with industry and government agency expectations; or
- changes in governmental regulations or administrative actions.

Further, if Edge were to resume research and development activities and experiences delays in the completion of, or termination of, any clinical trial of product candidates, the commercial prospects of those product candidates will be harmed, and Edge s ability to generate product revenues will be delayed or may not happen at all, which circumstances may significantly harm Edge s business, financial condition and prospects.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials and non-head-to-head analysis (e.g., historical comparisons) may not be predictive of future trial results.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of product candidates may not be predictive of the results of later-stage clinical trials. Many companies in the biotechnology industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy, failure by the study drug to demonstrate sufficiently improved efficacy over a comparator arm, or adverse safety profiles, notwithstanding promising results in earlier trials. If Edge were to resume research and development activities, Edge s future clinical trials may not be successful.

To the extent Edge were to resume research and development activities, even if a product candidate receives regulatory approval, it may still face future development and regulatory challenges and any approved products will be subject to extensive post-approval regulatory requirements.

To the extent Edge were to resume research and development activities and in the future obtains regulatory approval for a product candidate, Edge would be subject to extensive ongoing requirements by the FDA and

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comparable foreign regulatory authorities governing the manufacture, quality control, further development, labeling, packaging, storage, distribution, safety surveillance, import, export, advertising, promotion, recordkeeping and reporting of safety and other post-market information. The safety profile of any product will continue to be closely monitored by the FDA and comparable foreign regulatory authorities after approval. If the FDA or comparable foreign regulatory authorities become aware of new safety information after approval of any of Edge s product candidates, these regulatory authorities may require labeling changes or, depending on the nature of the safety information, establishment of a Risk Evaluation and Mitigation Strategy, impose significant restrictions on a product s indicated uses or marketing, impose ongoing requirements for potentially costly post-approval studies or post-market surveillance, cause a recall or even move to withdraw the marketing approval for the product.

In addition, manufacturers of therapeutic products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with applicable regulations, including a focused pre-approval inspection in connection with any regulatory submission for approval. If Edge or a regulatory agency discover previously unknown problems with a product, such as problems with the facility where the product is manufactured, a regulatory agency may take regulatory actions against the manufacturing facility or Edge, leading to a product recall or withdrawal, or suspension of manufacturing.

If Edge, Edge s product candidates or the manufacturing facilities for Edge s product candidates fail to comply with applicable regulatory requirements, Edge s ability to commercialize Edge s products and generate revenue may be significantly limited.

Advertising and promotion of any product candidate that obtains approval in the United States may be heavily scrutinized by the FDA, including the Office of Prescription Drug Promotion, the Department of Justice, or the DOJ, the Department of Health and Human Services, Office of Inspector General, state attorneys general, members of Congress and the public. Violations, including promotion of products for unapproved (or off-label) uses, may be subject to enforcement letters, inquiries and investigations, and civil and criminal sanctions by the FDA. Additionally, advertising and promotion of any product candidate that obtains approval outside of the United States will be heavily scrutinized by comparable foreign regulatory authorities.

In the United States, engaging in impermissible promotion of products, including for off-label uses, can also subject companies to false claims litigation under federal and state statutes, which can lead to civil and criminal penalties and fines and agreements that materially restrict the manner in which a company can promote or distribute a drug product. These false claims statutes include the False Claims Act, or FCA, which allows any individual to bring a lawsuit against a pharmaceutical company on behalf of the federal government alleging submission of false or fraudulent claims, or causing to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government prevails in the lawsuit, the individual will share in any fines or settlement funds. Since 2004, these FCA lawsuits against pharmaceutical companies have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements based on certain sales practices promoting off-label drug uses. This growth in litigation has increased the risk that a pharmaceutical company will have to defend a false claim action, pay settlement fines or restitution, agree to comply with burdensome reporting and compliance obligations, and be excluded from the Medicare, Medicaid, and other federal and state healthcare programs. If Edge does not lawfully promote any approved products, Edge may become subject to such litigation and, if Edge is not successful in defending against such actions, those actions may have a material adverse effect on Edge s business, financial condition and results of operations.

Failure to obtain regulatory approval in international jurisdictions would prevent Edge s product candidates from being marketed abroad.

To the extent Edge were to resume research and development activities and in the future obtains regulatory approval for a product candidate, in order to market and sell Edge s products in the EU, Canada, Japan and other international jurisdictions, Edge would have to obtain separate and distinct marketing approvals and comply with the respective regulatory requirements of each of these jurisdictions. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval, but can involve additional testing or safety surveillance. Edge may need to partner with third parties in order to obtain regulatory approvals outside the United States. Approval by the FDA does not necessarily guarantee approval by regulatory authorities in other countries or jurisdictions. Nor does the approval by one regulatory authority outside the United States ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. Edge may not be able to file for marketing approvals and may not receive necessary approvals to commercialize

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Edge s products in any market. If Edge is unable to obtain approval of any product candidates by regulatory authorities in the EU, Canada, and other international jurisdictions, the commercial prospects of those product candidates may be significantly diminished and Edge s business prospects could dramatically decline.

Risks Related to Edge s Business and Industry

To the extent Edge were to resume research and development activities, Edge s future success will depend on Edge s ability to attract, retain and motivate qualified personnel.

Edge does not have the resources or the required expertise to develop any of its potential product candidates. To the extent Edge were to seek to resume research and development activities, because of the specialized scientific nature of Edge s business, it would need to hire additional qualified scientific personnel. The competition for qualified personnel in the pharmaceutical field is intense and, as a result, Edge may be unable to attract qualified personnel necessary for the future development of Edge s business.

The pharmaceutical industry is highly competitive and is subject to rapid and significant technological change, which could render Edge s technologies and products obsolete or uncompetitive.

If Edge were to resume research and development activities, there is no assurance that Edge s product candidates will be the most effective, the safest, the first to market, or the most economical to make or use. The introduction of competitive therapies as alternatives to any of Edge s product candidates could dramatically reduce the value of those development projects or chances of successfully commercializing those product candidates, which could have a material adverse effect on Edge s long-term financial success.

Edge s business and operations would suffer in the event of system failures.

Despite the implementation of security measures, the servers of Edge s cloud-based computing providers and other systems, and those of Edge s CROs and other third parties on which Edge relies, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in Edge s operations, it could result in a material disruption of Edge s drug development programs if Edge were to resume research and development activities. For example, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in Edge s regulatory approval efforts and significantly increase Edge s costs to recover or reproduce the data. To the extent that any disruption or security breach was to result in a loss of or damage to Edge s data or applications, or inappropriate disclosure of confidential or proprietary information, Edge could incur liability and the further development of Edge s product candidates could be delayed.

Any future collaborators may compete with Edge or have interests which conflict with Edge s. This may restrict any future research and development efforts.

If Edge were to resume research and development activities, large pharmaceutical companies with whom Edge may seek to collaborate may have internal programs or enter into collaborations with Edge s competitors for products addressing the same medical conditions targeted by Edge s technologies. Thus, such collaborators may pursue alternative technologies or product candidates in order to develop treatments for the diseases or disorders targeted by Edge s collaborative arrangements. Such collaborators may pursue these alternatives either on their own or in collaboration with others, including Edge s competitors. Depending on how other product candidates advance, a corporate partner may slow down or abandon its work on Edge s product candidates or terminate its collaborative arrangement with Edge in order to focus on these other prospects.

If any conflicts arise, Edge s future collaborators may act in their own interests, which may be adverse to Edge. In addition, in Edge s future collaborations, Edge may be required to agree not to conduct any research that is competitive with the research conducted under Edge s future collaborations. Edge s future collaborations may have the effect of limiting the areas of research that Edge may pursue. Edge s collaborators may be able to develop products in related fields that are competitive with the products or potential products that are the subject of these collaborations.

Business disruptions could seriously harm Edge s financial condition and increase Edge s costs and expenses.

Edge s operations could be subject to natural disasters, power shortages, telecommunications failures, water shortages, fires, medical epidemics and other manmade disasters or business interruptions, for which Edge or they are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm Edge s financial condition and increase Edge s costs and expenses.

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Edge s employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on Edge s business.

Edge is exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, to provide accurate information to the FDA or comparable foreign regulatory authorities, to comply with federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, to report financial information or data accurately or to disclose unauthorized activities to Edge. Edge has adopted, implemented, and is enforcing a code of conduct, or Code of Conduct, and other compliance-based policies and procedures, but it is not always possible to identify and deter employee misconduct, and the precautions Edge takes to detect and prevent this activity, such as employee training on enforcement of the Code of Conduct and other policies and procedures, may not be effective in controlling unknown or unmanaged risks or losses or in protecting Edge from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against Edge, and Edge is not successful in defending itself or asserting Edge s rights, those actions could have a significant impact on Edge, including the imposition of significant fines or other sanctions.

Risks Related to Edge s Intellectual Property

If Edge is unable to protect Edge s intellectual property rights, Edge s competitive position could be harmed.

If Edge were to resume research and development activities, Edge will depend on its ability to protect its proprietary technology. Edge relies on trade secret, patent, copyright and trademark laws, and confidentiality, licensing and other agreements with employees and third parties, all of which offer only limited protection. If Edge were to resume research and development activities, Edge s success will depend in large part on its ability to obtain and maintain patent protection in the United States and other countries with respect to Edge s proprietary technology and products.

The patent positions of biotechnology and pharmaceutical companies generally are highly uncertain, involve complex legal and factual questions and have in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of Edge s patents are highly uncertain.

The steps Edge has taken to police and protect Edge s proprietary rights may not be adequate to preclude misappropriation of Edge s proprietary information or infringement of Edge s intellectual property rights, both inside and outside the United States. The rights already granted under any of Edge s currently issued/granted patents and those that may be granted under future issued/granted patents may not provide Edge with the proprietary protection or competitive advantages Edge may seek in the future. If Edge is unable to obtain and maintain patent protection for Edge s technology and products, or if the scope of the patent protection obtained is not sufficient, Edge s competitors could develop and commercialize technology and products similar or superior to Edge s, and Edge s ability to successfully commercialize Edge s technology and products may be adversely affected.

Although Edge has a number of issued/granted patents, the issuance/grant of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and issued/granted patents that Edge owns or has licensed from third parties may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in the loss of patent protection, the narrowing of claims in such patents, or the invalidity or unenforceability of such patents, which could limit Edge s ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection for Edge s technology and products.

Protecting against the unauthorized use of Edge s patented technology, trademarks and other intellectual property rights is expensive, difficult and, may in some cases not be possible. In some cases, it may be difficult or impossible to

detect third party infringement or misappropriation of Edge s intellectual property rights, even in relation to issued/granted patent claims, and proving any such infringement may be even more difficult.

Edge could be required to incur significant expenses to obtain Edge s intellectual property rights, and Edge cannot ensure that Edge will obtain meaningful patent protection for its products.

The patent prosecution process is expensive and time-consuming, and Edge or any future licensors may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely

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manner. In addition, if Edge were to resume research and development activities, it is also possible that Edge or Edge s licensors will fail to identify patentable aspects of further inventions made in the course of Edge s development and commercialization activities before they are publicly disclosed, making it too late to obtain patent protection on them. Further, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of Edge s patents or narrow the scope of Edge s patent protection. The laws of foreign countries may not protect Edge s rights to the same extent as the laws of the United States, and these foreign laws may also be subject to change.

Obtaining and maintaining Edge s patent protection depends on compliance with various procedural, document submissions, fee payment and other requirements imposed by governmental patent agencies, and Edge s patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees on any issued/granted patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If Edge or Edge s licensors fail to maintain the patents and patent applications covering any of Edge s product candidates, Edge s competitors might be able to enter the market, which would have a material adverse effect on Edge s business.

Edge may become involved in lawsuits to protect or enforce Edge s intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe Edge s patents or misappropriate or otherwise violate Edge s intellectual property rights. To counter infringement or unauthorized use, litigation may be necessary in the future to enforce or defend Edge s intellectual property rights, to protect Edge s trade secrets or to determine the validity and scope of Edge s own intellectual property rights or the proprietary rights of others. This can be expensive and time consuming and results can be uncertain. Many of Edge s current and potential competitors have the ability to dedicate substantially greater resources to defend their intellectual property rights than Edge can. Accordingly, despite Edge s efforts, Edge may not be able to prevent third parties from infringing upon or misappropriating Edge s intellectual property, particularly in certain parts of the world. Litigation could result in substantial costs and diversion of management resources, which could harm Edge s business and financial results. In addition, in an infringement proceeding, a court may decide that a patent owned by, or licensed to, Edge is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that Edge s patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of Edge s patents at risk of being invalidated, held unenforceable or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of Edge s confidential information could be compromised by disclosure during this type of litigation. If any of these occur, Edge s business could be materially and adversely affected.

From time to time Edge may need to rely on licenses to proprietary technologies, which may be difficult, expensive or not possible to obtain or Edge may lose certain licenses which may be difficult or not possible to replace.

If Edge were to resume research and development activities, Edge may need to obtain licenses to patents and other proprietary rights held by third parties to develop, manufacture and market Edge s product candidates. If Edge is unable to timely obtain these licenses on commercially reasonable terms and maintain these licenses, Edge s ability to commercially market Edge s product candidates may be inhibited or prevented, which could have a material adverse effect on Edge s business, results of operations, financial condition and cash flows.

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Third parties may initiate legal proceedings alleging that Edge is infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of Edge s business.

If Edge were to resume research and development activities, Edge s commercial success will depend upon Edge s ability to develop, manufacture, market and sell Edge s product candidates, and to use Edge s proprietary technologies without infringing the proprietary rights of third parties. Edge may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to Edge s products and technology, including interference (for patents with an effective date before March 16, 2013) and various post grant proceedings before the USPTO, and opposition proceedings at other patent offices. Third parties may assert infringement claims against Edge based on existing patents or patents that may be granted in the future. In the event a third party were to assert an infringement claim against Edge and Edge were ultimately found to infringe the third party s intellectual property rights, Edge could be required to obtain a license from such third party to continue developing and commercializing Edge s products and technology. However, Edge may not be able to obtain an appropriate license on commercially reasonable terms or at all. Even if Edge is able to obtain a license, it may be non-exclusive, thereby giving Edge s competitors access to the same technologies licensed to Edge. Edge could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, in any such proceeding or litigation, Edge could be found liable for monetary damages. A finding of infringement could prevent Edge from commercializing Edge s product candidates or force Edge to cease some of Edge s business operations, which could materially harm Edge s business. Any claims by third parties that Edge has misappropriated their confidential information or trade secrets could have a similar negative impact on Edge s business.

Edge s trade secrets are difficult to protect.

Confidentiality agreements with employees and others may not adequately prevent disclosure of Edge s trade secrets and other proprietary information and may not adequately protect Edge s intellectual property.

If Edge were to resume research and development activities, Edge s success will depend upon the skills, knowledge and experience of Edge s scientific and technical personnel, Edge s consultants and advisors as well as Edge s partners, licensors and contractors. Because Edge operates in a highly competitive technical field of drug discovery, Edge relies in part on trade secrets to protect Edge s proprietary technology and processes. However, trade secrets are difficult to protect. Edge enters into confidentiality and invention assignment agreements with Edge s employees and certain of Edge s corporate partners, consultants, sponsored researchers and other advisors. These agreements generally require that the receiving party keep confidential and not disclose to third parties all confidential information developed by the receiving party or made known to the receiving party by Edge during the course of the receiving party s relationship with Edge. These confidentiality and assignment agreements may be breached and may not effectively assign intellectual property rights to Edge.

Edge s trade secrets also could be independently discovered by competitors, in which case Edge would not be able to prevent use of such trade secrets by Edge s competitors. The enforcement of a claim alleging that a party illegally obtained and was using Edge s trade secrets could be difficult, expensive and time consuming and the outcome would be unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets. The failure to obtain or maintain meaningful trade secret protection could adversely affect Edge s competitive position.

Edge may be subject to claims that Edge s employees or consultants have wrongfully used or disclosed alleged trade secrets of their former employers or other third parties.

Many of Edge s employees and consultants were previously employed at other biotechnology or pharmaceutical companies, including Edge s competitors or potential competitors. Some of these employees, including each member of Edge s senior management, and consultants executed proprietary rights, non-disclosure and non-competition

agreements in connection with such previous employment. Although Edge tries to ensure that Edge s employees and consultants do not use the proprietary information or know-how of others in their work for Edge, Edge may be subject to claims that Edge or these employees and consultants have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee s or consultant s former employer. Edge is not aware of any threatened or pending claims related to these matters or concerning the agreements with Edge s senior management, but in the future, litigation may be necessary to

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defend against such claims. If Edge fails in defending any such claims, in addition to paying monetary damages, Edge may lose valuable intellectual property rights or personnel. Even if Edge is successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

Intellectual property disputes could cause Edge to spend substantial resources.

Even if resolved in Edge s favor, litigation or other legal proceedings relating to intellectual property claims may cause Edge to incur significant expenses. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the market price of Edge s common stock. Such litigation or proceedings could substantially increase Edge s operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. Edge may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of Edge s competitors may be able to sustain the costs of such litigation or proceedings more effectively than Edge can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on Edge s ability to compete in the marketplace.

Edge may not be able to protect Edge s intellectual property rights throughout the world.

Filing, prosecuting and defending patents on all of Edge s product candidates throughout the world could be prohibitively expensive.

Competitors may use Edge s technologies in jurisdictions where Edge has not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where Edge has patent protection, but where enforcement is not as strong as that in the United States. These products may compete with any of Edge s future products, to the extent Edge resumes research and development activities, in jurisdictions where Edge does not have any issued/granted patents and Edge s patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for Edge to stop the infringement of Edge s patents or marketing of competing products in violation of Edge s proprietary rights generally. Proceedings to enforce Edge s patent rights in foreign jurisdictions could result in substantial cost and divert Edge s efforts and attention from other aspects of Edge s business and will have uncertain outcomes.

Risks Related to Edge s Financial Position and Capital Needs

Edge has incurred significant losses since Edge s inception and anticipates that Edge will continue to incur losses for the foreseeable future.

Edge is a clinical-stage biotechnology company. Investment in biotechnology product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that a product candidate will fail to gain regulatory approval or become commercially viable. Edge has not generated any revenue from product sales to date, and Edge continues to incur expenses related to Edge s ongoing operations. As a result, Edge is not profitable and has incurred losses in each period since inception in 2009. For the years ended December 31, 2017 and December 31, 2016 and the nine months ended September 30, 2018, Edge reported a net loss of $50.9 million, $38.8 million and 37.8 million, respectively.

Edge expects to continue to incur losses for the foreseeable future. Edge may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect Edge s business. Edge s prior losses and expected future losses have had and will continue to have an adverse effect on Edge s stockholders (deficit) equity and working capital.

Edge has not generated any revenues since inception and may never become profitable.

Edge has not generated any revenues since Edge s inception. If Edge were to resume research and development activities, even if Edge is able to successfully achieve regulatory approval for any product candidates, Edge does not know when any of these products will generate revenue for Edge, if at all.

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If Edge were to resume research and development activities, Edge will require additional capital to fund Edge s operations and if Edge fails to obtain necessary financing, Edge will not be able to complete the development and commercialization of Edge s product candidates.

Edge s operations have consumed substantial amounts of cash since inception. If Edge were to resume research and development activities, Edge will require additional capital for the further development and commercialization of Edge s product candidates.

Under such circumstances Edge cannot be certain that additional funding will be available on acceptable terms, or at all. If Edge is unable to raise additional capital in sufficient amounts or on terms acceptable to Edge, Edge may have to significantly delay, scale back or discontinue the development or commercialization of one or more of Edge s products or product candidates or one or more of Edge s other research and development initiatives.

Raising additional capital may cause dilution to Edge s stockholders, restrict Edge s operations or require Edge to relinquish rights to Edge s technologies or product candidates.

If Edge were to resume research and development activities, Edge may seek additional capital through a combination of private and public equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements. To the extent that Edge raises additional capital through the sale of equity or convertible debt securities, Edge s then-existing stockholders ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of then-existing stockholders. Debt financings may be coupled with an equity component, such as warrants to purchase stock, which could also result in dilution of Edge s then-existing stockholders ownership. The incurrence of indebtedness would result in increased fixed payment obligations and could also result in certain restrictive covenants, such as limitations on Edge s ability to incur additional debt, limitations on Edge s ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact Edge s ability to conduct Edge s business and may result in liens being placed on Edge s assets and intellectual property. If Edge were to default on such indebtedness, Edge could lose such assets and intellectual property. If Edge raises additional funds through strategic partnerships and alliances and licensing arrangements with third parties, Edge may have to relinquish valuable rights to Edge s product candidates, or grant licenses on terms that are not favorable to Edge.

Risks Related to Ownership of Edge s Common Stock

The trading market in Edge s common stock has been extremely limited and substantially less liquid than the average trading market for a stock quoted on the NASDAQ Global Select Market.

Prior to Edge s initial public offering, or IPO, there was no market for shares of Edge s common stock. Since Edge s initial listing on the NASDAQ Global Select Market on October 1, 2015, the trading market in Edge s common stock has been limited and substantially less liquid than the average trading market for companies quoted on the NASDAQ Global Select Market. The quotation of Edge s common stock on the NASDAQ Global Select Market does not assure that a meaningful, consistent and liquid trading market currently exists. Edge cannot predict whether a more active market for Edge s common stock will develop in the future. An absence of an active trading market could adversely affect Edge s stockholders ability to sell Edge s common stock at current market prices in short time periods, or possibly at all. Additionally, market visibility for Edge s common stock may be limited and such lack of visibility may have a depressive effect on the market price for Edge s common stock. As of [December 31, 2018], approximately [40]% of Edge s outstanding shares of common stock was held by Edge s officers, directors, beneficial owners of 5% or more of Edge s capital stock and their respective affiliates, which adversely affects the liquidity of the trading market for Edge s common stock, inasmuch as federal securities laws restrict sales of Edge s shares by these stockholders under certain circumstances. If Edge s affiliates continue to hold their shares of common stock, there will be limited

trading volume in Edge s common stock, which may make it more difficult for investors to sell their shares or increase the volatility of Edge s stock price.

If Edge fails to continue to meet all applicable Nasdaq Global Select Market requirements and Nasdaq determines to delist Edge s common stock, the delisting could adversely affect the market liquidity of Edge s common stock and the market price of Edge s common stock could decrease.

Edge s common stock is listed on The Nasdaq Global Select Market. In order to maintain Edge s listing, Edge must meet minimum financial and other requirements, including requirements for a minimum amount of capital, a minimum price per share and continued business operations so that Edge is not characterized as a

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public shell company. Edge has received written notice from Nasdaq stating that, at present, Edge is not in compliance with the audit committee requirements for continued listing on The Nasdaq Global Select Market, because Edge currently has an audit committee comprised of two members. If Edge does not regain compliance with audit committee requirements in a timely manner, Nasdaq will provide written notification to Edge that Edge s securities will be subject to delisting. In addition, Edge has received written notice from Nasdaq stating that, at present, Edge is not in compliance with the bid price requirements for Edge s common stock because the bid price for Edge s common stock had closed below $1.00 per share for 30 consecutive business days. If Edge does not regain compliance with the bid price requirements in a timely manner, Nasdaq will provide written notification to Edge that Edge s securities will be subject to delisting. Additionally, if the merger is consummated, the combined company following such transaction will need to meet Nasdaq s initial listing standards. If Edge is unable to comply with Nasdaq s listing standards, Nasdaq may determine to delist Edge s common stock from The Nasdaq Global Select Market or other of Nasdaq s trading markets. If Edge s common stock is delisted for any reason, it could reduce the value of Edge s common stock and its liquidity.

Market volatility may affect Edge s stock price and the value of Edge s stockholders investment.

The trading price of Edge s common stock, similar to other biotechnology companies, is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond Edge s control, including, among others:

- regulatory actions with respect to Edge;
- the recruitment or departure of key personnel;
- announcements by Edge or Edge's competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued/granted patents or other proprietary rights;
- the level of Edge's expenses;
- actual or anticipated changes in estimates as to financial results;
- variations in Edge's financial results or those of companies that are perceived to be similar to Edge;
- fluctuations in the valuation of companies perceived by investors to be comparable to Edge;
- share price and volume fluctuations attributable to inconsistent trading volume levels of Edge's shares;
- announcement or expectation of additional financing efforts;
- sales of Edge's common stock by Edge, Edge's insiders or Edge's other stockholders;
- market conditions in the pharmaceutical and biotechnology sectors; and
- general economic, industry and market conditions.

In addition, the stock market in general, and pharmaceutical and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies.

Broad market and industry factors may negatively affect the market price of Edge s common stock, regardless of Edge s actual operating performance. The realization of any of the above risks or any of a broad range of other risks, including those described in these Risk Factors, could have a dramatic and material adverse impact on the market price of Edge s common stock.

Future sales of a substantial number of shares of Edge s common stock in the public market or other issuances of Edge s common stock or rights to purchase common stock, including pursuant to equity incentive plans could result in additional dilution of the percentage ownership of Edge s stockholders and could cause Edge s stock price to fall.

Edge s stock price could decline as a result of sales of a large number of shares of Edge s common stock, including shares issuable upon exercise of stock options and warrants, or the perception that these sales could

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occur. These sales, or the possibility that these sales may occur, also might make it more difficult for Edge to sell equity securities in the future at a time and at a price that Edge deems appropriate.

As of December 31, 2018, the holders of up to [•] shares, or [•]%, of Edge s common stock outstanding, will have rights, subject to some conditions, to require Edge to file registration statements covering the sale of their shares or to include their shares in registration statements Edge may file for itself or other stockholders. Once Edge registers the offer and sale of shares for the holders of registration rights, they can be freely sold in the public market.

In addition, in the future, Edge may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements, or otherwise. Any such issuance could result in substantial dilution to Edge s then-existing stockholders and could cause Edge s stock price to decline.

Future issuances of Edge s common stock or rights to purchase common stock, including pursuant to Edge s equity incentive plans, could result in additional dilution of the percentage ownership of Edge s stockholders and could cause Edge s stock price to fall.

Any future issuances of common stock or common stock-related securities, together with the exercise of outstanding options and warrants to purchase [•] shares of common stock as of December 31, 2018 and any additional shares issued in connection with acquisitions, if any, may result in material dilution to Edge s then-existing stockholders, and new investors could gain rights, preferences and privileges senior to those of holders of Edge s common stock.

Edge s principal stockholders and management own a significant percentage of Edge s stock and will be able to exert significant control over matters subject to stockholder approval.

As of December 31, 2018, Edge s executive officers, directors, holders of 5% or more of Edge s capital stock and their respective affiliates beneficially owned approximately [•]% of Edge s outstanding voting stock (assuming no exercise of outstanding stock options). These stockholders may be able to determine the outcome of all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of Edge s organizational documents, or approval of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for Edge s common stock that Edge s then-existing stockholders may feel are in their best interest. The interests of this group of stockholders may not always coincide with your interests or the interests of other stockholders and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for Edge s common stock.

Some provisions of Edge s charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of Edge by others, even if an acquisition would be beneficial to Edge s stockholders and may prevent attempts by Edge s stockholders to replace or remove Edge s current management.

Provisions in Edge s amended and restated certificate of incorporation, or certificate of incorporation, and amended and restated bylaws, or bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire Edge or increase the cost of acquiring Edge, even if doing so would benefit Edge s stockholders, or remove Edge s current management. These provisions include:

- authorizing the issuance of blank check preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;
- prohibiting cumulative voting in the election of directors, which would otherwise allow for less than a majority of stockholders to elect director candidates;

- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of Edge's stockholders;
- eliminating the ability of stockholders to call a special meeting of stockholders;
- establishing a staggered board of directors; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

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These provisions may frustrate or prevent any attempts by Edge s stockholders to replace or remove Edge s current management by making it more difficult for stockholders to replace members of Edge s board of directors, who are responsible for appointing the members of Edge s management. Because Edge is incorporated in Delaware, Edge is governed by the provisions of Section 203 of the Delaware General Corporation Law, which may discourage, delay or prevent someone from acquiring Edge or merging with Edge whether or not it is desired by or beneficial to Edge s stockholders. Under Delaware law, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Any provision of Edge s amended and restated certificate of incorporation or amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for Edge s stockholders to receive a premium for their shares of Edge s common stock, and could also affect the price that some investors are willing to pay for Edge s common stock.

Because Edge does not anticipate paying any cash dividends on Edge s capital stock in the foreseeable future, capital appreciation, if any, will be Edge s stockholders sole source of gain.

Edge has never declared or paid cash dividends on Edge s capital stock. Edge currently intends to retain all of Edge s future earnings, if any, to finance Edge s business. In addition, any future debt agreements may preclude Edge from paying dividends. As a result, capital appreciation, if any, of Edge s common stock will be Edge s stockholders sole source of gain for the foreseeable future.

Edge is an emerging growth company and Edge intends to take advantage of reduced disclosure and governance requirements applicable to emerging growth companies, which could result in Edge s common stock being less attractive to investors.

Edge is an emerging growth company, as defined in the JOBS Act, and Edge intends to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in Edge s periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. Edge cannot predict if investors will find Edge s common stock less attractive because Edge will rely on these exemptions. Edge may take advantage of these reporting exemptions until Edge is no longer an emerging growth company, which could potentially be for up to five years after the date of Edge s IPO, which occurred on October 1, 2015. If investors find Edge s common stock less attractive as a result of Edge s reduced reporting requirements, there may be a less active trading market for Edge s common stock and Edge s stock price may be more volatile. Edge may also be unable to raise additional capital as and when Edge needs it.

If Edge fails to maintain an effective system of internal control over financial reporting in the future, Edge may not be able to accurately report Edge s financial condition, results of operations or cash flows, which may adversely affect investor confidence in Edge and, as a result, the value of Edge s common stock.

The Sarbanes-Oxley Act requires, among other things, that Edge maintain effective internal controls for financial reporting and disclosure controls and procedures. Edge s annual report on Form 10-K includes a report by management on, among other things, the effectiveness of Edge s internal control over financial reporting. This assessment includes disclosure of any material weaknesses identified by Edge s management in Edge s internal control over financial reporting. A material weakness is a control deficiency, or combination of control deficiencies, in internal control over financial reporting that results in more than a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected on a timely basis. Section 404 of the Sarbanes-Oxley Act also generally requires an attestation from Edge s independent registered public accounting firm on the effectiveness of

Edge s internal control over financial reporting. However, for as long as Edge remains an emerging growth company as defined in the JOBS Act, Edge intends to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the independent registered public accounting firm attestation requirement.

Edge s compliance with Section 404 requires that Edge incur additional accounting expense and management efforts. Edge currently does not have an internal audit group. Edge may not be able to complete any

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required Section 404 evaluation, testing and remediation in a timely fashion. During the evaluation and testing process, if Edge identifies one or more material weaknesses in Edge s internal control over financial reporting, Edge will be unable to assert that Edge s internal control over financial reporting is effective. Edge cannot assure Edge s stockholders that there will not be material weaknesses or significant deficiencies in Edge s internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit Edge s ability to accurately report Edge s financial condition, results of operations or cash flows. If Edge is unable to conclude that Edge s internal control over financial reporting is effective, or if Edge s independent registered public accounting firm determines Edge has a material weakness or significant deficiency in Edge s internal control over financial reporting, Edge could lose investor confidence in the accuracy and completeness of Edge s financial reports, the market price of Edge s common stock could decline, and Edge could be subject to sanctions or investigations by NASDAQ, the SEC or other regulatory authorities. Failure to remedy any material weakness in Edge s internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict Edge s future access to the capital markets.

Edge s disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Edge s disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by Edge in reports Edge files or submits under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Edge believes that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in Edge s control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

Risks Related to PDS

Risks Related to PDS s Business, Financial Position and Capital Requirements

PDS has a limited operating history and has never generated any product revenue.

PDS is a clinical-stage biopharmaceutical company with a limited operating history. PDS was founded in December 2005, and its operations to date have been limited to organizing its company and developing the Versamune® platform and related immunotherapy product candidates that incorporate the technology of its Versamune® platform. PDS has not yet successfully completed a large-scale, pivotal clinical trial, obtained marketing approval, manufactured Versamune® at commercial scale, or conducted sales and marketing activities that will be necessary to successfully commercialize its Versamune® products. Consequently, predictions about PDS s future success or viability may not be as accurate as they could be if it had a longer operating history or a history of successfully developing and commercializing immunotherapies.

PDS s ability to generate revenue and achieve and maintain profitability will depend upon its ability to successfully complete the development of its Versamune®-based products for the treatment of HPV-related cancers, or PDS0101, and/or complete the development of its PDS0102, PDS0103, or PDS0104 products, or, collectively with PDS0101, the Versamune® Products, for treatment of non-HPV-related cancers and other infectious diseases and to obtain the necessary regulatory approvals. PDS has never generated any product revenue, and has no immunotherapy candidate

in late-stage clinical development or approved for commercial sale.

Even if PDS receives regulatory approval for the sale of the Versamune® Products, it does not know when it will begin to generate revenue from PDS0101, if at all. PDS s ability to generate revenue depends on a number of factors, including its ability to:

- set an acceptable price for Versamune®-based immunotherapy candidates, including the Versamune® Products, and obtain coverage and adequate reimbursement from third-party payors;
- establish sales, marketing, manufacturing and distribution systems;

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- add operational, financial and management information systems and personnel, including personnel to support its clinical, manufacturing and planned future clinical development and commercialization efforts and operations as a public company;
- develop manufacturing capabilities for bulk materials and manufacture commercial quantities of PDS0101 and other Versamune® Products at acceptable cost levels;
- achieve broad market acceptance of PDS0101 and other Versamune® Products in the medical community and with third-party payors and consumers;
- attract and retain an experienced management and advisory team;
- launch commercial sales of PDS0101 and other Versamune® Products, whether alone or in collaboration with others; and
- maintain, expand and protect PDS's intellectual property portfolio.

Because of the numerous risks and uncertainties associated with immunotherapy development and manufacturing, PDS is unable to predict the timing or amount of increased development expenses, or when it will be able to achieve or maintain profitability, if at all. PDS s expenses could increase beyond expectations if it is required by the U.S. Food and Drug Administration, or FDA, or comparable non-U.S. regulatory authorities, to perform studies or clinical trials in addition to those it currently anticipates. Even if PDS0101 is approved for commercial sale, it anticipates incurring significant costs associated with the commercial launch of and the related commercial-scale manufacturing requirements for PDS0101 and other Versamune® Products. If PDS cannot successfully execute on any of the factors listed above, PDS s business may not succeed and your investment will be adversely affected.

PDS has incurred significant losses since its inception and expects to continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability.

PDS has never generated any product revenues and it expects to continue to incur substantial and increasing losses as it continues to develop PDS0101 and other Versamune® Products. PDS0101 has not been approved for marketing in the United States and may never receive such approval. As a result, PDS is uncertain when or if it will achieve profitability and, if so, whether it will be able to sustain it. PDS s ability to generate revenue and achieve profitability is dependent on its ability to complete development, obtain necessary regulatory approvals, and have PDS0101 manufactured and successfully marketed. PDS cannot assure you that it will be profitable even if it successfully commercializes PDS0101 or other Versamune® Products. If PDS does successfully obtain regulatory approval to market PDS0101, its revenues will be dependent, in part, upon, the size of the markets in the territories for which regulatory approval is received, the number of competitors in such markets for the approved indication, and the price at which PDS can offer PDS0101. If the indication approved by regulatory authorities is narrower than PDS expects, or the treatment population is narrowed by competition, physician choice or treatment guidelines, PDS may not generate significant revenue from sales of PDS0101, even if approved. Even if PDS does achieve profitability, PDS may not be able to sustain or increase profitability on a quarterly or annual basis. If PDS fails to become and remain profitable the market price of its common stock and PDS s ability to raise capital and continue operations will be adversely affected.

PDS expects research and development expenses to increase significantly for PDS0101 and other Versamune® Products. In addition, even if PDS obtains regulatory approval, significant sales and marketing expenses will be required to commercialize PDS0101. As a result, PDS expects to continue to incur significant and increasing operating losses and negative cash flows for the foreseeable future. These losses have had and will continue to have an adverse effect on its financial position and working capital. As of September 30, 2018, PDS had an accumulated deficit of $20.1 million.

PDS is dependent on the success of PDS0101, which is still in early-stage clinical development, and if PDS0101 does not receive regulatory approval or is not successfully commercialized, its business may be harmed.

PDS0101 is only in early clinical development, and as a consequence, it is too early to determine whether the Versamune® Products will ever be approved for commercial sale or marketable. PDS expects that a substantial portion of its efforts and expenditures over the next few years will be devoted to PDS0101 and other

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Versamune® Products. Accordingly, PDS s business currently depends heavily on the successful development, regulatory approval and commercialization of PDS0101. PDS0101 may not receive regulatory approval or be successfully commercialized even if regulatory approval is received. The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of PDS0101 is and will remain subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries that each have differing regulations. PDS is not permitted to market PDS0101 in the United States until it receives approval of a biologics license application, or BLA, from the FDA, or in any foreign countries until it receives the requisite approval from such countries. To date, PDS has only completed Phase 1/2A clinical trials for certain applications of PDS0101. As a result, PDS has not submitted a BLA to the FDA or comparable applications to other regulatory authorities and does not expect to be in a position to do so for the foreseeable future. Obtaining approval of a BLA is an extensive, lengthy, expensive and inherently uncertain process, and the FDA may delay, limit or deny approval of PDS0101 for many reasons, including:

- PDS may not be able to demonstrate that PDS0101 is safe and effective to the satisfaction of the FDA;
- the FDA may not agree that the completed Phase 1/2A clinical trials of PDS0101 satisfy the FDA's requirements and may require PDS to conduct additional testing;
- the results of PDS's future clinical trials may not meet the level of statistical or clinical significance required by the FDA for marketing approval;
- the FDA may disagree with the number, design, size, conduct or implementation of one or more of PDS's clinical trials;
- the contract research organizations, or CROs, that PDS retains to conduct clinical trials may take actions outside of PDS's control that materially and adversely impact its clinical trials;
- the FDA may not find the data from PDS's preclinical studies and clinical trials sufficient to demonstrate that the clinical and other benefits of PDS0101 outweigh the safety risks;
- the FDA may disagree with PDS's interpretation of data from PDS's preclinical studies and clinical trials;
- the FDA may not accept data generated at PDS's clinical trial sites;
- if PDS's BLA is reviewed by an advisory committee, the FDA may have difficulties scheduling an advisory committee meeting in a timely manner or the advisory committee may recommend against approval of PDS's application or may recommend that the FDA require, as a condition of approval, additional preclinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions;
- the FDA may require development of a risk evaluation and mitigation strategy, or REMS, as a condition of approval;
- the FDA may identify deficiencies in PDS's manufacturing processes or facilities; or
- the FDA may change its approval policies or adopt new regulations.

PDS s independent auditor has expressed doubt about PDS s ability to continue as a going concern.

Based on its cash balances, recurring losses since inception and existing capital resources to fund planned operations for the next twelve months, PDS s independent auditor has included an explanatory paragraph in its report on PDS s financial statements as of and for the year ending December 31, 2017 expressing substantial doubt about PDS s ability to continue as a going concern. If the merger is not consummated PDS will, during 2019, require significant additional funding to continue operations. If PDS is unable to continue as a going concern, it may be forced to liquidate its assets and the values it receives for its assets in liquidation or dissolution could be significantly lower than the values reflected in its financial statements.

PDS will require additional capital to fund its operations, and if PDS fails to obtain necessary financing, it may not be able to complete the development and commercialization of PDS0101.

PDS expects to spend substantial amounts to complete the development of, seek regulatory approvals for and commercialize PDS0101. Even with the expected cash reserves of the combined company, PDS will require

substantial additional capital to complete the development and potential commercialization of PDS0101 and the

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development of other Versamune® Products. If PDS is unable to raise capital or find appropriate partnering or licensing collaborations, when needed or on acceptable terms, if at all, it could be forced to delay, reduce or eliminate one or more of its development programs or any future commercialization efforts. In addition, attempting to secure additional financing may divert the time and attention of its management from day-to-day activities and harm its development efforts.

Based upon its current operating plan, PDS believes that the expected cash reserves of the combined company will enable it to fund its operating expenses and capital expenditure requirements into 2020. PDS s estimate as to what it will be able to accomplish is based on assumptions that may prove to be inaccurate, and it could exhaust its available capital resources sooner than is currently expected. Because the length of time and activities associated with successful development of PDS0101 is highly uncertain, PDS is unable to estimate the actual funds it will require for development and any approved marketing and commercialization activities. PDS s future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of PDS's planned clinical trials;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA and other comparable foreign regulatory authorities;
- the cost of filing, prosecuting, defending and enforcing its patent claims and other intellectual property rights;
- the cost of defending potential intellectual property disputes, including any patent infringement actions brought by third parties against PDS now or in the future;
- the effect of competing technological and market developments;
- the cost of establishing sales, marketing and distribution capabilities in regions where PDS chooses to commercialize PDS0101 on PDS's own; and
- the initiation, progress, timing and results of the commercialization of PDS0101, if approved, for commercial sale.

Additional funding may not be available on acceptable terms, or at all. If PDS is unable to raise additional capital in sufficient amounts or on terms acceptable to it, PDS may have to significantly delay, scale back or discontinue the development or commercialization of PDS0101 or potentially discontinue operations.

Raising additional funds by issuing securities may cause dilution to existing stockholders, and raising funds through lending and licensing arrangements may restrict PDS s operations or require it to relinquish proprietary rights.

PDS expects that significant additional capital will be needed in the future to continue its planned operations. Until such time, if ever, as PDS can generate substantial product revenues, PDS expects to finance its cash needs through a combination of equity offerings, debt financings, strategic alliances and license and development agreements in connection with any collaborations. PDS does not currently have any committed external source of funds. To the extent that PDS raises additional capital by issuing equity securities, PDS s existing stockholders ownership may experience substantial dilution, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting PDS s ability to take specific actions, such as incurring additional debt, making capital expenditures, declaring dividends, creating liens, redeeming its stock or making investments.

If PDS raises additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, it may have to relinquish valuable rights to its technologies, future revenue streams, research programs or Versamune® Products or grant licenses on terms that may not be favorable to us. If PDS is unable to raise additional funds through equity or debt financings when needed, or through collaborations, strategic

alliances or marketing, distribution or licensing arrangements with third parties on acceptable terms, it may be required to delay, limit, reduce or terminate its PDS0101 development or future commercialization efforts or grant rights to develop and market other Versamune® Products that it would otherwise develop and market.

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PDS s future success depends on its ability to retain executive officers and attract, retain and motivate qualified personnel.

PDS is highly dependent on its executive officers and the other principal members of the executive and scientific teams, particularly its President and Chief Executive Officer, Dr. Frank K. Bedu-Addo, its Chief Medical Officer, Dr. Lauren Wood, and its Chief Scientific Officer, Dr. Gregory L. Conn. The employment of PDS s executive officers are at-will and PDS s executive officers may terminate their employment at any time, subject to applicable notice requirements. The loss of the services of any of PDS s senior executive officers could impede the achievement of PDS s research, development and commercialization objectives. PDS does not maintain key person insurance for any executive officer or employee.

Recruiting and retaining qualified scientific, clinical, and operational personnel is also critical to PDS s success. PDS may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. PDS also experiences competition for the hiring of scientific and clinical personnel from universities and research institutions. PDS s industry has experienced an increasing rate of turnover of management and scientific personnel in recent years. In addition, PDS relies on consultants and advisors, including scientific and clinical advisors, to assist it in devising PDS s research and development and commercialization strategy. PDS s consultants and advisors may be employed by third parties and have commitments under consulting or advisory contracts with other entities that may limit their availability to advance PDS s strategic objectives. If any of these advisors or consultants can no longer dedicate a sufficient amount of time to the company, PDS s business may be harmed.

If PDS fails to obtain or maintain adequate coverage and reimbursement for PDS0101, its ability to generate revenue could be limited.

The availability and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford expensive treatments. Sales of any of PDS0101 that receive marketing approval will depend substantially, both in the United States and internationally, on the extent to which the costs of PDS0101 will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If reimbursement is not available, or is available only on a limited basis, PDS may not be able to successfully commercialize PDS0101. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow PDS to establish or maintain adequate pricing that will allow it to realize a sufficient return on PDS s investment.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and PDS believes the increasing emphasis on cost-containment initiatives in Europe, Canada and other countries may cause PDS to price PDS0101 on less favorable terms that it currently anticipates. In many countries, particularly the countries of the European Union, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, PDS may be required to conduct a clinical trial that compares the cost-effectiveness of PDS0101 to other available therapies. In general, the prices of products under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that it is able to charge for PDS0101. Accordingly, in markets outside the United States, the reimbursement for its products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits.

Moreover, increasing efforts by governmental and third-party payors, in the United States and internationally, to cap or reduce healthcare costs may cause such organizations to limit both coverage and level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for it PDS0101. PDS expects to experience pricing pressures in connection with the sale of PDS0101 due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products into the healthcare market.

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PDS will need to expand its organization, and may experience difficulties in managing this growth, which could disrupt operations.

PDS s future financial performance and PDS s ability to commercialize PDS0101 and compete effectively will depend, in part, on PDS s ability to effectively manage any future growth. As of September 30, 2018, PDS had one employee and five consultants. PDS expects to hire additional employees for PDS s managerial, clinical, scientific and engineering, operational, manufacturing, sales and marketing teams. PDS may have operational difficulties in connection with identifying, hiring and integrating new personnel. Future growth would impose significant additional responsibilities on its management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, PDS s management may need to divert a disproportionate amount of its attention away from PDS s day-to-day activities and devote a substantial amount of time to managing these growth activities. PDS may not be able to effectively manage the expansion of its operations, which may result in weaknesses in its infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. PDS s expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of PDS0101. If PDS is unable to effectively manage its growth, its expenses may increase more than expected, its ability to generate and/or grow revenues could be reduced, and PDS may not be able to implement its business strategy.

Many of the other pharmaceutical companies that PDS competes against for qualified personnel and consultants have greater financial and other resources, different risk profiles and a longer history in the industry than PDS. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates and consultants than what it has to offer. If PDS is unable to continue to attract and retain high-quality personnel and consultants, the rate and success at which it can select and develop PDS0101 and its business will be limited.

PDS s employees, independent contractors, principal investigators, consultants, commercial collaborators, service providers and other vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have an adverse effect on PDS s results of operations.

PDS is exposed to the risk that its employees and contractors, including principal investigators, consultants, commercial collaborators, service providers and other vendors may engage in fraudulent or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or other unauthorized activities that violate the laws and regulations of the FDA and other similar regulatory bodies, including those laws that require the reporting of true, complete and accurate information to such regulatory bodies, manufacturing standards, federal and state healthcare fraud and abuse and health regulatory laws and other similar foreign fraudulent misconduct laws, or laws that require the true, complete and accurate reporting of financial information or data. Misconduct by these parties may also involve the improper use or misrepresentation of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to PDS s reputation. It is not always possible to identify and deter third-party misconduct, and the precautions PDS takes to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting it from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against PDS, and it is not successful in defending PDS or asserting its rights, those actions could have a significant impact on PDS s business and financial results, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, reputational harm, diminished profits and future earnings, and curtailment of its operations, any of which could adversely affect PDS s ability to operate its business and PDS s results of operations.

PDS s business and operations would suffer in the event of system failures.

PDS s computer systems and those of its service providers, including its CROs, are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in PDS s or their operations, it could result in a material disruption of its development programs. For example, the loss of preclinical or clinical trial data from completed, ongoing or planned trials could result in delays in its regulatory approval efforts and

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significantly increase PDS s costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to data or applications, or inappropriate disclosure of personal, confidential or proprietary information, PDS could incur liability and the further development of PDS0101 could be delayed.

PDS expects to incur significant additional costs as a result of being a public company, which may adversely affect its operating results and financial condition.

PDS expects to incur costs associated with corporate governance requirements, including requirements under the Sarbanes-Oxley Act, as well as rules implemented by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, or Dodd-Frank Act, the SEC, and Nasdaq. These rules and regulations are expected to increase PDS s accounting, legal and financial compliance costs and make some activities more time-consuming and costly. In addition, PDS will incur additional costs associated with its public company reporting requirements and PDS expects those costs to increase in the future. PDS also expects these rules and regulations to make it more expensive for it to maintain directors and officers liability insurance and PDS may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for PDS to attract and retain qualified persons to serve on its board of directors, its board committees, or as executive officers. Increases in costs incurred as a result of becoming a publicly traded company may adversely affect PDS s operating results and financial condition.

The recently enacted tax reform bill could adversely affect PDS s business and financial condition.

On December 22, 2017, President Trump signed into law the Tax Cuts and Jobs Act, or TCJA, which significantly amends the Internal Revenue Code of 1986. The TCJA, among other things, reduces the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limits the tax deduction for interest expense to 30% of adjusted earnings, eliminates net operating loss carrybacks, imposes a one-time tax on offshore earnings at reduced rates regardless of whether they are repatriated, allows immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifies or repeals many business deductions and credits (including reducing the business tax credit for certain clinical testing expenses incurred in the testing of certain drugs for rare diseases or conditions generally referred to as orphan drugs). PDS continues to examine the effect these changes may have on PDS s business. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the TCJA is uncertain and PDS s business and financial condition could be adversely affected.

Risks Related to Clinical Development, Regulatory Approval and Commercialization

Clinical trials are very expensive, time-consuming, difficult to design and implement and involve an uncertain outcome, and if they fail to demonstrate safety and efficacy to the satisfaction of the FDA, or similar regulatory authorities, PDS will be unable to commercialize PDS0101.

PDS0101 is still in early-stage clinical development and will require extensive additional clinical testing before PDS is prepared to submit a BLA for regulatory approval for any indication or for any other treatment regime. PDS cannot predict with any certainty if or when it might submit a BLA for regulatory approval for PDS0101 or whether any such BLAs will be approved by the FDA. Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. For instance, the FDA may not agree with PDS s proposed endpoints for any clinical trial it proposes, which may delay the commencement of its clinical trials. The clinical trial process is also time-consuming. PDS estimates that the clinical trials it needs to conduct to be in a position to submit BLAs for PDS0101 will take several years to complete. Furthermore, failure can occur at any stage of the trials, and it could encounter problems that cause it to abandon or repeat clinical trials. In later stages of clinical trials, PDS0101 may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials, and the results of early clinical trials of PDS0101 therefore may not be predictive of

the results of its planned Phase 1 and 2 trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials.

Moreover, preclinical and clinical data are often susceptible to multiple interpretations and analyses. Many companies that have believed their immunotherapies performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products. Success in preclinical testing and

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early clinical trials does not ensure that later clinical trials, which involve many more subjects and different cancers than PDS has studied in Phase 1/2A clinical trials to date, and the results of later clinical trials may not replicate the results of prior clinical trials and preclinical testing.

PDS may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent its ability to receive marketing approval or commercialize PDS0101, including that:

- regulators or institutional review boards may not authorize PDS or its investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- it may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- clinical trials of PDS0101 may produce negative or inconclusive results, and PDS may decide, or regulators may require it, to conduct additional clinical trials or abandon product development programs;
- the number of subjects required for clinical trials of PDS0101 may be larger than PDS anticipates; enrollment in these clinical trials may be slower than PDS anticipates, or participants may drop out of these clinical trials at a higher rate than PDS anticipates;
- PDS third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to it in a timely manner, or at all;
- regulators or institutional review boards may require that PDS or PDS's investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of PDS0101 may be greater than it anticipates; and
- the supply or quality of PDS0101 or other materials necessary to conduct clinical trials of PDS0101 may be insufficient or inadequate.

If PDS is required to conduct additional clinical trials or other testing of PDS0101 beyond those that it currently contemplates, if it is unable to successfully complete clinical trials of PDS0101 or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, PDS may:

- be delayed in obtaining marketing approval for PDS0101;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval.

Product development costs will also increase if PDS experiences delays in testing or in receiving marketing approvals. PDS does not know whether any clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which PDS may have the exclusive right to commercialize PDS0101, could allow its competitors to bring products to market before it does, and could impair its ability to successfully commercialize PDS0101, any of which may harm its business and results of operations.

Enrollment and retention of subjects in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside PDS s control.

PDS may encounter delays in enrolling, or be unable to enroll, a sufficient number of participants to complete any of its clinical trials. Once enrolled, PDS may be unable to retain a sufficient number of participants to complete any of its trials. Late-stage clinical trials of PDS0101 may require the enrollment and retention of large numbers of subjects. Subject enrollment and retention in clinical trials depends on many factors, including

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the size of the subject population, the nature of the trial protocol, the existing body of safety and efficacy data with respect to the study drug, the number and nature of competing treatments and ongoing clinical trials of competing drugs for the same indication, the proximity of subjects to clinical sites and the eligibility criteria for the study.

Furthermore, any negative results PDS may report in clinical trials of PDS0101 may make it difficult or impossible to recruit and retain participants in other clinical trials of PDS0101. Delays or failures in planned subject enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on its ability to develop PDS0101, or could render further development impractical. In addition, PDS expects to rely on CROs and clinical trial sites to ensure proper and timely conduct of its future clinical trials and, while PDS intends to enter into agreements governing their services, it will be limited in its ability to compel their actual performance in compliance with applicable regulations. Enforcement actions brought against these third parties may cause further delays and expenses related to its clinical development programs.

PDS faces significant competition from other biotechnology and pharmaceutical companies, and its operating results will suffer if it fails to compete effectively.

The biotechnology and biopharmaceutical industries are characterized by rapid technological developments and a high degree of competition. As a result, PDS0101 could become obsolete before PDS recoups any portion of its related research and development and commercialization expenses. Competition in the biopharmaceutical industry is based significantly on scientific and technological factors. These factors include the availability of patent and other protection for technology and products, the ability to commercialize technological developments and the ability to obtain governmental approval for testing, manufacturing and marketing. PDS competes with specialized biopharmaceutical firms in the United States, Europe and elsewhere, as well as a growing number of large pharmaceutical companies that are applying biotechnology to their operations. Many biopharmaceutical companies have focused their development efforts in the human therapeutics area, including cancer. Many major pharmaceutical companies have developed or acquired internal biotechnology capabilities or made commercial arrangements with other biopharmaceutical companies. These companies, as well as academic institutions and governmental agencies and private research organizations, also compete with PDS in recruiting and retaining highly qualified scientific personnel and consultants. PDS s ability to compete successfully with other companies in the pharmaceutical field will also depend to a considerable degree on the continuing availability of capital to us.

PDS is aware of certain investigational new drugs under development or approved products by competitors that are used for the prevention, diagnosis, or treatment of certain diseases PDS has targeted for drug development. Various companies are developing biopharmaceutical products that have the potential to directly compete with PDS0101 even though their approach to may be different. The biotechnology and biopharmaceutical industries are highly competitive, and this competition comes from both biotechnology firms and from major pharmaceutical companies, including companies like Advaxis, Transgene, ISA Pharmaceuticals, Genexine, and Inovio as well as Etubics, Vaccibody, Admedus, Cel-Sci, Neo-ImmuneTech, Kite Pharma, Immune Design, Dynavax, Bavarian Nordic, Seattle Genetics, and Selecta Bioscience, each of which is pursuing cancer vaccines and/or immunotherapies. Many of these companies have substantially greater financial, marketing, and human resources than PDS does (including, in some cases, substantially greater experience in clinical testing, manufacturing, and marketing of pharmaceutical products). PDS also experiences competition in the development of its immunotherapies from universities and other research institutions and competes with others in acquiring technology from such universities and institutions.

Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. PDS s competitors may succeed in developing, acquiring or licensing, on an exclusive basis, drugs that are more effective or less costly than PDS0101.

PDS will face competition from other drugs currently approved or that will be approved in the future for the treatment of the other cancers and infectious diseases it is currently targeting. Therefore, its ability to compete successfully will depend largely on its ability to:

- develop and commercialize immunotherapies that are superior to other alternatives in the market;
- demonstrate through its clinical trials that PDS0101 is differentiated from existing and future therapies;
- attract qualified scientific, immunotherapy development and commercial personnel;

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- obtain additional patent or other proprietary protection for PDS0101;
- obtain required regulatory approvals;
- obtain coverage and adequate reimbursement from, and negotiate competitive pricing with, third-party payors; and
- successfully develop and commercialize, independently or with collaborators, new applications for PDS0101 or immunotherapies.

The availability of its competitors immunotherapies and other treatments could limit the demand, and the price it is able to charge, for PDS0101. The inability to compete with existing or subsequently introduced immunotherapies and other treatments would have an adverse impact on its business, financial condition and prospects.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could PDS0101 less competitive. In addition, any new immunotherapy that competes with an approved treatment must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, PDS s competitors may succeed in obtaining patent protection, discovering, developing, receiving the FDA s approval for or commercializing medicines before PDS does, which would have an adverse impact on its business and results of operations.

PDS0101 may cause adverse effects or have other properties that could delay or prevent their regulatory approval or limit the scope of any approved label or market acceptance.

Adverse events caused by PDS0101 could cause reviewing entities, clinical trial sites or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval. If clinical trials for PDS0101 report an unacceptable frequency or severity of adverse events, PDS s ability to obtain regulatory approval for PDS0101 may be negatively impacted.

Furthermore, if PDS0101 is approved and then causes serious or unexpected side effects, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of PDS0101 or impose restrictions on its distribution or other risk management measures;
- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications;
- PDS may be required to change the way PDS0101 is administered or to conduct additional clinical trials;
- PDS could be sued and held liable for injuries sustained by patients;
- PDS could elect to discontinue the sale of PDS0101; and
- PDS's reputation may suffer.

Any of these events could prevent PDS from achieving or maintaining market acceptance of PDS0101 and could substantially increase the costs of commercialization.

If PDS is not able to obtain, or if there are delays in obtaining, required regulatory approvals, it will not be able to commercialize, or will be delayed in commercializing, PDS0101, and its ability to generate revenue will be impaired.

PDS0101 and the activities associated with its development and commercialization, including its design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for PDS0101 will prevent PDS from commercializing PDS0101. PDS has not received approval to market a PDS0101 from regulatory authorities in any jurisdiction. PDS has only limited experience in filing and supporting the applications necessary to gain marketing

approvals and expect to rely on CROs to assist it in this process.

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Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the safety and efficacy of PDS0101. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. PDS0101 may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude it obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and elsewhere, is expensive, may take many years and can vary substantially based upon a variety of factors. PDS cannot assure you that it will ever obtain any marketing approvals in any jurisdiction. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations or changes in regulatory review for each submitted product application may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that PDS s data is insufficient for approval and require additional preclinical or other studies, and clinical trials. In addition, varying interpretations of the data obtained from preclinical testing and clinical trials could delay, limit or prevent marketing approval of PDS0101. Additionally, any marketing approval PDS ultimately obtains may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

Even if PDS obtains FDA approval in the United States, it may never obtain approval for or commercialize PDS0101 in any other jurisdiction, which would limit its ability to realize each product s full market potential.

In order to market PDS0101 in a particular jurisdiction, PDS must establish and comply with numerous and varying regulatory requirements on a country-by-country basis regarding safety and efficacy. Approval by the FDA in the United States does not ensure approval by regulatory authorities in other countries or jurisdictions. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country. Approval processes vary among countries and can involve additional testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and costs for PDS and require additional preclinical studies or clinical trials that could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of PDS0101 in those countries. PDS0101 is not approved for sale in any jurisdiction, including in international markets, and PDS does not have experience in obtaining regulatory approval in international markets. If PDS fails to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, PDS s target market will be reduced.

PDS s product candidates are in various stages of development.

Favorable results in pre-clinical or early stage clinical trials may not be predictive of success in later clinical trials and may not lead to commercially viable products for any of several reasons. For example, PDS s product candidates may fail to be safe and effective in clinical trials or additional pre-clinical studies, or PDS may have inadequate financial or other resources to pursue discovery and development efforts for new product candidates. PDS s product candidates will require significant additional development, clinical trials, regulatory clearances and additional investment by PDS before they can be commercialized.

Even if PDS obtains regulatory approval, it will still face extensive ongoing regulatory requirements and PDS0101 may face future development and regulatory difficulties.

Marketing of PDS0101, if approved, along with the manufacturing processes, post- approval clinical data, labeling, packaging, distribution, adverse event reporting, storage, recordkeeping, export, import, advertising and promotional activities for PDS0101, among other things, will be subject to extensive and ongoing requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety, efficacy and other post-marketing information and reports, establishment registration and drug listing requirements, continued compliance with current Good Manufacturing Practice, or cGMP, requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping and current GCP requirements for any clinical trials that PDS conducts post-approval. Even if marketing approval of PDS0101 is

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granted, the approval may be subject to limitations on the indicated uses for which PDS0101 may be marketed or to the conditions of approval. If PDS0101 receives marketing approval, an accompanying label may limit the approved use of PDS0101, which could limit sales.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety and/or efficacy of PDS0101. The FDA closely regulates the post-approval marketing and promotion of drugs to ensure drugs are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers communications regarding off-label use and if PDS promotes or otherwise markets PDS0101 for indications other than its approved indications, PDS may be subject to enforcement action for off-label marketing. Violations of the Federal Food, Drug, and Cosmetic Act relating to the promotion of prescription drugs may lead to FDA enforcement actions and investigations alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with PDS0101, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on manufacturing PDS0101;
- restrictions on the labeling or marketing of PDS0101;
- restrictions on PDS0101 distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters;
- withdrawal of PDS0101 from the market;
- refusal to approve pending applications or supplements to approved applications that PDS submits;
- recalls of PDS0101;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of PDS0101;
- seizures of PDS0101; or
- injunctions or the imposition of civil or criminal penalties.

The FDA s policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of PDS0101. If PDS is slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if PDS is not able to maintain regulatory compliance, it may lose any marketing approval that it may have obtained.

Even if PDS0101 receive marketing approval, it may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.

If PDS0101 receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. If PDS0101 does not achieve an adequate level of acceptance, PDS may not generate significant revenues and become profitable. The degree of market acceptance, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- the efficacy and potential advantages compared to alternative treatments;
- effectiveness of sales and marketing efforts;
- the cost of treatment in relation to alternative treatments;
- PDS's ability to offer PDS0101 for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments;

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- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the willingness of the medical community to offer customers PDS0101 in addition to or in the place of other immunotherapies;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement;
- the prevalence and severity of any side effects; and
- any restrictions on the use of PDS0101 together with other medications.

Because PDS expects sales of PDS0101, if approved, to generate substantially all of its revenues for the foreseeable future, the failure of PDS0101 to achieve market acceptance would harm its business and could require it to seek additional financing sooner than it otherwise plans.

PDS may expend its limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because PDS has limited financial and managerial resources, it is initially developing PDS s lead product candidate, PDS0101 and the other Versamune® Products. As a result, PDS may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. PDS s resource allocation decisions may cause PDS to fail to timely capitalize on viable commercial products or profitable market opportunities. PDS s spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. If PDS does not accurately evaluate the commercial potential or target market for a particular product candidate, it may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for PDS to retain sole development and commercialization rights to such product candidate.

If PDS fails to comply with state and federal healthcare regulatory laws, it could face substantial penalties, damages, fines, disgorgement, exclusion from participation in governmental healthcare programs, and the curtailment of its operations, any of which could harm its business.

Although PDS does not provide healthcare services or submit claims for third-party reimbursement, it is subject to healthcare fraud and abuse regulation and enforcement by federal and state governments, which could significantly impact its business. The laws that may affect its ability to operate include, but are not limited to:

- the Federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering, or paying remuneration, directly or indirectly, in cash or in kind, in exchange for or to induce either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service for which payment may be made, in whole or in part, under federal healthcare programs such as Medicare and Medicaid;
- the FCA's civil provisions, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid or other third-party payors that are false or fraudulent; knowingly making using, or causing to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the government; or knowingly making, using, or causing to be made or used, a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the FCA's criminal provisions, which imposes criminal fines or imprisonment against individuals or entities who make or present a claim to the government knowing such claim to be false, fictitious or fraudulent;
- HIPAA, which created federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

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- the federal beneficiary inducement statute, which prohibits, among other things, the offering or giving of remuneration to a Medicare or Medicaid beneficiary that the person knows or should know is likely to influence the beneficiary's selection of a particular supplier of items or services reimbursable by a Federal or state governmental program;
- the federal physician sunshine requirements under the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, or collectively, the Affordable Care Act, which require certain manufacturers of drugs, devices, biologics, and medical supplies to report annually to the U.S. Department of Health and Human Services information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members; and
- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws that may apply to items or services reimbursed by any third-party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the device industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; and state laws that require device manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures.

Further, the Affordable Care Act, among other things, amended the intent requirements of the federal anti-kickback statute and certain criminal statutes governing healthcare fraud. A person or entity can now be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate it. In addition, the Affordable Care Act provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA. Moreover, while it does not submit claims and its customers make the ultimate decision on how to submit claims, from time to time, PDS may provide reimbursement guidance to its customers. If a government authority were to conclude that PDS provided improper advice to its customers or encouraged the submission of false claims for reimbursement, it could face action against it by government authorities. Any violations of these laws, or any action against PDS for violation of these laws, even if PDS successfully defends against it, could result in a material adverse effect on its reputation, business, results of operations and financial condition.

PDS has entered into consulting and employment arrangements with individuals, physicians and other healthcare providers. Compensation for some of these arrangements includes the provision of stock options. While PDS has worked to structure PDS s arrangements to comply with applicable laws, because of the complex and far-reaching nature of these laws, regulatory agencies may view these transactions as prohibited arrangements that must be restructured, or discontinued, or for which it could be subject to other significant penalties. PDS could be adversely affected if regulatory agencies interpret PDS s financial relationships with providers who influence the ordering of and use PDS s products to be in violation of applicable laws.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry.

Responding to investigations can be time- and resource-consuming and can divert management s attention from the business. Additionally, as a result of these investigations, healthcare providers and entities may have to agree to additional onerous compliance and reporting requirements as part of a consent decree or corporate integrity agreement. Any such investigation or settlement could increase PDS s costs or otherwise have an adverse effect on its business.

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Product liability lawsuits against PDS could cause it to incur substantial liabilities and could limit the commercialization of PDS0101.

PDS faces an inherent risk of product liability exposure related to the testing of PDS0101 in human clinical trials and will face an even greater risk if it commercially sells any products that it may develop after approval. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for PDS0101 or other immunotherapies that PDS may develop;
- injury to PDS's reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend any related litigation;
- substantial monetary awards to trial subjects or patients;
- loss of revenue; and
- the inability to commercialize any products it may develop.

Although PDS maintains product liability insurance coverage in the amount of up to $5 million per claim and in the aggregate, it may not be adequate to cover all liabilities that it may incur. PDS anticipates that it will need to increase its insurance coverage as it continues clinical trials and if it successfully commercializes any products. Insurance coverage is increasingly expensive. PDS may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

If PDS is unable to establish sales, marketing and distribution capabilities either on its own or in collaboration with third parties, it may not be successful in commercializing PDS0101, if approved.

PDS does not have any infrastructure for the sales, marketing or distribution of PDS0101, and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market PDS0101, PDS must build its sales, distribution, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. To achieve commercial success for PDS0101, PDS will need either its own, or a third party, sales and marketing organization. There are significant expenses and risks involved with creating teams for, or contracting for, sales, marketing and distribution capabilities. Any failure or delay in the development of its sales, marketing and distribution capabilities, either internally or in collaboration with third parties, could delay the launch of PDS0101, which would adversely affect commercialization.

PDS may be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third-party to perform marketing and sales functions, it may be unable to compete successfully against these more established companies.

If PDS obtains approval to commercialize PDS0101 outside of the United States, a variety of risks associated with international operations could harm its business.

If PDS0101 is approved for commercialization, PDS may enter into agreements with third parties to market them in certain jurisdictions outside the United States. PDS expects that it will be subject to additional risks related to international operations or entering into international business relationships, including:

- different regulatory requirements for drug approvals and rules governing drug commercialization in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;

- foreign reimbursement, pricing and insurance regimes;
- foreign taxes;

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- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential noncompliance with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act 2010 and similar anti-bribery and anticorruption laws in other jurisdictions;
- shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

PDS has no prior experience in these areas. In addition, there are complex regulatory, tax, labor and other legal requirements imposed by both the European Union and many of the individual countries in Europe with which it will need to comply.

Recently enacted and future legislation may increase the difficulty and cost for PDS to obtain marketing approval of and commercialize PDS0101 and affect the prices PDS may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of PDS0101, restrict or regulate post-approval activities and affect PDS s ability to profitably sell PDS0101.

For example, in March 2010, Affordable Care Act was enacted to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Although the full effect of the Affordable Care Act may not yet be fully understood, the law has continued the downward pressure on pharmaceutical pricing, especially under the Medicare program, and increased the industry s regulatory burdens and operating costs.

Moreover, the Drug Supply Chain Security Act imposes obligations on manufacturers of prescription drugs in finished dosage forms. PDS has not yet adopted the significant measures that will be required to comply with this law. PDS is not sure whether additional legislative changes will be enacted, or whether the current regulations, guidance or interpretations will be changed, or what the impact of such changes on PDS s business, if any, may be.

PDS expects that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for immunotherapies, which could result in reduced demand for PDS0101 or additional pricing pressures.

Risks Related to PDS s Dependence on Third Parties

PDS has limited to no manufacturing, sales, marketing or distribution capability and it must rely upon third parties for such.

PDS currently has agreements with various third-party manufacturing facilities for production of PDS0101 for research and development and testing purposes. PDS depends on third-party manufacturers to supply its preclinical and clinical materials and will be reliant on a third-party manufacturer to produce PDS0101 on a commercial scale, should that product receive regulatory approval. Third-party manufacturers must be able to meet PDS s deadlines and adhere to quality standards and specifications. PDS s predominant reliance on third parties for the manufacture of PDS0101 creates a dependency that could severely disrupt PDS s research and development, clinical testing, and sales and marketing efforts if the source of such supply proves to be unreliable or unavailable. There is no assurance that any third-party manufacturers will be able to meet commercialized scale production requirements in a timely manner or in accordance with applicable standards or cGMP.

PDS intends to rely on third parties to conduct, supervise and monitor PDS s clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm PDS s business.

PDS intends to rely on CROs and clinical trial sites to ensure the proper and timely conduct of its clinical trials, and PDS expects to have limited influence over their actual performance.

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PDS intends to rely upon CROs to monitor and manage data for its clinical programs, as well as the execution of future nonclinical studies. PDS expects to control only certain aspects of its CROs activities. Nevertheless, PDS will be responsible for ensuring that each of its studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and PDS s reliance on the CROs does not relieve PDS of its regulatory responsibilities.

PDS and its CROs will be required to comply with the Good Laboratory Practices and GCPs, which are regulations and guidelines enforced by the FDA and are also required by the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities in the form of International Conference on Harmonization guidelines for PDS0101. The Regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If PDS or its CROs fail to comply with GCPs, the clinical data generated in its clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require PDS to perform additional clinical trials before approving PDS s marketing applications. Accordingly, if PDS s CROs fail to comply with these regulations or fail to recruit a sufficient number of subjects, PDS may be required to repeat clinical trials, which would delay the regulatory approval process.

PDS s CROs will not be its employees, and PDS will not control whether or not they devote sufficient time and resources to its future clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including PDS s competitors, for whom they may also be conducting clinical trials, or other drug development activities which could harm its competitive position. PDS faces the risk of potential unauthorized disclosure or misappropriation of its intellectual property by CROs, which may reduce PDS s trade secret protection and allow its potential competitors to access and exploit its proprietary technology. If its CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to PDS s clinical protocols or regulatory requirements or for any other reasons, its clinical trials may be extended, delayed or terminated, and it may not be able to obtain regulatory approval for, or successfully commercialize PDS0101. As a result, PDS s financial results and the commercial prospects for PDS0101 would be harmed, its costs could increase, and its ability to generate revenues could be delayed.

If PDS s relationship with these CROs terminate, it may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. Switching or adding additional CROs involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact PDS s ability to meet its desired clinical development timelines. Though PDS intends to carefully manage its relationships with PDS s CROs, there can be no assurance that it will not encounter challenges or delays in the future or that these delays or challenges will not have an adverse impact on its business, financial condition and prospects.

If PDS is unable to establish or manage strategic collaborations in the future, PDS s revenue and drug development may be limited.

PDS s strategy may include potential reliance upon strategic collaborations for marketing and commercialization of PDS0101 and other Versamune® Products. PDS also relies on strategic collaborations for research, development, marketing and commercialization for PDS0101 and other Versamune® Products. PDS has also been heavily reliant upon third party outsourcing for its clinical trials execution and production of drug supplies for use in clinical trials.

Establishing strategic collaborations is difficult and time-consuming. PDS s discussions with potential collaborators may not lead to the establishment of collaborations on favorable terms, if at all. PDS faces significant competition in seeking appropriate collaborators. Whether PDS reaches a definitive agreement for a collaboration will depend, among other things, upon its assessment of the collaborator s resources and expertise, the terms and conditions of the

proposed collaboration and the proposed collaborator s evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for PDS0101 and other Versamune® Products, the costs and complexities of manufacturing and delivering PDS0101 and other Versamune® Products to patients, the potential of competing products, the existence of uncertainty with respect to PDS s ownership of technology, which can exist if there is a challenge to such ownership without regard to the

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merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative immunotherapies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with PDS for PDS0101 and other Versamune® Products.

PDS s current collaborations, as well as any future new collaborations, may never result in the successful development or commercialization of PDS0101 and other Versamune® Products or the generation of sales revenue. To the extent that PDS has entered or will enter into co-promotion or other collaborative arrangements, PDS0101 and other Versamune® Products revenues are likely to be lower than if PDS directly marketed and sold any products that it develops.

Management of PDS s relationships with its collaborators will require:

- significant time and effort from PDS's management team;
- financial funding to support said collaboration;
- coordination of PDS's research and development programs with the research and development priorities of its collaborators; and
- effective allocation of PDS's resources to multiple projects.

If PDS continues to enter into research and development collaborations, PDS s success will in part depend on the performance of its collaborators. PDS will not directly control the amount or timing of resources devoted by its collaborators to activities related to PDS0101 and other Versamune® Products. PDS s collaborators may not commit sufficient resources to PDS s research and development programs or the commercialization, marketing or distribution of PDS0101 and other Versamune® Products. If any collaborator fails to commit sufficient resources, PDS s preclinical or clinical development programs related to this collaboration could be delayed or terminated. Also, PDS s collaborators may pursue existing or other development-stage products or alternative technologies in preference to those being developed in collaboration with PDS. If PDS fails to make required milestone or royalty payments to its collaborators or to observe other obligations in its agreements with them, PDS s collaborators may have the right to terminate those agreements. Additionally, PDS s collaborators may seek to renegotiate agreements it has entered into, or may disagree with PDS about the terms and implementation of these agreements. If collaborators disagree with PDS about the terms or implementation of its agreements, PDS may face legal claims that may involve considerable expense and could negatively affect PDS s financial results.

PDS s relationships with customers and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose it to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of PDS0101 and other Versamune® Products, if approved for marketing. PDS s future arrangements with third-party payors and customers may expose it to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which it markets, sells and distributes PDS s medicines for which it obtains marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid;
- the federal False Claims Act imposes criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal

government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;

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- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the federal transparency requirements under the Affordable Care Act requires manufacturers of drugs, devices, biologics and medical supplies to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests; and
- analogous state laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring immunotherapy manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures.

Risks Related to PDS s Intellectual Property

If PDS is unable to obtain and maintain patent protection for its Versamune® platform, PDS0101, or other Versamune® Products or if the scope of the patent protection obtained is not sufficiently broad, it may not be able to compete effectively in its markets.

PDS relies upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to Versamune®. PDS s success depends in large part on its ability to obtain and maintain patent protection in the United States and other countries. PDS seeks to protect its proprietary position by filing patent applications in the United States and abroad related to PDS0101. The patent prosecution process is expensive and time-consuming, and PDS may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner.

It is also possible that PDS will fail to identify patentable aspects of its research and development output before it is too late to obtain patent protection. The patent applications that PDS owns or in-licenses may fail to result in issued patents with claims that cover PDS0101 or its applications in the United States or in other countries. There is no assurance that all potentially relevant prior art relating, which can invalidate a patent or prevent a patent from issuing from a pending patent application is known to PDS. Even if patents do successfully issue, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed, invalidated, or held unenforceable. Any successful challenge to these patents or any other patents owned by or licensed to PDS could deprive it of rights necessary for the successful commercialization of PDS0101 and other Versamune® Products that it may develop. Further, if PDS encounters delays in regulatory approvals, the period of time during which PDS could exclusively market PDS0101 and other Versamune® Products under patent protection could be reduced.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of foreign countries may not protect PDS s rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than U.S. law does. Publications of discoveries in scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all.

Therefore, PDS cannot know with certainty whether it was the first to make the inventions claimed in its owned or licensed patents or pending patent applications, or that it was the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of its patent rights are highly uncertain. PDS s pending and future patent applications may not result in patents being issued which protect PDS0101 or other Versamune® Products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and immunotherapies. Changes

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in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of PDS s patents or narrow the scope of its patent protection.

Recent patent reform legislation in the United States could increase the uncertainties and costs surrounding the prosecution of its patent applications and the enforcement or defense of its issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or Leahy-Smith Act was signed into law. The Leahy-Smith Act includes a number of significant changes to United States patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The U.S. Patent Office recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of PDS s business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of PDS s patent applications and the enforcement or defense of PDS s issued patents, all of which could have an adverse effect on PDS s business and financial condition.

Moreover, PDS may be subject to a third-party pre-issuance submission of prior art to the U.S. Patent Office, or become involved in derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging its patent rights or the patent rights of others. In other countries, it may be subject to or become involved in opposition proceedings challenging its patent rights or the patent rights of others. An adverse determination in any such submission or proceeding could reduce the scope of, or invalidate, its patent rights, allow third parties to commercialize PDS s technology or immunotherapies and compete directly with PDS, without payment to it, or result in its inability to manufacture or commercialize PDS0101 without infringing third- party patent rights. In addition, if the breadth or strength of protection provided by its patents and patent applications is threatened, it could dissuade companies from collaborating with PDS to license, develop or commercialize PDS0101 and other Versamune® Products.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and its owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit its ability to stop others from using or commercializing similar or identical technology and immunotherapies, or limit the duration of the patent protection of its technology and immunotherapies. Moreover, patents have a limited lifespan. In the United States and other countries, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for PDS0101 and other Versamune® Products, PDS may be open to competition from generic versions of PDS0101 or other similar products using the PDS technology. Given the amount of time required for the development, testing and regulatory review of new immunotherapy candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, PDS s owned and licensed patent portfolio may not provide it with sufficient rights to exclude others from commercializing immunotherapies similar or identical to PDS s.

PDS may be involved in lawsuits to protect or enforce its patents, the patents of its licensors or its other intellectual property rights, which could be expensive, time consuming and unsuccessful.

Competitors may infringe or otherwise violate PDS s patents, the patents of its licensors or its other intellectual property rights. To counter infringement or unauthorized use, PDS may be required to file legal claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of PDS s or its licensors is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that such patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of PDS s patents at risk of being invalidated or interpreted narrowly and could put

PDS s patent applications at risk of not issuing. The initiation of a claim against a third-party may also cause the third-party to bring counter claims against PDS such as claims asserting that its patents are invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non- enablement or lack of statutory subject matter. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant material information from the USPTO, or made a materially misleading statement, during prosecution. Third parties may also raise

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similar validity claims before the USPTO in post-grant proceedings such as inter partes review, or post-grant review, or oppositions or similar proceedings outside the United States, in parallel with litigation or even outside the context of litigation. The outcome following legal assertions of invalidity and unenforceability is unpredictable. PDS cannot be certain that there is no invalidating prior art, of which it and the patent examiner were unaware during prosecution. For the patents and patent applications that PDS has licensed, it may have limited or no right to participate in the defense of any licensed patents against challenge by a third-party. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, PDS would lose at least part, and perhaps all, of any future patent protection on PDS0101 and other Versamune® Products. Such a loss of patent protection could harm its business.

PDS may also face claims that its products infringe patents that its competitors hold. Claims for alleged infringement and any resulting lawsuit, if successful, could subject PDS to significant liability for damages and invalidations of PDS s proprietary rights. Any such lawsuit, regardless of its success, would likely be time consuming and expensive to resolve and would divert management time and attention. Any potential intellectual property litigation could also force PDS to do one or more of the following: (a) stop selling PDS s products; (b) obtain a license(s), from the owner of any asserted intellectual property, to sell or use the relevant technology, which license may not be available on reasonable terms, or at all; or (c) redesign PDS s products to avoid using the relevant technology.

PDS may not be able to prevent, alone or with its licensors, misappropriation of its intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States. PDS s business could be harmed if in litigation the prevailing party does not offer it a license on commercially reasonable terms. Any litigation or other proceedings to enforce its intellectual property rights may fail, and even if successful, may result in substantial costs and distract its management and other employees.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of PDS s confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have an adverse effect on the price of its common stock.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing PDS s ability to protect the Versamune® platform, PDS0101 and other Versamune® Products.

The United States has recently enacted and implemented wide-ranging patent reform legislation. The United States Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to PDS s ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken PDS s ability to obtain new patents or to enforce patents that it has licensed or that it might obtain in the future.

PDS may not be able to protect its intellectual property rights throughout the world, which could impair its business.

Filing, prosecuting and defending patents covering PDS0101 throughout the world would be prohibitively expensive. Competitors may use its technologies in jurisdictions where it has not obtained patent protection to develop their own immunotherapies and, further, may export otherwise infringing immunotherapies to territories where PDS may obtain patent protection, but where patent enforcement is not as strong as that in the United States. These immunotherapies may compete with PDS0101 in jurisdictions where PDS does not have any issued or licensed patents and any future

patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

PDS s reliance on third parties requires it to share its trade secrets, which increases the possibility that a competitor will discover them or that its trade secrets will be misappropriated or disclosed.

PDS seeks to protect its proprietary technology in part by entering into confidentiality agreements with third parties and, if applicable, material transfer agreements, consulting agreements or other similar agreements with its advisors, employees, third-party contractors and consultants prior to beginning research or disclosing proprietary

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information. These agreements typically limit the rights of the third parties to use or disclose PDS s confidential information, including its trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by its competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that PDS s proprietary position is based, in part, on its know-how and trade secrets, a competitor s discovery of PDS s trade secrets or other unauthorized use or disclosure would impair its competitive position and may have an adverse effect on its business and results of operations.

In addition, these agreements typically restrict the ability of its advisors, employees, third-party contractors and consultants to publish data potentially relating to its trade secrets, although PDS s agreements may contain certain limited publication rights. Despite its efforts to protect its trade secrets, its competitors may discover its trade secrets, either through breach of PDS s agreements with third parties, independent development or publication of information by any of its third-party collaborators. A competitor s discovery of PDS s trade secrets would impair PDS s competitive position and have an adverse impact on PDS s business.

Risks Related to the Combined Company

In determining whether you should approve the issuance of shares of Edge common stock and other matters related to the merger, as the case may be, you should carefully read the following risk factors in addition to the risks described above, which will also apply to the combined company.

The combined company s stock price is expected to be volatile, and the market price of its common stock may drop following the merger.

The market price of the combined company s common stock following the merger could be subject to significant fluctuations following the merger. Market prices for securities of early-stage pharmaceutical, biotechnology and other life sciences companies have historically been particularly volatile. Some of the factors that may cause the market price of the combined company s common stock to fluctuate include:

- the ability of the combined company or its partners to develop product candidates and conduct clinical trials that demonstrate such product candidates are safe and effective;
- the ability of the combined company or its partners to obtain regulatory approvals for product candidates, and delays or failures to obtain such approvals;
- failure of any of the combined company's product candidates to demonstrate safety and efficacy, receive regulatory approval and achieve commercial success;
- failure by the combined company to maintain its existing third-party license, manufacturing and supply agreements;
- failure by the combined company or its licensors to prosecute, maintain, or enforce its intellectual property rights;
- changes in laws or regulations applicable to the combined company's product candidates;
- any inability to obtain adequate supply of product candidates or the inability to do so at acceptable prices;
- adverse regulatory authority decisions;
- introduction of new or competing products by its competitors;
- failure to meet or exceed financial and development projections the combined company may provide to the public;
- the perception of the pharmaceutical industry by the public, legislatures, regulators and the investment community;
- announcements of significant acquisitions, strategic partnerships, joint ventures, or capital commitments by the combined company or its competitors;

- disputes or other developments relating to proprietary rights, including patents, litigation matters, and the combined company's ability to obtain intellectual property protection for its technologies;

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- additions or departures of key personnel;
- significant lawsuits, including intellectual property or stockholder litigation;
- if securities or industry analysts do not publish research or reports about the combined company, or if they issue an adverse or misleading opinions regarding its business and stock;
- changes in the market valuations of similar companies;
- general market or macroeconomic conditions;
- sales of its common stock by the combined company or its stockholders in the future;
- trading volume of the combined company's common stock;
- adverse publicity relating to the combined company's markets generally, including with respect to other products and potential products in such markets;
- changes in the structure of health care payment systems; and
- period-to-period fluctuations in the combined company's financial results.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of the combined company s common stock.

In the past, following periods of volatility in the market price of a company s securities, stockholders have often instituted class action securities litigation against those companies. Such litigation, if instituted, could result in substantial costs and diversion of management attention and resources, which could significantly harm the combined company s profitability and reputation.

Edge and PDS do not anticipate that the combined company will pay any cash dividends in the foreseeable future.

The current expectation is that the combined company will retain its future earnings, if any, to fund the development and growth of the combined company s business. As a result, capital appreciation, if any, of the common stock of the combined company will be your sole source of gain, if any, for the foreseeable future.

Future sales of shares by existing stockholders could cause the combined company s stock price to decline.

If existing stockholders of Edge and PDS sell, or indicate an intention to sell, substantial amounts of the combined company s common stock in the public market after legal restrictions on resale discussed in this proxy statement/prospectus/information statement lapse, the trading price of the common stock of the combined company could decline. Based on shares outstanding as of September 30, 2018 and shares expected to be issued upon the closing of the merger, the combined company is expected to have outstanding a total of approximately [•] million shares of common stock (prior to giving effect to the proposed reverse stock split) immediately following the closing of the merger. Approximately [•] million of such shares of common stock (prior to giving effect to the proposed reverse stock split) will be freely tradable, without restriction, in the public market. Approximately [•] million of such shares of common stock (prior to giving effect to the proposed reverse stock split) will be held by directors, executive officers of the combined company and other affiliates and will be subject to volume limitations under Rule 144 under the Securities Act and various vesting agreements.

If the ownership of the combined company common stock is highly concentrated, it may prevent you and other stockholders from influencing significant corporate decisions and may result in conflicts of interest that could cause the combined company stock price to decline.

Executive officers and directors of the combined company and their affiliates are expected to beneficially own or control approximately [•]% of the outstanding shares of the combined company common stock following the closing of the merger. Accordingly, these executive officers, directors and their affiliates, acting as a group, will have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors,

any merger, consolidation or sale of all or substantially all of the combined company assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of

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control of the combined company, even if such a change of control would benefit the other stockholders of the combined company. The significant concentration of stock ownership may adversely affect the trading price of the combined company s common stock due to investors perception that conflicts of interest may exist or arise.

Because the merger will result in an ownership change under Section 382 of the Code for Edge, pre-merger U.S. net operating loss carryforwards and certain other tax attributes will be subject to limitations.

As of December 31, 2017, Edge had federal and state net operating loss carryforwards, or NOLs, of $101.5 million and $31.9 million, respectively, due to prior period losses. If a corporation undergoes an ownership change within the meaning of Section 382 of the Code, the corporation s U.S. net operating loss carryforwards and certain other tax attributes arising from before the ownership change are subject to limitations on use after the ownership change. In general, an ownership change occurs if there is a cumulative change in the corporation s equity ownership by certain stockholders that exceeds fifty percentage points over a rolling three-year period. Similar rules may apply under state and foreign tax laws. Edge believes that it may have already undergone one or more ownership changes prior to the merger. The merger will also result in an ownership change for Edge and, accordingly, Edge s U.S. net operating loss carryforwards and certain other tax attributes will be subject to limitations on their use after the merger.

Changes in tax laws and regulations or in the combined company s operations may impact the combined company s effective tax rate and may adversely affect the combined company s business, financial condition and operating results.

Changes in tax laws in any jurisdiction in which combined company operates, or adverse outcomes from any tax audits that the combined company may be subject to in any such jurisdictions, could result in an unfavorable change in Edge s effective tax rate, which could adversely affect Edge s business, financial condition, and operating results.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act, or the Tax Act. The changes included in the Tax Act are broad and complex. The impact of these changes on how the combined company s earnings are taxed include, among other items, (i) reducing the U.S. federal corporate tax rate from 35% to 21%; (ii) repealing the corporate alternative minimum tax and changing how existing credits can be utilized; (iii) temporarily providing for elective immediate expensing for certain depreciable property; (iv) creating a new limitation on the deductibility of interest expense; and (v) changing rules related to uses and limitations of net operating losses created in tax years beginning after December 31, 2017. Edge and PDS continue to evaluate the Tax Act and its impact on the combined company s businesses. It is possible that the Tax Act will be subject to further changes either in a technical corrections bill or entirely new legislation. The overall impact of the Tax Act also depends on the future interpretations and regulations that may be issued by U.S. tax authorities. Edge expects there will be further guidance provided by these authorities potentially having a material adverse effect on the combined company s financial condition or results of operations. The impact of broad proposals or of regulatory issuances on the combined company s business can vary substantially depending upon the specific changes or further guidance made and how the changes or guidance are implemented by the authorities.

Anti-takeover provisions under Delaware law could make an acquisition of the combined company more difficult and may prevent attempts by the combined company stockholders to replace or remove the combined company management.

Because the combined company will be incorporated in Delaware, it is governed by the provisions of Section 203 of the DGCL, which prohibits stockholders owning in excess of 15% of the outstanding combined company voting stock from merging or combining with the combined company. Although Edge and PDS believe these provisions collectively will provide for an opportunity to receive higher bids by requiring potential acquirors to negotiate with the combined company s board of directors, they would apply even if the offer may be considered beneficial by some

stockholders. In addition, these provisions may frustrate or prevent any attempts by the combined company s stockholders to replace or remove then current management by making it more difficult for stockholders to replace members of the board of directors, which is responsible for appointing the members of management.

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CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This proxy statement/prospectus/information statement and the documents incorporated by reference into this proxy statement/prospectus/information statement contain forward-looking statements. These forward-looking statements are based on current expectations and beliefs and involve numerous risks and uncertainties that could cause actual results to differ materially from expectations. These forward-looking statements should not be relied upon as predictions of future events as neither Edge nor PDS can assure you that the events or circumstances reflected in these statements will be achieved or will occur. You can identify forward-looking statements by the use of forward-looking terminology including anticipates, believes, continue, could, design, estimates, expects, intends, may, potentially, predict, pro forma seeks, should, will or the negative of these words and phrases or other variatio these words and phrases or comparable terminology.

All statements other than statements of historical fact are statements that could be deemed forward-looking statements. For example, forward-looking statements include any statements of the plans, strategies and objectives of management for future operations, including the execution of integration and restructuring plans and the anticipated timing of filings; any statements concerning proposed new products or developments; any statements regarding future economic conditions or performance; statements of belief and any statement of assumptions underlying any of the foregoing. Forward-looking statements may also include any statements of the plans, strategies and objectives of management with respect to the approval and the closing of the merger, Edge s ability to solicit a sufficient number of proxies to approve the merger and other matters related to the closing of the merger.

For a discussion of the factors that may cause Edge, PDS or the combined company s actual results, performance or achievements to differ materially from any future results, performance or achievements expressed or implied in such forward-looking statements, or for a discussion of risk associated with the ability of Edge and PDS to complete the merger and the effect of the merger on the business of Edge, PDS and the combined company, see the section titled Risk Factors.

These forward-looking statements include, but are not limited to, statements concerning the following:

- the expected benefits of and potential value created by the merger for the stockholders of Edge and PDS;
- likelihood of the satisfaction of certain conditions to the completion of the merger and whether and when the merger will be consummated;
- Edge’s ability to control and correctly estimate its operating expenses and its expenses associated with the merger;
- any statements of the plans, strategies and objectives of management for future operations, including the execution of integration plans and the anticipated timing of filings;
- any statements of plans to develop and commercialize additional products;
- any statements concerning the attraction and retention of highly qualified personnel;
- any statements concerning the ability to protect and enhance the combined company’s products and intellectual property;
- any statements concerning developments and projections relating to the combined company’s competitors or industry;
- any statements concerning the combined company’s financial performance;
- any statements regarding expectations concerning Edge’s or PDS’s relationships and actions with third parties; and
- future regulatory, judicial and legislative changes in Edge’s or PDS’s industry.

You should not rely upon forward-looking statements as predictions of future events. Neither Edge nor PDS can assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur.

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In addition, statements that Edge believes, PDS believes and similar statements reflect the beliefs and opinions on the relevant subject of Edge, PDS or the combined company, as applicable. These statements are based upon information available as of the date of this proxy statement/prospectus/information statement, and while Edge, PDS or the combined company, as applicable, believes such information forms a reasonable basis for such statements, such information may be limited or incomplete, and such statements should not be read to indicate that Edge, PDS or the combined company has conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

If any of these risks or uncertainties materializes or any of these assumptions proves incorrect, the results of Edge, PDS or the combined company could differ materially from the forward-looking statements. All forward-looking statements in this proxy statement/prospectus/information statement are current only as of the date on which the statements were made. Except as required by law, neither Edge nor PDS undertakes any obligation to update publicly any forward-looking statements for any reason after the date of this proxy statement/prospectus/information statement or to conform these statements to actual results or to changes in expectations, even if new information becomes available in the future.

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THE SPECIAL MEETING OF EDGE STOCKHOLDERS

Date, Time and Place

The special meeting of Edge stockholders will be held on , 2019, at commencing at local time. Edge is sending this proxy statement/prospectus/information statement to its stockholders in connection with the solicitation of proxies by the Edge Board for use at the Edge special meeting and any adjournments or postponements of the special meeting. This proxy statement/prospectus/information statement is first being furnished to stockholders of Edge on or about , 2019.

Purposes of the Edge Special Meeting

The purposes of the Edge special meeting are:

1. To consider and vote upon a proposal to approve the issuance of shares of Edge common stock pursuant to the Agreement and Plan of Merger and Reorganization, dated as of November 23, 2018, by and among Edge, Echos Merger Sub, Inc. and PDS, a copy of which is attached as *Annex A* to this proxy statement/prospectus/information statement, or the Merger Agreement, or the Stock Issuance Proposal;
2. To consider and vote upon the amendment to the certificate of incorporation of Edge to effect a reverse stock split of Edge common stock, at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved, solely by the Edge Board following the special meeting, the form of which is attached as *Annex B* to this proxy statement/prospectus/information statement, or the Reverse Stock Split Proposal; and
3. To consider and vote upon approving Amended and Restated Edge Therapeutics, Inc. 2014 Equity Incentive Plan, or the Restated Plan, the form of which is attached as *Annex C* to this proxy statement/prospectus/information statement, which, among other items, increases the number of shares Edge common stock available for grant under Edge's equity-based incentive compensation program, or the Equity Incentive Plan Proposal. If the Stock Issuance Proposal is not approved, the Equity Incentive Plan Proposal will be automatically withdrawn.

Recommendation of the Edge Board

- The Edge Board has determined and believes that the issuance of shares of Edge common stock pursuant to the Merger Agreement is in the best interests of Edge and its stockholders and has approved such items. The Edge Board unanimously recommends that Edge stockholders vote FOR the Stock Issuance Proposal as described in this proxy statement/prospectus/information statement.
- The Edge Board has determined and believes that it is advisable to, and in the best interests of, Edge and its stockholders to approve the amendment to the certificate of incorporation of Edge effecting a reverse stock split at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved by Edge stockholders, determined solely by the Edge Board following the special meeting as described in this proxy statement/prospectus/information statement. The Edge Board unanimously recommends that Edge stockholders vote FOR the Reverse Stock Split Proposal as described in this proxy statement/prospectus/information statement.
- The Edge Board has determined and believes that it is advisable to, and in the best interests of, Edge and its stockholders to approve the Restated Plan. The Edge Board unanimously recommends that Edge stockholders vote FOR the Equity Incentive Plan Proposal as described in this proxy statement/prospectus/information statement.

Record Date and Voting Power

Only holders of record of Edge common stock at the close of business on the record date, , 2019, are entitled to notice of, and to vote at, the Edge special meeting. At the close of business on the record date, shares of Edge common stock were issued and outstanding. Each share of Edge common stock

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entitles the holder thereof to one vote on each matter submitted for stockholder approval. See the section titled Principal Stockholders of Edge for information regarding persons known to the management of Edge to be the beneficial owners of more than 5% of the outstanding shares of Edge common stock.

Voting and Revocation of Proxies

The proxy accompanying this proxy statement/prospectus/information statement is solicited on behalf of the Edge Board for use at the Edge special meeting.

If you are a stockholder of record of Edge as of the record date referred to above, you may vote in person at the Edge special meeting or vote by proxy using the enclosed proxy card. Whether or not you plan to attend the Edge special meeting, Edge urges you to vote by proxy to ensure your vote is counted. You may still attend the Edge special meeting and vote in person if you have already voted by proxy. As a stockholder of record you are entitled:

- to vote in person, come to the Edge special meeting and Edge will give you a ballot when you arrive.
- to vote using the proxy card, simply mark, sign and date your proxy card and return it promptly in the postage-paid envelope provided. If you return your signed proxy card to Edge before the Edge special meeting, Edge will vote your shares as you direct.
- to vote on the Internet, go to the website on the proxy card or voting instruction form to complete an electronic proxy card. You will be asked to provide the company number and control number from the enclosed proxy card. Your vote must be received by Eastern Time on , 2019 to be counted.

If your Edge shares are held by your broker as your nominee, that is, in street name, the enclosed voting instruction card is sent by the institution that holds your shares. Please follow the instructions included on that proxy card regarding how to instruct your broker to vote your Edge shares. If you do not give instructions to your broker, your broker can vote your Edge shares with respect to discretionary items but not with respect to non-discretionary items. Discretionary items are proposals considered routine under the rules of the Nasdaq Global Select Market on which your broker may vote shares held in street name in the absence of your voting instructions. On non-discretionary items for which you do not give your broker instructions, the Edge shares will be treated as broker non-votes. It is anticipated that the Stock Issuance Proposal and Equity Incentive Plan Proposal will be non-discretionary items and the Reverse Stock Split Proposal will be a discretionary item.

All properly executed proxies that are not revoked will be voted at the Edge special meeting and at any adjournments or postponements of the Edge special meeting in accordance with the instructions contained in the proxy. If a holder of Edge common stock executes and returns a proxy and does not specify otherwise, the shares represented by that proxy will be voted

- FOR the Stock Issuance Approval to approve the issuance of shares of Edge common stock pursuant to the Merger Agreement;
- FOR the Reverse Stock Split Proposal to approve the amendment to the certificate of incorporation of Edge effecting a reverse stock split at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved by Edge stockholders, determined solely by the Edge Board following the special meeting; and
- FOR the Equity Incentive Plan Proposal to approve the Restated Plan.

Edge stockholders of record, other than those Edge stockholders who have executed support agreements, may change their vote at any time before their proxy is voted at the Edge special meeting in one of three ways. First, a stockholder of record of Edge can send a written notice to the Secretary of Edge stating that the stockholder would like to revoke its proxy. Second, a stockholder of record of Edge can submit new proxy instructions either on a new proxy card or via the Internet. Third, a stockholder of record of Edge can attend the Edge special meeting and vote in person. Attendance alone will not revoke a proxy. If an Edge stockholder of record or a stockholder who owns Edge shares in

street name has instructed a broker to vote its shares of Edge common stock, the stockholder must follow directions received from its broker to change those instructions.

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Required Vote

The presence, in person or represented by proxy, at the Edge special meeting of the holders of a majority of the shares of Edge common stock outstanding and entitled to vote at the Edge special meeting is necessary to constitute a quorum at the meeting. Abstentions and broker non-votes will be counted towards a quorum.

Proposal Number	Proposal Description	Vote Required for Approval	Effect of Abstentions	Effect of Broker Non-Votes
1	Stock Issuance Proposal	**FOR** votes from the holders of a majority of shares properly cast at a meeting at which a quorum is present	Against	None
2	Reverse Stock Split Proposal	**FOR** votes from the holders of a majority of outstanding shares	Against	Against
3	Equity Incentive Plan Proposal	**FOR** votes from the holders of a majority of shares properly cast at a meeting at which a quorum is present	Against	None

Except as stated below, no Edge Proposal is contingent upon any other Edge Proposal. Therefore, assuming all other closing conditions have been either satisfied or waived, the merger will be consummated even if the Reverse Stock Split Proposal is not approved by Edge s stockholders. However, if Edge s stockholders do not approve the Reverse Stock Split Proposal to effect the reverse stock split upon the closing of the merger, Edge has been advised that The Nasdaq Stock Market LLC will commence delisting proceedings immediately following the closing of the merger. In such event, then pursuant to the Merger Agreement, the combined company s board of directors will immediately call for a second special meeting following the closing of the merger and request the stockholders of the combined company to approve a reverse stock split that will allow the combined company to remain in compliance with the listing requirements of The Nasdaq Stock Market LLC. The combined company is obligated to use commercially reasonable efforts to take such steps as necessary to ensure the continued listing of the combined company s common stock on the Nasdaq Capital Market following the closing of the merger. If the Stock Issuance Proposal is not approved but the Reverse Stock Approval is approved, the Edge Board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 as determined solely by the Edge Board in order to satisfy Edge s continued listing requirements on the Nasdaq Global Select Market. However, if the Merger is not consummated, the Equity Incentive Plan Proposal will be automatically withdrawn.

As of , 2019, the directors and executive officers of Edge owned approximately [•]% of the outstanding shares of Edge common stock entitled to vote at the Edge special meeting. The directors and executive officers of Edge owning these shares are subject to support agreement to vote all shares of Edge common stock owned by them as of the record date in favor of the issuance of shares of Edge common stock in the merger pursuant to the Merger Agreement and the reverse stock split. As of , 2019, Edge is not aware of any affiliate of PDS owning any shares of Edge common stock entitled to vote at the Edge special meeting.

Solicitation of Proxies

In addition to solicitation by mail, the directors, officers, employees and agents of Edge may solicit proxies from Edge stockholders by personal interview, telephone, telegram, email or otherwise. Edge and PDS will share equally the costs of printing and filing this proxy statement/prospectus/information statement and proxy card. Arrangements will

also be made with brokerage firms and other custodians, nominees and fiduciaries who are record holders of Edge common stock for the forwarding of solicitation materials to the beneficial owners of Edge common stock. Edge and PDS will reimburse these brokers, custodians, nominees and fiduciaries for the reasonable out-of-pocket expenses they incur in connection with the forwarding of solicitation materials. Edge has engaged D.F. King & Co, Inc. to assist in the solicitation of proxies and provide related advice and informational support, for a service fee, plus customary disbursements, which are not expected to exceed $15,000 in total, which amount shall be borne equally by Edge and PDS.

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Other Matters

As of the date of this proxy statement/prospectus/information statement, the Edge Board does not know of any business to be presented at the Edge special meeting other than as set forth in the notice accompanying this proxy statement/prospectus/information statement. If any other matters should properly come before the Edge special meeting, it is intended that the shares represented by proxies will be voted with respect to such matters in accordance with the judgment of the persons voting the proxies.

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THE MERGER

This section and the section titled The Merger Agreement in this proxy statement/prospectus/information statement describe the material aspects of the merger, including the Merger Agreement. While Edge and PDS believe that this description covers the material terms of the merger and the Merger Agreement, it may not contain all of the information that is important to you. You should read carefully this entire proxy statement/prospectus/information statement for a more complete understanding of the merger and the Merger Agreement, including the Merger Agreement attached as Annex A, the opinion of Piper Jaffray & Co., attached as Annex D, and the other documents to which you are referred herein. See the section titled Where You Can Find More Information in this proxy statement/prospectus/information statement.

Background of the Merger

Edge is a clinical-stage biotechnology company that seeks to discover, develop and commercialize novel, hospital-based therapies capable of transforming treatment paradigms for the management of acute, life-threatening conditions.

The Edge Board, and management, regularly review Edge s operating and strategic plans in an effort to enhance stockholder value. This review involves, among other things, discussions of opportunities and risks associated with Edge s product candidates, development programs, financial condition and market, as well as consideration of strategic alternatives and options available to Edge.

The terms of the Merger Agreement are the result of extensive arm s-length negotiations among members of the Transactions Committee, Edge s management team, and the management team of PDS with the assistance of their respective advisors and under the guidance of each company s board of directors, after an extensive strategic review process. From the beginning, Edge followed a careful process assisted by experienced outside financial, medical, scientific and legal advisors to rigorously examine potential transactions and transaction candidates in a broad and inclusive manner. The following is a summary of the background of the process undertaken by Edge, and the identification and evaluation of strategic alternatives and the negotiation of the Merger Agreement, including the circumstances surrounding Edge s decision to review strategic alternatives available to it. The following chronology does not purport to catalogue every conversation among representatives of Edge, PDS and other parties. Unless otherwise noted, all meetings described below were held telephonically.

On March 27, 2018, Edge learned that the pre-specified interim analysis performed on data from the Day 90 visit of the first 210 subjects randomized and treated in the Phase 3 NEWTON 2 study of EG-1962 in adults with aneurysmal subarachnoid hemorrhage, or aSAH, demonstrated a low probability of achieving a statistically-significant difference compared to the standard of care in the study s primary endpoint, if the study were to be fully enrolled. The independent Data Monitoring Committee, or DMC, for NEWTON 2 recommended that the study be stopped based on its conclusion that the study had a low probability of meeting its primary endpoint. Favorable outcome was defined as a score of 6 to 8 on the extended Glasgow Outcome Scale, or GOSE, at Day 90. The DMC also reported that there were no safety concerns attributed to EG-1962. Based on the DMC recommendation, Edge decided to discontinue the NEWTON 2 study.

On March 27, 2018, the Edge Board held a telephonic meeting. Also participating in the meeting were members of Edge management and representatives of outside corporate counsel, Dechert LLP, or Dechert. The participants discussed the results of the NEWTON 2 interim analysis, as conducted by the DMC, and related matters, including the decision to terminate the NEWTON 2 trial. The decision to terminate the NEWTON 2 trial was publicly announced before the market opened on March 28, 2018.

On April 2, 2018, an Edge employee (who was not an executive officer of Edge) received an email, which the employee then forwarded to Edge management, from a third-party individual with experience in the biopharmaceutical industry and an investor in PDS, who suggested several companies that Edge might want to consider as potential strategic partners, including PDS. After considering the list and identifying PDS as a potentially attractive target, introductions were made and, on April 6, 2018, Frank K. Bedu-Addo, Ph.D., President and Chief Executive Officer of PDS and Brian Leuthner, President and Chief Executive Officer of Edge, exchanged emails indicating a mutual desire to speak.

On April 12, 2018, certain members of the Edge management team and the PDS management team had an introductory telephone call, during which PDS provided an overview of PDS s business.

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On April 17, 2018, the Edge Board held a regularly scheduled meeting. At the meeting:

- The Edge Board made a determination that it was in the best interest of Edge that it undertake a review of strategic alternatives, including an acquisition of another company, acquisitions or in-licensing of products or product candidates, technologies or other assets, the sale of all or substantially all of the assets of Edge, a sale of stock, a strategic merger or other business combination transaction or other transaction between Edge and a third party, each such option, a Strategic Alternative.
- The Edge Board delegated to a committee, or the Transactions Committee, as a committee of convenience, the authority to oversee Edge's assessment of Strategic Alternatives, which included the authority, working as appropriate with management of Edge, to (i) select, seek and obtain advice from investment bankers, financial advisors, legal counsel and such other consultants, advisors and agents, or Advisors, as the Transactions Committee deemed necessary to evaluate Strategic Alternatives, with all of the fees and expenses of such Advisors to be paid by Edge; (ii) solicit transaction proposals with regard to any Strategic Alternatives that it deemed necessary, appropriate or desirable to pursue, (iii) review and evaluate, and, if it determined appropriate, with the assistance from its Advisors, negotiate the terms and conditions of any transaction proposal received by Edge, (iv) determine, with assistance from its Advisors, whether any transaction proposal that may be received by Edge was advisable and in the best interests of Edge and, if appropriate, as determined by the Transactions Committee and its Advisors based upon the nature of the transaction, was fair to and in the best interests of Edge's stockholders, (v) endeavor to keep the Edge Board generally apprised on the activities of the Transactions Committee, except to the extent that the fiduciary duties of the Transactions Committee dictated otherwise, (vi) recommend to the full board of directors whether or not Edge should proceed with any specific transaction proposal or other Strategic Alternative and (vii) if the Transactions Committee deemed appropriate, request from the Edge Board the authority to take such other action related to or arising in connection with any such transaction proposal or Strategic Alternative as the Transactions Committee deemed necessary, appropriate or advisable, including, without limitation, the solicitation of alternative transactions and the evaluation of other Strategic Alternatives to any transaction proposal.
- The Edge Board appointed Dr. Sol Barer, chairman of the Edge Board, Rosemary Crane and Dr. Robert Spiegel as members of the Transactions Committee, with Dr. Barer serving as chairman of the Transactions Committee. Each of the members of the Transactions Committee is an independent director as defined in the rules and regulations promulgated by the Securities and Exchange Commission and the Nasdaq Stock Market.
- The Edge Board determined that it was advisable to engage an investment banker to the Edge Board and the Transactions Committee to assist in the evaluation of Strategic Alternatives and any other transaction proposal which may be received by Edge. The Transactions Committee identified certain investment bankers and asked Edge management to identify additional bankers and provide an assessment of their capabilities for presentation to, and consideration by, the Transactions Committee.

During the course of the Edge Board s discussion, Dechert advised the Edge Board of its fiduciary duties applicable to a strategic review process. The foregoing process to identify and evaluate Strategic Alternatives available to Edge ultimately resulted in the execution of the Merger Agreement with PDS.

On April 20, 2018, the Transactions Committee held its first meeting. At the meeting, management discussed its review of potential investment banks for consideration by the Transactions Committee to serve as the Edge Board s and the Transactions Committee s financial advisor in connection with Edge s review of strategic alternatives. The Transactions Committee selected Piper Jaffray to advise the Edge Board and the Transactions Committee. In selecting Piper Jaffray, the Transactions Committee gave weight to, among other things, Piper Jaffray s deep experience in the industry and relevant transactions, and the experience that members of the Edge Board had previously had with Piper Jaffray in other circumstances, none of which were deemed to give rise to any potential conflicts of interest except as more fully set forth in The Merger—Opinion of the Financial Advisor to the Edge Board.

On April 20, 2018 and May 5, 2018, Mr. Andrew Saik, Chief Financial Officer of Edge, and Mr. Michael King, Chief Financial Officer of PDS, engaged in telephonic conversations about potential interest in exploring a transaction between the two companies.

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On April 23, 2018, Dr. Bedu-Addo and Mr. King made a presentation about PDS to Edge management at Edge s offices. Members of Edge management who participated in this and/or subsequent due diligence meetings with PDS included: Brian Leuthner, President and Chief Executive Officer; Andrew Saik, Chief Financial Officer; Brad Middlekauff, Senior Vice President, General Counsel and Secretary; Bert Marchio, Chief Accounting and Administrative Officer; Herb Faleck, Chief Medical Officer; Alyssa Wyant, Senior Vice President, Regulatory Affairs; Ming Leung, Director, Program Management; and Paul D Angio, Head, Technical Operations and Precisa Development.

On April 27, 2018, representatives of each of Piper Jaffray and Dechert and certain representatives of Edge management had a meeting to organize the search for Strategic Alternatives, consistent with the direction of the Edge Board and the Transactions Committee.

On April 30, 2018, Edge publicly announced that:

- its board of directors was conducting a comprehensive review of Strategic Alternatives focused on maximizing Edge stockholder value;
- in conjunction with the exploration of Strategic Alternatives, Edge intended to streamline its operations in order to preserve its cash resources;
- Edge had retained Piper Jaffray to act as its financial advisor to assist with the review process;
- potential Strategic Alternatives that might be explored or evaluated as part of this review included, but were not limited to, an acquisition, merger, business combination or other transaction involving Edge; and
- there was no defined timeline for completion of the review process.

Beginning on April 30, 2018, the Transactions Committee and members of Edge s management, with assistance from representatives of Piper Jaffray, identified and evaluated 131 potential candidates for a transaction. Members of Edge management, with the assistance of representatives of Piper Jaffray, narrowed that list to 76 companies that best matched Edge s selected screening criteria. The screening criteria included an evaluation of each party s financing risk at closing; each party s product pipeline; upcoming milestones with respect to each party s product candidates likely to occur after a closing that may create greater value for stockholders; the experience and expertise of each party s management and scientific teams; each party s investor base; each party s ability to maintain Edge s Nasdaq listing and operate a public company after closing; the relative potential valuations of Edge and each party; and the party s ability to effectively fund operations after a closing. Between May 4 and June 26, 2018, at the direction of the Transactions Committee with the assistance of Edge management, representatives of Piper Jaffray contacted those 76 parties regarding their respective interest in a potential transaction with Edge. Of those parties contacted, 39 declined further discussions, and 37 were sent and executed confidential disclosure agreements, or CDAs. PDS received its copy of the form of CDA on May 9, 2018.

In connection with its review of Strategic Alternatives, the Transactions Committee also authorized representatives of Piper Jaffray to contact potential strategic partners regarding a possible transaction in respect of EG-1962. Such contacts continued throughout the spring and summer of 2018. On July 2, 2018, representatives of Piper Jaffray contacted 14 companies regarding a potential transaction with EG-1962, including a sale or out-licensing of the asset. Of the parties that were contacted, two signed CDAs and held discussions with Edge management and representatives of Piper Jaffray regarding EG-1962, including discussing the potential clinical development plan going forward and market opportunity among other topics. Neither party elected to pursue a potential transaction with respect to EG-1962.

On May 9, 2018, the Transactions Committee met with Edge management, and representatives of each of Piper Jaffray and Dechert. During the course of the meeting:

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Representatives of Piper Jaffray outlined the primary Strategic Alternatives that the Transactions Committee and the Edge Board might consider, including a reverse merger, a merger with a public company, acquisition/licensing and liquidation.

- Representatives of Piper Jaffray led a discussion of a possible process and timeline for completing a review of Strategic Alternatives and consummating a transaction.

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- Representatives of Piper Jaffray led a discussion of the screening criteria to be used in further evaluating potential transaction partners.
- Representatives of Piper Jaffray led a discussion of a possible engagement protocols between Piper Jaffray, Edge management, the Transactions Committee and the Edge Board in connection with the process for completing a review of Strategic Alternatives and consummating a transaction.
- Representatives of Piper Jaffray reviewed the actions that had been taken to date with respect to potential candidates for a transaction and potential strategic partners regarding a possible transaction in respect of EG-1962.

Between May 14 and July 24, 2018, Edge management and representatives of Piper Jaffray held 35 individual due diligence calls with parties that executed a CDA.

Beginning on May 18, 2018, representatives of Piper Jaffray provided a first-stage process letter to the parties that had executed a CDA (23 as of such date, and 37 overall throughout the process), requesting that such parties return preliminary indications of interest on or before June 8, 2018.

On June 8, 2018 PDS presented a non-binding merger proposal to Edge that reflected a 22.2% Edge / 77.8% PDS equity split.

On June 11, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. During the course of the meeting, representatives of Piper Jaffray led a high-level discussion and analysis of each company that had submitted an indication of interest (a total of 24 companies as of the meeting, including PDS s indication of interest received on June 8) based on criteria that had been previously approved by the Transactions Committee.

On June 13, 2018, the Transactions Committee met with Edge management and representatives of each of Piper Jaffray and Dechert. Representatives of Piper Jaffray led a high-level discussion and analysis of an additional company that had submitted an indication of interest. The Transactions Committee settled on a list of eight companies, including PDS, which would be invited to move to the next phase of the strategic review process.

On June 19, 2018, the Edge Board held a regularly scheduled meeting. At the meeting, representatives of Piper Jaffray and the members of the Transactions Committee led a discussion of the progress on the strategic review process. The Edge Board discussed each of the companies that the Transactions Committee had recommended advancing to the next stage of the strategic review process. During the course of the discussion, certain members of the Edge Board noted that, because of their relationships with certain of the counterparties, they might have a conflict of interest should a transaction be pursued with any such counterparty. None of the counterparties with which certain of the directors had a relationship ended up participating further in later stages of the strategic review process.

On June 27, 2018, representatives of Piper Jaffray sent process letters to the eight companies that the Transactions Committee authorized to be invited to continue the process.

On June 29, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. Representatives of Piper Jaffray and members of Edge management updated the Transactions Committee on its activities. This included noting that the eight companies had been notified of their invitation to continue in the process, recent additional inbound contacts from other potential targets, including Target C, which was also sent a first-stage process letter prior to the meeting. It was also noted that one of the potential targets completed a reverse merger with another party and another filed for an IPO, and as a result, neither would continue in the process with Edge. Following this meeting on June 29, Edge management began conducting additional due diligence with the companies remaining in the process, which included Targets A, B, C, D, E and F, along with PDS.

On July 11, 2018, Dr. Spiegel (a member of the Transactions Committee), a consultant to Edge, members of Edge management and representatives of Piper Jaffray participated in a due diligence session with PDS management.

On July 13, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. A member of the Transactions Committee led a detailed discussion of the results of diligence calls with Target D, Target F and PDS, which members of the Transactions Committee and management had

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met with in depth over the preceding days. Members of the Transactions Committee, representatives of Piper Jaffray and members of Edge management offered their views on the three companies, as well as areas for further review relating to the companies. Following this meeting, Edge management continued to conduct additional due diligence with the other companies still in the process.

On July 23, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. Members of the Transactions Committee led a detailed discussion of three of the companies that were invited to remain in the process, including Target C, which members of the Transactions Committee and management had met with in depth for the first time over the preceding days. Other than Target D, Target F and PDS, the remaining two invited parties were not discussed as in-depth meetings had not yet been conducted. Members of the Transactions Committee, representatives of Piper Jaffray and members of management offered their views of the pros and cons of the three companies, as well as areas for further review relating to the companies. The Transactions Committee discussed how it would evaluate and how it ranked each of the companies that had made it to this point in the strategic review process, and the status of due diligence with the other two remaining companies in the process was not discussed in detail at this meeting.

On August 1, 2018, Dr. Bedu-Addo provided an email update to Mr. Leuthner regarding various matters relating to PDS and a potential transaction between the parties.

On August 1, 2018, the Transactions Committee met with Edge management and representatives of each of Piper Jaffray and Dechert. A member of the Transactions Committee led a detailed discussion of certain due diligence that had been conducted on Target A at a meeting conducted earlier on that day, with Dr. Spiegel and members of Edge management participating in that due diligence meeting. Representatives of Piper Jaffray led a discussion of a possible reverse merger with Target B. Members of the Transactions Committee, representatives of Piper Jaffray and members of Edge management offered their assessments of the companies in the strategic review process, as well as areas for further review relating to certain of such companies.

On August 14, 2018, the Transactions Committee met with Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee instructed Edge management to prioritize Targets A, B, C and D. The Transactions Committee held a detailed discussion of certain diligence matters relating to Targets A, C and D, as the Transactions Committee learned that Target B decided to pursue an alternate financing transaction. These included regulatory, clinical, compliance, legal, commercialization and manufacturing due diligence matters. Members of the Transactions Committee, representatives of Piper Jaffray and members of Edge management offered their views on the three companies discussed during the meeting, as well as areas for further review relating to such companies.

On August 27, 2018, the Transactions Committee met with Edge management and representatives of each of Piper Jaffray and Dechert. Following a review of activities to date, the Transactions Committee discussed its ranking of each of Targets A, C and D targets relative to the others remaining in the process. The Transactions Committee discussed next steps with members of Edge management and Edge s outside advisors. These steps included sending out a process letter, along with a draft merger agreement, to Targets C and D, as discussions between representatives of each of Piper Jaffray and Target A suggested that pending further diligence, Target A s timelines for development activities would not be favorable for a potential transaction.

On September 17, 2018, Target C submitted its bid proposal and mark-up of the draft merger agreement. In addition, on or about such date, the Transactions Committee learned that Target D had decided to pursue an alternative financing transaction and, as a result, would not submit a proposal.

On September 20, 2018, the Transactions Committee met with members of Edge management, and representatives of each of Piper Jaffray and Dechert. The Transactions Committee had a detailed discussion of the bid received from

Target C. During the course of the discussion, representatives from Piper Jaffray engaged with the Transaction Committee on the methodology, analysis and results of the preliminary financial analyses with respect to Target C that representatives of Piper Jaffray had undertaken. The Transactions Committee also discussed with members of Edge management certain execution risks associated with Target C and discussed certain issues arising from the Target C mark-up of the draft merger agreement with Dechert. The Transactions Committee engaged in a discussion with representatives of Piper Jaffray and management about alternatives to a transaction with Target C. Finally, the Transactions Committee provided guidance to the representatives of Piper Jaffray regarding the messages to deliver to Target C with respect to certain aspects of their bid and mark-up of the proposed merger agreement.

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On September 23, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee had a detailed discussion of how to respond to the updated timelines and additional information received from Target C concerning its bid, including potential mechanisms, and the associated timelines, for consummating a transaction with Target C. The Transactions Committee provided direction to representatives of Piper Jaffray to engage with Target C on such deal terms. The Transactions Committee also engaged in a discussion with representatives of Piper Jaffray and management about alternatives to doing a transaction with Target C, including whether to re-engage with Target A, Target E, Target F and/or PDS. The Transactions Committee considered the merits of doing transactions with each of these potential targets. During the course of the discussion, the Transactions Committee (i) directed representatives of Piper Jaffray to more fully engage in conversations with PDS about a transaction with Edge, (ii) provided guidance to representatives of Piper Jaffray that it was not interested in pursuing a transaction with Target A, and (iii) directed representatives of Piper Jaffray to spend limited or no resources on pursuit of a transaction with Targets E and F.

On September 28, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee had a detailed discussion of (i) a counterproposal received from Target C in response to certain issues that had been raised by the Transactions Committee; (ii) how the Transactions Committee should respond to Target C s counterproposal; and (iii) the potential timeline for closing a transaction with Target C. In addition, the Transactions Committee engaged in a discussion with representatives of Piper Jaffray and members of Edge management about pursuing a transaction with PDS, including additional diligence on PDS and a renewed focus on the due diligence that had previously been undertaken with respect to PDS.

On October 2, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee had a detailed discussion of how the Transactions Committee should respond to the subsequent discussions between representatives of Piper Jaffray and Target C concerning Target C s bid. In addition, the Transactions Committee engaged in further discussion with representatives of Piper Jaffray and Edge management about plans for in-depth due diligence with PDS and the process for moving forward with PDS.

On October 3, 2018, representatives of Piper Jaffray, at the instruction of the Transactions Committee, sent PDS a process letter and draft merger agreement. In addition, representatives of each of Piper Jaffray and Target C discussed Target C s bid and the timelines for consummating a transaction.

On October 4, 2018, the Transactions Committee met with Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee held a detailed discussion of how the Transactions Committee should respond to Target C and the additional information provided by Target C to representatives of Piper Jaffray on October 3. In addition, the Transactions Committee received an update regarding discussions concerning a transaction with PDS.

On October 4, 2018 and October 8, 2018, Dr. Faleck, Mr. Middlekauff and representatives of each of Jones Day (Edge s outside patent counsel) and Piper Jaffray met with Dr. Bedu-Addo and PDS s outside patent counsel regarding PDS s patent portfolio.

On October 9, 2018, Dr. Spiegel, members of Edge management and representatives of Piper Jaffray held three separate meetings with three key opinion leaders regarding PDS s platform and products and the medical and market opportunities for such products.

On October 10, 2018, Dr. Spiegel, members Edge management and representatives of Piper Jaffray had an in-person meeting at Edge with PDS management, a member of the PDS Board and a member of the PDS scientific advisory board to discuss PDS, its platform and its product opportunities.

On October 11, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee had a detailed discussion of where matters stood with respect to Target C. After extensive deliberation, the Transactions Committee concluded that it was not prepared to continue discussions with Target C on the terms proposed by Target C, and asked that representatives of Piper Jaffray convey this conclusion to Target C. The Transactions Committee then engaged in a discussion with representatives of each of Piper Jaffray and Dechert and Edge management about pursuing a transaction with PDS, with a focus on the status of the due diligence investigation with respect to PDS and the

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process for moving forward with PDS. The Transactions Committee also discussed the interest of PDS in retaining certain members of Edge management should a transaction be completed. The Transactions Committee, with input from representatives of Dechert, concluded that any discussion regarding the retention of Edge employees by PDS should be deferred until deal terms were agreed by Edge and PDS.

On October 15, 2018, PDS, in response to a process letter sent to PDS on October 3, 2018, submitted what it termed a final offer, which contained a proposed ownership split in the combined company of approximately 21.6% for Edge stockholders and 78.4% for PDS stockholders. It also proposed a combined company board consisting of four designees of PDS and three designees of Edge and the desire to retain certain members of Edge management. It also proposed that Edge enter into an agreement providing for a period of exclusive negotiations with Edge. PDS also provided a mark-up of the merger agreement.

On October 16, 2018, the Edge Board held a regularly scheduled meeting. The members of the Transactions Committee, with input from representatives of Piper Jaffray and Dechert, and members of Edge management led a discussion of the status of the strategic review process with a focus on (i) whether there might be a path forward for Target C, on a basis different from that proposed by Target C in its prior communications and (ii) a potential path forward with PDS. Members of the Edge Board offered their comments on the targets under consideration and the potential transactions with such companies. During the course of the discussion, the Edge Board engaged in extensive dialogue with management and the Edge Board s advisors and, in the course of such discussions, provided guidance to Piper Jaffray about next steps with respect to Target C and PDS. In particular, with respect to Target C, the Edge Board discussed the implications of moving forward with Target C in light of the timing of upcoming regulatory reviews of Target C and issues related thereto, the timing of Edge s stockholder meeting to seek approval of a merger with Target C, as well as the parameters pursuant to which the Edge Board could terminate any merger agreement with Target C prior to closing. With respect to PDS, the Edge Board noted the inclusion in the PDS proposal of a proposed combined company board split of four PDS designees and three Edge designees and the desire to retain certain Edge management. Dr. Barer noted that, while he would not be able to continue on the combined company board if asked to do so, he would be willing to serve in a role as a combined company board advisor. The Edge Board discussed that there should be no discussion about compensation on any retained individual until at least the principal terms of a transaction was agreed with PDS. The Edge Board provided specific guidance on the relative valuations for each of PDS and Edge that it would seek to attain and additional diligence that would enable the Edge Board to more fully assess the opportunity provided by a potential merger with PDS.

On October 19, 2018, representatives Piper Jaffray had a discussion with members of PDS management regarding the Transactions Committee s response to PDS s proposal.

On October 22, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee engaged in a discussion with representatives of Piper Jaffray and Dechert and Edge management about subsequent information concerning PDS s revised bid that PDS provided to Piper Jaffray since the Edge Board s previous meeting, a potential response from Edge to PDS, and the path to signing a definitive agreement with PDS. During the course of the discussion, the Transactions Committee provided guidance to representatives of Piper Jaffray about next steps to take with PDS. In addition, the Transactions Committee had a discussion regarding the process going forward with respect to a potential transaction with Target C, notwithstanding the issues discussed at the Edge Board s previous meeting.

On October 22, 2018, representatives of Piper Jaffray had a discussion with PDS management regarding the Transactions Committee s response to PDS s latest proposal.

During the period from October 22, 2018 through November 15, 2018, mutual legal, regulatory and intellectual property diligence was conducted by Edge and PDS and their respective counsel. In addition, counsel to each of Edge

and PDS negotiated the merger agreement, exchanging drafts periodically during the period through November 21, reflecting revised proposals.

On October 26, 2018, Dr. Faleck, Mr. Middlekauff and representatives of each of Jones Day and Piper Jaffray had a conference call with Dr. Bedu-Addo and PDS s outside patent counsel regarding PDS s patent portfolio.

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On October 28, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee engaged in a discussion with representatives of Piper Jaffray and management about the PDS s response on October 26 to Edge s latest proposal with respect to a potential transaction, Piper Jaffray s preliminary exchange ratio analysis relating thereto and the methodologies of such analysis and a potential response from Edge to PDS s latest proposal to, among other things, make the exchange ratio more favorable to Edge s stockholders. During the course of the discussion, the Transactions Committee provided guidance to Piper Jaffray about next steps with PDS. In addition, at the request of the Transactions Committee, representatives of Piper Jaffray provided an update on the status of discussions regarding a potential transaction with Target C in light of the structure and timelines set out in Target C s materials provided to date.

On October 29, 2018, representatives of Piper Jaffray met with members of PDS management and presented a counterproposal to PDS on key deal terms.

On October 31, 2018, Mr. Leuthner and Dr. Bedu-Addo had a discussion regarding PDS s expected funding strategy.

On November 1, and November 2, 2018, representatives of Piper Jaffray had discussions with members of PDS management regarding key deal terms of a potential merger agreement. On November 2, PDS confirmed its revised proposal reflecting and ownership split in the combined company of approximately 30% for Edge stockholders and 70% for PDS stockholders.

On November 2, 2018, the Transactions Committee met with members of Edge management and representatives of each of Piper Jaffray and Dechert. The Transactions Committee engaged in a discussion with representatives of Piper Jaffray, Dechert and Edge management about further conversations that representatives of Piper Jaffray had held with PDS with respect to a potential transaction, including PDS s reaction to an exchange ratio more favorable to Edge s stockholders than its last proposal, and the path to signing a definitive agreement with PDS. During the course of the discussion, the Transactions Committee provided guidance to representatives of Piper Jaffray about next steps with PDS. With respect to Target C, representatives of Piper Jaffray indicated that Target C had not yet responded to Edge s latest counter-proposal.

On November 5, 2018, Dr. Bedu-Addo and Dr. Barer met to discuss certain key terms of a proposed Edge-PDS merger agreement. The discussion included the interest of PDS in retaining certain members of Edge management for the combined company. The potential three representatives from the Edge Board who would serve on the combined company s board were also discussed. During the course of that discussion, Dr. Barer indicated that he was not able to serve on the combined company board, but would be willing to consider a role as advisor to the combined company s board. No compensation arrangements for anyone were discussed.

On November 5, 2018, members of Edge management and representatives of each of Piper Jaffray and Dechert, members of PDS management and representatives of DLA Piper LLP, or DLA, PDS s outside counsel, met to discuss the process for ongoing negotiations of the merger agreement.

On November 6, 2018, Mr. Leuthner and Dr. Bedu-Addo spoke to discuss Dr. Bedu-Addo s meeting with Dr. Barer on November 5, 2018. They also discussed a potential press release to announce a merger between Edge and PDS.

On November 9, 2018, members of Edge and PDS management, as well as representatives of each of Piper Jaffray Dechert and DLA continued to discuss the status of the merger agreement.

On November 7, 2018, members of Edge management met with members of PDS management and representatives of each of DLA and Dechert to discuss certain due diligence and transaction-related matters.

On November 12, 2018, Mr. Leuthner and Dr. Bedu-Addo spoke regarding reactions of their respective boards of directors to the proposed merger and outstanding issues with respect to the merger agreement.

On November 13 and November 14, Dr. Bedu-Addo visited Edge s offices to (i) meet with various Edge employees, (ii) discuss the press release and investor slide deck to be presented upon public announcement of the merger, and (iii) meet with Mr. Leuthner to discuss various non-executive employees. Also on November 14, 2018, members of Edge and PDS management, along with representatives of each of Piper Jaffray, Dechert and DLA continued to discuss the status of the merger agreement and next steps.

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On November 15, 2018, Mr. Leuthner and Dr. Bedu-Addo spoke regarding the investor slide deck and miscellaneous matters relating to the business of PDS.

On November 15, 2018, Edge and PDS management, and representatives of Piper Jaffray, held a call to discuss the status of the merger agreement and certain open issues.

From November 17, 2018 through November 21, 2018, representatives of Piper Jaffray had multiple discussions with PDS management regarding certain deal terms of a potential merger agreement.

On November 18, 2018, members of Edge management and representatives of each of Piper Jaffray and Dechert met with Dr. Barer to update him on the ongoing negotiations with PDS.

Between November 19 and November 21, 2018, Dr. Bedu-Addo and Mr. Leuthner spoke several times regarding the planned press release, investor slide deck and conference call script for the announcement of the potential merger.

On November 19, 2018, members of Edge management and representatives of each of Piper Jaffray and Dechert met with Ms. Crane about the status of the proposed merger with PDS. Ms. Crane requested the call because she would be unable to join the joint meeting of the Transactions Committee and the Edge Board scheduled for later in the day.

On November 19, 2018, there was a joint meeting of the Transactions Committee and the Edge Board. In advance of the meeting, the Transactions Committee and Edge Board received written materials, including the actions the Transactions Committee and Edge Board were going to be asked to consider, the draft financial analysis materials prepared by representatives of Piper Jaffray, and a summary of the merger agreement prepared by representatives of Dechert. Representatives of each of Piper Jaffray and Dechert reviewed the terms of the potential merger. Representatives of Piper Jaffray also reviewed their preliminary financial analysis of the potential merger. A representative of Dechert reviewed the terms of the merger agreement, and further reviewed the potential interest of various members of the Edge Board and management. He noted the interest of PDS in retaining certain members of Edge management to serve in similar capacities in the combined company, including the retention of Mr. Leuthner as president and Mr. Saik as Chief Financial Officer, that three current Edge directors, Mr. Leuthner, Mr. Loughlin and Dr. Spiegel, would serve as Edge s designees on the combined company board, and that Dr. Barer would possibly serve in a capacity as an adviser to the combined company board. It was noted that to date there had been no discussion with PDS as to the compensation arrangements for any Edge board or management member in the combined company. The Edge Board engaged in discussion throughout the meeting.

On November 20, 2018, members of Edge and PDS management, along with representatives of each of Piper Jaffray, Dechert and DLA, had calls to discuss the merger agreement.

Discussions between representatives of Dechert and DLA continued through November 21, 2018 as to certain provisions of the merger agreement.

On November 23, 2018, there was a joint meeting of the Transactions Committee and the Edge Board. In advance of the meeting, the Transactions Committee and Edge Board had received written materials, including the actions the Transactions Committee and Edge Board were going to be asked to consider, the draft financial analysis materials prepared by Piper Jaffray, and a summary of the merger agreement prepared by Dechert. A representative of Dechert first reviewed the proposed changes to the merger agreement from that which was presented to the Edge Board and Transactions Committee at its previous meeting, and further noted that the potential interests of various board and management members had previously been identified to the Edge Board, as more fully described in the section, The Merger-Interests of the Edge Directors and Executive Officers in the Merger. Representatives of Piper Jaffray reviewed the results of Piper Jaffray s financial analysis with respect to the Exchange Ratio and presented and

delivered to the Edge Board and Transactions Committee Piper Jaffray s oral opinion, which opinion was confirmed in writing on the same date, that, as of such date, and based upon and subject to the various assumptions and limitations set forth in its written opinion, the Exchange Ratio was fair to Edge, from a financial point of view, as more fully described in the section titled The Merger – Opinion of the Financial Advisor to the Edge Board. Several questions by Edge board members related to deal terms were asked and answered by representatives of Piper Jaffray, Edge management and Dechert. Representatives of Piper Jaffray then left the meeting, and representatives of Dechert reviewed again the fiduciary duties of the Edge Board under Delaware law. After the presentations and discussions, the Edge Transactions Committee,

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recommended to the Edge Board, and the Edge Board unanimously, with Mr. Leuthner abstaining, (a) determined that the transaction, the issuance of shares of Edge common stock pursuant to the transaction and the other transactions contemplated by the Merger Agreement were fair to, advisable and in the best interests of Edge and its stockholders, (b) approved the issuance of shares of Edge common stock pursuant to the transaction, the Merger Agreement and the other transactions contemplated thereby, (c) approved and declared advisable the Merger Agreement and the transactions contemplated thereby, and (d) resolved to recommend that the Edge stockholders vote to approve the issuance of shares of Edge common stock in the transaction pursuant to the terms of the Merger Agreement.

Following the close of trading on November 23, 2018, each of Edge, PDS and Merger Sub executed and delivered the merger agreement. Before the opening of the Nasdaq Stock Market on November 26, 2018, (1) Edge and PDS issued a joint press release announcing the execution of the Merger Agreement and the plans of Edge and PDS to consummate the merger and (2) Edge and PDS held a conference call to discuss the planned merger.

Edge Reasons for the Merger

As noted above, the Edge Board and executive management team have regularly reviewed and discussed Edge s operating and strategic plans, both near-term and long-term, as well as potential partnerships and strategic transactions, in an effort to enhance stockholder value. These reviews and discussions have focused, among other things, on the opportunities and risks associated with Edge s business and financial condition and strategic relationships and other strategic options. In particular, recent setbacks in the clinical development of Edge s product candidate, EG-1962, have prompted the Edge Board to focus on alternative means for providing returns to stockholders.

In the course of its evaluation of the merger and the Merger Agreement, the Edge Board held numerous meetings, consulted with Edge s executive management, legal counsel and financial advisors, and reviewed and assessed a significant amount of information and, in reaching its decision to approve the merger, the issuance of shares of Edge common stock pursuant to the Merger Agreement and the other transactions contemplated by the Merger Agreement, the Edge Board considered a number of factors, including, among others, the following:

- The Edge Board considered the historical and current information concerning Edge's business, financial performance, financial condition, including Edge's cash position, operations, management and competitive position, the prospects of Edge and its product candidate, the nature of the biotechnology industry generally, including financial projections of Edge under various scenarios and its short- and long-term strategic objectives and the related risks and the belief that the combination of Edge's and PDS's businesses would create more value for Edge stockholders in the long-term than Edge could create as an independent, stand-alone company.
- The Edge Board's belief, based in part on the judgment, advice and analysis of Edge management with respect to the potential strategic, financial and operational benefits of the merger (which judgment, advice and analysis was informed in part by the business, technical, financial, accounting, intellectual property and legal due diligence investigation performed by Edge with respect to PDS), that PDS's proprietary platform, as well as its immunotherapies pipeline, which includes clinical stage candidates that hold the potential to address sizeable market opportunities, and may provide new medical benefits for patients and returns for investors.
- The Edge Board also reviewed with the management of Edge the current development plans of PDS to confirm the likelihood that the combined company would possess sufficient resources, or have access to sufficient resources, to allow the management team to focus on its plans for the continued development of PDS's product pipeline. The Edge Board also considered the possibility that the combined company would be able to take advantage of the potential benefits resulting from the combination of the Edge public company structure with the PDS business to raise additional funds in the future.

- The Edge Board also considered the valuation and business prospects of all the potential strategic transaction candidates. In particular, their collective view was that PDS was the most attractive candidate because of the promising results of its previous clinical trials and the potential large market opportunities that PDS's product candidates address. After considering the comprehensive diligence review that Edge management had completed of other prospective transaction partners, the board of

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directors concluded that the merger with PDS would create a publicly traded company focused on advancing its proprietary platform, with its applicability in several cancer markets, as well as its product pipeline, which includes clinical stage candidates that hold the potential to address potential sizeable market opportunities.

- The Edge Board concluded that the merger would provide existing Edge stockholders a significant opportunity to participate in the potential growth of the combined company following the merger.
- The Edge Board also considered that the combined company is expected to be led by an experienced senior management team and a board of directors with representation from each of the current boards of directors of Edge and PDS.
- The Edge Board considered the opinion of Piper Jaffray, delivered to the Edge Board on November 23, 2018, to the effect that, as of such date and based on and subject to the assumptions made, procedures followed, matters considered and limitations on the scope of the review undertaken by Piper Jaffray, as described in its written opinion, the Exchange Ratio was fair, from a financial point of view, to Edge, as more fully described below under The Merger - Opinion of the Financial Advisor to the Edge Board beginning on page 85.

The Edge Board also reviewed the recent results of operations and financial condition of Edge, including:

- the Phase 3, NEWTON 2 study of EG-1962 demonstrating a low probability of achieving a statistically-significant difference compared to the standard of care in the study's primary endpoint and the resulting discontinuation of the NEWTON 2 study;
- the loss of certain operational capabilities of Edge, and the risks associated with continuing to operate Edge on a stand-alone basis, including the resources needed to continue to develop EG-1962 and its remaining pipeline of product candidates;
- the costs and time to conduct another Phase 3 trial of EG-1962 in a subgroup population based on the post-hoc analysis of the NEWTON 2 study;
- the results of substantial efforts made over a significant period of time by Edge's senior management and financial advisor to solicit strategic alternatives for Edge to the merger, including the discussions that Edge management, Edge's representatives and the Edge Board had in 2018 with other potential strategic transaction candidates; and
- current financial market conditions and historical market prices, volatility and trading information with respect to Edge common stock.

The Edge Board also reviewed the terms of the Merger Agreement and associated transactions, including:

- the relative percentage ownership of Edge securityholders and PDS securityholders immediately following the closing of the merger;
- the number and nature of the conditions to PDS's obligation to consummate the merger and the limited risk of non-satisfaction of such conditions as well as the likelihood that the merger will be consummated on a timely basis;
- the rights of, and limitations on, Edge under the Merger Agreement to consider certain unsolicited acquisition proposals under certain circumstances, should Edge receive a superior offer (as defined below);
- the reasonableness of the potential termination fee of up to $1.75 million, which could become payable by Edge if the Merger Agreement is terminated in certain circumstances and certain events occur;
- the agreement by the stockholders of PDS holding the requisite number of shares of PDS common stock to vote such shares in favor of approving the transactions contemplated by the Merger Agreement and against actions that could adversely affect the closing of the merger; and
- the belief that the terms of the Merger Agreement, including the parties' representations, warranties and covenants, and the conditions to their respective obligations, are reasonable under the circumstances.

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In the course of its deliberations, the Edge Board also considered a variety of risks and other countervailing factors related to the merger, including:

- the up to $1.75 million termination fee payable by Edge upon the occurrence of certain events and the potential effect of such termination fee in deterring other potential acquirors from proposing an alternative transaction that may be more advantageous to Edge stockholders;
- the substantial expenses to be incurred in connection with the merger;
- the possible volatility, at least in the short term, of the trading price of Edge common stock resulting from the announcement of the merger;
- the risk that the merger might not be consummated in a timely manner or at all and the potential adverse effect of the public announcement of the merger or on the delay or failure to complete the merger on the reputation of Edge;
- the risk to the business of Edge, operations and financial results in the event that the merger is not consummated;
- the strategic direction of the continuing entity following the closing of the merger, which is expected to be determined by a combination of individuals from Edge's and PDS's respective present management teams and a board of directors initially comprised of a combination of Edge's and PDS's respective boards of directors; and
- various other risks associated with the combined company and the merger, including those described in the sections titled Risk Factors and Cautionary Statement Concerning Forward-Looking Statements.

The foregoing information and factors considered by the Edge Board are not intended to be exhaustive but are believed to include all of the material factors considered by the Edge Board. In view of the wide variety of factors considered in connection with its evaluation of the merger and the complexity of these matters, the Edge Board did not find it useful, and did not attempt, to quantify, rank or otherwise assign relative weights to these factors. In considering the factors described above, individual members of the Edge Board may have given different weight to different factors. The Edge Board conducted an overall analysis of the factors described above, including thorough discussions with, and questioning of, the Edge management team and the legal and financial advisors of Edge, and considered the factors overall to be favorable to, and to support, its determination.

PDS Reasons for the Merger

In the course of reaching its decision to approve the merger, the PDS Board consulted with its senior management and legal counsel, reviewed a significant amount of information and considered a number of factors, including, among others:

- the potential increased access to sources of capital at a lower cost and a broader range of investors to support PDS's commercialization efforts than it could otherwise obtain if it continued to operate as a privately-held company;
- the ability to access institutional investors who may otherwise be unable to invest in a privately-held company;
- the potential to provide its current stockholders with greater liquidity by owning stock in a public company;
- the PDS Board's belief that no alternatives to the merger were reasonably likely to create greater value for the PDS stockholders after reviewing the various strategic options to enhance stockholder value that were considered by the PDS Board;
- the cash resources of the combined company expected to be available at the closing of the merger, including Edge's cash balance of $[__] million as of [__], 2018;
- the availability of appraisal rights under the DGCL to holders of PDS common stock who comply with the required procedures under the DGCL, which allow such holders to seek appraisal of the fair value of their shares of PDS common stock as determined by the Delaware Court of Chancery;

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- the expectation that the merger with Edge would be a more time- and cost-effective means to access capital than other options considered;
- the terms and conditions of the Merger Agreement, including, without limitation, the following:
  - the determination that the expected relative percentage ownership of Edge stockholders and PDS stockholders in the combined company was appropriate based, in the judgment of the PDS Board, on the board of directors' assessment of the approximate valuations of Edge and PDS and the comparative costs and risks associated with alternatives to the merger;
  - the expectation that the merger will be treated as a reorganization for U.S. federal income tax purposes, with the result that the PDS stockholders will generally not recognize taxable gain or loss for U.S. federal income tax purposes upon the exchange of PDS common stock for Edge common stock pursuant to the merger;
  - the limited number and nature of the conditions of the obligation of Edge to consummate the merger; and
  - the conclusion of the PDS Board that the potential termination fee of $1.75 million payable by Edge to PDS and the circumstances when such fee may be payable, were reasonable;
- the fact that shares of Edge common stock to be issued to PDS stockholders will be registered on a Form S-4 registration statement by Edge and will become freely tradable;
- the belief that increased visibility as a public company would provide access to additional strategic partnering transactions; and
- the likelihood that the merger will be consummated on a timely basis.

The PDS Board also considered a number of uncertainties and risks in its deliberations concerning the merger and the other transactions contemplated by the Merger Agreement, including the following:

- the possibility that the merger might not be completed and the potential adverse effect of the public announcement of the merger on the reputation of PDS and the ability of PDS to obtain financing in the future in the event the merger is not completed;
- the risk that the merger might not be consummated in a timely manner or at all;
- the expenses to be incurred in connection with the merger and related administrative challenges associated with combining the companies;
- the additional public company expenses and obligations that PDS's business will be subject to following the merger that it has not previously been subject to; and
- various other risks associated with the combined company and the merger, including the risks described in the section titled Risk Factors in this proxy statement/prospectus/information statement.

Opinion of the Financial Advisor to the Edge Board

On November 23, 2018, Piper Jaffray rendered its oral opinion to the Edge Board (which was subsequently confirmed in writing by delivery of Piper Jaffray s written opinion dated November 23, 2018) to the effect that, as of November 23, 2018, and based upon and subject to the various assumptions and limitations set forth therein, the Exchange Ratio was fair, from a financial point of view, to Edge.

The full text of the Piper Jaffray written opinion dated November 23, 2018, which sets forth, among other things, the assumptions made, procedures followed, matters considered and limitations on the scope of the review undertaken by Piper Jaffray in rendering its opinion, is attached as *Annex D* to this proxy statement/prospectus. The Piper Jaffray opinion addresses only the fairness, from a financial point of view and as of the date of the opinion, of the Exchange Ratio. Piper Jaffray s opinion was directed to the Edge Board in connection with its consideration of the merger and was not intended to be, and does not constitute, a recommendation to any Edge stockholder as to how such stockholder should act or vote with respect to the merger or any other matter. Piper Jaffray s opinion was approved for issuance by the Piper Jaffray opinion committee.

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In connection with rendering the opinion described above and performing its related financial analyses, Piper Jaffray, among other things:

- reviewed and analyzed the financial terms of the draft of the Merger Agreement dated November 23, 2018;
- reviewed and analyzed certain financial and other data with respect to Edge and PDS that was publicly available;
- reviewed and analyzed certain information, including financial forecasts, relating to the estimated cash usage of each of Edge and PDS, on stand-alone bases, that were furnished to Piper Jaffray by Edge and PDS;
- conducted discussions with members of senior management and representatives of each of Edge and PDS concerning the matters described in the second and third bullets above, as well as the business and prospects of Edge before and after giving effect to the merger;
- reviewed the current and historical reported prices and trading activity of Edge;
- compared the business profile of PDS with that of certain publicly traded companies that Piper Jaffray deemed relevant; and
- reviewed the valuations of certain companies implied by the pricing of such companies' initial public offerings that Piper Jaffray deemed relevant.

In addition, Piper Jaffray conducted such other analyses, examinations and inquiries and considered such other financial, economic and market criteria as Piper Jaffray deemed necessary in arriving at its opinion.

The following is a summary of the material financial analyses performed by Piper Jaffray in connection with the preparation of its fairness opinion and reviewed with the Edge Board at a meeting held on November 23, 2018.

This summary includes information presented in tabular format, which tables must be read together with the text of each analysis summary and considered as a whole in order to fully understand the financial analyses presented by Piper Jaffray. The tables alone do not constitute a complete summary of the financial analyses. The order in which these analyses are presented below, and the results of those analyses, should not be taken as any indication of the relative importance or weight given to these analyses by Piper Jaffray or the Edge Board. Except as otherwise noted, the following quantitative information, to the extent that it is based on market data, is based on market data as it existed on or before November 21, 2018, and is not necessarily indicative of current market conditions.

Review of Solicitation Process

Piper Jaffray reviewed with the Edge Board the solicitation that Piper Jaffray undertook to assist Edge in exploring third party interest in a transaction involving Edge, including the potential sale of EG-1962 and all associated intellectual property, after the release of interim results of the Newton 2 trial in April 2018. Piper Jaffray highlighted that:

- A total of 131 parties (including PDS) were evaluated for a potential acquisition, licensing or reverse merger transaction:
  - 37 parties (including PDS) executed confidentiality agreements and received invitations to submit indications of interest;
  - 27 parties (including PDS) submitted initial indications of interest for a reverse merger;
  - Nine parties (including PDS) were invited to conduct further mutual diligence;
  - Three parties (including PDS) were invited to submit final indications of interest, of which one withdrew from the process to pursue other financing alternatives and one was unable to negotiate terms due to extraneous circumstances specific to it;
- Discussions with 14 additional potential strategic partners were held with respect to a potential acquisition of EG-1962 and all associated intellectual property, which discussions yielded no interest.

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Financial Analyses of Edge

Edge Current Valuation and Capitalization; Projected Cash Balances

Piper Jaffray reviewed, among other things, the current implied equity and enterprise valuations, capitalization and cash balances, and projected closing capitalization and cash balances of Edge. The analysis indicated, among other things, that Edge had diluted shares outstanding as of the date of the Merger Agreement of 32,001,038, using the treasury stock method, cash and cash equivalents on hand of $34,660,351, a current implied enterprise value of ($12,579,635), and estimated cash and cash equivalents at closing of the merger of $24,885,685.

Financial Analyses of PDS

Selected IPO Analysis

Comparable Biotech Company IPO Business Profile

Piper Jaffray also reviewed certain market data for certain US-listed biotech companies that completed an initial public offering, referred to as an IPO, of common stock since January 1, 2017. Specifically, Piper Jaffray (a) selected IPOs of immuno-oncology companies targeting solid tumors (i) with lead product candidates in Phase 2 or earlier stage clinical trials (excluding companies whose lead product candidates are in pre-clinical development) and (ii) with biologic or injectable drug type products, and (b) excluded companies with discovery-based antibody/antibody-associated platforms.

Set forth below are the six selected IPOs, as well as their respective targeted lead treatment indications, stages of development and IPO pricing dates:

Company	Indication	Phase	Pricing Date
Replimune Group, Inc.	Mixed Advanced Solid Tumors	Phase 1	July 19, 2018
Neon Therapeutics, Inc.	Metastatic Melanoma, NSCLC	Phase 1B	June 26, 2018
Aileron Therapeutics, Inc.	PTCL	Phase 2A	June 28, 2017
G1 Therapeutics, Inc.	SCLC	Phase 1B/2A	May 16, 2017
Tocagen Inc.	Recurrent HGG	Phase 2	April 12, 2017
Jounce Therapeutics, Inc.	Solid Tumors	Phase 1/2	February 1, 2017

For the selected biotech IPO companies, Piper Jaffray reviewed each of their (i) implied equity value, based on the offering price of each such company s shares in the IPO and the number of each such company s shares outstanding prior to the IPO, excluding any shares being issued in the offering, using the treasury stock method, referred to as the pre-money equity value, together with (ii) pre-money equity value, plus net debt (calculated as debt, less cash and cash equivalents at the time of the IPO), referred to as the pre-money enterprise value. The analysis indicated the following maximum, 75th percentile, mean, median, 25th percentile and minimum pre-money equity values and pre-money enterprise values for the selected companies:

	Pre-Money Equity Value	Pre-Money Enterprise Value
Maximum	$ 449	$ 348
75th Percentile	$ 393	$ 316

Mean	$ 309	$ 234
Median	$ 364	$ 244
25th Percentile	$ 222	$ 166
Minimum	$ 100	$ 87

For the selected biotech IPO companies analysis, Piper Jaffray derived a range of implied enterprise values for PDS based on the implied enterprise value ranges for the selected companies and then adjusted for net cash, to calculate an implied PDS equity value. Piper Jaffray then derived an implied number of shares of Edge common stock to be issued in the merger, assuming an Edge intrinsic valuation of $24.9 million, which was equal to the closing cash balance and which implied an Edge share price of $0.78 per share based on diluted shares, using the treasury stock method. Piper Jaffray then calculated an implied pro forma equity value for the combined company by adjusting the implied enterprise value for PDS for pro forma net cash at the closing of the

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merger of approximately $24.9 million for Edge and approximately ($2.9) million for PDS, excluding any bridge financing cash PDS raised between the announcement and the closing of the merger and any cash adjustments at the closing of the merger.

The analysis indicated the following implied ownership percentage range for Edge stockholders in the combined company, pro forma for the merger:

	Maximum	75th Percentile	Median	25th Percentile	Minimum
Implied Edge Shareholder Ownership	22 %	13 %	9 %	7 %	7 %

In addition, the analysis indicated the following implied pro forma valuation range of the aggregate equity interest in the combined company to be retained by Edge stockholders:

	Maximum	75th Percentile	Median	25th Percentile	Minimum
Implied Value to Edge Shareholders at 30% Ownership (in millions)	$ 111	$ 101	$ 80	$ 56	$ 33

Selected Comparable Public Companies Analysis

Similar Stage Cancer-Vaccine Business Profile

Piper Jaffray reviewed certain market data for five selected cancer-vaccine companies that have publicly traded equity securities and that Piper Jaffray deemed relevant. Piper Jaffray selected US-listed public companies that it considered to be cancer-vaccine companies similar to PDS: (i) that are biopharmaceutical companies developing drugs for oncology using vaccine modality and (ii) whose lead product candidate is in Phase 2 or earlier stage clinical trials (excluding companies whose lead product candidates are in pre-clinical development).

Set forth below are the five selected cancer-vaccine companies, as well as their respective targeted lead treatment indications and stages of development:

Company	Indication	Phase
Gritstone Oncology, Inc.	Solid Tumors	Phase 1
Replimune Group, Inc.	Mixed Advanced Solid Tumors	Phase 1/2
Agenus Inc.	Glioblastoma	Phase 2
Neon Therapeutics, Inc.	Solid Tumors	Phase 1
Genocea Biosciences, Inc.	Solid Tumors	Phase 1/2A

For the selected cancer-vaccine companies, Piper Jaffray reviewed each of their current (i) implied equity values, calculated as the aggregate value of each company s outstanding equity securities, based on such company s applicable closing common stock price as of November 21, 2018, using the treasury stock method, and (ii) implied enterprise values. Enterprise values were calculated as implied equity values, as described in the immediately preceding sentence, plus debt outstanding, less cash and cash equivalents (referred to herein as net cash), in each case, as of their most recent respective reported quarter-ends. The analysis indicated the following maximum, 75th percentile, mean, median, 25th percentile and minimum equity values and enterprise values for the selected companies:

	Equity Value	Enterprise Value

Maximum	$ 652	$ 482
75th Percentile	$ 472	$ 223
Mean	$ 325	$ 197
Median	$ 264	$ 187
25th Percentile	$ 185	$ 63
Minimum	$ 50	$ 30

For the selected cancer-vaccine companies analysis, Piper Jaffray derived a range of implied enterprise values for PDS based on the implied enterprise value ranges for the selected companies and then adjusted for net cash, to calculate an implied range of PDS equity values. Piper Jaffray then derived an implied number of shares

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of Edge common stock to be issued in the merger, assuming an Edge intrinsic valuation of $24.9 million, which was equal to the estimated closing cash balance and which implied an Edge share price of $0.78 per share based on diluted shares using the treasury stock method. Piper Jaffray then calculated an implied pro forma equity value for the combined company by adjusting the implied enterprise value for PDS for pro forma net cash at the closing of the merger of approximately $24.9 million for Edge and approximately ($2.9) million for PDS. This analysis assumed no bridge financing by PDS between the announcement and the closing of the merger and no additional cash adjustments at the closing of the merger.

The analysis indicated the following implied ownership percentage range for Edge stockholders in the combined company, pro forma for the merger:

	Maximum	75th Percentile	Median	25th Percentile	Minimum
Implied Edge Shareholder Ownership	46 %	30 %	13 %	10 %	5 %

In addition, the analysis indicated the following implied pro forma valuation range of the aggregate equity interest in the combined company to be retained by Edge stockholders:

	Maximum	75th Percentile	Median	25th Percentile	Minimum
Implied Value to Edge Shareholders at 30% Ownership (in millions)	$ 151	$ 73	$ 63	$ 26	$ 16

Similar Stage Immuno-Oncology Business Profile

Piper Jaffray reviewed certain market data for five selected immuno-oncology companies that have publicly traded equity securities and that Piper Jaffray deemed relevant. Piper Jaffray selected US-listed public companies that it considered to be immuno-oncology companies similar to PDS: (i) that are biopharmaceutical immuno-oncology companies targeting solid tumors, (ii) whose lead product candidate is in Phase 2 or earlier stage clinical trials (excluding companies whose lead product candidates are in pre-clinical development) and (iii) other than companies with discovery-based immuno-oncology platform technologies, gene/vaccine therapies and antibody/antibody-associated platform technologies.

Set forth below are the five selected immuno-oncology companies, as well as their respective targeted lead treatment indications and stages of development:

Company	Indication	Phase
Ziopharm Oncology, Inc.	rGBM	Phase 2
Arcus Biosciences, Inc.	Multiple Tumor Types	Phase 1/1B
Five Prime Therapeutics, Inc.	Pancreatic Cancer	Phase 2
Corvus Pharmaceuticals, Inc.	Solid Tumors	Phase 1/1B
Calithera Biosciences, Inc.	Renal Cell Carcinoma	Phase 2

For the selected immuno-oncology companies, Piper Jaffray reviewed each of their current implied equity values and implied enterprise values, in each case, calculated as described above under Similar Stage Cancer-Vaccine Business Profile . The analysis indicated the following maximum, 75th percentile, mean, median, 25th percentile and minimum equity values and enterprise values for the selected companies:

	Equity Value	Enterprise Value
Maximum	$ 544	$ 464
75th Percentile	$ 531	$ 260
Mean	$ 377	$ 190
Median	$ 436	$ 114
25th Percentile	$ 190	$ 67
Minimum	$ 186	$ 45

For the selected immuno-oncology companies analysis, Piper Jaffray derived a range of implied enterprise values for PDS based on the implied enterprise value ranges for the selected companies and then adjusted for net

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cash, to calculate an implied PDS equity value. Piper Jaffray then derived an implied number of shares of Edge common stock to be issued in the merger, assuming an Edge intrinsic valuation of $24.9 million, which was equal to the closing cash balance and which implied an Edge share price of $0.78 per share based on diluted shares, using the treasury stock method. Piper Jaffray then calculated an implied pro forma equity value for the combined company by adjusting the implied enterprise value for PDS for pro forma net cash at the closing of the merger of approximately $24.9 million for Edge and approximately ($2.9) million for PDS, excluding any bridge financing cash PDS raised between the announcement and the closing of the merger and any cash adjustments at the closing of the merger.

The analysis indicated the following implied ownership percentage range for Edge stockholders in the combined company, pro forma for the merger:

	Maximum	75th Percentile	Median	25th Percentile	Minimum
Implied Edge Shareholder Ownership	35 %	26 %	21 %	9 %	6 %

In addition, the analysis indicated the following implied pro forma valuation range of the aggregate equity interest in the combined company to be retained by Edge stockholders:

	Maximum	75th Percentile	Median	25th Percentile	Minimum
Implied Value to Edge Shareholders at 30% Ownership (in millions)	$ 146	$ 85	$ 41	$ 27	$ 20

Other Information

Piper Jaffray also noted for the Edge Board the following analysis that was not considered part of Piper Jaffray s financial analyses with respect to its opinion but was referenced for informational purposes:

Pro Forma Cash Sensitivity Analysis

Piper Jaffray reviewed, for illustrative purposes, the pro forma equity ownership for Edge stockholders in the combined company, under certain sensitivity cases tied to ranges of projected net cash amounts to be held at closing by each of Edge and PDS. Projected net cash for Edge was sensitized at a range of $24.6 million to $25.4 million at closing. Projected net cash for PDS was sensitized at a range of $0.1 million to ($2.9) million. Applying these sensitivity ranges to the Exchange Ratio mechanic set forth in the Merger Agreement resulted in a range of pro forma equity ownership for Edge stockholders in the combined company of 29.54% to 30.46%.

Miscellaneous

The summary set forth above does not contain a complete description of the analyses performed by Piper Jaffray and reviewed with the Edge Board, but summarizes the material analyses performed by Piper Jaffray in rendering its opinion. The preparation of a fairness opinion is not necessarily susceptible to partial analysis or summary description. Piper Jaffray believes that its analyses and the summary set forth above must be considered as a whole and that selecting portions of its analyses or of the summary, without considering the analyses as a whole or all of the factors included in its analyses, would create an incomplete view of the processes underlying the analyses set forth in the Piper Jaffray opinion. In arriving at its opinion, Piper Jaffray considered the results of all of its analyses and did not attribute any particular weight to any factor or analysis. Instead, Piper Jaffray made its determination as to fairness on the basis of its experience and financial judgment after considering the results of all of its analyses. In addition, the ranges of valuations resulting from any particular analysis described above should not be taken to be Piper Jaffray s view of the actual value of Edge common stock.

None of the selected companies or transactions used in the analyses above for purposes of comparison is identical to PDS. Accordingly, an analysis of the results of the comparisons is not mathematical; rather, it involves considerations and judgments about differences in the companies and transactions to which PDS was compared and other factors that could affect the public trading value or transaction value of the companies involved.

Piper Jaffray performed its analyses for purposes of providing its opinion to the Edge Board. In performing its analyses, Piper Jaffray made numerous assumptions with respect to industry performance, general business

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and economic conditions and other matters. Certain of the analyses performed by Piper Jaffray are based upon financial projections of future cash usages furnished to Piper Jaffray by Edge management, which are not necessarily indicative of actual future results and may be significantly more or less favorable than actual future results. These financial projections are inherently subject to uncertainty because, among other things, they are based upon numerous factors or events beyond the control of the parties or their respective advisors. Piper Jaffray does not assume responsibility if future results are materially different from projected financial results.

Piper Jaffray s opinion was one of many factors taken into consideration by the Edge Board in making the determination to approve the Merger Agreement. While Piper Jaffray provided advice to the Edge Board during Edge s negotiations with PDS, Piper Jaffray did not recommend any specific Exchange Ratio.

Piper Jaffray relied upon and assumed, without assuming liability or responsibility for independent verification, the accuracy and completeness of all information that was publicly available or was furnished, or otherwise made available, to Piper Jaffray or discussed with or reviewed by Piper Jaffray. Piper Jaffray further relied upon the assurances of Edge management that the financial information provided to Piper Jaffray by Edge management was prepared on a reasonable basis in accordance with industry practice, and that Edge management was not aware of any information or facts that would make any information provided to Piper Jaffray incomplete or misleading. Without limiting the generality of the foregoing, for the purpose of its opinion, Piper Jaffray assumed that with respect to financial forecasts reviewed by Piper Jaffray, that such forecasts were reasonably prepared based on assumptions reflecting the best currently available estimates and judgments of Edge management and PDS management as to the expected future cash usages of each of Edge and PDS. Piper Jaffray expressed no opinion as to any such financial forecasts, estimates or forward-looking information or the assumptions on which they were based. In particular, Piper Jaffray s opinion and the underlying analyses relating thereto were based upon the estimated respective amounts of Parent Net Cash and Company Net Cash (in each case, as defined in the Merger Agreement) as of the consummation of the merger, as provided to Piper Jaffray by the respective managements of Edge and PDS. Piper Jaffray relied, with consent of the Edge Board, on advice of the outside counsel and the independent accountants to Edge, and on the assumptions of Edge management, as to all accounting, legal, tax and financial reporting matters with respect to each of Edge, PDS and the Merger Agreement.

In arriving at its opinion, Piper Jaffray assumed that the executed Merger Agreement would be in all material respects identical to the last draft reviewed by Piper Jaffray. Piper Jaffray relied upon and assumed, without independent verification, that (i) the representations and warranties of all parties to the Merger Agreement and all other related documents and instruments that are referred to therein are true and correct, consistent with any standards set forth therein, (ii) each party to such agreements will fully and timely perform all of the covenants and agreements required to be performed by such party, (iii) the merger will be consummated pursuant to the terms of the Merger Agreement without amendments thereto, and (iv) all conditions to the consummation of the merger will be satisfied without waiver by any party of any conditions or obligations thereunder. Additionally, Piper Jaffray assumed that all the necessary regulatory approvals and consents required for the merger will be obtained in a manner that will not adversely affect Edge, PDS or the contemplated benefits of the merger.

In arriving at its opinion, Piper Jaffray did not perform any appraisals or valuations of any specific assets or liabilities (fixed, contingent or other) of Edge or PDS, and Piper Jaffray was not furnished or provided with any such appraisals or valuations, nor did Piper Jaffray evaluate the solvency of Edge or PDS under any state or federal law relating to bankruptcy, insolvency or similar matters. The analyses performed by Piper Jaffray in connection with its opinion were going concern analyses. Piper Jaffray expressed no opinion regarding the liquidation value of any of Edge, PDS or any other entity. Without limiting the generality of the foregoing, Piper Jaffray undertook no independent analysis of any pending or threatened litigation, regulatory action, possible unasserted claims or other contingent liabilities, to which any of Edge, PDS or any of its affiliates is a party or may be subject, and at Edge s direction and with its consent, Piper Jaffray s opinion made no assumption concerning, and therefore did not consider, the possible assertion

of claims, outcomes or damages arising out of any such matters. Piper Jaffray also assumed that neither Edge or PDS is party to (or contemplates becoming party to) any material pending transaction, including without limitation, any financing, recapitalization, acquisition or merger, divestiture or spin-off, other than (i) the merger; (ii) the reverse stock split of Edge common stock contemplated by the Merger Agreement; and (iii) a possible permitted financing contemplated by the Agreement.

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Piper Jaffray s opinion was necessarily based upon the information available to it and facts and circumstances as they existed and were subject to evaluation on the date of its opinion. Events occurring after the date of its opinion could materially affect the assumptions used in preparing its opinion. Piper Jaffray did not express any opinion as to the price at which shares of Edge common stock may trade following announcement of the merger or at any future time. Piper Jaffray did not undertake to reaffirm or revise its opinion or otherwise comment upon any events occurring after the date of its opinion and does not have any obligation to update, revise or reaffirm its opinion.

Piper Jaffray s opinion addressed solely the fairness, from a financial point of view, to Edge of the proposed Exchange Ratio and did not address any other terms or agreement relating to the merger or any other terms of the Merger Agreement. Piper Jaffray was not requested to opine as to, and its opinion does not address, (i) the basic business decision to proceed with or effect the merger, (ii) the merits of the merger relative to any alternative transaction or business strategy that may be available to Edge, (iii) any other terms contemplated by the Merger Agreement, or (iv) the solvency or financial viability of Edge or PDS at the date of Piper Jaffray s opinion, upon consummation of the merger, or at any future time. Furthermore, Piper Jaffray expressed no opinion with respect to the amount or nature of compensation to be paid in the merger to any officer, director or employee of any party to the merger, or any class of such persons, relative to the Exchange Ratio or with respect to the fairness of any such compensation.

In selecting Piper Jaffray, the Transactions Committee gave weight to, among other things, Piper Jaffray s deep experience in the industry and relevant transactions, and the experience that members of the Edge Board had previously had with Piper Jaffray in other circumstances, none of which were deemed to give rise to any potential conflicts of interest except as more fully set forth below.

Piper Jaffray acted as a financial advisor to Edge in connection with the merger and will receive a fee of $2,250,000 from Edge, which is contingent upon the consummation of the merger, except for $500,000 of such fee which has been earned by Piper Jaffray for rendering its fairness opinion and is creditable against the total fee. The opinion fee was not contingent upon the consummation of the merger or the conclusions reached in Piper Jaffray s opinion. Edge has also agreed to indemnify Piper Jaffray against certain liabilities and reimburse Piper Jaffray for certain expenses in connection with its services. Piper Jaffray has, in the past, acted as one of several underwriters of equity offerings completed by portfolio companies of New Leaf Venture Partners, a significant stockholder of Edge and an entity in which a member of the Edge Board is a partner, for which Piper Jaffray received fees. In addition, in the ordinary course of its business, Piper Jaffray and its affiliates may actively trade securities of Edge for their own account or the account of their customers and, accordingly, may at any time hold a long or short position in such securities. Piper Jaffray may also, in the future, provide investment banking and financial advisory services to Edge, PDS or entities that are affiliated with Edge or PDS, for which Piper Jaffray would expect to receive compensation.

Interests of the Edge Directors and Executive Officers in the Merger

In considering the recommendation of the Edge Board with respect to issuing shares of Edge common stock as contemplated by the Merger Agreement and the other matters to be acted upon by the Edge stockholders at the Edge special meeting, the Edge stockholders should be aware that certain members of the board of directors and executive officers of Edge have interests in the merger that may be different from, or in addition to, the interests of the Edge stockholders. These interests relate to or arise from the matters described below. The board of directors of each of Edge and PDS was aware of these potential conflicts of interest and considered them, among other matters, in reaching their respective decisions to approve the Merger Agreement and the transactions contemplated thereby, and to recommend, as applicable, that the Edge stockholders approve the Edge proposals to be presented to the Edge stockholders for consideration at the Edge special meeting as contemplated by this proxy statement/prospectus/information statement, and that the PDS stockholders sign and return the written consent as contemplated by this proxy statement/prospectus/information statement.

Severance Payments

Brian Leuthner, Edge s Chief Executive Officer, is party to an employment agreement with Edge that provides that in the event Mr. Leuthner s employment is terminated by Mr. Leuthner for good reason (as defined in his employment agreement) or by Edge for any reason other than cause, death or disability, in either case, within sixty days prior to or one year after the consummation of a change in control, Edge will pay

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Mr. Leuthner, subject to his execution, delivery, and nonrevocation of a release, the following payments and benefits: (i) continued payment of his base salary for the eighteen month period following termination of employment, (ii) reimbursement for his (and his eligible dependents) health care continuation premiums for the eighteen month period following termination and (iii) 1.5 times the amount of his annual bonus opportunity. Although it is expected that Mr. Leuthner will continue with Edge as its President following the merger, if Mr. Leuthner s employment was terminated by Edge without cause upon the closing of the merger, Mr. Leuthner would be entitled to receive approximately $[•] in cash severance benefits.

Herbert J. Faleck, D.O., Edge s Chief Medical Officer, is expected to cease to be Chief Medical Officer and an employee of Edge on December 31, 2018. Under the terms of Dr. Faleck s existing employment agreement with Edge, in the event Dr. Faleck s employment is terminated by Dr. Faleck for good reason (as defined in Dr. Faleck s employment agreement) or by Edge for any reason other than cause, death or disability, in either case, within sixty days prior to or one year after the consummation of a change in control, Edge will pay Dr. Faleck, subject to Dr. Faleck s execution, delivery, and nonrevocation of a release, the following payments and benefits: (i) continued payment of his base salary for the twelve month period following termination of employment and (ii) reimbursement for his (and his eligible dependents) health care continuation premiums for the twelve month period following termination. Assuming that Dr. Faleck s employment with Edge is terminated without cause on December 31, 2018, Dr. Faleck is expected to receive an aggregate of approximately $[•] in cash severance benefits.

Brad Middlekauff, Edge s Senior Vice President, General Counsel and Secretary, is party to an employment agreement with Edge that provides that in the event Mr. Middlekauff s employment is terminated by Mr. Middlekauff for good reason (as defined in his employment agreement) or by Edge for any reason other than cause, death or disability, in either case, within sixty days prior to, or one year after, the consummation of a change in control Edge will pay Mr. Middlekauff, subject to his execution, delivery, and nonrevocation of a release, the following payments and benefits: (i) continued payment of his base salary for the twelve month period following termination of employment and (ii) reimbursement for his (and his eligible dependents) health care continuation premiums for the twelve month period following termination. If Mr. Middlekauff s employment is terminated by Edge without cause upon the closing of the merger, Mr. Middlekauff would be entitled to receive approximately $[•] in cash severance benefits.

Edge and Alyssa Wyant, Edge s former Senior Vice President, Regulatory Affairs, are parties to a separation agreement pursuant to which (i) Ms. Wyant will receive a cash payment in the amount of $125,400 on the first payroll date after February 1, 2019 and (ii) all of Ms. Wyant s stock options and Edge RSUs, in each case, granted on August 21, 2018 (99,534 stock options and 49,766 Edge RSUs) became fully vested upon the effectiveness of the release of claims in her separation agreement. All such stock options will remain exercisable for a period of three years following her termination date (which was December 14, 2018).

The merger will constitute a change in control for each of the Edge employment agreements described above.

Andrew Saik, Edge s Chief Financial Officer, is party to an employment agreement with Edge that provides that in the event Mr. Saik s employment is terminated by Mr. Saik for good reason (as defined in his employment agreement) or by Edge for any reason other than cause, death or disability, Edge will pay Mr. Saik, subject to his execution, delivery, and nonrevocation of a release, the following payments and benefits: (i) continued payment of his base salary for the twelve month period following termination of employment and (ii) reimbursement for his (and his eligible dependents) health care continuation premiums for the twelve month period following termination. Although it is expected that Mr. Saik will continue with Edge following the merger, if Mr. Saik s employment is terminated by Edge without cause upon the closing of the merger, Mr. Saik would be entitled to receive approximately $[•] in cash severance benefits.

Equity Awards and Edge Common Stock

All outstanding stock options and restricted stock units held by Edge executive officers and directors will be accelerated and fully vest upon the closing of the merger. All such restricted stock units will be settled in shares of Edge common stock within [__] days following the closing of the merger.

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As of December 31, 2018, the directors and officers of Edge held the following options, restricted stock units and shares of Edge common stock (inclusive of shares of Edge common stock held through Edge s 401(k) plan):

Name	Number of Vested Options	Value of Vested Options[1]	Number of Unvested Options	Value of Unvested Options[1]	Number of Restricted Stock Units	Value of Restricted Stock Units[2]	Number of Shares of Edge Common Stock	Value of Edge Common Stock[2]
Brian A. Leuthner								
Andrew Saik								
W. Bradford Middlekauff								
Sol Barer, Ph.D.								
Isaac Blech								
Rosemary A. Crane								
James J. Loughlin								
R. Loch Macdonald, M.D., Ph.D.								
Liam Ratcliffe, M.D., Ph.D.								
Robert Spiegel, M.D., FACP								

(1) This represents, with respect to each option, the difference between the closing price of one share of Edge common stock on [__] and the per share exercise price of such option.

(2) This represents the number of restricted stock units, multiplied by the closing price of one share of Edge common stock on [__].

Continued Service

Additionally, certain of Edge s existing directors are expected to remain directors of the combined company. Brian A. Leuthner, Robert Spiegel, M.D. and James Loughlin are expected to continue as directors of the combined company. [The parties expect that Dr. Sol Barer will enter into a consulting arrangement in connection with serving as an advisor to the board of directors of the combined company.]

Stock Ownership and Support Agreements

As of December 31, 2018, Edge directors and executive officers held [•] shares of Edge common stock in the aggregate. Edge directors and executive officers have entered into support agreements in connection with the merger. For a more detailed discussion of the support agreements see the section titled Agreements Related to the Merger—Support Agreements and Written Consent.

Indemnification and Insurance

As described in this proxy statement/prospectus/information statement, including in The Merger—Limitations of Liability and Indemnification, certain of Edge s directors and officers will be entitled to certain ongoing rights of indemnification and coverage under directors and officers liability insurance policies.

The Edge Board was aware of these interests and considered them, among other matters, in its decision to approve the Merger Agreement. For more information, please see the section titled The Merger—Interests of the Edge Directors and Executive Officers in the Merger.

Interests of the PDS Directors and Executive Officers in the Merger

PDS stockholders should be aware that certain members of the board of directors and executive officers of PDS have interests in the merger that may be different from, or in addition to, interests they may have as PDS stockholders. The PDS Board was aware of these potential conflicts of interest and considered them, among other matters, in reaching their respective decisions to approve the Merger Agreement, the merger and related transactions, and to recommend that the PDS stockholders sign and return the written consent as contemplated by this proxy statement/prospectus/information statement.

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Indemnification and Insurance

Under the Merger Agreement, from and after the closing of the merger, Edge must fulfill and honor in all respects the obligations of PDS and Edge existing prior to the date of the Merger Agreement to indemnify PDS s and Edge s present and former directors and officers and their heirs, executors and assigns.

In accordance with the Merger Agreement, the certificate of incorporation and bylaws of PDS, as the surviving corporation in the merger, shall contain provisions at least as favorable with respect to indemnification.

Combined Company Management

Upon the closing of the merger, the executive management team of the combined company is expected to be composed of the following members of the PDS executive management team:

Name	Title
Frank Bedu-Addo, PhD	Chief Executive Officer and Director
Gregory Conn, PhD	Chief Scientific Officer
Lauren Wood, MD	Chief Medical Officer

Stock Ownership and Support Agreements

As of December 31, 2018, PDS directors and executive officers held [•] shares of PDS common stock in the aggregate. In addition, in October 2018, the PDS Board agreed to grant each of Dr. Conn and Mr. King 137,559 stock options, and Dr. Bedu-Addo 550,235 stock options, immediately prior to the consummation of the merger. PDS directors and executive officers and certain stockholders of PDS have entered into support agreements in connection with the merger. For a more detailed discussion of the support agreements see the section titled Agreements Related to the Merger—Support Agreements and Written Consent.

Transition Services Agreement

Edge and PDS expect that they may enter into a transition services agreement, pursuant to which Edge may provide PDS with certain clinical and manufacturing consulting services prior to the expected closing of the merger. Edge and PDS expect that any such transition services agreement, if entered into, would contain customary terms as to the scope of services, the period of the services, termination of the transition services agreement, fees, cooperation, intellectual property, confidentiality and other customary arm s-length terms. Entry into such agreement is subject to mutual agreement of the parties on each of the foregoing terms.

Indemnification and Insurance

As described in this proxy statement/prospectus/information statement, including in The Merger—Limitations of Liability and Indemnification, certain of PDS s directors and officers will be entitled to certain ongoing rights of indemnification and coverage under directors and officers liability insurance policies.

Limitations of Liability and Indemnification

In addition to the indemnification required by Edge s certificate of incorporation and bylaws, Edge has entered into indemnification agreements with each of its directors and officers. These agreements provide for the indemnification of such persons for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were officers, directors or agents of Edge, or by reason of

anything done or not done in their capacities as such. Edge believes that the indemnification provisions in its certificate of incorporation and bylaws and its indemnification agreements are necessary to attract and retain qualified persons as directors and officers of Edge.

Additionally, under the Merger Agreement, from the Effective Time through the sixth anniversary thereof, Edge and PDS, as the surviving corporation in the merger, shall indemnify and hold harmless each person who is now, has been at any time prior to November 23, 2018, or who becomes prior to the Effective Time, a director, officer, fiduciary or agent of Edge or PDS, respectively, against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys fees and disbursements, incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that such person is or was a director, officer, fiduciary or agent of Edge or

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PDS, whether asserted or claimed prior to, at or after the Effective Time, to the fullest extent permitted under applicable law. In addition, each such person is entitled to advancement of expenses incurred in the defense of any such claim, action, suit, proceeding or investigation from each of Edge and PDS, as the surviving corporation in the merger, jointly and severally, upon receipt by either entity of a request therefor.

Under the Merger Agreement, the provisions of Edge s certificate of incorporation and bylaws with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of Edge shall not be amended, modified or repealed for a period of six years from the Effective Time in a manner that would adversely affect the rights thereunder of individuals who, at or prior to the Effective Time, were officers or directors of Edge. The certificate of incorporation and bylaws of PDS, as the surviving corporation in the merger, shall contain provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of former and present directors and officers that are presently set forth in Edge s certificate of incorporation and bylaws.

The Merger Agreement also provides that Edge shall maintain directors and officers liability insurance policies commencing on the closing time of the merger, on commercially available terms and conditions with coverage limits customary for U.S. public companies similarly situated to Edge. In addition, each of Edge and PDS shall purchase, prior to the Effective Time, a six-year prepaid tail policy for the non-cancellable extension of the directors and officers liability coverage of Edge s and PDS s respective existing directors and officers insurance policies for a claims reporting or discovery period of at least six years from and after the Effective Time with respect to any claim related to any period of time at or prior to the Effective Time.

Form of the Merger

The Merger Agreement provides that at the Effective Time, Merger Sub will be merged with and into PDS. Upon the closing of the merger, PDS will continue as the surviving corporation and will be a wholly-owned subsidiary of the combined company.

After the closing of the merger, Edge will be renamed PDS Biotechnology Corporation and, subject to satisfying the Nasdaq s initial trading standards, expects to trade on the Nasdaq Capital Market under the symbol PDSB.

Merger Consideration

Immediately after the merger, based on the Exchange Ratio, PDS securityholders will own approximately 70% of the outstanding capital stock of the combined company, and Edge securityholders will own approximately 30% of the outstanding capital stock of the combined company. Adjustments to the Exchange Ratio are described in more detail in the Merger Agreement and in this proxy statement/prospectus/information statement. The Merger Agreement does not include a price-based termination right.

No fractional shares of Edge common stock will be issuable pursuant to the Merger Agreement to PDS stockholders. Instead, each PDS stockholder who would otherwise be entitled to receive a fraction of a share of Edge common stock, after aggregating all fractional shares of Edge common stock issuable to such stockholder, will be entitled to receive in cash the dollar amount, rounded to the nearest whole cent, without interest, determined by multiplying such fraction by the volume weighted average trading price of a share of Edge common stock as quoted on Nasdaq for the five trading days ending the trading day immediately prior to the date upon which the merger becomes effective.

The Merger Agreement provides that, at the Effective Time, Edge will deposit with an exchange agent acceptable to Edge and PDS evidence of book-entry shares representing the shares of Edge common stock issuable to PDS stockholders and a sufficient amount of cash to make payments in lieu of fractional shares.

The Merger Agreement provides that, promptly after the Effective Time, the exchange agent will mail to each record holder of PDS common stock immediately prior to the Effective Time a letter of transmittal and instructions for surrendering and exchanging the record holder s PDS stock certificates for shares of Edge common stock. Upon surrender of a PDS stock certificate for exchange to the exchange agent, together with a duly signed letter of transmittal and such other documents as the exchange agent or Edge may reasonably require, the PDS stock certificate surrendered will be cancelled and the holder of the PDS stock certificate will be entitled to receive the following:

- the book-entry shares representing the number of whole shares of Edge common stock that such holder has the right to receive pursuant to the provisions of the Merger Agreement; and

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- cash in lieu of any fractional share of Edge common stock.

From and after the Effective Time, until surrendered, all holders of certificates representing shares of PDS common stock that were outstanding immediately prior to the Effective Time will be deemed to represent only the right to receive book-entry shares of Edge common stock, and cash in lieu of fractional shares of Edge common stock.

If any PDS stock certificate has been lost, stolen or destroyed, Edge may, in its discretion and as a condition to the delivery of any shares of Edge common stock, require the owner of such lost, stolen or destroyed certificate to deliver an affidavit claiming such certificate has been lost, stolen or destroyed.

Edge will not pay dividends or other distributions on any shares of Edge common stock to be issued in exchange for any unsurrendered PDS stock certificate until the PDS stock certificate is surrendered as provided in the Merger Agreement.

Effective Time of the Merger

The Merger Agreement requires the parties to consummate the merger as promptly as practicable (and in any event within two business days) after all of the conditions to the closing of the merger contained in the Merger Agreement are satisfied or waived, including the adoption of the Merger Agreement by the PDS stockholders and the approval by the Edge stockholders of the Stock Issuance Proposal. The merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware or at such later time as is agreed by Edge and PDS and specified in the certificate of merger. Neither Edge nor PDS can predict the exact timing of the closing of the merger.

Regulatory Approvals

In the United States, Edge must comply with applicable federal and state securities laws and the rules and regulations of the Nasdaq Global Select Market in connection with the issuance of shares of Edge common stock and the filing of this proxy statement/prospectus/information statement with the SEC.

Tax Treatment of the Merger

Edge and PDS intend the merger to qualify as a reorganization within the meaning of Section 368(a) of the Code. The parties shall treat and shall not take any tax reporting position inconsistent with the treatment of the merger as a reorganization within the meaning of Section 368(a) of the Code for U.S. federal, state and other relevant tax purposes, unless otherwise required pursuant to a determination within the meaning of Section 1313(a) of the Code. For a description of certain of the considerations regarding U.S. federal tax consequences of the merger, see the section titled The Merger – Certain Material U.S. Federal Income Tax Consequences of the Merger below.

Certain Material U.S. Federal Income Tax Consequences of the Merger

The following is a discussion of certain material U.S. federal income tax consequences of the Merger applicable to U.S. Holders (as defined below) who exchange their PDS common stock for Edge common stock in the merger, but does not purport to be a complete analysis of all potential tax effects.

This discussion and the discussion of tax consequences elsewhere in this proxy statement/prospectus/information statement are limited to U.S. Holders who hold their PDS common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment). This summary does not address all aspects of U.S. federal income taxation that may be relevant to U.S. Holders in light of their particular circumstances or to U.S. Holders who may be subject to special tax treatment under the Code, including, without limitation, dealers in

securities, commodities or foreign currency; banks, thrifts, insurance companies, and other financial institutions; traders that mark-to-market their securities; tax-exempt organizations or governmental organizations; small business investment companies; regulated investment companies; real estate investment trusts; tax-deferred or other retirement accounts; persons whose functional currency is not the U.S. dollar; persons who hold PDS common stock as part of a straddle, hedge, conversion transaction or other risk reduction transaction; persons who hold or receive PDS common stock pursuant to the exercise of compensatory stock options, the vesting of previously restricted shares of stock or

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otherwise as compensation; persons holding PDS common stock who exercise dissenters rights; any entity or arrangement that is a partnership for U.S. federal income tax purposes; companies subject to the stapled stock rules; expatriated entities ; certain former citizens or long-term residents of the United States.

This discussion is based on the Code, U.S. Treasury regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the Internal Revenue Service, or the IRS, in effect as of the date of the merger, all of which are subject to change, possibly with retroactive effect, or differing interpretations. Neither PDS nor Edge have sought any ruling from the IRS with respect to the statements made and the conclusions reached in this discussion, and there can be no assurance that the IRS will agree with these statements and conclusions. The effects of other U.S. federal tax laws, such as estate and gift tax laws, the alternative minimum tax and the 3.8% tax on net investment income, and any applicable state, local, or foreign tax laws or the tax consequences occurring prior to, concurrently with or after the merger (whether or not such transactions are in connection with the merger) are not discussed.

Each U.S. Holder is urged to consult its own tax advisor with regard to the merger and the application of U.S. federal income tax laws, as well as the laws of any state, local or foreign taxing jurisdictions, to its particular situation.

For purposes of this discussion, a U.S. Holder is a beneficial owner of PDS common stock that, for U.S. federal income tax purposes, is or is treated as:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust if either a court within the United States is able to exercise primary supervision over the administration of such trust and one or more United States persons (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all substantial decisions of such trust, or the trust has a valid election in effect under applicable Treasury Regulations to be treated as a United States person for U.S. federal income tax purposes.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds PDS common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding PDS common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

U.S. HOLDERS SHOULD CONSULT THEIR OWN TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE MERGER ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Subject to the qualifications and assumptions described in this proxy statement/prospectus/information statement, the merger is intended to be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code. Accordingly, it is expected that the U.S. federal income tax consequences to U.S. Holders of PDS common stock will be as follows:

- a U.S. Holder will not recognize gain or loss upon the exchange of PDS common stock for Edge common stock pursuant to the merger, except to the extent of cash received in lieu of a fractional share of Edge common stock as described below;

- a U.S. Holder who receives cash in lieu of a fractional share of Edge capital stock in the merger will generally recognize capital gain or loss in an amount equal to the difference between the amount of cash received instead of a fractional share and the U.S. Holder's tax basis allocable to such fractional share;

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- a U.S. Holder's aggregate tax basis for the shares of Edge common stock received in the merger (including any fractional share interest for which cash is received) will equal the U.S. Holder's aggregate tax basis in the shares of PDS common stock surrendered upon the closing of the merger, decreased by the amount of any tax basis allocable to a fractional share for which cash is received; and
- the holding period of the shares of Edge common stock received by a U.S. Holder in the merger will include the holding period of the U.S. Holder's shares of PDS common stock surrendered in exchange therefor.

Capital gains or losses recognized in the merger as described above, if any, generally will constitute long-term capital gain or loss if the U.S. Holder s holding period in the PDS common stock surrendered in the merger is more than one year as of the effective date of the merger. The deductibility of capital losses is subject to limitations. In addition, for purposes of the above discussion of the bases and holding periods for shares of PDS common stock and Edge common stock, U.S. Holders who acquired different blocks of PDS common stock at different times for different prices must calculate their gains and losses and holding periods separately for each identifiable block of such stock exchanged in the merger.

U.S. Holders who owned at least one percent (by vote or value) of the total outstanding stock of PDS and U.S. Holders with a basis in their PDS common stock of $1,000,000 or more are required to attach a statement to their tax returns for the year in which the merger is consummated that contains the information listed in Treasury Regulation Section 1.368-3(b). Such statement must include the U.S. Holder s tax basis in the U.S. Holder s PDS common stock and the fair market value of such stock.

Tax Consequences if the Merger Failed to Qualify as a Reorganization

If the merger fails to qualify as a reorganization within the meaning of Section 368(a) of the Code, then a U.S. Holder would recognize gain or loss upon the exchange of PDS common stock for Edge common stock equal to the difference between the fair market value, at the time of the merger, of the Edge common stock received in the merger (including any cash received in lieu of a fractional share) and such U.S. Holder s tax basis in the PDS common stock surrendered in the merger. Such gain or loss would be long-term capital gain or loss if the PDS common stock was held for more than one year at the time of the merger. In such event, the tax basis of Edge common stock received in the merger would equal its fair market value at the time of the merger and the holding period of such Edge common stock would commence the day after the merger.

Information Reporting and Backup Withholding

A U.S. Holder of shares of PDS common stock may be subject to information reporting and backup withholding on cash paid in lieu of fractional shares, unless the U.S. Holder is an exempt recipient. Backup withholding may apply to such payments if the U.S. Holder fails to furnish a correct taxpayer identification number, a certification of exempt status or has been notified by the IRS that it is subject to backup withholding (and such notification has not been withdrawn). Each U.S. Holder of shares of PDS common stock should properly complete and sign, and deliver, an IRS Form W-9 in order to provide the information and certification necessary to avoid backup withholding, or otherwise establish an applicable exemption in a manner acceptable to the paying agent. U.S. Holders of shares of PDS common stock should consult their own tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption. Backup withholding is not an additional tax. Any amounts withheld will be allowed as a credit against the holder s U.S. federal income tax liability and may entitle such holder to a refund, provided the required information is timely furnished to the IRS. U.S. Holders should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Nasdaq Stock Market Listing

Edge common stock currently is listed on the Nasdaq Global Select Market under the symbol EDGE. Edge has agreed to use commercially reasonable efforts to obtain approval, to the extent required by the rules and regulations of The Nasdaq Stock Market LLC, for listing on The Nasdaq Stock Market LLC of the shares of Edge common stock that PDS stockholders will be entitled to receive pursuant to the merger.

Edge and PDS intend to file an initial listing application for the combined company with The Nasdaq Stock Market LLC pursuant to its reverse merger rules. If such application is accepted, Edge anticipates that the combined company s common stock will be listed on the Nasdaq Capital Market or another Nasdaq market following the closing of the merger under the trading symbol PDSB.

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Anticipated Accounting Treatment

The merger will be treated by Edge as a reverse merger under the acquisition method of accounting in accordance with accounting principles generally accepted in the United States. For accounting purposes, PDS is considered to be acquiring Edge in this transaction. Management of Edge and PDS have made a preliminary estimate of the purchase price calculated as described in Note 2 to the unaudited pro forma condensed combined financial statements and of the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed as of September 30, 2018. The net tangible and intangible assets acquired and liabilities assumed in connection with the transaction will be recorded at their estimated acquisition date fair values. The acquisition method of accounting is dependent upon certain valuations and other studies that have yet to commence or progress to a stage where there is sufficient information for a definitive measurement. A final determination of these estimated fair values, which cannot be made prior to the completion of the transaction, will be based on the actual net tangible and intangible assets of Edge that exist as of the date of completion of the transaction. Any excess of the fair value of the identifiable net assets acquired over the fair value of the consideration transferred will be recognized as a bargain purchase gain. Adjustments to these preliminary estimates are expected to occur and these adjustments could have a material impact on the accompanying unaudited pro forma condensed combined financial information.

Appraisal Rights and Dissenters Rights

If the merger is completed, PDS stockholders who do not deliver a written consent approving the merger are entitled to appraisal rights under Section 262 of the DGCL, or Section 262, provided that they comply with the conditions established by Section 262. Holders of Edge common stock are not entitled to appraisal rights under Delaware law in connection with the merger.

The discussion below is not a complete summary regarding a PDS stockholder s appraisal rights under Delaware law and is qualified in its entirety by reference to the text of the relevant provisions of Delaware law, which are attached to this proxy statement/prospectus/information statement as *Annex E*. Stockholders intending to exercise appraisal rights should carefully review *Annex E*. Failure to follow precisely any of the statutory procedures set forth in *Annex E* may result in a termination or waiver of these rights. This summary does not constitute legal or other advice, nor does it constitute a recommendation that PDS stockholders exercise their appraisal rights under Delaware law.

Under Section 262, where a merger is adopted by stockholders by written consent in lieu of a meeting of stockholders pursuant to Section 228 of the DGCL, either the constituent corporation before the effective date of the merger or the surviving corporation, within 10 days after the effective date of the merger, must notify each stockholder of the constituent corporation entitled to appraisal rights of the approval of the merger, the effective date of the merger and that appraisal rights are available.

If the merger is completed, within 10 days after the effective date of the merger PDS will notify its stockholders that the merger has been approved, the effective date of the merger and that appraisal rights are available to any stockholder who has not approved the merger. Holders of shares of PDS common stock who desire to exercise their appraisal rights must deliver a written demand for appraisal to PDS within 20 days after the date of mailing of that notice, and that stockholder must not have delivered a written consent approving the merger. A demand for appraisal must reasonably inform PDS of the identity of the stockholder and that such stockholder intends thereby to demand appraisal of the shares of PDS common stock held by such stockholder. Failure to deliver a written consent approving the merger will not in and of itself constitute a written demand for appraisal satisfying the requirements of Section 262. All demands for appraisal should be addressed to PDS Biotechnology Corporation, 303B College Road East, Princeton, NJ 08540, Attention: Secretary, and should be executed by, or on behalf of, the record holder of shares of PDS common stock. ALL DEMANDS MUST BE RECEIVED BY PDS WITHIN 20 DAYS AFTER THE DATE PDS MAILS A NOTICE TO ITS STOCKHOLDERS NOTIFYING THEM THAT THE MERGER HAS BEEN

APPROVED, THE EFFECTIVE DATE OF THE MERGER AND THAT APPRAISAL RIGHTS ARE AVAILABLE TO ANY STOCKHOLDER WHO HAS NOT APPROVED THE MERGER.

If you fail to deliver a written demand for appraisal within the time period specified above, you will be entitled to receive the merger consideration for your shares of PDS common stock as provided for in the Merger Agreement, but you will have no appraisal rights with respect to your shares of PDS common stock.

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To be effective, a demand for appraisal by a holder of shares of PDS common stock must be made by, or in the name of, the registered stockholder, fully and correctly, as the stockholder s name appears on the stockholder s stock certificate(s). Beneficial owners who do not also hold the shares of record may not directly make appraisal demands to PDS. The beneficial owner must, in these cases, have the registered owner, such as a broker, bank or other custodian, submit the required demand in respect of those shares. If shares are owned of record in a fiduciary capacity, such as by a trustee, guardian or custodian, execution of a demand for appraisal should be made by or for the fiduciary; and if the shares are owned of record by more than one person, as in a joint tenancy or tenancy in common, the demand should be executed by or for all joint owners. An authorized agent, including an authorized agent for two or more joint owners, may execute the demand for appraisal for a stockholder of record; however, the agent must identify the record owner or owners and expressly disclose the fact that, in executing the demand, he or she is acting as agent for the record owner. A record owner, such as a broker, who holds shares as a custodian for others, may exercise the record owner s right of appraisal with respect to the shares held for one or more beneficial owners, while not exercising this right for other beneficial owners. In that case, the written demand should state the number of shares as to which appraisal is sought. Where no number of shares is expressly mentioned, the demand will be presumed to cover all shares held in the name of the record owner. In addition, the stockholder must continuously hold the shares of record from the date of making the demand through the Effective Time.

If you hold your shares of PDS common stock in a brokerage account or in other custodian form and you wish to exercise appraisal rights, you should consult with your bank, broker or other custodian to determine the appropriate procedures for the making of a demand for appraisal by the custodian.

At any time within 60 days after the Effective Time, any stockholder who has demanded an appraisal, but has neither commenced an appraisal proceeding or joined an appraisal proceeding as a named party, has the right to withdraw such stockholder s demand and accept the terms of the merger by delivering a written withdrawal to PDS. If, following a demand for appraisal, you have withdrawn your demand for appraisal in accordance with Section 262, you will have the right to receive the merger consideration for your shares of PDS common stock.

Within 120 days after the effective date of the merger, any stockholder who has delivered a demand for appraisal in accordance with Section 262 will, upon written request to the surviving corporation, be entitled to receive a written statement setting forth the aggregate number of shares not voted in favor of the Merger Agreement and with respect to which demands for appraisal rights have been received and the aggregate number of holders of these shares. This written statement will be mailed to the requesting stockholder within 10 days after the stockholder s written request is received by the surviving corporation or within ten days after expiration of the period for delivery of demands for appraisal, whichever is later. Within 120 days after the effective date of the merger, either the surviving corporation or any stockholder who has delivered a demand for appraisal in accordance with Section 262 may file a petition in the Delaware Court of Chancery demanding a determination of the fair value of the shares held by all such stockholders. Upon the filing of the petition by a stockholder, service of a copy of the petition must be made upon the surviving corporation. The surviving corporation has no obligation to file a petition in the Delaware Court of Chancery in the event there are dissenting stockholders, and PDS, which is expected to be the surviving corporation, has no present intent to file a petition in the Delaware Court of Chancery. Accordingly, the failure of a stockholder to file a petition within the period specified could nullify the stockholder s previously written demand for appraisal.

If a petition for appraisal is duly filed by a stockholder and a copy of the petition is delivered to the surviving corporation, the surviving corporation will then be obligated, within 20 days after receiving service of a copy of the petition, to provide the Delaware Court of Chancery with a duly verified list containing the names and addresses of all stockholders who have demanded an appraisal of their shares and with whom agreements as to the value of their shares have not been reached by the surviving corporation. After notice to dissenting stockholders who demanded appraisal of their shares, the Delaware Court of Chancery is empowered to conduct a hearing upon the petition, and to determine those stockholders who have complied with Section 262 and who have become entitled to the appraisal

rights provided thereby. The Delaware Court of Chancery may require the stockholders who have demanded appraisal for their shares to submit their stock certificates to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with that direction, the Delaware Court of Chancery may dismiss the proceedings as to that stockholder.

After determination of the stockholders entitled to appraisal of their shares, the Delaware Court of Chancery will appraise the fair value of the shares owned by those stockholders. This value will be exclusive of any

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element of value arising from the accomplishment or expectation of the merger, but may include a fair rate of interest, if any, upon the amount determined to be the fair value. When the value is determined, the Delaware Court of Chancery will direct the payment of the value, with interest thereon accrued during the pendency of the proceeding, if the Delaware Court of Chancery so determines, to the stockholders entitled to receive the same, upon surrender by the holders of the certificates representing those shares.

In determining fair value, and, if applicable, a fair rate of interest, the Delaware Court of Chancery is required to take into account all relevant factors. In Weinberger v. UOP, Inc., the Delaware Supreme Court discussed the factors that could be considered in determining fair value in an appraisal proceeding, stating that proof of value by any techniques or methods which are generally considered acceptable in the financial community and otherwise admissible in court should be considered, and that fair price obviously requires consideration of all relevant factors involving the value of a company.

Section 262 provides that fair value is to be exclusive of any element of value arising from the accomplishment or expectation of the merger. In Cede & Co. v. Technicolor, Inc., the Delaware Supreme Court stated that this exclusion is a narrow exclusion [that] does not encompass known elements of value, but which rather applies only to the speculative elements of value arising from such accomplishment or expectation. In Weinberger, the Delaware Supreme Court construed Section 262 to mean that elements of future value, including the nature of the enterprise, which are known or susceptible of proof as of the date of the merger and not the product of speculation, may be considered.

You should be aware that the fair value of your shares as determined under Section 262 could be more than, the same as, or less than the value that you are entitled to receive under the terms of the Merger Agreement.

Costs of the appraisal proceeding may be imposed upon the surviving corporation and the stockholders participating in the appraisal proceeding by the Delaware Court of Chancery as the Court deems equitable in the circumstances. Upon the application of a stockholder, the Delaware Court of Chancery may order all or a portion of the expenses incurred by any stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorneys fees and the fees and expenses of experts, to be charged pro rata against the value of all shares entitled to appraisal. In the absence of such a determination of assessment, each party bears its own expenses. Any stockholder who had demanded appraisal rights will not, after the Effective Time, be entitled to vote shares subject to that demand for any purpose or to receive payments of dividends or any other distribution with respect to those shares, other than with respect to payment as of a record date prior to the Effective Time; however, if no petition for appraisal is filed within 120 days after the Effective Time, or if the stockholder delivers a written withdrawal of his or her demand for appraisal and an acceptance of the terms of the merger within 60 days after the Effective Time, then the right of that stockholder to appraisal will cease and that stockholder will be entitled to receive the merger consideration for shares of his or her PDS common stock pursuant to the Merger Agreement. Any withdrawal of a demand for appraisal made more than 60 days after the Effective Time may only be made with the written approval of the surviving corporation. No appraisal proceeding in the Delaware Court of Chancery will be dismissed as to any stockholder without the approval of the court.

Failure to follow the steps required by Section 262 for perfecting appraisal rights may result in the loss of appraisal rights. In view of the complexity of Section 262, stockholders who may wish to dissent from the merger and pursue appraisal rights should consult their legal advisors.

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THE MERGER AGREEMENT

The following is a summary of the material terms of the Merger Agreement. A copy of the Merger Agreement is attached as Annex A to this proxy statement/prospectus/information statement and is incorporated by reference into this proxy statement/prospectus/information statement. The Merger Agreement has been attached to this proxy statement/prospectus/information statement to provide you with information regarding its terms. It is not intended to provide any other factual information about Edge, PDS, or Merger Sub. The following description does not purport to be complete and is qualified in its entirety by reference to the Merger Agreement. You should refer to the full text of the Merger Agreement for details of the merger and the terms and conditions of the Merger Agreement.

The Merger Agreement contains representations and warranties that Edge and Merger Sub, on the one hand, and PDS, on the other hand, have made to one another as of specific dates. These representations and warranties have been made for the benefit of the other parties to the Merger Agreement and may be intended not as statements of fact but rather as a way of allocating the risk to one of the parties if those statements prove to be incorrect. In addition, the assertions embodied in the representations and warranties are qualified by information in confidential disclosure schedules exchanged by the parties in connection with signing the Merger Agreement. While Edge and PDS do not believe that these disclosure schedules contain information required to be publicly disclosed under the applicable securities laws, other than information that has already been so disclosed, the disclosure schedules do contain information that modifies, qualifies and creates exceptions to the representations and warranties set forth in the attached Merger Agreement. Accordingly, you should not rely on the representations and warranties as current characterizations of factual information about Edge or PDS, because they were made as of specific dates, may be intended merely as a risk allocation mechanism between Edge and PDS, and are modified by the disclosure schedules.

General

Under the Merger Agreement, Echos Merger Sub, Inc., a Delaware corporation, or Merger Sub, a wholly-owned subsidiary of Edge, will merge with and into PDS, with PDS surviving as a wholly-owned subsidiary of the combined company.

Merger Consideration

At the closing of the merger:

- each outstanding share of common stock of PDS will be converted into the right to receive approximately [•] shares of Edge common stock, subject to adjustment as provided below under Exchange Ratio and for any reverse stock split (such final exchange ratio referred to herein as the Exchange Ratio);
- each PDS stock option that is outstanding immediately prior to the Effective Time shall be fully vested and converted into and become an option to purchase that number shares of Edge common stock equal to the Exchange Ratio multiplied by the number of shares of PDS common stock issuable pursuant to such option, and the exercise price of such option shall be adjusted accordingly; and
- each warrant to purchase PDS common stock that is outstanding immediately prior to the Effective Time shall be converted into and become a warrant to purchase that number shares of Edge common stock equal to the Exchange Ratio multiplied by the number of shares of PDS common stock issuable pursuant to such warrant, and the exercise price of such warrant shall be adjusted accordingly.

Exchange Ratio

The Exchange Ratio will be determined using a formula intended to allocate to the existing PDS stockholders a percentage of the combined company based on the relative valuations of PDS and Edge.

The Exchange Ratio formula is the quotient obtained by dividing the PDS merger shares (as defined below) by the PDS outstanding shares (as defined below), where:

- PDS merger shares means (a) the product determined by multiplying (i) the post-closing Edge shares (as defined below) by (ii) the PDS allocation percentage (as defined below), minus (b) the number of shares of Edge common stock issuable upon the conversion of any convertible notes issued by PDS under a Permitted Bridge Financing (as defined below).

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- Post-closing Edge shares means the quotient determined by dividing (i) the Edge outstanding shares (as defined below) by (ii) the Edge allocation percentage (as defined below).
- Edge allocation percentage means the quotient determined by dividing (i) the Edge valuation by (ii) the aggregate valuation (as defined below).
- Edge outstanding shares means the total number of shares of Edge common stock outstanding immediately prior to the Effective Time expressed on a fully-diluted basis and assuming, without limitation or duplication, (i) the cashless exercise of all Edge options and warrants outstanding as of immediately prior to the Effective Time with an exercise price less than the Edge closing price (as defined below) and (ii) the settlement of each Edge RSU that is outstanding immediately prior to the Effective Time for an equivalent number of shares of Edge common stock. No out-of-the-money Edge options or warrants will be included as Edge outstanding shares.
- Edge closing price means the volume weighted average closing trading price of a share of Edge common stock on Nasdaq for the five consecutive trading days ending five trading days prior to the Effective Date.
- Edge valuation means $30 million, subject to any adjustments provided in the Merger Agreement with respect to the amount of cash held by Edge as compared to Edge's outstanding current liabilities, transaction expenses and indebtedness, in each case as of the anticipated closing date.
- PDS allocation percentage means the quotient determined by dividing (i) the Edge valuation by (ii) the aggregate valuation.
- PDS outstanding shares means the total number of shares of PDS common stock outstanding immediately prior to the Effective Time expressed on a fully-diluted and as-converted to PDS common stock basis and assuming, without limitation or duplication, (i) the cashless exercise of all PDS options and warrants outstanding as of immediately prior to the Effective Time with an exercise price less than the Edge closing price (on a converted to PDS common stock basis) and (ii) the conversion of any notes convertible into shares of PDS common stock. No out-of-the-money PDS options or warrants will be included as PDS outstanding shares.
- PDS valuation means $70 million, subject to any adjustments provided in the Merger Agreement with respect to the amount of cash held by PDS as compared to PDS's outstanding current liabilities, transaction expenses and indebtedness, in each case as of (i) the anticipated closing date or (ii) February 28, 2019, if the closing has not occurred by such date, PDS has received stockholder approval of the merger and certain other conditions to closing have been met (as provided in the Merger Agreement).
- Aggregate valuation means the sum of (a) the PDS valuation, plus (b) the Edge valuation.
- Permitted Bridge Financing means PDS's issuance of (a) shares of PDS common stock, in which event such shares shall be included in the calculation of PDS's outstanding shares, (b) PDS warrants, in which event such shares shall be included in the calculation of PDS's outstanding shares to the extent provided in the definition thereof, and/or (c) convertible promissory notes, which promissory notes shall convert into either shares of (i) PDS common stock immediately prior to the closing of the merger, in which event such shares shall be included in the calculation of PDS's outstanding shares, or (ii) Edge common stock immediately after the closing of the merger, in which event such shares shall be deducted from the calculation of PDS merger shares.

The Merger Agreement does not include a price-based termination right, so there will be no adjustment to the total number of shares of Edge common stock that PDS stockholders will be entitled to receive for changes in the market price of Edge common stock. Accordingly, the market value of the shares of Edge common stock issued pursuant to the merger will depend on the market value of the shares of Edge common stock at the time the merger closes, and could vary significantly from the market value on the date of this proxy statement/prospectus/information statement.

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No fractional shares of Edge common stock will be issued in connection with the merger. Instead, each PDS stockholder who would otherwise be entitled to receive a fraction of a share of Edge common stock, after aggregating all fractional shares of Edge common stock issuable to such stockholder, will be entitled to receive in cash the dollar amount, rounded to the nearest whole cent, without interest, determined by multiplying such fraction by the Edge closing price.

The Merger Agreement provides that, at the Effective Time, Edge will deposit with an exchange agent acceptable to Edge and PDS, stock certificates representing the shares of Edge common stock issuable to the PDS stockholders and a sufficient amount of cash to make payments in lieu of fractional shares.

The Merger Agreement provides that, promptly after the Effective Time, the exchange agent will mail to each record holder of PDS common stock immediately prior to the Effective Time a letter of transmittal and instructions for surrendering and exchanging the record holder s PDS stock certificates for shares of Edge common stock. Upon surrender of a PDS stock certificate for exchange to the exchange agent, together with a duly signed letter of transmittal and such other documents as the exchange agent or Edge may reasonably require, the PDS stock certificate surrendered will be cancelled and the holder of the PDS stock certificate will be entitled to receive the following:

- the book-entry shares representing the number of whole shares of Edge common stock that such holder has the right to receive pursuant to the provisions of the Merger Agreement; and
- cash in lieu of any fractional share of Edge common stock.

At the Effective Time, all holders of certificates representing shares of PDS common stock that were outstanding immediately prior to the Effective Time will cease to have any rights as stockholders of PDS. In addition, no transfer of PDS common stock after the Effective Time will be registered on the stock transfer books of PDS.

If any PDS stock certificate has been lost, stolen or destroyed, Edge may, in its discretion, and as a condition precedent to the delivery of any shares of Edge common stock, require the owner of such lost, stolen or destroyed certificate to deliver an affidavit claiming such certificate has been lost, stolen or destroyed and agree to indemnify Edge against any claim suffered by Edge related to the lost, stolen or destroyed certificate or any Edge common stock issued in exchange for such certificate as Edge may reasonably request.

From and after the Effective Time, until it is surrendered, each certificate that previously evidenced PDS common stock will be deemed to represent only the right to receive shares of Edge common stock and cash in lieu of any fractional share of Edge common stock. Edge will not pay dividends or other distributions on any shares of Edge common stock to be issued in exchange for any unsurrendered PDS stock certificate until the PDS stock certificate is surrendered or the holder delivers an affidavit of loss or destruction, in each case as provided in the Merger Agreement.

Treatment of Edge Stock Options and Edge RSUs

Immediately prior to the Effective Time, each outstanding and unexercised Edge stock option, whether vested or unvested, and each outstanding and unvested Edge RSU, shall be accelerated in full with each (i) unexercised Edge Stock option remaining immediately after the Effective Time in accordance with its terms and (ii) Edge RSUs to be settled within five days after the Effective Time (with settlement to be one share of Edge common stock for each share of Edge common stock underlying such Edge RSU).

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Directors and Executive Officers of the Combined Company Following the Merger

Pursuant to the Merger Agreement, the directors of PDS and Edge who will not serve as directors following the closing of the merger will resign at or prior to the closing of the merger. Effective as of the closing of the merger, the combined company s board of directors will be fixed at seven members, four of whom will be directors designated by PDS and three of whom will be directors designated by the Edge. It is anticipated that the Edge designees will be Brian A. Leuthner, James Loughlin and Robert Spiegel, M.D. and the PDS designees will be Frank Bedu-Addo, Sir Richard Sykes, DeLyle W. Bloomquist and Gregory Freitag, J.D., CPA. Upon the closing of the merger, the combined company s board of directors will appoint each of the following as officers of the combined company:

Name	Title
Frank Bedu-Addo	Chief Executive Officer
Brian A. Leuthner	President
Gregory Conn, PhD.	Chief Scientific Officer
Andrew Saik	Chief Financial Officer
Lauren Wood, M.D.	Chief Medical Officer

Conditions to the Closing of the Merger

Each party s obligation to complete the merger is subject to the satisfaction or waiver by each of the parties, at or prior to the closing of the merger, of various conditions, which include, in addition to other customary closing conditions, the following:

- the registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, shall have been declared effective by the SEC in accordance with the Securities Act and shall not be subject to any stop order or proceeding, or any proceeding threatened by the SEC, seeking a stop order;
- there shall not have been issued any temporary restraining order, preliminary or permanent injunction or other order preventing the closing of the merger by any court of competent jurisdiction or other governmental entity of competent jurisdiction, and no law, statute, resolution, ordinance, code, rule, regulation, requirement, ruling or decree shall be in effect which has the effect of making the closing of the merger illegal;
- the holders of a majority of the outstanding shares of PDS common stock shall have adopted and approved the Merger Agreement, the merger and the transactions contemplated by the Merger Agreement, and
- the holders of a majority of the outstanding shares of Edge common stock shall have adopted and approved the Merger Agreement, the merger and the transactions contemplated by the Merger Agreement, and the reverse stock split;

In addition, the obligation of Edge and Merger Sub to complete the merger is further subject to the satisfaction or waiver of the following conditions:

- certain fundamental representations and warranties of PDS shall have been true and correct in all material respects on the date of the Merger Agreement and shall be true and correct in all material respects on the closing date of the merger with the same force and effect as if made on and as of the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then such fundamental representations and warranties shall be so true and correct as of that particular date;
- certain representations and warranties regarding the capitalization of PDS in the Merger Agreement shall have been true and correct in all respects as of the date of the Merger Agreement and shall be true and correct on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed, except, in each case, (x) for such inaccuracies representing less than 0.50% of PDS

outstanding shares (as defined above) in the aggregate or (y) for those representations and warranties which address matters only as of a particular date (which representations and warranties shall have been true and correct, subject to the qualifications as set forth in the preceding clause (x), as of such particular date);

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- all other representations and warranties of PDS in the Merger Agreement shall have been true and correct as of the date of the Merger Agreement and shall be true and correct on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then such representations and warranties shall be true and correct as of that particular date, except where the failure of these representations and warranties to be true and correct, individually or in the aggregate, would not reasonably be expected to have a material adverse effect on PDS;
- PDS shall have performed or complied with in all material respects all of its covenants and agreements in the Merger Agreement required to be performed or complied with by it on or before the closing of the merger;
- PDS shall have delivered certain certificates and other documents required under the Merger Agreement for the closing of the merger;
- all stockholders agreements, voting agreement, registration rights agreement, co-sale agreement or any other similar contract between PDS and any holders of PDS's stock, including any contract granting any person investor rights, rights of first refusal, rights of first offer, registration rights, director designation rights or similar rights, shall have been terminated;
- Edge shall have received a copy of the lock-up agreement from certain identified stockholders of PDS and each executive officer and director of PDS who is elected or appointed as an executive officer and director of Edge as of immediately following the closing of the merger; and
- since the date of the Merger Agreement, there shall have been no effect, change, event, circumstance, or development that has had or would reasonably be expected to have had a material adverse effect on the business, condition (financial or otherwise), assets, liabilities, or results of operations of PDS. The Merger Agreement provides that certain effects, changes, events, circumstances, or developments arising or resulting from the following shall not be considered a material adverse effect on PDS:
  - general economic or business conditions affecting the industry in which PDS operates;
  - acts of war, armed hostilities or terrorism;
  - changes in financial, banking or securities markets;
  - the taking of any action required to be taken under the Merger Agreement;
  - any change in or any compliance with or action taken for the purpose of complying with nay law or U.S. GAAP; or
  - the announcement of the Merger Agreement or pendency of the merger.

In addition, the obligation of PDS to complete the merger is further subject to the satisfaction or waiver of the following conditions:

- certain fundamental representations and warranties of Edge shall have been true and correct in all material respects on the date of the Merger Agreement and shall be true and correct in all material respects on the closing date of the merger with the same force and effect as if made on and as of the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then such fundamental representations and warranties shall be so true and correct as of that particular date;
- certain representations and warranties regarding the capitalization of Edge in the Merger Agreement shall have been true and correct in all respects as of the date of the Merger Agreement and shall be true and correct on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed, except, in each case, (x) for such inaccuracies representing less than 0.50% of Edge outstanding shares (as defined above) in the aggregate or (y) for those representations and warranties which address matters only as of a particular date (which representations and warranties shall have been true and correct, subject to the qualifications as set forth in the preceding clause (x), as of such particular date);

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- all other representations and warranties of Edge in the Merger Agreement shall have been true and correct as of the date of the Merger Agreement and shall be true and correct on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then such representations and warranties shall be true and correct as of that particular date, except where the failure of these representations and warranties to be true and correct, individually or in the aggregate, would not reasonably be expected to have a material adverse effect on Edge;
- Edge and Merger Sub shall have performed or complied with in all material respects all of their covenants and agreements in the Merger Agreement required to be performed or complied with by it on or before the Effective Time;
- Edge shall have delivered certain certificates and other documents required under the Merger Agreement for the closing of the merger;
- Edge shall have delivered to PDS written resignations of the officers and directors of Edge who are not to continue as officers or directors of Edge pursuant to the terms of the Merger Agreement, in a form reasonably satisfactory to PDS; and
- since the date of the Merger Agreement, there shall have been no effect, change, event, circumstance, or development that that has had or would reasonably be expected to have had a material adverse effect on the business, condition (financial or otherwise), assets, liabilities, or results of operations of Edge. The Merger Agreement provides that certain effects, changes, events, circumstances, or developments arising or resulting from the following shall not be considered a material adverse effect on Edge, including without limitation:
  - general business or economic conditions affecting the industry in which Edge operates;
  - acts of war, armed hostilities or terrorism;
  - changes in financial, banking or securities markets;
  - the taking of any action required to be taken under the Merger Agreement;
  - any change in the stock price or trading volume of Edge stock;
  - any clinical trial programs or studies, including any adverse data, event or outcome arising out of related to any such programs or studies; or
  - the announcement of the Merger Agreement or pendency of the merger.

Representations and Warranties

The Merger Agreement contains customary representations and warranties of Edge, Merger Sub, and PDS for a transaction of this type relating to, among other things:

- corporate organization, organizational and governing documents, and power, and similar corporate matters;
- subsidiaries;
- capitalization;
- financial statements;
- absence of certain changes or events;
- title to assets;
- real property and leaseholds;
- intellectual property;
- the validity of material contracts to which the parties or their subsidiaries are a party and any violation, default or breach under such contracts;
- non-contravention and required consents;

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- absence of undisclosed liabilities;
- regulatory compliance, permits and restrictions;
- tax matters;
- employee and labor matters and benefit plans;
- environmental matters;
- insurance;
- legal proceedings and orders;
- authority to enter into the Merger Agreement and the related agreements;
- with respect to PDS, compliance with anti-bribery laws;
- full disclosure;
- governmental authorization;
- transactions with affiliates;
- votes required for the closing of the merger and approval of the proposals that will come before the Edge special meeting and that will be the subject of PDS stockholder approval;
- any brokerage or finder's fee or other fee or commission in connection with the merger;
- information technology and data privacy
- with respect to Edge, opinion of its financial advisor;
- with respect to Edge, the valid issuance in the merger of the Edge common stock;
- with respect to Edge, contract termination fees and severance payments; and
- with respect to PDS, accuracy of the information supplied by PDS for inclusion in this registration statement on Form S-4.

The representations and warranties are, in many respects, qualified by materiality and knowledge, and will not survive the merger, but their accuracy forms the basis of some of the conditions to the obligations of PDS and Edge to complete the merger.

Non-Solicitation

Each of PDS and Edge agreed that, subject to certain exceptions, Edge, PDS, and any of their respective subsidiaries will not, and each party will not authorize its officers, directors, employees, investment bankers, attorneys, accountants, representatives, consultants or other agents retained by to, directly or indirectly:

- solicit, initiate, knowingly encourage, induce or knowingly facilitate the communication, making, submission or announcement of, any acquisition proposal (as defined below) or acquisition inquiry (as defined below), or take any action that could reasonably be expected to lead to an acquisition proposal or an acquisition inquiry;
- furnish any non-public information with respect to it to any person in connection with or in response to an acquisition proposal or an acquisition inquiry;
- engage in discussions or negotiations with any person with respect to any acquisition proposal or acquisition inquiry;
- subject to certain exceptions for Edge, approve, endorse or recommend an acquisition proposal;
- execute or enter into any letter of intent or similar document or any contract contemplating or otherwise relating to an acquisition transaction; or
- publicly propose to do any of the foregoing.

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An acquisition inquiry means an inquiry, indication of interest or request for information (other than an inquiry, indication of interest or request for information made or submitted by PDS, on the one hand, or Edge, on the other hand, to the other party) that would reasonably be expected to lead to an acquisition proposal.

An acquisition proposal means any offer or proposal, whether written or oral (other than an inquiry, indication of interest or request for information made or submitted by PDS, on the one hand, or Edge, on the other hand, to the other party) contemplating or otherwise relating to any acquisition transaction, as defined below.

An acquisition transaction means the following:

- any merger, consolidation, amalgamation, share exchange, business combination, issuance of securities, acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction: (i) in which Edge or PDS is a constituent entity; (ii) in which a person or group (as defined in the Exchange Act and the rules promulgated thereunder) of persons directly or indirectly acquires beneficial or record ownership of securities representing more than 20% of the outstanding securities of any class of voting securities of Edge or PDS or any of their subsidiaries; or (iii) in which Edge or PDS or any of its subsidiaries issues securities representing more than 20% of the outstanding securities of any class of voting securities of Edge or PDS or any of its subsidiaries; provided that in the case of PDS, a Permitted Bridge Financing or permitted post-measurement date financing (as defined below) shall not be an acquisition transaction ; and
- any sale, lease, exchange, transfer, license, acquisition or disposition of any business or assets that constitute 20% or more of the consolidated book value or the fair market value of the assets of a party and its subsidiaries, taken as a whole.

A permitted post-measurement date financing means PDS s issuance in a single transaction or series of transactions, in each case after the anticipated closing date of the merger of (a) shares of PDS common stock, (b) PDS warrants, and/or (c) convertible promissory notes, which promissory notes shall convert into either shares of (i) PDS common stock prior to the closing of the merger, or (ii) Edge common stock immediately after the closing of the merger. No securities issued in a permitted post-measurement date financing shall be included in the calculation of PDS outstanding shares or deducted from the calculation of PDS merger shares such that, for the avoidance of doubt, any permitted post-measurement date financing shall dilute the equity holders of Edge and PDS pro rata based on the Edge allocation percentage and PDS allocation percentage, respectively.

Before obtaining the applicable Edge stockholder approvals required to consummate the merger, Edge may furnish nonpublic information regarding Edge and its subsidiaries to, and may enter into discussions or negotiations with, any person in response to a bona fide written acquisition proposal made or received after the date of the Merger Agreement, which the Edge Board determines in good faith, after consultation with Edge s outside financial advisors and outside legal counsel, constitutes or is reasonably likely to result in a superior offer , as defined below, and is not withdrawn, if:

- neither Edge nor any of Edge's representatives has breached the non-solicitation provisions of the Merger Agreement described above;
- the Edge Board concludes in good faith, based on the advice of outside legal counsel, that the failure to take such action is reasonably likely to be inconsistent with the fiduciary duties of such board of directors under applicable law;
- Edge receives from the third-party an executed confidentiality agreement containing provisions at least as favorable to Edge as those contained in the confidentiality agreement between Edge and PDS; and
- substantially contemporaneously with furnishing of any such nonpublic information to a person, Edge furnishes the same non-public information to PDS.

A superior offer means an unsolicited bona fide written acquisition proposal (with all references to 20% in the definition of acquisition transaction being treated as references to greater than 50% for these purposes) that: (a) was not obtained or made as a direct or indirect result of a breach of (or in violation of) the Merger Agreement; and (b) is on terms and conditions that the Edge Board or the PDS Board, as applicable, determines in good faith, based on such matters that it deems relevant (including the likelihood of consummation thereof), as well as any written offer by the other party to the Merger Agreement to amend the terms of the Merger

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Agreement, and following consultation with its outside legal counsel and outside financial advisors, if any, are more favorable, from a financial point of view, to the Edge stockholders or the PDS stockholders, as applicable, than the terms of the transactions contemplated by the Merger Agreement.

Meetings of Stockholders

Edge is obligated under the Merger Agreement to use commercially reasonable efforts to take all action necessary to call, give notice of and hold a meeting of its stockholders for the purposes of voting on the issuance of shares of Edge common stock in the merger and the reverse stock split of Edge common stock.

PDS is obligated under the Merger Agreement to obtain written consents of its stockholders sufficient to adopt the Merger Agreement and approve the merger and the others transactions contemplated thereby reasonably promptly, and no later than three business days following this registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, being declared effective by the SEC. The PDS board of director s recommendation that PDS stockholders approve the Merger Agreement and the transactions contemplated thereby shall not be withdrawn or modified (and the PDS Board shall not publicly propose to withdraw or modify such recommendation) in a manner adverse to Edge, and no resolution by the PDS Board or any committee thereof to withdraw or the PDS Board in a manner adverse to Edge or to adopt, approve or recommend (or publicly propose to adopt, approve or recommend) any alternative acquisition proposal shall be adopted or proposed.

Covenants; Conduct of Business Pending the Merger

Edge has agreed that, except as permitted by the Merger Agreement, as required by law, or unless PDS shall have provided written consent, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the closing of the merger and the termination of the Merger Agreement, Edge will conduct its business and operations in the ordinary course consistent with past practices and in compliance with all applicable laws, regulations and certain contracts. Edge has also agreed that, subject to certain limited exceptions, without the consent of PDS, it will not, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the closing of the merger and the termination of the Merger Agreement:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities (except in connection with the payment of the exercise price (but not for withholding taxes except in respect of obligations that existed prior to October 1, 2018) incurred upon the exercise, settlement or vesting of any award granted under any Edge equity incentive plan);
- sell, issue, grant, pledge or otherwise dispose of or encumber or authorize any of the foregoing with respect to: any capital stock or other security (except for Edge common stock issued upon the valid exercise or settlement of outstanding options or restricted stock units to purchase shares of Edge common stock); any option, warrant or right to acquire any capital stock or any other security of Edge; or any instrument convertible into or exchangeable for any capital stock or other security of Edge;
- except as required to give effect to anything in contemplation of the closing of the merger, amend the certificate of incorporation, bylaws or other charter or organizational documents of Edge, or effect or become a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the proposed transactions under the Merger Agreement;
- form any subsidiary or acquire any equity interest or other interest in any other entity or enter into any joint venture with any other entity;
- lend money to any person (except for advancement of expenses to employees, directors or consultants in the ordinary course of business); incur or guarantee any indebtedness for borrowed money; guarantee any debt

securities of others; or make any capital expenditure or commitment in excess of the amounts set forth in Edge operating budget delivered to PDS concurrently with the Merger Agreement;

- other than as required by law, adopt, establish, terminate or enter into any Edge employee benefit plan; cause or permit any Edge employee benefit plan to be amended; increase the amount of the wages,

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salary, commissions, benefits or other compensation or remuneration payable to any of its directors, officers or employees; increase the severance or change of control benefits offered to any current or new employees, directors or consultants; or hire, terminate (other than for cause) or give notice of termination (other than for cause) to any (x) officer, or (y) employee whose annual base salary is or is expected to be more than $25,000 per year;

- recognize any labor union, labor organization or similar person;
- enter into any material transaction other than in the ordinary course of business;
- acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its assets or properties, or grant any encumbrance with respect to such assets or properties, except in the ordinary course of business;
- make, change or revoke any tax election; fail to pay any income or other material tax as such tax becomes due and payable, file any amendment making a material change to any tax return; settle or compromise any tax liability, enter into any tax allocation, sharing, indemnification or other similar agreement or arrangement, request or consent to any extension or waiver of any limitation period with respect to any claim or assessment for any income or other material taxes (other than in connection with any extension of time to file any tax return) or adopt or change any accounting method in respect of taxes;
- except as contemplated by the Merger Agreement, enter into, materially amend or terminate certain material contracts;
- make any expenditures, incur any liabilities, or discharge or satisfy any liabilities in amounts that exceed the limitations set forth in Edge's operating budget delivered to PDS concurrently with the execution of the Merger Agreement, in each case, in amounts that exceed the aggregate amount of the Edge budget by $300,000;
- other than as required by law or U.S. GAAP, take any action to materially change its accounting policies or procedures;
- initiate any legal proceeding other than for the routine collection of bills, in such cases where Edge in good faith determines that failure to commence suit would result in the material impairment of a valuable aspect of Edge's business, provided that Edge consults with PDS prior to the initiation of such legal proceeding or for any claim related to or arising out of, or in respect of any breach of the Merger Agreement;
- settle any legal proceeding; or
- agree, resolve or commit to do any of the foregoing.

PDS has agreed that, except as permitted by the Merger Agreement, as required by law, or unless Edge shall have provided written consent, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the closing of the merger and the termination of the Merger Agreement, PDS will conduct its business and operations in the ordinary course consistent with past practices and in compliance with all applicable laws, regulations and certain contracts. PDS has also agreed that, subject to certain limited exceptions, without the consent of Edge, it will not, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the closing of the merger and the termination of the Merger Agreement:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock of PDS; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities of PDS (except for shares of PDS common stock from terminated employees, directors or consultants of PDS);
- except as required to give effect to anything in contemplation of the closing of the merger, amend the certificate of incorporation, bylaws or other charter or organizational documents of PDS, or effect or become a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the proposed transactions under the Merger Agreement;

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- other than as contemplated by a Permitted Bridge Financing or a permitted post-measurement date financing, sell, issue, grant, pledge or otherwise dispose of or encumber or authorize any of the foregoing actions with respect to: any capital stock or other security of PDS (except for shares of PDS common stock issued upon the valid exercise of PDS options and PDS warrants); any option, warrant or right to acquire any capital stock or any other security of PDS; or any instrument convertible into or exchangeable for any capital stock or other security of PDS;
- form any subsidiary or acquire any equity interest or other interest in any other entity or enter into a joint venture with any other entity;
- lend money to any person (except for advancement of expenses to employees, directors or consultants in the ordinary course of business); incur or guarantee any indebtedness for borrowed money (other than a Permitted Bridge Financing or permitted post-measurement date financing); guarantee any debt securities of others; or make any capital expenditure or commitment in excess of $100,000;
- other than as required by applicable law: adopt, establish, terminate or enter into any employee benefit plan; cause or permit any employee plan to be amended in any material respect; increase the amount of the wages, salary, commissions or other compensation or remuneration payable to, any of its directors, officers or employees, other than increases in base salary and annual cash bonus opportunities and payments made in the ordinary course of business in accordance with past practices; increase the severance or change of control benefits offered to any current or new employees, directors or consultants; or hire, terminate or give notice of termination to any (x) officer or (y) employee whose annual base salary is expected to be more than $125,000 per year;
- recognize any labor union, labor organization, or similar person;
- enter into any material transaction other than in the ordinary course of business in accordance with past practices or as contemplated by a Permitted Bridge Financing or permitted post-measurement date financing;
- acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its assets or properties, or grant any encumbrance with respect to such assets or properties, except in the ordinary course of business in accordance with past practices;
- sell, assign, transfer, license, sublicense or otherwise dispose of any material PDS intellectual property rights (other than pursuant to non-exclusive licenses in the ordinary course of business in accordance with past practices);
- make, change or revoke any tax election; fail to pay any income or other material tax as such tax becomes due and payable, file any amendment making any material change to any tax return; settle or compromise any income or other material tax liability, enter into any tax allocation, sharing, indemnification or other similar agreement or arrangement (other than customary contracts entered into in the ordinary course of business the principal subject of which is not taxes), request or consent to any extension or waiver of any limitation period with respect to any claim or assessment for any income or other material taxes (other than in connection with any extension of time to file any tax return) or adopt or change any material accounting method in respect of taxes;
- Other than as contemplated by a Permitted Bridge Financing or permitted post-measurement date financing, or as otherwise contemplated by the Merger Agreement, enter into, materially amend or terminate certain material contracts;
- take any action to materially change its accounting policies other than as required by law or U.S. GAAP;
- initiate any legal proceeding other than for the routine collection of bills, in such cases where PDS in good faith determines that failure to commence suit would result in the material impairment of a valuable aspect of PDS's business, provided that PDS consults with Edge prior to the initiation of such legal proceeding or for any claim related to or arising out of, or in respect of any breach of the Merger Agreement;
- settle any legal proceeding; or
- agree, resolve or commit to do any of the foregoing.

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Other Agreements

Each of Edge and PDS has agreed to use its commercially reasonable efforts to:

- file or otherwise submit all applications, notices, reports and other documents reasonably required to be filed with a governmental entity with respect to the merger;
- satisfy the conditions precedent to the consummation of the transactions contemplated by the Merger Agreement;
- make all filings and other submissions and give all notices required to be made and given in connection with the merger;
- provide the other party with reasonable access during normal business hours to such party's personnel and assets and to all existing books, records, tax returns, work papers and other documents and information relating to such party and its subsidiaries;
- provide the other party with such copies of the existing books, records, tax returns, work papers, product data, and other documents and information relating to such party and its subsidiaries, and with such additional financial, operating and other data and information regarding such party and its subsidiaries as the other party may reasonably request;
- permit the other party's officers and other employees to meet, upon reasonable notice and during normal business hours, with the chief financial officer and other officers and managers of such party responsible for such party's financial statements and the internal controls of such party to discuss such matter as the other party may deem appropriate;
- make available to the other party copies of unaudited financial statements, material operating and financial reports prepared by senior management or the board of directors of such party, and any material notice, report or other document filed with or sent to or received from any governmental body in connection with the transactions contemplated by the Merger Agreement;
- obtain all consents, approvals or waivers reasonably required in connection with the transactions contemplated by the Merger Agreement;
- cause this proxy statement/prospectus/information statement to comply with the rules and regulations promulgated by the SEC, to respond promptly to any comments of the SEC or its staff and to have this proxy statement/prospectus/information statement declared effective under the Securities Act as promptly as practicable after it is filed with the SEC;
- cause this proxy statement/prospectus/information statement to be mailed to Edge's stockholders as promptly as practicable after this proxy statement/prospectus/information statement is declared effective; and
- lift any injunction prohibiting, or any other legal bar to, the merger or other transactions contemplated by the Merger Agreement.

Edge and PDS agreed that, among other things:

- Edge and PDS will use reasonable best efforts to file or otherwise submit all documents reasonably required to be filed with respect to the transactions contemplated by the Merger Agreement;
- Edge shall use commercially reasonable efforts to cause this proxy statement/prospectus/information statement to comply with the rules and regulations promulgated by the SEC, to respond promptly to any comments of the SEC or its staff and to have this proxy statement/prospectus/information statement declared effective under the Securities Act as promptly as practicable after it is filed with the SEC;
- For purposes of employee benefits provided under any benefit plans or arrangements after the closing of the merger, each employee who continues to be employed by Edge, PDS or their subsidiaries immediately following such closing shall be credited with his/her years of service with Edge, PDS or their subsidiaries. In addition, Edge shall cause all pre-existing condition exclusions and actively at work requirements of any benefit plans in effect after closing to be waived for any such employee;

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- Edge will use reasonable best efforts to keep this registration statement on Form S-4 effective as long as necessary to complete the merger;
- PDS will use commercially reasonable efforts to deliver a letter from PDS's independent accounting firm to Edge in a form customary in scope and substance for letters delivered by independent public accountants in connection with registration statements similar to this proxy statement/prospectus/information statement;
- Edge will use reasonable best efforts to maintain the listing of its common stock on the Nasdaq Stock Market;
- Edge shall use commercially reasonable efforts to prepare and submit to Nasdaq a notification form for the listing of the shares of Edge common stock to be issued pursuant to the Merger Agreement and to cause such shares to be approved for listing and shall, to the extent required by Nasdaq rules, to file an initial listing application for the Edge common stock on Nasdaq and to cause such listing application to be conditionally approved prior to the Effective Time;
- for a period of six years after the closing of the Merger, Edge and PDS as the surviving corporation in the merger will indemnify each of the directors and officers of Edge and PDS to the fullest extent permitted under applicable law; and
- Edge will maintain directors' and officers' liability insurance policies from and after the Effective Time and will also purchase a six-year prepaid tail policy for the non-cancellable extension of the directors' and officers' liability coverage of Edge's existing directors' and officers' insurance policies for a period of at least six years from the Effective Time.

Termination of the Merger Agreement

The Merger Agreement may be terminated at any time before the closing of the merger, whether before or after the required stockholder approvals to complete the merger, issue additional Edge common stock and consummate the reverse stock split of Edge common stock, as applicable, have been obtained, as set forth below:

- by mutual written consent duly authorized by the board of directors of each of Edge and PDS;
- by either Edge or PDS if the merger has not been consummated by June 23, 2019 (subject to a possible extension as provided in the Merger Agreement, referred to as the end date); provided, however, that this right to terminate the Merger Agreement will not be available to any party whose action or failure to act has been a principal cause of the failure of the merger to occur on or before such date and such action or failure to act constitutes a breach of the Merger Agreement, and in the event that a request for additional information has been made by any government authority, or in the event that the SEC has not declared effective the registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, by the date that is 60 days prior to the end date, either party will be entitled to extend the end date for an additional 60 days by written notice to the other party;
- by Edge or PDS if a court of competent jurisdiction or governmental entity has issued a final and non-appealable order, decree or ruling or taken any other action that has the effect of permanently restraining, enjoining or otherwise prohibiting the merger;
- by Edge if PDS did not obtain the written consent of a requisite number of its stockholders necessary to adopt the Merger Agreement and approve the merger and related matters within three business days of the registration statement on Form S-4, of which this proxy statement/prospectus/information statement is a part, becoming effective, but this right to terminate the Merger Agreement will not be available to Edge once PDS obtains such approval;
- by Edge or PDS if the stockholders of Edge do not approve the issuance of shares of Edge common stock pursuant to the Merger Agreement at the Edge stockholders' meeting (including any adjournments and postponements thereof); provided, however, that this right to terminate the Merger Agreement will not be available to any party if such party's action or failure to act has been a principal cause of the failure and such action or failure to act constitutes a breach of the Merger Agreement and Edge may not terminate the Merger Agreement until the date that is 61 days after the date the initial Edge stockholders' meeting is held;

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- by PDS, at any time prior to the approval by Edge's stockholders of the issuance of the shares of Edge common stock pursuant to the merger, if any of the following occurs (each, a triggering event):
  - Edge fails to include in this proxy statement/prospectus/information statement its recommendation that the stockholders of Edge vote to approve the issuance of shares of Edge common stock pursuant to the Merger Agreement and the reverse stock split of Edge common stock;
  - the Edge Board approves, endorses or recommends any acquisition proposal, as defined in the section titled The Merger Agreement—Non-Solicitation ; or
  - Edge enters into any letter of intent or similar document or any contract relating to any acquisition proposal, other than a confidentiality agreement permitted pursuant to the Merger Agreement.
- by Edge or PDS if the other party to the Merger Agreement has breached any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of the other party has become inaccurate, in either case such that the conditions to the closing of the merger would not be satisfied as of time of such breach or inaccuracy, but if such breach or inaccuracy is curable by the end date, then the Merger Agreement will not terminate pursuant to this provision as a result of a particular breach or inaccuracy until the expiration of a 30-day period after delivery of written notice of such breach or inaccuracy and the intention to terminate;
- by PDS, at any time, upon the occurrence of any event, effect, change, circumstance or development that has had or would reasonably be expected to have had a material adverse effect on the business, condition (financial or otherwise), liabilities, assets or results of operations of Edge. The Merger Agreement provides that certain effects, events, changes, circumstances or developments shall not be considered a material adverse effect on Edge;
- by Edge, at any time, upon the occurrence of any event, effect, change, circumstance or development that has had or would reasonably be expected to have had a material adverse effect on the business, condition (financial or otherwise), liabilities, assets or results of operations of PDS. The Merger Agreement provides that certain effects, events, changes, circumstances or developments shall not be considered a material adverse effect on PDS; or
- by Edge, at any time, if Edge has received a superior offer (as defined above), Edge has complied with its obligations under the Merger Agreement to accept such superior offer, Edge concurrently terminates the Merger Agreement and enters into a definitive agreement that is contemplated or relates to an acquisition transaction (as defined above) that constitutes a superior offer and within two business days of such termination, Edge pays the applicable termination fees to PDS as contemplated by the Merger Agreement.

Termination Fees

Fee payable by Edge

Edge must pay PDS a termination fee of $1.75 million if:

- the Merger Agreement is terminated by PDS (at any time prior to Edge's stockholders' approval of the Stock Issuance Proposal pursuant to the Merger Agreement) because a triggering event (as define above) occurs; or
- if the following events occur:
  - (i) either PDS or Edge terminates the Merger Agreement because the stockholders of Edge did not approve the Stock Issuance Proposal at the Edge stockholders' meeting as described above under Termination of Merger Agreement, or (ii) PDS terminates the Merger Agreement because Edge has breached any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of Edge has become inaccurate, in either case such that the conditions to the closing of the merger would not be satisfied as of time of such breach or inaccuracy (subject to the cure period described above under Termination of Merger Agreement); and

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an acquisition proposal with respect to Edge has been publicly announced or disclosed or otherwise communicated to Edge or the Edge Board after the date of the Merger Agreement but prior to the
- termination of the Merger Agreement; and within 12 months after the date of such termination of the Merger Agreement, Edge enters into a definitive agreement for a subsequent transaction (as defined below) in respect of such acquisition proposal.

A subsequent transaction is defined as

any merger, consolidation, amalgamation, share exchange, business combination, issuance of securities,
- acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction:
  - in which a party is constituent entity;
  - in which a person or a group (as defined in the Exchange Act and the rules promulgated thereunder) of persons directly or indirectly acquires beneficial or record ownership of securities representing more than 50% of the outstanding securities of any class of voting securities of a party or any of its subsidiaries; or
  - in which a party or any of its subsidiaries issues more than 50% of the outstanding securities of any class of voting securities of such party or any of its subsidiaries; or

any sale, lease, exchange, transfer, license, acquisition or disposition of any business or business or
- businesses or assets that constitute or account for 50% or more of the consolidated book value or the fair market value of the assets of a party and its subsidiaries take as a whole.

In addition, if the Merger Agreement is terminated by Edge because (a) Edge has received a superior offer (as defined above), (b) Edge has complied with its obligations under the Merger Agreement in order to accept such superior offer, and (c) Edge concurrently terminates the Merger Agreement and enters into a permitted alternative agreement with respect to such superior offer, then Edge shall pay to PDS a termination fee of $1.75 million.

Amendment

The Merger Agreement may be amended with the approval of the respective board of directors of PDS, Merger Sub and Edge at any time, except that after the Merger Agreement has been adopted and approved by the stockholders of Edge or PDS, no amendment which by law requires further approval by the stockholders of Edge or PDS, as the case may be, shall be made without such further approval.

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AGREEMENTS RELATED TO THE MERGER

Support Agreements and Written Consent

PDS

Certain PDS stockholders are party to a support agreement with Edge, Echos Merger Sub and PDS pursuant to which, among other things, such stockholders agreed, solely in their capacity as a PDS stockholder, to vote all of their shares of PDS common stock in favor of the adoption and approval of the Merger Agreement and the transactions contemplated thereby and to acknowledge that the adoption and approval of the Merger Agreement is irrevocable. In addition, these PDS stockholders agreed not to, directly or indirectly, knowingly take any action that PDS is not permitted to take under the non-solicitation provisions of the Merger Agreement. The parties to these support agreements with Edge, Echos Merger Sub and PDS are:

- Asklepios Capital LLC
- DeLyle Bloomquist
- Frank Bedu-Addo, Ph.D.
- Gregory Conn
- Gregory Freitag
- Ian Postlethwaite
- Indiana 21st Century Fund, L.P.
- Michael King
- NetScientific Plc
- Sir Richard Sykes

The PDS stockholders that are party to a support agreement with Edge consist of the holders of a majority of the shares of PDS common stock outstanding on the record date and entitled to vote thereon (voting as a single class).

The holders of a sufficient number of shares of PDS common stock required to approve and adopt the Merger Agreement and approve the merger and related transactions are contractually obligated to approve and adopt the Merger Agreement. Following the effectiveness of the registration statement of which this proxy statement/prospectus/information statement is a part such holders will execute written consents to approve and adopt the Merger Agreement and approve the merger and related transactions.

Edge

Certain Edge stockholders are party to a support agreement with Edge, Echos Merger Sub and PDS pursuant to which, among other things, such stockholders agreed, solely in their capacity as a stockholder, to vote all of their shares of Edge common stock in favor of the approval of the issuance of shares of Edge common stock pursuant to the Merger Agreement and the reverse stock split of Edge common stock. In addition, these Edge stockholders agreed not to, directly or indirectly, knowingly take any action that Edge is not permitted to take under the non-solicitation provisions of the Merger Agreement. The parties to these support agreements with Edge, Echos Merger Sub and PDS are:

- Brian A. Leuthner
- Andrew Saik
- Herbert J. Faleck, D.O.
- W. Bradford Middlekauff
- Alyssa J.S. Wyant
- Sol Barer, Ph.D.

- Liam Ratcliffe, M.D., Ph.D.

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- Robert Spiegel, M.D.
- R. Loch Macdonald, M.D., Ph.D.
- Isaac Blech
- Rosemary Crane
- James Loughlin

The stockholders of Edge that are party to a support agreement with Edge, Echos Merger Sub and PDS consist of the holders of an aggregate of 1,822,915 shares of Edge common stock, representing approximately 5.8% of the outstanding shares of Edge common stock as of September 30, 2018. These stockholders are solely comprised of the executive officers and directors of Edge.

Lock-up Agreements

PDS

As a condition to the closing of the merger, PDS s directors, executive officers and principal stockholders, who will beneficially hold 82% of the combined company s capital stock immediately following the closing of the merger, have entered into lock-up agreements, pursuant to which such parties have agreed not to, except in limited circumstances, transfer, grant an option with respect to, sell, exchange, pledge or otherwise dispose of, or encumber any shares of the combined company s common stock for 180 days following the Effective Time, other than in the case of directors or officers who will not continue in such capacity with the combined company, who will be subject to such restrictions for 90 days following the Effective Time.

Edge

As a condition to the closing of the merger, Edge s directors and executive officers, who will beneficially hold 5.8% of the combined company s capital stock immediately following the closing of the merger, have entered into lock-up agreements, pursuant to which such parties have agreed not to, except in limited circumstances, transfer, grant an option with respect to, sell, exchange, pledge or otherwise dispose of, or encumber any shares of the combined company s common stock for 180 days following the Effective Time, other than in the case of directors or officers who will not continue in such capacity with the combined company, who will be subject to such restrictions for 90 days following the Effective Time.

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MATTERS BEING SUBMITTED TO A VOTE OF EDGE STOCKHOLDERS

Edge Proposal No. 1 (the Stock Issuance Proposal): Approval of the Issuance of Common Stock in the Merger

At the Edge special meeting, Edge stockholders will be asked to approve the issuance of shares of Edge common stock pursuant to the Merger Agreement. Immediately following the merger, it is expected that PDS securityholders will own approximately 70% of the outstanding capital stock of the combined company, and the Edge securityholders will own approximately 30% of the outstanding capital stock of the combined company, subject to adjustment as provided in the Merger Agreement.

The terms of, reasons for and other aspects of the Merger Agreement, the issuance of shares of Edge common stock pursuant to the Merger Agreement are described in detail in the other sections in this proxy statement/prospectus/information statement.

Required Vote; Recommendation of Board of Directors

Presuming a quorum is present, the affirmative vote of the holders of a majority of the shares of Edge common stock properly cast at the Edge special meeting is required for approval of this proposal.

THE EDGE BOARD UNANIMOUSLY RECOMMENDS THAT THE EDGE STOCKHOLDERS VOTE FOR THE STOCK ISSUANCE PROPOSAL TO APPROVE THE ISSUANCE OF SHARES OF EDGE COMMON STOCK PURSUANT TO THE MERGER AGREEMENT.

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Edge Proposal No. 2 (the Reverse Stock Split Proposal): Approval of the Amendment to the Certificate of Incorporation of Edge Effecting the Reverse Stock Split at a Ratio in the Range of 5-for-1 to 10-for-1

General

At the Edge special meeting, Edge stockholders will be asked to approve the amendment to the certificate of incorporation of Edge effecting a reverse stock split of the issued shares of Edge common stock, at a ratio in the range of 5-for-1 to 10-for-1, with such specific ratio to be mutually agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved by Edge stockholders, determined solely by the Edge Board following the special meeting. Upon the effectiveness of the amendment to the certificate of incorporation of Edge effecting the reverse stock split, or the split effective time, the issued shares of Edge common stock outstanding immediately prior to the split effective time will be reclassified into a smaller number of shares such that an Edge stockholder will own one new share of Edge common stock for each five to ten shares of issued common stock held by that stockholder immediately prior to the split effective time. The ultimate ratio will be based on a number of factors, including market conditions, existing and expected trading prices for Edge common stock and the listing requirements of the Nasdaq Global Select Market.

If both the Stock Issuance Proposal and the Reverse Stock Split Proposal are approved by the stockholders, the reverse stock split ratio shall be mutually agreed upon by Edge and PDS. In addition, the Edge Board may determine to effect the reverse stock split, if it is approved by the stockholders, even if the Stock Issuance Proposal is not approved, at a range of 5-for-1 to 10-for-1 determined solely by the Edge Board.

The form of the amendment to the certificate of incorporation of Edge to effect the reverse stock split, as more fully described below, will effect the reverse stock split but will not change the number of authorized shares of common stock or preferred stock, or the par value of Edge common stock or preferred stock.

Purpose

The Edge Board approved the proposal approving the amendment to the certificate of incorporation of Edge effecting the reverse stock split for the following reasons:

- the board of directors believes effecting the reverse stock split may be an effective means of maintaining the listing of the combined company's post-merger common stock on the Nasdaq Capital Market and avoiding a delisting of Edge common stock from the Nasdaq Global Select Market;
- the board of directors believes a higher stock price may help generate investor interest in Edge and help Edge attract and retain employees; and
- if the reverse stock split successfully increases the per share price of Edge common stock, the Edge Board believes this increase may increase trading volume in Edge common stock and facilitate future financings by Edge.

Requirements for Nasdaq Listing

Edge common stock is listed on the Nasdaq Global Select Market under the symbol EDGE. Edge intends to file an initial listing application under the reverse merger rules with The Nasdaq Stock Market LLC to seek listing on the Nasdaq Capital Market or other appropriate Nasdaq trading market upon the closing of the merger.

According to the applicable rules and regulations of Nasdaq, an issuer must, in a case such as this, apply for initial inclusion following a transaction whereby the issuer combines with a non-Nasdaq entity, resulting in a change of control of the issuer and potentially allowing the non-Nasdaq entity to obtain a Nasdaq listing. Accordingly, the listing standards of the Nasdaq Capital Market will require Edge to have, among other things, a $4.00 per share minimum bid price upon the closing of the merger. Although the approval of the stock split is not a closing condition to consummate

the merger, if Edge s stockholders do not approve the Reverse Stock Split Proposal to effect the reverse stock split in connection with the closing of the merger, Edge has been advised that the Nasdaq will commence delisting procedures immediately following the closing of the merger.

If Edge s stockholders do not approve the Reverse Stock Split Proposal, the combined company s board of directors will immediately call for a second special meeting following the closing of the merger and request the stockholders of the combined company to approve a reverse stock split that will allow the combined company to remain in compliance with the listing requirements of The Nasdaq Stock Market LLC. If the Stock Issuance

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Proposal is not approved but the Reverse Stock Approval is approved, the Edge Board may nevertheless authorize a reverse split of its common stock at a ratio in the range of 5-for-1 to 10-for-1 as determined solely by the Edge Board in order to satisfy Edge s continued listing requirements on the Nasdaq Global Select Market.

One of the effects of the reverse stock split will be to effectively increase the proportion of authorized shares which are unissued relative to those which are issued. This could result in Edge s management being able to issue more shares without further stockholder approval. For example, before the reverse stock split, Edge s authorized but unissued shares immediately prior to the closing of the merger would be approximately [•] million compared to shares issued of approximately [•] million. If Edge effects the reverse stock split using a 1-for-10 ratio, its authorized but unissued shares immediately prior to the closing of the merger would be approximately [•] million compared to shares issued of approximately [•] million. The reverse stock split will not affect the number of authorized shares of Edge common stock and preferred stock, which will continue to be authorized pursuant to the certificate of incorporation of Edge, thus the reverse stock split will have the effect of increasing the number of authorized but unissued shares of Edge common stock. There are no shares of Edge preferred stock currently outstanding. Edge currently has no plans, commitments, arrangements, understandings or agreements to issue shares, other than pursuant to the Merger Agreement, and to satisfy obligations under the Edge stock options and restricted stock units from time to time as these stock options and restricted stock units, respectively, are exercised. The additional authorized shares of common stock will provide the combined company with the flexibility to consider and respond to future business opportunities and needs as they arise, including but not limited to, equity offerings; financings; potential strategic transactions, including mergers, acquisitions and business combinations; stock dividends; stock splits; grants under equity compensation plans; and other general corporate transactions.

Potential Increased Investor Interest

On December [•], 2018, Edge common stock closed at $[•] per share. An investment in Edge common stock may not appeal to brokerage firms that are reluctant to recommend lower priced securities to their clients. Investors may also be dissuaded from purchasing lower priced stocks because the brokerage commissions, as a percentage of the total transaction, tend to be higher for such stocks. Moreover, the analysts at many brokerage firms do not monitor the trading activity or otherwise provide coverage of lower priced stocks. Also, the Edge Board believes that most investment funds are reluctant to invest in lower priced stocks. The Edge Board believes that the anticipated higher market price expected to result from a reverse stock split will reduce, to some extent, the negative effects of the practices of brokerage houses and investors described above on the liquidity and marketability of Edge common stock.

There are risks associated with the reverse stock split, including that the reverse stock split may not result in an increase in the per share price of Edge common stock. Edge cannot predict whether the reverse stock split will increase the market price for Edge common stock. The history of similar stock split combinations for companies in like circumstances is varied. There is no assurance that:

- the market price per share of Edge common stock after the reverse stock split will rise in proportion to the reduction in the number of shares of Edge common stock outstanding before the reverse stock split;
- the reverse stock split will result in a per share price that will attract brokers and investors who do not trade in lower priced stocks;
- the reverse stock split will result in a per share price that will increase the ability of Edge to attract and retain employees;
- the market price per share will either exceed or remain in excess of the $1.00 minimum bid price as required by The Nasdaq Stock Market LLC for continued listing, that Edge will otherwise meet the requirements of The Nasdaq Stock Market LLC for inclusion for trading on the Nasdaq Global Select Market, including the $4.00 minimum bid price upon the closing of the merger, or, if met, that the market price per share would remain above the minimum bid price for a sustained period of time; or

- Edge would otherwise meet the Nasdaq listing requirements even if the per share market price of Edge common stock after the reverse stock split meets the required minimum bid price.

The market price of Edge common stock will also be based on performance of Edge and other factors, some of which are unrelated to the number of shares outstanding. If the reverse stock split is effected and the market

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price of Edge common stock declines, the percentage decline as an absolute number and as a percentage of the overall market capitalization of Edge may be greater than would occur in the absence of a reverse stock split. Furthermore, the liquidity of Edge common stock could be adversely affected by the reduced number of shares that would be outstanding after the reverse stock split.

Criteria to be Used for Determining Whether to Implement the Reverse Stock Split

In determining whether to implement the reverse stock split and which reverse stock split ratio to implement, if any, following receipt of stockholder approval of the Reverse Stock Split Proposal, Edge and/or PDS may consider, among other things, various factors, such as:

- the historical trading price and trading volume of Edge common stock;
- the then-prevailing trading price and trading volume of Edge common stock and the expected impact of the reverse stock split on the trading market for Edge common stock in the short- and long-term;
- the ability of Edge to continue its listing on the Nasdaq Global Select Market;
- which reverse stock split ratio would result in the least administrative cost to Edge; and
- prevailing general market and economic conditions.

The failure of Edge stockholders to approve the Reverse Stock Split Proposal could have serious, adverse effects on Edge and its stockholders. Edge could be delisted from the Nasdaq Global Select Market because shares of Edge common stock may continue to trade below the requisite $1.00 per share bid price needed to maintain its listing. If Nasdaq delists Edge common stock, Edge shares may then trade on the OTC Bulletin Board or other small trading markets, such as the pink sheets. In that event, Edge common stock could trade thinly as a microcap or penny stock, adversely decrease to nominal levels of trading and be avoided by retail and institutional investors, resulting in the impaired liquidity of Edge common stock and making it difficult to raise additional capital if needed.

Principal Effects of the Reverse Stock Split

The amendment to the certificate of incorporation of Edge effecting the reverse stock split is set forth in *Annex B* to this proxy statement/prospectus/information statement.

The reverse stock split will be effected simultaneously for all outstanding shares of Edge common stock. The reverse stock split will affect all of the Edge stockholders uniformly and will not affect any stockholder s percentage ownership interests in Edge, except to the extent that the reverse stock split results in any of the Edge stockholders owning a fractional share. The reverse stock split will not change the terms of Edge common stock. After the reverse stock split, the shares of Edge common stock will have the same voting rights and rights to dividends and distributions and will be identical in all other respects to the Edge common stock now authorized, which is not entitled to preemptive or subscription rights, and is not subject to conversion, redemption or sinking fund provisions. Edge common stock issued pursuant to the reverse stock split will remain fully paid and nonassessable. The reverse split does not affect the total proportionate ownership of the combined company following the merger. The reverse stock split will not affect Edge continuing to be subject to the periodic reporting requirements of the Exchange Act.

As an example, the following table illustrates the effects of a 5-for-1 and a 10-for-1 reverse stock split (without giving effect to the treatment of fractional shares):

	Prior to Reverse Stock Split	**After 5-for-1 Reverse Stock Split**	**After 10-for-1 Reverse Stock Split**
Common stock outstanding	[•]	[•]	[•]

Common stock issuable pursuant to outstanding equity awards	[•] (1)	[•]	[•]

(1) All of such options have an exercise price higher than $[•] per share, the closing price of Edge common stock on [•], 2018.

In addition, if the proposed reverse stock split is implemented, it will increase the number of Edge stockholders who own odd lots of fewer than 100 shares of common stock. Brokerage commission and other

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costs of transactions in odd lots are generally higher than the costs of transactions of more than 100 shares of common stock. Accordingly, the reverse stock split may not achieve the desired results of increasing marketability and liquidity of Edge common stock that have been described above.

After the effective date of the reverse stock split, Edge common stock would have a new committee on uniform securities identification procedures, or CUSIP number, a number used to identify Edge common stock.

Edge common stock is currently registered under Section 12(b) of the Exchange Act, and Edge is subject to the periodic reporting and other requirements of the Exchange Act. The proposed reverse stock split will not affect the registration of the common stock under the Exchange Act.

Procedure for Effecting Reverse Stock Split and Exchange of Stock Certificates

If the Edge stockholders approve the amendment to the certificate of incorporation of Edge effecting the reverse stock split, and if the Edge Board still believes that a reverse stock split is in the best interests of Edge and its stockholders, Edge will file the amendment to the certificate of incorporation with the Delaware Secretary of State at such time as the Edge Board has determined to be the appropriate split effective time. The Edge Board may delay effecting the reverse stock split without resoliciting stockholder approval. Beginning at the split effective time, each book-entry account representing pre-split shares will be deemed for all corporate purposes to evidence ownership of post-split shares.

Beneficial Owners of Common Stock. Upon the implementation of the reverse stock split, Edge intends to treat shares held by stockholders in street name (i.e., through a bank, broker, custodian or other nominee), in the same manner as registered stockholders whose shares are registered in their names. Banks, brokers, custodians or other nominees will be instructed to effect the reverse stock split for their beneficial holders holding Edge common stock in street name. However, these banks, brokers, custodians or other nominees may have different procedures than registered stockholders for processing the reverse stock split and making payment for fractional shares. If a stockholder holds shares of Edge common stock with a bank, broker, custodian or other nominee and has any questions in this regard, stockholders are encouraged to contact their bank, broker, custodian or other nominee.

Registered Holders of Common Stock. Certain of Edge registered holders of common stock hold some or all of their shares electronically in book-entry form with Edge s transfer agent, Computershare Trust Company, N.A. These stockholders do not hold physical stock certificates evidencing their ownership of Edge common stock. However, they are provided with a statement reflecting the number of shares of Edge common stock registered in their accounts. If a stockholder holds registered shares in book-entry form with Edge s transfer agent, no action needs to be taken to receive post-reverse stock split shares or payment in lieu of fractional shares, if applicable. If a stockholder is entitled to post-reverse stock split shares, a transaction statement will automatically be sent to the stockholder s address of record indicating the number of shares of Edge common stock held following the reverse stock split.

Fractional Shares

No fractional shares will be issued in connection with the reverse stock split. Stockholders of record who otherwise would be entitled to receive fractional shares because they hold a number of pre-split shares not evenly divisible by the number of pre-split shares for which each post-split share is to be reclassified, will be entitled to a cash payment in lieu thereof at a price equal to the fraction to which the stockholder would otherwise be entitled multiplied by the closing price of the common stock on the Nasdaq Global Select Market on the first trading day immediately following the split effective time. The ownership of a fractional interest will not give the holder thereof any voting, dividend, or other rights except to receive payment therefor as described herein.

Stockholders should be aware that, under the escheat laws of the various jurisdictions where stockholders reside, where Edge is domiciled, and where the funds will be deposited, sums due for fractional interests that are not timely claimed after the split effective time may be required to be paid to the designated agent for each such jurisdiction, unless correspondence has been received by Edge or the transfer agent concerning ownership of such funds within the time permitted in such jurisdiction. Thereafter, stockholders otherwise entitled to receive such funds will have to seek to obtain them directly from the state to which they were paid.

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Accounting Consequences

The par value per share of Edge common stock will remain unchanged at $0.00033 per share after the reverse stock split. As a result, at the reverse stock split effective time, the stated capital on Edge s balance sheet attributable to Edge common stock will be reduced proportionately based on the reverse stock split ratio, from its present amount, and the additional paid-in capital account will be increased for the amount by which the stated capital is reduced. After the reverse stock split (and disregarding the impact of shares of Edge common stock issued in the merger), net income or loss per share, and other per share amounts will be increased because there will be fewer shares of Edge common stock outstanding. In future financial statements, net income or loss per share and other per share amounts for periods ending before the reverse stock split will be recast to give retroactive effect to the reverse stock split.

Potential Anti-Takeover Effect

Although the increased proportion of unissued authorized shares to issued shares could, under certain circumstances, have an anti-takeover effect, for example, by permitting issuances that would dilute the stock ownership of a person seeking to effect a change in the composition of the Edge Board or contemplating a tender offer or other transaction for the combination of Edge with another company, the reverse stock split proposal is not being proposed in response to any effort of which Edge is aware to accumulate shares of Edge common stock or obtain control of Edge, other than pursuant to the Merger Agreement, nor is it part of a plan by management to recommend a series of similar amendments to the Edge Board and stockholders. Other than the proposals being submitted to the Edge stockholders for their consideration at the Edge special meeting, the Edge Board does not currently contemplate recommending the adoption of any other actions that could be construed to affect the ability of third parties to take over or change control of Edge. For more information, please see the sections titled Risk Factors-Risks Related to Edge Common Stock and Description of Edge Capital Stock-Anti-Takeover Effects of Provisions of Edge Charter Documents and Delaware Law.

Material U.S. Federal Income Tax Consequences of the Reverse Stock Split

The following discussion is a summary of material U.S. federal income tax consequences of a reverse stock split to U.S. Holders (as defined below) that hold shares of Edge common stock as capital assets for U.S. federal income tax purposes.

This summary does not address all aspects of U.S. federal income taxation that may be relevant to stockholders in light of their particular circumstances or to stockholders who may be subject to special tax treatment under the Code, including, without limitation dealers or traders in securities, commodities or foreign currency; banks, thrifts, insurance companies, and other financial institutions; traders that mark-to-market their securities; tax-exempt organizations or governmental organizations; small business investment companies; regulated investment companies; real estate investment trusts; tax-deferred or other retirement accounts; persons whose functional currency is not the U.S. dollar; persons who hold Edge common stock as part of a straddle, hedge, conversion transaction or other risk reduction transaction; persons who hold or receive Edge common stock pursuant to the exercise of compensatory stock options, the vesting of previously restricted shares of stock or otherwise as compensation; any entity or arrangement that is a partnership for U.S. federal income tax purposes; companies subject to the stapled stock rules; expatriated entities ; certain former citizens or long-term residents of the United States; or persons subject to the alternative minimum tax or the 3.8% tax on net investment income.

This discussion is based on the Code, U.S. Treasury regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the IRS in effect as of the date hereof, all of which are subject to change, possibly with retroactive effect, or differing interpretations. Any such change may cause the U.S. federal income tax consequences of a reverse stock split to vary substantially from the consequences summarized

below. Edge has not sought any ruling from the IRS with respect to the statements made and the conclusions reached in this discussion, and there can be no assurance that the IRS will agree with these statements and conclusions.

The state and local tax consequences of a reverse split may vary as to each U.S. Holder, depending on the jurisdiction in which such U.S. Holder resides. This discussion should not be considered as tax or investment advice, and the tax consequences of a reverse stock split may not be the same for all U.S. Holders. U.S. Holders should consult their own tax advisors to understand their individual federal, state, local and foreign tax consequences to them of the reverse stock split.

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For purposes of this discussion, a U.S. Holder is a beneficial owner of shares of Edge common stock that, for U.S. federal income tax purposes, is or is treated as:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust if either a court within the United States is able to exercise primary supervision over the administration of such trust and one or more United States persons (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all substantial decisions of such trust, or the trust has a valid election in effect under applicable Treasury Regulations to be treated as a United States person for U.S. federal income tax purposes.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds shares of Edge common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding shares of Edge common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

Tax Consequences of the Reverse Stock Split

The reverse stock split should constitute a recapitalization for U.S. federal income tax purposes under Section 368(a)(1)(E) of the Code. As a result, a U.S. Holder of shares of Edge common stock should not recognize any gain or loss for U.S. federal income tax purposes as a result of a reverse stock split, except to the extent of any cash received in lieu of a fractional share of Edge common stock, as discussed below. A U.S. Holder s aggregate tax basis in shares of common stock received in a reverse stock split should equal the U.S. Holder s aggregate tax basis in the shares of Edge common stock exchanged in the reverse stock split, decreased by the amount of any tax basis allocable to a fractional share for which cash is received. In addition, each U.S. Holder s holding period for the shares of common stock the U.S. Holder receives in a reverse stock split should include the U.S. Holder s holding period for the shares of Edge common stock exchanged in the reverse stock split. U.S. Holders of shares of Edge common stock acquired on different dates and at different prices should consult their own tax advisors regarding the allocation of the tax basis and holding period of such shares.

Cash in Lieu of Fractional Shares

In general, a U.S. Holder of shares of Edge common stock that receives cash in lieu of a fractional share of Edge common stock pursuant to the reverse stock split should recognize capital gain or loss equal to the difference between the amount of cash received and the U.S. Holder s tax basis in the shares of Edge common stock surrendered that is allocated to the fractional share of Edge common stock. Any such capital gain or loss will be treated as long term capital gain or loss if the U.S. Holder s holding period for shares of Edge common stock surrendered exceeded one year as of the effective time of the reverse stock split.

Information Reporting and Backup Withholding

A U.S. Holder of shares of Edge common stock may be subject to information reporting and backup withholding on cash paid in lieu of fractional shares in connection with the reverse stock split, unless the U.S. Holder is an exempt recipient. Backup withholding generally will apply to such payments if the U.S. Holder fails to furnish a correct taxpayer identification number, a certification of exempt status or has been notified by the IRS that it is subject to backup withholding (and such notification has not been withdrawn). Each U.S. Holder of shares of Edge common stock should properly complete and sign, and deliver, an IRS Form W-9 in order to provide the information and

certification necessary to avoid backup withholding, or otherwise establish an applicable exemption in a manner acceptable to the paying agent. U.S. Holders of shares of Edge common stock should consult their own tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Backup withholding is not an additional tax. Any amounts withheld will be allowed as a credit against the holder s U.S. federal income tax liability and may entitle such holder to a refund, provided the required

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information is timely furnished to the IRS. U.S. Holders should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Required Vote; Recommendation of Board of Directors

The affirmative vote of the holders of a majority of the shares of Edge common stock outstanding on the record date for the Edge special meeting is required to approve the amendment to the certificate of incorporation of Edge effecting a reverse stock split at a ratio not to exceeding the range 5-for-1 to 10-for-1 of Edge common stock, with such specific ratio to be mutually agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved by Edge stockholders, determined solely by the Edge Board following the special meeting.

THE EDGE BOARD UNANIMOUSLY RECOMMENDS THAT EDGE STOCKHOLDERS VOTE FOR THE REVERSE STOCK SPLIT PROPOSAL TO APPROVE THE AMENDMENT TO THE CERTIFICATE OF INCORPORATION OF EDGE EFFECTING THE REVERSE STOCK SPLIT AT A RATIO IN THE RANGE OF 5-for-1 to 10-for-1, with such specific ratio to be MUTALLY agreed upon by Edge and PDS or, if the Stock Issuance Proposal is not approved by Edge stockholders, determined SOLELY by the Edge Board following the special meeting.

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Edge Proposal No. 3 (the Equity Incentive Plan Proposal): Approval of the Amended and Restated Edge Therapeutics, Inc. 2014 Equity Incentive Plan

General

On [ ], the Edge Board adopted, and recommended that the stockholders approve, the Amended and Restated Edge Therapeutics, Inc. 2014 Equity Incentive Plan, or the Restated Plan, the form of which is attached as *Annex C* to this proxy statement/prospectus/information statement, which amends and restates in its entirety the version of the plan currently in effect, or the Current Plan, which was adopted by the Edge Board and Edge s stockholders prior to Edge s initial public offering in September of 2014. If approved the Restated Plan will be effective upon the Effective Time. If the Stock Issuance Proposal is not approved, then this Equity Incentive Plan Proposal shall be withdrawn.

As of December 31, 2018, the Current Plan authorizes the issuance of 5,438,831 shares of Edge s stock, which is increased on each January 1st by the lesser of 4% of the number of shares of stock outstanding as of the immediately preceding December 31st or such lesser number of shares determined by the combined company s board of directors. Of this amount, a total of 226,243 shares have been issued as of December 31, 2018 and awards covering a total of 5,134,104 shares are subject to awards that are outstanding as of December 31, 2018, as of such date. As of December 31, 2018, there were a total of 31,449,989 shares of Edge s stock outstanding and an additional 7,747,960 shares of Edge s stock covered by outstanding options and restricted stock units, or Edge RSUs under all of Edge s equity plans and other agreements. No other types of awards are outstanding. If the maximum 4% evergreen increase is applied on January 1, 2019, the equity pool under the Current Plan will increase to approximately 26% of Edge s fully diluted shares as of December 31, 2018. In determining the number of Edge s fully diluted shares for this purpose, because the weighted average exercise price of Edge s outstanding options as of December 31, 2018 was $6.18 (which is above the closing price of our common stock on [ ], 2018), Edge does not include [any] of Edge s options in this calculation but Edge does include all of Edge s outstanding Edge RSUs.

In connection with the Merger, Edge will be issuing new shares of Edge common stock to the stockholders of PDS and will be converting options to purchase shares of PDS common stock into options to purchase shares of common stock of the combined company, in each case, based on the exchange ratio determined under the Merger Agreement. It is expected that upon the closing of the Merger, there will be between [_____] and [_____] shares of Edge s stock outstanding and between an additional [_____] and [_____] shares covered by outstanding options. There are not expected to be any outstanding Edge RSUs upon closing of the Merger (Edge RSUs will be converted into shares of Edge common stock and are reflected in the figures in the immediately preceding sentence). As a result of the Merger, the percentage of shares remaining available for issuance under the Current Plan in relation to the number of Edge s Fully Diluted Shares upon the closing of the Merger would decrease to between approximately [ ]% and approximately [___]% (even after factoring in the 4% evergreen increase on January 1, 2019). For this purpose, Fully Diluted Shares means [ ].

In order to be able to attract and retain employees, directors and consultants, it is essential that Edge is able to continue to offer a competitive equity compensation program. Contingent on the consummation of the Merger and on stockholder approval, the Edge Board has approved the Restated Plan, which authorizes the issuance of a number of shares equal to [___]% of [ ]. The number of shares authorized for issuance under the Restated Plan upon the closing of the Merger is expected to be between [___] and [_____] shares, but the exact number will not be known until the Merger is completed. Shares issued pursuant to awards granted under the Current Plan will be counted against the share limit in the Restated Plan.

The Restated Plan is identical to the Current Plan in all material respects, except as follows:

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Share Reserve: As described above, if this Equity Incentive Plan Proposal is approved by Edge's stockholders, the number of shares of stock authorized for awards under the Restated Plan will equal [___]% of [ ]. Shares underlying any portion of an award granted under the Current Plan or the Restated Plan that is forfeited without the issuance of shares will be added back to the number of shares available for issuance under the Restated Plan, as described below in Summary of the Restated Plan – Shares of Stock Available for Awards (this concept is in Edge's Current Plan). All awards granted under the Current Plan will be deemed to have been granted under the Restated Plan and shares issued with respect to such awards will reduce the number of shares available for issuance under the Restated Plan.

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- Evergreen Provision: The Restated Plan does not include an evergreen provision that automatically increases the number of shares available for issuance pursuant to awards.
- Term: Unless terminated earlier, the Restated Plan will terminate on [ ] (the Current Plan was scheduled to terminate on August 27, 2024).
- Performance Goals: The Restated Plan retains the concept of performance goals, but revises certain language in the Current Plan regarding performance goals to account for changes in the tax law that have removed the exception under Section 162(m) of the Code that permitted Edge to deduct compensation paid to Edge's named executive officers in excess of $1 million if such compensation was performance-based.
- Incentive Stock Options, or ISOs: The Restated Plan increases the number of shares that may be issued upon the exercise of incentive stock options (within the meaning of Section 422 of the Code) from 2,000,000, to [_____].
- Individual Limit: The Restated Plan does not contain an annual limit on the number of shares that may be issued to an individual during any calendar year (the Current Plan includes an annual individual limit of 1,250,000 shares) as this limit was to allow us to issue awards under the exception under Section 162(m) of the Code that permitted us to deduct compensation paid to our named executive officers in excess of $1 million if such compensation was performance-based.
- Non-Employee Director Limit: Under the Restated Plan, no non-employee director may be granted awards covering more than [____] shares in any one calendar year.
- Non-Employee Directors of Subsidiaries: Non-employee directors of subsidiaries of Edge will be eligible to receive awards under the Restated Plan.

Basis for Board of Directors Adoption of the Restated Plan

Prior to adopting the Restated Plan, the Edge Board and the compensation committee of the Edge Board, or the Compensation Committee, considered the various aspects of the Restated Plan, including the number of shares authorized under the Restated Plan, the cost of issuing additional shares, the impact of share dilution on Edge s existing stockholders and the central role of equity-based incentive compensation in the combined company s executive compensation program. The Edge Board s purposes in adopting the Restated Plan are to ensure the longevity, effectiveness and administrative flexibility of the long-term equity incentive component of the combined company s executive compensation program and to update the terms of Edge s equity program to reflect recent changes in the tax law that have eliminated the exception under Section 162(m) of the Code that permitted publicly-listed companies to deduct compensation paid to their named executive officers in excess of $1 million if such compensation was performance based. The Edge Board and the Compensation Committee believe that it is essential to increase the number of shares Edge may issue under Edge s equity compensation program following the closing of the Merger to reflect Edge s expected new capitalization. If the Restated Plan is not approved by stockholders, the combined company will not have the flexibility to grant equity-based incentive compensation at levels that the Edge Board and the Compensation Committee believe to be critical to attracting, retaining and motivating the company s service providers and to reward them for their contributions to the success of the combined company and the growth in value of its stock.

Based on the foregoing considerations, the Edge Board and the Compensation Committee concluded that it is in the best interests of the company and its stockholders for its stockholders to approve the Restated Plan. The Edge Board and the Compensation Committee determined that the costs to Edge s stockholders of approving the Restated Plan would be outweighed by the benefits to be achieved by appropriately compensated and motivated employees, directors and consultants. If the Restated Plan is approved, the board of directors of the combined company and its compensation committee will continue to monitor and evaluate the benefits and risks to the company and its stockholders in granting the shares available for issuance under the Restated Plan.

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Outstanding Awards; Burn Rate

The following table sets forth information regarding outstanding equity awards as of December 31, 2018 (and excludes awards that may be settled only in cash).

Unvested Shares of Restricted Stock Units (Edge RSUs)	Weighted Average Remaining Vesting Period for Edge RSUs (Years)[1]	Vested but not Settled Edge RSUs	Outstanding Options	Weighted Average Exercise Price of Outstanding Options	Weighted Average Remaining Contractual Term of Outstanding Options (Years)
509,962	0.2	0	7,147,916	$ 6.18	5.9

(1) All of these Edge RSUs will be settled for an equivalent number of shares of Edge's stock upon the closing of the Merger to the extent then outstanding.

The following table sets forth information regarding awards granted under the Current Plan during 2016, 2017 and 2018 (through December 31, 2018), the burn rate for each such year and the average burn rate over such period, in each case, for stock-settled awards. A company s burn rate is a measure of the speed at which the company uses shares available for grant under the company s equity compensation plans, and shows the potential dilutive effect of equity grants on the company s outstanding equity over the course of a year.

Year	Time-Based Edge RSUs Granted	Options Granted	All Other Awards Granted (excluding Options and Time-Based Edge RSUs)	Total Awards Granted	Weighted Average Number of Shares of Common Stock Outstanding	Burn Rate[1]
2018	601,394	2,322,906	—	2,924,300	31,239,075	9 %
2017	—	1,365,400	—	1,365,400	30,393,952	4 %
2016	—	1,211,400	—	1,211,400	28,864,216	4 %
3-Year Average	200,465	1,633,235	—	1,833,700	30,165,748	6 %

(1) The burn rate is calculated as all time-based Edge RSUs and all option awards granted in a year, divided by the weighted average number of shares of Edge common stock outstanding. All award types are counted on a one-for-one basis and cash settled awards are excluded.

Best Practices

The Restated Plan includes a number of features that will reinforce the alignment between the interests of participants in the Restated Plan and those of the combined company s stockholders. These provisions include, but are not limited to, the following:

No Discounted Options or SARs. Stock options and SARs may not be granted with exercise prices lower than the fair market value of the underlying shares on the grant date.

No Repricing, Replacement or Buy Back without Stockholder Approval. Edge may not reprice, replace or buy back any underwater stock option or SAR without stockholder approval.

No Evergreen Provision. Unlike the Current Plan, the Restated Plan does not contain an evergreen feature that automatically increases the number of shares available for issuance pursuant to awards. Therefore, Edge must obtain stockholder approval each time it desires to authorize additional shares for awards.

No Liberal Share Recycling. Any shares tendered in payment of an exercise price or the tax liability with respect to an award, including shares withheld from any such award, will not be available for future awards under the Restated Plan.

Non-Employee Director Limit. In the Restated Plan, no non-employee director may be granted awards covering more than [_____] shares in any one calendar year.

Recoupment. Awards granted under the Restated Plan (and all shares acquired thereunder) are subject to mandatory repayment and clawback pursuant to the terms of Edge s corporate governance guidelines, and as may otherwise be required under any federal or state laws or the listing requirements of any applicable securities exchange.

No Transferability. No Award may be transferred, assigned, pledged or encumbered by a participant except pursuant to the laws of descent and distribution or as approved by the Compensation Committee for estate planning or charitable purposes.

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No Automatic Grants. The Restated Plan does not provide for reload or other automatic grants to participants.

No Tax Gross-Ups. The Restated Plan does not provide for any tax gross-ups to participants.

Summary of Restated Plan

A summary of the Restated Plan is provided below. This summary is qualified in its entirety by the full text of the Restated Plan, a copy of which is attached to this Proxy Statement as *Annex C*. In the event of any inconsistency between this summary and the Restated Plan, the Restated Plan will control.

General

Under the Restated Plan, Edge may grant awards, or Awards, with respect to its common stock to employees and consultants of the combined company and its subsidiaries, as well as non-employee members of any board of directors or board of managers of the combined company or of its subsidiaries. Awards may consist of restricted stock, restricted stock units, or Edge RSUs, stock options, stock appreciation rights, or SARs, and other stock-based awards. Each Award will be governed by the provisions of the Restated Plan and the applicable Award agreement. The Restated Plan is not qualified under Section 401(a) of the Code and is not subject to the Employee Retirement Income Security Act of 1974, as amended. The Restated Plan will become effective upon the closing of the Merger, subject to its approval by Edge s stockholders.

Purpose

The general purpose of the Restated Plan is to provide an effective method of compensating employees and consultants and non-employee directors of the combined company and its subsidiaries and non-employee directors of the board of directors of the combined company, and to align the interests of these individuals with those of the company s stockholders. The Restated Plan will accomplish these goals by allowing eligible employees, consultants and directors of the combined company and its subsidiaries to receive Awards.

Administration

The Restated Plan is administered by Edge s Compensation Committee, which has the power to: (i) select the employees, consultants and non-employee directors who will receive Awards pursuant to the Restated Plan; (ii) determine the type or types of Awards to be granted to each participant; (iii) determine the number of shares of common stock to which an Award will relate, the terms and conditions of any Award granted under the Restated Plan, and all other matters to be determined in connection with an Award; (iv) determine the exercise price or purchase price (if any) of an Award; (v) determine whether, to what extent, and under what circumstances an Award may be cancelled, forfeited, or surrendered; (vi) determine whether, and to certify that, performance goals to which an Award is subject are satisfied; (vii) correct any defect or supply any omission or reconcile any inconsistency in the Restated Plan, and adopt, amend and rescind such rules, regulations, guidelines, forms of agreements and instruments relating to the Restated Plan as it may deem necessary or advisable; and (viii) construe and interpret the Restated Plan and make all other determinations as it may deem necessary or advisable for the administration of the Restated Plan. The Compensation Committee may delegate some or all of its powers to any of Edge s executive officers or any other person, other than its authority to grant Awards to certain individuals (such as board members and executive officers).

Eligibility

All of Edge s employees and consultants, all employees and consultants of Edge s subsidiaries, and all non-employee members of Edge s board of directors are eligible to receive Awards under the Restated Plan.

Shares Available Under the Restated Plan

Initially, Edge reserved an aggregate of 1,827,351 shares of Edge s common stock for issuance pursuant to the Current Plan. The number of shares available for issuance under the Current Plan was increased by 67,538, 1,152,433, 1,156,740, and 1,234,768 on each of January 1, 2015, January 1, 2016, January 1, 2017 and January 1, 2018 and is expected to be increased by [ ] shares on January 1, 2019. If this Equity Incentive Plan Proposal is approved by Edge s stockholders, the number of shares that will be available for grant pursuant

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to Awards under the Restated Plan will be [___]% of [ ]. In addition, to the extent that awards granted under the 2010 Plan or the 2012 Plan are forfeited, terminate or are settled for any reason without an actual distribution of shares, the number of shares available for issuance under the Restated Plan will be increased by the number of shares underlying the portion of any such award that was so forfeited, terminated or settled. In addition, all awards granted under the Current Plan that are outstanding immediately following the Merger will be treated as if they were granted under the Restated Plan, and all shares issued in respect of such awards will reduce the number of shares available for issuance under the Restated Plan. If any shares subject to an Award granted under the Restated Plan or an award granted under the Current Plan are forfeited or such Award or award otherwise terminates or is settled for any reason without an actual distribution of shares to the participant, the shares subject to the portion of the Award or award that was forfeited, settled, or terminated will again be available for Awards under the Restated Plan.

Any shares tendered by a participant in payment of an exercise price for an Award or an award granted under the Current Plan or the tax liability with respect to an Award or an award granted under the Current Plan, including shares withheld from any such Award or award, will not be available for future Awards hereunder. Common stock awarded under the Restated Plan may be reserved or made available from Edge s authorized and unissued common stock or from common stock reacquired and held in Edge s treasury. Any shares of common stock issued by Edge through the assumption or substitution of outstanding grants from an acquired company shall not reduce the shares of common stock available for Awards under the Restated Plan.

The maximum number of shares that may be granted through the exercise of incentive stock options is [_____] shares. No non-employee director may be granted awards covering more than [_____] shares in any one calendar year.

Awards — Generally

Awards may be granted on the terms and conditions described below. In addition, the Compensation Committee may impose on any Award or the settlement or exercise thereof, at the date of grant or thereafter, such additional terms and conditions, not inconsistent with the provisions of the Restated Plan, as the Compensation Committee may determine, including without limitation terms requiring forfeiture of Awards in the event of the termination of service of the participant. The right of a participant to exercise or receive a grant or settlement of any Award, and the timing thereof, may be subject to such performance goals as may be determined by the Compensation Committee. Each Award will be evidenced by an Award agreement that will include additional terms and conditions that may be applicable to such Award.

Awards — Performance Goals

In the discretion of the Compensation Committee, any Award may be granted subject to performance goals that must be met by the end of a certain specified performance period. If the Compensation Committee determines that a change in the business, operations, corporate structure or capital structure of the company or any of its subsidiaries, or the manner in which the company or any subsidiary conducts its business, or other events or circumstances render any performance goals unsuitable, the Compensation Committee may modify such performance goal or the related minimum, target, maximum or other levels of achievement as it deems appropriate and equitable.

Awards — Types of Awards

Restricted Stock. In a restricted stock award, a participant receives a grant of shares of common stock that are subject to certain restrictions, including forfeiture of such stock upon the happening of certain events. Unless otherwise provided in an award agreement, during the restriction period, holders of restricted stock will have all the rights of a stockholder with respect to the restricted stock, including, without limitation, the right to receive dividends (whether in cash or additional shares of common stock) and to vote shares of restricted stock, provided that any

dividends declared on restricted stock shall be subject to the same restrictions as the underlying restricted stock and any cash dividends shall be held by Edge and released to the participant upon the vesting of the underlying restricted stock.

Restricted Stock Units. An Edge RSU is a grant of the right to receive a payment in Edge s common stock or cash, or in a combination thereof, equal to the fair market value of a share of Edge s common stock on the expiration of the applicable restriction period or periods. During such period or periods, the participant will

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generally have no rights as a stockholder with respect to any such shares. However, the Compensation Committee may provide in an Award that amounts equal to any dividends declared during the restriction period will be credited to the participant s account and deemed to be reinvested in additional Edge RSUs that will be subject to the same forfeiture restriction as the Edge RSUs to which the dividend equivalent payment relates.

Stock Options. Stock options granted under the Restated Plan may be either ISOs or non-qualified options. The exercise price of an option shall be determined by the Compensation Committee, but must be at least 100% of the fair market value of Edge s common stock on the date of the grant. If the participant owns, directly or indirectly, shares constituting more than 10% of the total combined voting power of all classes of Edge s stock or the stock of any subsidiary, the exercise price of an incentive stock option must be at least 110% of the fair market value of a share of common stock on the date the incentive stock option is granted. Each Award of an option shall specify the time or times at which the option may be exercised and any terms and conditions applicable to the option, including (i) a vesting schedule which may be based upon the passage of time, attainment of performance goals, or a combination thereof, (ii) whether the exercise price for an option shall be paid in cash, with shares of common stock, with a combination of cash and shares of common stock, or with other legal consideration, (iii) the methods of payment, which may include payment through cashless and net exercise arrangements, to the extent permitted by applicable law and (iv) the methods by which, and/or the time at which, common stock will be delivered or deemed to be delivered to a participant upon exercise of an option. The term of an option may not exceed ten years from the date of grant (or five years from the date of grant in the case of an incentive stock option granted to a participant who owns, directly or indirectly, shares constituting more than 10% of the total combined voting power of all classes of Edge s stock or the stock of any subsidiary).

Stock Appreciation Rights. A grant of a SAR entitles the holder to receive, upon exercise of the SAR, the excess of the fair market value of one share of Edge s common stock on the date of exercise over the grant price of the SAR as determined by the Compensation Committee. SARs will be settled either in cash, shares of common stock, or a combination of the foregoing. The grant price of a SAR may never be less than 100% of the fair market value of a share of common stock on the date of grant. The term of an SAR shall be no greater than ten years from the date of grant.

Other Stock-Based Awards. The Compensation Committee is authorized, subject to limitations under applicable law, to grant participants any type of Award that is payable in, or valued in whole or in part by reference to shares of Edge s common stock, and that is deemed by the Compensation Committee to be consistent with the purposes of the Restated Plan, including, without limitation, dividend equivalents, performance shares and performance units.

Change in Control and other Corporate Transactions

With respect to SARs and options outstanding on a change of control, the Compensation Committee in its discretion generally may (a) cancel any outstanding options or SARs in exchange for a cash payment in an amount equal to the excess, if any, of the fair market value of the common stock underlying the unexercised portion of the option or SAR as of the date of the change in control over the exercise price or grant price; (b) terminate any option or SAR, effective immediately prior to the change in control, provided that the participant has an opportunity to exercise his or her Award within a specified period following a written notice of the change in control; (c) terminate any options or SARs if the applicable performance goals were not satisfied as of the change in control; (d) require the successor or acquiring company (or its parents or subsidiaries) to assume any outstanding option or SAR or to substitute options or SARs with Awards involving the common equity securities of an acquirer or successor on terms and conditions necessary to preserve the rights of participants, or (e) take such other actions as the Compensation Committee believes may be appropriate. With respect to Edge RSUs or other Awards, the Compensation Committee generally may (a) provide in an Award agreement that, upon the occurrence of a change in control, any vested Edge RSUs and other Awards shall become immediately vested and/or payable, provided that if such Awards constitute non-qualified

deferred compensation (within the meaning of Code Section 409A) such change in control satisfies the requirements of Treasury Regulation Section 1.409A-3(i)(5)(v), (vi) or (vii); (b) with respect to any Edge RSUs or other Awards that do not constitute non-qualified deferred compensation, elect to settle such Edge RSUs and other Awards upon a change in control, (c) terminate any Edge RSUs or other Awards if the applicable performance goals were not satisfied as of the change in control, (d) require the successor or acquiring company (or its parents or subsidiaries), following a change in control, to assume such Edge RSUs and other Awards or to substitute such

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Awards with Awards involving the equity securities of the acquiring or successor company on terms and conditions so as to preserve the rights of participants, or (e) take such other actions as the Compensation Committee believes may be appropriate (including terminating such Awards for a cash payment equal to the fair market value of the underlying shares).

Certain Corporate Transactions

In order to prevent dilution or enlargement of the rights of participants under the Restated Plan as a result of any stock dividend, recapitalization, forward stock split or reverse stock split, reorganization, division, merger, consolidation, spin-off, combination, repurchase or share exchange, extraordinary or unusual cash distribution or other similar corporate transaction or event that affects Edge s common stock, the Compensation Committee shall adjust (i) the number and kind of shares of common stock which may be issued in connection with Awards to participants, (ii) the number and kind of shares of stock issuable in respect of outstanding Awards, (iii) the aggregate number and kind of shares of common stock available under the Restated Plan, and (iv) the exercise or grant price relating to any Award. In addition, the Compensation Committee is authorized to make adjustments in the terms and conditions of, and the criteria included in, Awards, including any performance goals, in recognition of unusual or nonrecurring events (including, without limitation, events described above) affecting Edge or any subsidiary, or in response to changes in applicable laws, regulations, or accounting principles.

Termination of Employment or Other Service

Unless otherwise provided in an Award agreement, upon a participant s termination of employment or other service with Edge, the unvested portion of such participant s Awards shall cease to vest and shall be forfeited and the vested portion of such participant s options and SARs shall remain exercisable by the participant or the participant s beneficiary or legal representative, as the case may be, for a period of (i) 30 days in the event of a termination by Edge or a subsidiary without cause, (ii) 180 days in the event of a termination due to death or disability and (iii) 30 days in the event of the participant s voluntary termination, but in all cases, not beyond the normal expiration date of the option or SAR. All of a participant s options and SARs, whether or not vested, shall be forfeited immediately upon such participant s termination by Edge or a subsidiary for cause.

Amendment and Termination

The Restated Plan will automatically terminate on [ ]. In addition, prior to the automatic termination of the Restated Plan, the combined company s board of directors may amend, alter, suspend, discontinue, or terminate the Restated Plan without the consent of stockholders, except that any such action shall be subject to the approval of Edge s stockholders if such action would increase the number of shares subject to the Restated Plan or decrease the price at which Awards may be granted, or if stockholder approval with respect to such action is required by any applicable law or regulation or the rules of any stock exchange on which Edge s common stock may then be listed or quoted. The combined company s board of directors must also obtain stockholder approval in order to take any action that would result in the repricing, replacement or repurchase of any option, SAR or other Award. The combined company s board of directors may otherwise determine to submit such other changes to the Restated Plan for approval by Edge s stockholders in its discretion. Generally, without the consent of an affected participant, no amendment, alteration, suspension, discontinuation, or termination of the Restated Plan may materially and adversely affect the rights of such participant under any outstanding Award.

Recoupment

Any Award granted under the Restated Plan will be subject to mandatory repayment by the participant to Edge pursuant to the terms of any company clawback or recoupment policy that is directly applicable to the Restated Plan

and set forth in an Award agreement or as required by law.

Transfer Restrictions

The Restated Plan prohibits participants from pledging, encumbering, assigning or transferring any Award, right or interest under the Restated Plan, except for assignments or transfers that occur by way of the laws of descent and distribution. Awards and rights under the Restated Plan will be exercisable during the life of a participant only by the participant or his legal guardian. However, the Compensation Committee, may in its discretion, permit transfers of options, SARs and/or restricted stock to certain immediate family members of the participant, to trusts for the benefits of such family members and to partnerships in which such family members are the only partners.

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Foreign Nationals

Without amending the Restated Plan, Awards may be granted to participants who are foreign nationals or are employed or providing services outside the United States or both, on such terms and conditions different from those specified in the Restated Plan as may, in the judgment of the Compensation Committee, be necessary or desirable to further the purpose of the Restated Plan. Moreover, the Compensation Committee may approve such supplements to, or amendments, restatements or alternative versions of, the Restated Plan as it may consider necessary or appropriate for such purposes without thereby affecting the terms of the Restated Plan as in effect for any other purpose.

New Plan Benefits

Because grants of awards will be made from time to time by the Compensation Committee to those persons whom the Compensation Committee determines in its discretion should receive grants of Awards, the benefits and amounts that may be received in the future by persons eligible to participate in the Restated Plan are not presently determinable. In connection with Lauren Wood s being hired as PDS s Chief Medical Officer, Ms. Wood s offer letter provided that she would receive a grant of options with respect to PDS s common stock. This grant has not yet been made. It is anticipated that this grant of options will be made under the Restated Plan on or after the Merger. It is anticipated that this grant of options to Ms. Wood will cover [___] shares of the combined company s common stock.

Summary of U.S. Federal Income Tax Consequences

The following discussion is a summary of certain U.S. federal income tax considerations that may be relevant to participants in the Restated Plan. This discussion is for general informational purposes only and does not purport to address specific federal income tax considerations that might apply to a participant based on his or her particular circumstances, nor does it address state, local or foreign income tax or other tax considerations that may be relevant to a participant.

PARTICIPANTS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS WITH RESPECT TO THE PARTICULAR FEDERAL INCOME TAX CONSEQUENCES APPLICABLE TO THEM AS A RESULT OF PARTICIPATING IN THE RESTATED PLAN, AS WELL AS WITH RESPECT TO ANY APPLICABLE STATE, LOCAL OR FOREIGN INCOME TAX OR OTHER TAX CONSIDERATIONS.

Incentive Stock Options. Upon the grant of an ISO, the option holder will not recognize any income. In addition, no income for federal income tax purposes will be recognized by an option holder upon the exercise of an ISO if the requirements of the Restated Plan and the Code are satisfied, including, without limitation, the requirement that the option holder remain employed by the combined company or a subsidiary during the period beginning on the date of grant and ending on the day three months (or, in the case of the option holder s disability, one year) before the date the option is exercised. If an option holder has not remained an employee of the combined company or a subsidiary during the period beginning on the date of grant of an ISO and ending on the day three months (or one year in the case of the option holder s disability) before the date the option is exercised, the exercise of such option will be treated as the exercise of a non-qualified option and will have the tax consequences described below in the section entitled Non-Qualified Options.

The federal income tax consequences upon a disposition of the shares acquired pursuant to the exercise of an ISO depends upon when the disposition of the shares occurs and the type of such disposition.

- If the disposition of such shares occurs more than two years after the date of grant of the ISO and more than one year after the date of exercise, any gain or loss recognized upon such disposition will be long-term capital gain or loss and the combined company or a subsidiary, as applicable, will not be entitled to any

income tax deduction with respect to such ISO.

- If the disposition of such shares occurs within two years after the date of grant of the incentive stock option or within one year after the date of exercise, or a disqualifying disposition, the excess, if any, of the amount recognized over the option price will be treated as taxable income to the participant and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a deduction equal to the amount of ordinary income recognized by the option holder. The amount of ordinary income recognized by the option holder in a disqualifying disposition (and the corresponding deduction to the combined company or a subsidiary, as applicable) is limited to the lesser of the gain

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on such sale and the difference between the fair market value of the shares on the date of exercise and the option price. Any gain recognized in excess of this amount will be treated as short-term or long-term capital gain (depending upon whether the shares have been held for more than one year). If the option price exceeds the amount recognized upon such a disposition, the difference will be short-term or long-term capital loss (depending upon whether the shares have been held for more than one year).

If a participant is subject to the Alternative Minimum Tax, or the AMT, the tax consequences to the participant may differ from those described above. Under the AMT, a taxpayer will be required to pay an alternative minimum tax if the taxpayer s tentative minimum tax (as defined in Section 55 of the Code) exceeds his or her regular tax for the year in question. For purposes of calculating the AMT, upon the exercise of an ISO, a taxpayer is required to include in his alternative minimum taxable income (as defined in Section 55 of the Code) for the taxable year in which such exercise occurs an amount equal to the amount of income the taxpayer would have recognized if the option had not been an ISO (i.e., the difference between the fair market value of the shares on the date of exercise and the option s exercise price). As a result, unless the shares acquired upon the exercise of the ISO are disposed of in a taxable transaction in the same year in which such option is exercised, the option holder may incur AMT as a result of the exercise of an ISO.

Except as provided in the paragraph immediately below, if an option holder elects to tender shares in partial or full payment of the option price for shares to be acquired upon the exercise of an ISO, the option holder will not recognize any gain or loss on such tendered shares. No income will be recognized by the option holder with respect to the shares received by the option holder upon the exercise of the ISO if the requirements of the Restated Plan and the Code described above are met. The number of shares received equal to the number of shares surrendered will have a tax basis equal to the tax basis of the surrendered shares. Shares received in excess of the number of shares surrendered will have a tax basis of zero. The holding period of the shares received equal to the number of shares tendered will be the same as such tendered shares holding period, and the holding period for the excess shares received will begin on the date of exercise. Solely for purposes of determining whether a disqualifying disposition has occurred with respect to shares received upon exercise of the ISO, all shares are deemed to have a holding period beginning on the date of exercise.

If an option holder tenders shares that were previously acquired upon the exercise of an ISO in partial or full payment of the option price for shares to be acquired upon the exercise of another ISO, and each such exercise occurs within two years after the date of grant of such ISO or within one year after such shares were transferred to the option holder, the tender of such shares will be a disqualifying disposition with the tax consequences described above regarding disqualifying dispositions. The shares acquired upon such exercise will be treated as shares acquired upon the exercise of an ISO.

If the holding rules described above are not satisfied, gain recognized on the disposition of the shares acquired upon the exercise of an ISO will be characterized as ordinary income, and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a corresponding deduction. The amount of such gain will be equal to the difference between the exercise price and the fair market value of the shares at the time of exercise. Special rules may apply to disqualifying dispositions where the amount recognized is less than the value at exercise. Any excess of the amount recognized upon such disposition over the fair market value at exercise will generally be long-term or short-term capital gain depending on the holding period involved. Notwithstanding the foregoing, in the event that the exercise of the option is permitted other than by cash payment of the exercise price, various special tax rules may apply.

Non-Qualified Options. An option holder will not recognize taxable income, and the combined company or a subsidiary, as applicable, is not entitled to a deduction, when a non-qualified option is granted. Upon the exercise of a non-qualified option, an option holder will recognize compensation taxable as ordinary income equal to the excess of

the fair market value of the shares received over the option price of the non-qualified option and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a corresponding deduction. An option holder s tax basis in the shares received upon the exercise of a non-qualified option will be equal to the fair market value of such shares on the exercise date, and the option holder s holding period for such shares will begin at that time. Upon the subsequent sale of the shares received

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in exercise of a non-qualified option, the option holder will recognize short-term or long-term capital gain or loss, depending upon whether the shares have been held for more than one year. The amount of such gain or loss will be equal to the difference between the amount recognized in connection with the sale of the shares and the option holder s tax basis in such shares.

If a non-qualified option is exercised in whole or in part with shares held by the option holder, the option holder will not recognize any gain or loss on such tendered shares. The number of shares received by the option holder upon such an exchange that are equal in number to the number of tendered shares will retain the tax basis and the holding period of the tendered shares for capital gain purposes. The shares received by the option holder in excess of the number of shares used to pay the exercise price of the option will have a basis equal to the fair market value on the date of exercise and their holding period will begin on such date.

Restricted Stock. Upon the grant of an award of restricted stock, the shares are considered to be subject to a substantial risk of forfeiture for federal income tax purposes. If a participant who receives restricted stock does not make the election described below, the participant does not recognize any taxable income upon the receipt of restricted stock and the combined company or a subsidiary, as applicable, is not entitled to a deduction at such time. When the forfeiture restrictions with respect to the restricted stock lapse, the participant will recognize compensation taxable as ordinary income equal to the fair market value of the shares at that time, less any amount paid for the shares and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a corresponding deduction. A participant s tax basis in restricted stock will be equal to the fair market value of such restricted stock when the forfeiture restrictions lapse, and the participant s holding period for the shares will begin on such date. Upon a subsequent sale of the shares, the participant will recognize short-term or long-term capital gain or loss, depending upon whether the shares have been held for more than one year at the time of sale. Such gain or loss will be equal to the difference between the amount recognized upon the sale of the shares and the tax basis of the shares in the participant s hands.

Participants receiving restricted stock may make an election under Section 83(b) of the Code to recognize compensation taxable as ordinary income with respect to the shares when such shares are received rather than at the time the forfeiture restrictions lapse. If the participant makes such an election, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a corresponding deduction in the year of grant. The amount of such compensation income (and the corresponding deduction) will be equal to the fair market value of the shares when the participant receives them (valued without taking into account restrictions other than restrictions that by their terms will never lapse), less any amount paid for the shares. By making a Section 83(b) election, the participant will recognize no additional ordinary compensation income with respect to the shares when the forfeiture restrictions lapse, and will instead recognize short-term or long-term capital gain or loss with respect to the shares when they are sold, depending upon whether the shares have been held for more than one year at the time of sale. The participant s tax basis in the shares with respect to which a Section 83(b) election is made will be equal to their fair market value when received by the participant, and the participant s holding period for such shares will begin at that time. If the shares are subsequently forfeited, the participant will not be entitled to a deduction as a result of such forfeiture, but will be entitled to claim a short-term or long-term capital loss (depending upon whether the shares have been held for more than one year at the time of forfeiture) with respect to the shares to the extent of the consideration paid by the participant for such shares.

Generally, during the restriction period, dividends and distributions paid with respect to restricted stock will be treated as compensation taxable as ordinary income (not dividend income) received by the participant, and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries, as applicable, will receive a corresponding deduction. Dividend payments received with respect to shares of restricted stock for which a Section 83(b) election has been made or which are paid after the restriction period lapses generally will be treated and taxed as dividend income.

SARs. A participant will not recognize taxable income, and the combined company or a subsidiary, as applicable, is not entitled to a deduction, upon the grant of a SAR. Upon exercise or settlement of a SAR, a participant will recognize compensation taxable as ordinary income in an amount equal to the cash or the fair market value of the shares received and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a corresponding deduction. A participant s tax basis in shares received upon the exercise of a SAR will be equal to the fair market value of such shares on the exercise date, and the participant s holding period for such shares will begin at that time. Upon the sale of shares received from the

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exercise of a SAR, the participant will recognize short-term or long-term capital gain or loss, depending on whether the shares have been held for more than one year. The amount of such gain or loss will be equal to the difference between the amount recognized in connection with the sale of the shares and the participant s tax basis in the shares.

Edge RSUs. A participant will not recognize taxable income upon the grant of Edge RSUs, and the combined company or a subsidiary, as applicable, is not entitled to a deduction upon such grant. When the award is settled and the participant receives cash or shares, the participant will recognize compensation taxable as ordinary income equal to the amount of cash received or the fair market value of the shares at that time (as applicable) and, subject to Section 162(m) of the Code, the combined company or one of its subsidiaries will be entitled to a corresponding deduction. A participant s tax basis in shares received at the end of a restriction period will be equal to the fair market value of the shares when the participant receives them, and the participant s holding period will begin on such date. Upon the sale of the shares received upon the settlement of restricted stock, the participant will recognize short-term or long-term capital gain or loss, depending upon whether the shares have been held for more than one year at the time of sale. Such gain or loss will be equal to the difference between the amount recognized upon the sale of the shares and the tax basis of the shares in the participant s hands. Dividend equivalents will be taxable to participants upon distribution as compensation, and accordingly, the participant will recognize ordinary income (not dividend income) in such amount and, subject to Section 162(m) of the Code, the combined company or a subsidiary, as applicable, will receive a corresponding deduction. In addition, as discussed below, Edge RSUs may be considered deferred compensation that must comply with the requirements of Section 409A of the Code in order to avoid early income inclusion and tax penalties.

Withholding. Participants will be responsible for making appropriate provision for all taxes required to be withheld in connection with any awards, including taxes relating to the vesting, exercise and transfer of shares pursuant to the Restated Plan. The combined company or a subsidiary is authorized to withhold from any payment relating to an Award under the Restated Plan, including from a distribution of common stock or any payroll or other payment due to a participant, withholding and other taxes due in connection with any transaction involving an award.

Million Dollar Deduction Limit. In 2017 and prior years, under Section 162(m) of the Code, a publicly-held corporation may not deduct compensation paid in any one taxable year in excess of $1,000,000 to a covered employee unless the compensation properly qualifies as performance-based compensation subject to certain requirements. Prior to the amendment of Section 162(m) adopted by the Tax Cuts and Jobs Act, as described below, a covered employee for this purpose is the chief executive officer of the corporation and each of the three other most highly compensated officers of the corporation (other than the chief financial officer), as reported to stockholders under the Exchange Act.

The Tax Cuts and Jobs Act, passed by Congress in December 2017, eliminated the performance-based compensation exemption under Section 162(m) and revised the definition of covered employee. Therefore, for 2018 and going forward, compensation paid to Edge s chief executive officer, Edge s chief financial officer and to each of Edge s other named executive officers (as required to be disclosed in Edge s annual proxy statement pursuant to the Exchange Act) will not be deductible for federal income tax purposes to the extent such compensation exceeds $1,000,000, regardless of whether such compensation would have been considered performance-based under prior law. This limitation on deductibility applies to each individual who is a covered employee (as defined in Section 162(m)) in 2017 or becomes a covered employee in any subsequent year, and continues to apply to each such individual for all future years, regardless of whether such individual remains a named executive officer. There is, however, a transition rule that allows performance-based compensation in excess of $1,000,000 to continue to be deductible if the remuneration is provided pursuant to a binding contract which was in effect on November 2, 2017 and which was not subsequently materially modified.

Nonqualified Deferred Compensation. Section 409A of the Code contains certain restrictions on the ability to defer receipt of compensation to future tax years. Any award that provides for the deferral of compensation, such as Edge

RSUs that are settled more than two and one-half months after the end of the year in which they vest, must comply with Section 409A of the Code or else be subject to further adverse tax consequences. If the requirements of Section 409A of the Code are not met with respect to an award, all amounts deferred under the Restated Plan during the taxable year and all prior taxable years (to the extent not already included in gross income) will be included in the participant s taxable income in the later of the year in which such violation

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occurs or the year in which such amounts are no longer subject to a substantial risk of forfeiture, even if such amounts have not been actually received by the participant. In addition, the violation of Section 409A of the Code will result in an additional tax to the participant of 20% of the deferred amount plus applicable interest computed from the date the award was earned, or if later, the date on which it vested.

Excess Parachute Payments. If the vesting or payment of an award made to a disqualified individual (as defined in Section 280G of the Code) occurs in connection with a change in control of the combined company, such vesting or payment, either alone or when combined with other compensation payments which such disqualified individual is entitled to receive, may result in an excess parachute payment (as defined in Section 280G of the Code). Section 4999 of the Code generally imposes a 20% excise tax on the amount of any such excess parachute payment received by such disqualified individual and Section 280G of the Code would prevent the combined company or a subsidiary or affiliate, as applicable, from deducting such excess parachute payment.

THE EDGE BOARD UNANIMOUSLY RECOMMENDS THAT THE EDGE STOCKHOLDERS VOTE "FOR" THE APPROVAL OF THE AMENDED AND RESTATED EDGE THERAPEUTICS, INC. 2014 EQUITY INCENTIVE PLAN.

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EDGE BUSINESS

Pending Merger Agreement with PDS

On November 23, 2018, Edge, Echos Merger Sub, Inc., a Delaware corporation, or Merger Sub, and PDS Biotechnology Corporation, a Delaware corporation, or PDS, that is a privately-held late clinical-stage cancer immunotherapy company, entered into an Agreement and Plan of Merger and Reorganization, or the Merger Agreement, pursuant to which, among other things, subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into PDS, with PDS surviving the merger as the wholly-owned subsidiary of the combined company. The Merger Agreement and the transactions contemplated hereby are described in detail elsewhere in this proxy statement/prospectus/information statement.

If the merger is completed, the business of Edge will become the business of PDS as described on page 146 under the caption PDS Business. If the merger is not completed, Edge will reconsider its strategic alternatives and may pursue one of the following courses of action, which Edge currently believes are the most likely alternatives if the merger with PDS is not completed:

- Pursue another strategic transaction similar to the merger. Edge may resume its process of evaluating other companies interested in pursuing a strategic transaction with Edge and, if a candidate is identified, focus its attention on negotiating and completing such a transaction with such candidate.
- Dissolve and liquidate its assets. If Edge is unable, or does not believe that it is able, to find a suitable candidate for another strategic transaction, Edge may dissolve and liquidate its assets. In the event of dissolution, Edge would be required to pay all of its debts and contractual obligations and to set aside certain reserves for potential future claims. If Edge dissolves and liquidates its assets, there can be no assurance as to the amount or timing of available cash that will remain for distribution to Edge' stockholders after paying Edge' debts and other obligations and setting aside funds for its reserves.

Overview

Edge is a clinical-stage biotechnology company that seeks to discover, develop and commercialize novel therapies capable of transforming treatment paradigms in the management of medical conditions.

On March 28, 2018, Edge announced that a pre-specified interim analysis performed on data from the Day 90 visit of the first 210 subjects randomized and treated in the Phase 3 multi-center, randomized, double-blind, placebo-controlled, NEWTON 2 study of EG-1962 in adults with aneurysmal subarachnoid hemorrhage demonstrated a low probability of achieving a statistically-significant difference compared to the standard of care in the study s primary endpoint, if the study were to be fully enrolled. The independent Data Monitoring Committee, or the DMC, for the NEWTON 2 study recommended that the study be stopped based on this demonstration. The DMC also reported that there were no safety concerns attributed to EG-1962.

Based on the DMC recommendation, Edge decided to discontinue the NEWTON 2 study and took steps to notify health authorities and clinical investigators participating in the study.

The NEWTON 2 study was designed to detect a 15% absolute improvement in favorable outcomes at Day 90 for the EG-1962 treatment group with a target enrollment of 374 subjects with WFNS grades 2-4 and an external ventricular drain, or EVD. Prior to discontinuation of the study, 289 subjects were randomized and 282 were treated. The final analysis showed that overall in the study s primary endpoint, 46% (64/138) of subjects treated with a single intraventricular injection of EG-1962 experienced a favorable outcome (a score of 6 to 8 on the extended Glasgow Outcome Scale, or GOSE) at Day 90, compared to 43% (62/144) of subjects treated with oral nimodipine. The GOSE is a clinically validated scale to assess recovery for patients who have suffered a brain injury.

In the NEWTON 2 study, at randomization, subjects were stratified by baseline severity as measured by the World Federation of Neurological Surgeons, or WFNS, grade. Results of a logistic regression analysis of Day 90 GOSE outcomes including interactions revealed a statistically significant treatment by WFNS group interaction (p=0.0381). In the pre-specified subgroup of subjects with WFNS grade 3 or 4 (*i.e.,* severe aSAH subjects), 46% (32/69) of subjects treated with EG-1962 experienced a favorable outcome as measured by GOSE, compared to 32% (24/75) of subjects treated with oral nimodipine. While these results did not achieve statistical significance (as the NEWTON 2 study was not powered to provide statistical significance for subgroups), they

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suggest a clinically meaningful potential benefit for EG-1962 in subjects with WFNS grade 3 or 4. Further, these results are consistent with results from Edge s Phase 1/2 NEWTON study. In that study, EG-1962 demonstrated a similar efficacy trend in favorable outcome rate compared to oral nimodipine in severe aSAH subjects with WFNS grades 3 or 4, with 37% (10/27) of the subjects treated with EG-1962 experiencing a favorable outcome, compared to 23% (3/13) of the subjects treated with oral nimodipine.

In the WFNS grade 2 subgroup (*i.e.,* moderate aSAH subjects), favorable outcome rates from the NEWTON 2 study were inconsistent with those observed in the Phase 1/2 NEWTON study in both the EG-1962 and oral nimodipine treatment groups. In addition, the favorable response rate in the control group in NEWTON 2 was higher than, and inconsistent with, that reported in the medical literature.

Edge did not identify any safety concerns that would have halted the NEWTON 2 study or precluded further development of EG-1962. Notably, the incidence of vasospasm was significantly lower in the EG-1962 treatment group compared to the standard of care, oral nimodipine. In addition, there was a lower incidence of both mortality and hypotension in the EG-1962 treatment group.

Based on the overall findings of the NEWTON 2 study, Edge has explored, and expects to continue to explore, whether any third party(ies) would be interested in acquiring rights to EG-1962.

On April 17, 2018, the Edge Board established a committee of convenience, the Transactions Committee, to explore strategic alternatives for Edge in order to maximize both near and long-term value for Edge shareholders, which might have included, without limitation, an acquisition of another company, acquisitions or in-licensing of products or product candidates, technologies or other assets, the sale of all or substantially all of the assets of Edge, a sale of stock, a strategic merger or other business combination transaction or other transaction between Edge and a third party.

In April 2018, the Edge Board retained Piper Jaffray to serve as its financial advisor in the strategic review process. During the strategic alternatives process, Edge continued to finance its operations with its existing cash. In the near term, Edge has reduced the scope of its operations, including the size of its workforce, in order to preserve cash resources. Edge has ceased research and development on EG-1962, including the completion of the NEWTON 2 study, and all of Edge s other product candidates.

On November 23, 2018, Edge, Merger Sub and PDS entered into the Merger Agreement, pursuant to which, among other things, subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into PDS, with PDS surviving the merger as the wholly-owned subsidiary of the combined company. The Merger Agreement and the transactions contemplated hereby are described in detail elsewhere in this proxy statement/prospectus/information statement.

Intellectual Property

The protection of Edge s product candidates, Edge s manufacturing methods, delivery systems and patient treatment protocols, and associated trade secrets and know-how are important to Edge s business. Edge has sought patent protection in the United States and internationally relating to EG-1962, a microparticulate formulation of nimodipine. Edge s policy is to seek, maintain and defend patent rights, whether developed internally or in-licensed, and to protect technologies, improvements and trade secrets that may be important to Edge s business.

Edge s commercial success will depend in part upon obtaining and maintaining patent and trade secret protection for Edge s post-merger product candidates, including components of Edge s proprietary formulations, methods of manufacturing Edge s product candidates, delivery systems, and methods of treating patients with Edge s product candidates, as well as successfully defending Edge s patent rights against third party challenges. Edge s ability to

prevent or stop third parties from making, using, selling, offering to sell or importing Edge s product candidates will depend in part upon whether Edge has valid and enforceable patent rights that cover the activities of third parties.

Patent Rights

Edge has been building Edge s patent portfolio. Where possible, Edge has pursued multi-tiered patent protection for Edge s product candidates and their manufacture, delivery and use. In addition to filing and prosecuting patent applications in the United States, Edge has filed counterpart patent applications in various countries and regions where Edge thinks such foreign filing is likely to be cost-effective.

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The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which Edge files, the patent term is 20 years from the earliest date of filing of a non-provisional patent application, with up to an additional five-year patent term extension available for regulatory delay. In the United States, a patent s term may also be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the United States Patent and Trademark Office, or USPTO, in granting a patent. However, the term of a United States patent may be shortened, if the patent term for a patent is terminally disclaimed by its owner, over another patent.

Patent Rights Associated with EG-1962

Edge wholly-owns one issued U.S. patent (expected to expire in 2029 if all maintenance fees are paid) directed to a method of treating a cerebral vasospasm in a human by administering a pharmaceutical composition via surgical injection into the subarachnoid space in a cistern closest to a cerebral artery at risk for vasospasm. Edge also has been granted patent protection for this invention in Australia, Canada, China, Europe, Israel, Japan, Korea, New Zealand and Singapore.

Edge has wholly-owned patents (expected to expire in 2032 if all maintenance fees are paid) directed to a method of treating, and a microparticulate delivery system for treating, a delayed complication associated with brain injury where the brain injury includes interruption of at least one cerebral artery in Australia, Europe, Japan, New Zealand, Russia, Singapore, and the United Kingdom; a notice of allowance has issued in Israel.

Edge also has a wholly-owned U.S. patent (expected to expire in 2029 if all maintenance fees are paid) claiming a method of treating a cerebral artery in the subarachnoid space of a human at risk of interruption due to a brain injury by administering locally a microparticulate composition into a cerebral ventricle. Patent protection for these inventions has been granted in Australia, China, Europe, Japan, New Zealand, Russia, and Singapore.

Edge also has a wholly-owned U.S. patent (expected to expire in 2029 if all maintenance fees are paid) claiming a method for treating a delayed complication of a brain injury that deposits blood in a subarachnoid space of the brain, wherein the brain injury is mediated by decreased cerebral perfusion, comprising providing a flowable particulate composition comprising a microparticulate suspension containing a calcium channel antagonist and a pharmaceutically acceptable carrier comprising an agent that affects viscosity of the microparticulate suspension of claimed release characteristics, and a drug load of at least 40%; and administering the composition locally either intracisternally, intraventricularly or intrathecally. Patent protection for this invention has been granted in New Zealand; a European patent application is pending.

In addition to the foregoing, Edge has used Edge s Precisa development platform, in collaboration with Evonik Industries, or Evonik, to seek to develop pharmaceutical compositions that contain particular polymorphic forms of nimodipine. Based on the collaboration, Edge co-owns, together with Evonik, two issued U.S. patents claiming a process for producing microparticles encapsulating a particular polymorphic form of nimodipine, a semisolid delivery system containing microparticles comprising the particular polymorphic form of nimodipine, and a method of treating a cerebral artery in a subarachnoid space at risk of interruption due to a brain injury using such a delivery system. These patents are expected to expire in 2033 if all maintenance fees are paid. Edge also co-owns, with Evonik, related patents granted in Australia and Canada. The issued U.S. patents cover the microparticulate formulation used in the NEWTON study. Evonik, as successor to SurModics Pharmaceuticals, Inc., or SurModics, under Edge s license agreement initially with SurModics, has granted Edge an exclusive, field-restricted, worldwide, royalty-bearing license under its patent rights together with enforcement rights against infringers, all pursuant to Edge s license agreement with Evonik relating to the co-owned patent rights.

Manufacturing

Edge has no present intention to manufacture EG-1962 or any other products in its pipeline. Edge currently has (1) an amended and restated master formulation development agreement and (2) a manufacturing and supply agreement, each for EG-1962 and each with Oakwood Laboratories, or Oakwood, but no work is being performed at Oakwood under either agreement.

Competition

Edge has no current plans to further develop or commercialize its portfolio of products. However, to the extent a potential strategic transaction results in the further development of the candidates in its portfolio, potential competitors include large pharmaceutical and biotechnology companies, specialty pharmaceutical and

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generic drug companies, academic institutions, government agencies and research institutions. The pharmaceutical industry is highly competitive and subject to rapid and significant technological change. Key competitive factors are likely to be efficacy, safety and tolerability profile, convenience of dosing, price and reimbursement. Many of these potential competitors have substantial financial, technical and human resources and significant experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of products and the commercialization of those products. Further, mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a small number of competitors. Accordingly, competitors may be more successful in obtaining FDA approval for therapies and achieving widespread market acceptance. Competitors products may also be more effective, or more effectively marketed and sold, than any product candidate that may be commercialized and may render Edge therapies obsolete or non-competitive before development and commercialization expenses can be recovered.

Government Regulation

Government authorities in the U.S. at the federal, state and local levels, and in other countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing, export and import of new drugs.

A number of different regulatory agencies may be involved, depending on the product at issue, and the type and stage of activity. These include the FDA, the Drug Enforcement Administration, the Centers for Medicare and Medicaid Services, other federal agencies, state boards of pharmacy, state controlled substance agencies and more.

U.S. Government Regulation

Drug Development Process

In the U.S., the FDA is a primary regulator of drugs under the Federal Food, Drug, and Cosmetic Act and implementing regulations. The process of obtaining regulatory approvals and other compliance with applicable federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with applicable requirements at any time during the drug development process, approval process, or after approval, may subject Edge to adverse consequences and administrative or judicial sanctions, any of which could have a material adverse effect on Edge. These sanctions could include refusal to approve pending applications; withdrawal or restriction of an approval; imposition of a clinical hold or other limitation on research; warning letters; product seizures; total or partial suspension of development, production, or distribution; or injunctions, fines, disgorgement, or civil or criminal payments or penalties.

The process required before a drug may be marketed in the U.S. generally involves the following:

- completion of preclinical laboratory tests, animal trials and formulation trials conducted according to Good Laboratory Practices, animal welfare laws and other applicable regulations;
- submission to the FDA of an IND, which must become effective before clinical trials (trials in human subjects) in the U.S. may begin, obtaining similar authorizations in other jurisdictions where clinical research will be conducted and maintaining these authorizations on a continuing basis throughout the time that trials are performed and new data are collected;
- performance of adequate and well-controlled clinical trials according to Good Clinical Practices to demonstrate whether a proposed drug is safe and effective for its proposed intended use;
- preparation and submission to the FDA of a marketing authorization application, such as a new drug application, or NDA, and submitting similar marketing authorization applications in other jurisdictions where commercialization will be pursued;

satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product
- will be produced to assess compliance with cGMP to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity; and
- FDA review and approval of the NDA or other marketing authorization application.

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The development, testing and approval process requires substantial time, effort and financial resources, as well as bearing inherent risk that individual products will not exhibit relevant safety, effectiveness, or quality characteristics. Edge cannot be certain that any approvals for its product candidates will be granted on a timely basis, or with the specific terms that Edge desires, if at all.

Foreign Regulation

In addition to regulations in the U.S., Edge is subject to a variety of foreign regulations governing clinical trials, and governing any future distribution and commercial sales, if any, of Edge products. Whether or not FDA approval is obtained for a drug candidate, the comparable regulatory authorities of foreign countries or economic areas, such as the European Union, must approve commencement of clinical trials or market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Under European Union regulatory systems, a company may submit marketing authorization applications either under a centralized or decentralized procedure. The centralized procedure, which is compulsory for medicines produced by biotechnology or those medicines intended to treat AIDS, cancer, neurodegenerative disorders, diabetes, autoimmune diseases and other immune dysfunction, viral diseases or orphan medicinal products, and optional for those medicines that are highly innovative, provides for the grant of a single marketing authorization based on the favorable scientific opinion of the European Medicines Agency that is valid for all European Union member states and the European Economic Area Countries (Norway, Iceland and Liechtenstein) through the EEA Treaty. The decentralized procedure provides for national approval to be granted in more than two or more member states based on an assessment of an application performed by the Member State leading the scientific evaluation, known as the reference member state. Under the decentralized approval procedure, an applicant submits an application, or dossier, and related materials to the reference member state and concerned member states. The reference member state prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. Within 90 days of receiving the reference member state s assessment report, each concerned member state must decide whether or not to approve the assessment report and related materials. If a member state does not accept the assessment of the reference member state on grounds relating to potential serious risk to public health, the points of disagreement are first referred to the coordination group on mutual recognition and decentralized procedures where all the member states are required to use their best endeavors to reach agreement on the action to be taken. If the Member States fail to reach an agreement within 60 days in the referral to the coordination group, the application will be referred to the European Medicines Agency for arbitration which will lead to a binding decision to be adopted by the European Commission.

The above overview describes the current drug approval framework in the European Union. In 2016, the United Kingdom voted to leave the European Union, commonly referred to as Brexit . The Brexit implementation process is complex and ongoing. When finalized, Brexit may have implications on the drug approval framework in the European Union. The specifics of the potential impact of Brexit on the drug approval process are unclear at this time.

Employees

As of December 31, 2018, Edge has [_____] full-time employees. Edge has no collective bargaining agreements with Edge s employees and has not experienced any work stoppages.

Corporate and Available Information

Edge was incorporated in Delaware in 2009. Edge completed the initial public offering of Edge s common stock in October 2015. Edge s common stock is currently listed on The NASDAQ Global Select Market under the symbol

EDGE. Edge is an emerging growth company under the Jumpstart Edge s Business Startups Act of 2012, and therefore Edge is currently subject to reduced public company reporting requirements.

Edge s principal executive offices are located at 300 Connell Drive, Suite 4000, Berkeley Heights, NJ 07922, and Edge s telephone number is (800) 208-3343.

You may find on Edge s website (http://www.edgetherapeutics.com) electronic copies of Edge s annual report on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K (and any amendments

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thereto) filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. Such filings are placed on Edge s website as soon as reasonably possible after they are filed with the Securities and Exchange Commission, or SEC. Edge s current charters for Edge s audit, compensation, and nominating and corporate governance committees and Edge s Code of Ethics are available on Edge s website as well. Any waiver of Edge s Code of Ethics may be made only by Edge s Board of Directors. You can read Edge s SEC filings over the internet at the SEC s web site at www.sec.gov.

Legal Proceedings

On April 23, 2018, a purported securities class action complaint was filed against Edge, Brian Leuthner (Edge s President and Chief Executive Officer) and Andrew Saik (Edge s Chief Financial Officer) in the United States District Court for the District of New Jersey, captioned *Sanfilippo v. Edge Therapeutics, Inc.*, Case No. 2:18-cv-8236. The complaint alleges that Edge, Mr. Leuthner and Mr. Saik violated Section 10(b) of the Securities Exchange Act of 1934 by making false and misleading statements concerning Edge s business, operations and prospects by failing to disclose that EG-1962 would likely fail a futility analysis. The complaint is brought on behalf of all purchasers of Edge s common stock between December 27, 2017 and March 27, 2018, and seeks unspecified damages. None of Edge, Mr. Leuthner, or Mr. Saik has been served with the complaint and their time to respond has not yet expired. On December 7, 2018, Sam Kirkpatrick and Amos Bakouple were appointed lead plaintiffs. It is expected that the lead plaintiffs will file an amended complaint in early 2019 and that defendants will not need to respond to the current complaint. Edge and its executives intend to defend themselves vigorously in the action. There can be no guarantee as to the outcome or timing of any resolution.

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PDS BUSINESS

Overview

PDS is a clinical-stage biotechnology company that seeks to develop and commercialize multi-functional cancer immunotherapy products that we believe will overcome limitations of immuno-oncology products and technologies that are currently on the market or in development.

Our mission is to apply the Versamune® platform, our proprietary and versatile immunotherapy technology, to develop a new generation of immuno-oncology products that are effective and safe across a broad range of cancer types. Our current development pipeline of cancer immunotherapy products are based on the Versamune platform, and can potentially be used both as monotherapies in early-stage disease and as a component of combination products with other leading technologies to provide effective treatment across a range of cancer types, including Human Papillomavirus (HPV)-based cancers, melanoma, colorectal, lung, breast and prostate cancers.

We seek to maintain high barriers to entry around our product candidates and the markets in which they are utilized by using a multiple layered approach to our patents, patent applications, and substantial know-how and trade secrets related to the Versamune platform. As of December 2018, we hold three (3) U.S. patents with granted claims directed to our platform technology, six (6) pending U.S. patent applications, five (5) issued foreign patents and three (3) pending foreign patent applications.

In preclinical studies, PDS has validated Versamune s novel multi-functional mechanism, which leads to a unique ability to induce high levels of tumor-targeting killer T-cells (CD8+) in vivo. This ability to overcome one of the most critical limitations of other immunotherapy technologies has been demonstrated in PDS s Phase 1/2a human clinical trial as described further below.

Key elements of PDS s clinical and commercial execution strategy are as follows:

1. Rapidly develop our lead product candidate, PDS0101, as monotherapy as a first line therapy for Cervical Intraepithelial Neoplasia (CIN2/3), and secondly in combination with Keytruda® as first and second line treatment of recurrent or metastatic head and neck cancer;
2. Validate our versatile immunotherapy technology, Versamune, by continuing development of the PDS0102, 0103, and 0104 programs in colorectal, melanoma, breast, lung, and prostate cancers;
3. Commercialize our wholly-owned product candidates, including PDS0101, if approved, through a targeted sales force in the United States, Canada and Europe and with potential strategic partnerships outside of these regions; and
4. Continue to seek to maintain high barriers to entry around our product candidates and the markets in which they are utilized by using our patents and know how around our Versamune® platform technology.

Cancer Immunotherapy

In the field of cancer immunotherapy, a well-documented and significant unmet need is the ability of therapies to safely induce in vivo an adequate number of highly active/polyfunctional CD8+ T-cells, coupled with the altering of the tumor microenvironment in order to limit its immune tolerance, in order to facilitate efficient tumor cell killing. Our data to date suggests that the Versamune® platform effectively promotes both of these critical immunotherapy characteristics, leading to strong antigen-specific CD8+ T-cell induction in a human clinical trial.

One of the most active areas of clinical testing in the field of cancer immunotherapy today is combining checkpoint inhibitors with other anti-cancer agents, with the goal of synergistic clinical efficacy compared with that of individual products. We believe that next generation of combination immunotherapy agents, especially those including both

checkpoint inhibitors and a second therapeutic agent, will need to have at least the following characteristics to achieve clinical and commercial success:

1. Induction of tumor infiltrating CD8+ T-cells;
2. Further alteration of the tumor microenvironment through activation of complimentary immunological mechanisms; and

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3. Lack of substantially higher combined toxicity than either component alone, in order to contribute a viable clinical application to cancer patients.

Most immunotherapies work by training or priming our T-cells to recognize specific disease-related proteins (cancer, bacterial or viral) displayed or expressed by diseased cells. The ultimate goal of immunotherapy treatment is to harness the power of the immune system to target and kill specific diseased cells, and thereby cure the underlying disease.

Immunotherapies have recently been recognized as having significant potential to treat a broad range of cancers and infectious diseases. Several cancer immunotherapies have now been approved by the FDA, and other promising immunotherapy technologies and products are in various stages of advanced clinical development.

Despite the promise demonstrated by current immunotherapy technologies, these products still face significant hurdles to achieving optimal therapeutic value. Some key obstacles faced by the current technologies are the following:

Antigen Uptake by Dendritic Cells: Antigens are particular proteins recognizable by the immune system that are uniquely or highly expressed/present in tumor cells but not present in normal healthy cells. The first critical step in generating an effective antigen-specific or antigen-targeting T-cell response is efficient uptake of particular antigens by dendritic cells, which are the key antigen presenting cells of the immune system. Proteins and peptides are not naturally highly taken up by dendritic cells, creating obstacles to effective T-cell response in existing immunotherapies. Versamune® has demonstrated the ability to promote antigen uptake by dendritic cells.

Antigen Cross-Presentation and Killer (CD8+) T-Cell Priming: Suboptimal ability to internalize, process/break-down and present tumor antigens to the immune system leads to ineffective activation or priming of killer T-cells. Dendritic cells are required to take up and process tumor antigens. These processed antigens then have to enter into an internal compartment of the cell, called the cytoplasm. The peptide s presence in the cytoplasm is necessary to allow smaller processed proteins (peptides) to be presented to killer T-cells via what is known as the Major Histocompatibility Complex (MHC) Class I pathway or to helper T-cells via the MHC Class II pathway. This is the process of T-cell priming. Current technologies have presented limited ability to adequately facilitate antigen presentation via the MHC Class I process *in vivo*, therefore leading sub-optimal killer T-cell priming and then weaker-than-optimal anti-tumor potency. Versamune® has demonstrated the ability to promote antigen processing and presentation via MHC Class I leading to effective CD8+ T-cell priming.

Immune Activation: Once T-cell priming has successfully occurred, a subsequent critical step is induction-specific immunological signals, including induction of certain chemokines and cytokines necessary for activation and proliferation of various classes of T-cells. Chemokines and cytokines are each a broad category of small proteins that are crucial for fighting off infections and other immune responses. Versamune® has demonstrated the ability to specifically activate the important type I interferon signaling pathway, leading to induction of the right phenotype of active CD8+ T-cells.

Overcoming Immune Suppression: A number of immune-suppressive mechanisms and cells naturally exist in humans that can increase in number within tumors. This results in the inhibition or blocking of ability of killer and helper T-cells to identify and kill the tumor cells. This state of immune tolerance must generally be overcome for T-cells to be effective in killing antigen-expressing cancer cells. In preclinical studies, Versamune® was demonstrated to alter the tumor micro-environment, making the tumors more susceptible to attack by T-cells.

Complexity and Costs: The relatively high formulation and manufacturing complexities, as well as related high costs, associated with most commercially available immunotherapies is well documented. For example, live vector-based cancer vaccines and dendritic cell vaccines require complex and expensive processes to enable manufacturing of live agent (virus or bacteria) products. Versamune® is based on synthetic positively charged lipids, which results in a much

simpler and less expensive manufacturing process than most other immunotherapy technologies.

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Versamune® - A Next Generation Immunotherapy and Cancer Immunotherapy

Based on the shortcomings described above, we believe that a next generation immunotherapy agent that can overcome those limitations is likely to address significant unmet needs. Below is a chart comparing Versamune®, a T-cell activating platform technology, to other cancer immunotherapy approaches. This table presents a general comparison and, in each category, PDS expects that there may be exceptions that display different characteristics. This table is not meant to represent every checkpoint inhibitor, cancer vaccine or CAR T-cell therapy, nor is it meant to imply that these are the only classes of immunotherapy.

* Based on preclinical toxicology and efficacy studies and Phase 1 clinical data.

Versamune® Platform

Versamune® has been rationally designed and is based on synthetic positively charged (cationic) lipids. The structure of these lipids leads to spontaneous formation of nanoparticles in an aqueous medium. The nanoparticles are sized to promote efficient uptake by the antigen presenting cells of the immune system, the dendritic cells. The nanoparticles are combined with tumor antigens (proteins, peptides, DNA or RNA) and administered by subcutaneous injection.

Figure 1: Versamune nanoparticles

The initial concept for Versamune® was first discovered and developed in 2005 by PDS s scientific founder, Professor Leaf Huang, at the University of Pittsburgh, School of Medicine. The Versamune® technology is based on the use of immune activating cationic (positively charged) lipids that spontaneously form liposomal nanoparticles in an aqueous medium. Huang, a world-renowned expert in liposome drug delivery and non-viral gene therapy, was familiar with the ability of cationic lipids to effectively deliver DNA into the cytoplasm of cells. PDS s targeted research and development efforts identified critical structural characteristics of bio-active lipids, and then refined and built upon that initial concept.

PDS s early development strategy was to assemble an expert team of third-party collaborators, with various and complementary areas of relevant expertise in immunology, molecular biology and tumor biology. This

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cross-functional team enabled PDS to develop and validate a unique platform encompassing and combining key attributes of the most promising immunotherapies, such as the live vectors and CAR T-cells, while also mitigating some of the most notable clinical shortcomings of those technologies. The resulting Versamune® technology is believed to induce active and potent disease-specific helper and killer T-cells, while simultaneously suppressing the tumor s defenses, thus becoming a key component in PDS product pipeline that is projected to safely and effectively treat both early and late-stage cancers.

The unique ability of Versamune to incorporate the critical characteristics described above is due to the following:

1. The specific composition of the nanoparticles results in efficient binding and uptake of nanoparticles by dendritic cells, and leads to rapid internalization into the cell endosomes and destabilization of endosomal membranes, thus releasing contents into the cytoplasm where they can then access the MHC Class I presentation pathway. This allows for effective priming of CD8+ T-cells.
   a. Delivery into the right compartments of the cell leads to effective processing of the antigen and cross presentation of the processed antigen to CD8+ T-cells, therefore overcoming a key limitation of vaccine technologies.
   b. Endosomal destabilization and entry into the cytoplasm allows for presentation of the processed antigen to both CD8+ and CD4+ T-cells (MHC-I and MHC-II). This overcomes a key limitation of current immunotherapy.
2. The structure of the cationic lipids induces specific activation of the Type I interferon (IFN-1) signaling pathway and the related down-stream cytokines and chemokines. IFN-1 activation is known to be highly important in the activation and proliferation of CD8+ T-cells.
   a. Localized induction of IFN-I at the injection site and within the lymph nodes restricts the cytokine and chemokine induction as well as resulting inflammation to the lymph nodes. Minimal systemic inflammation limits toxicity, and the lymph node-localized cytokine induction promotes T-cell potency.
   b. Specific/targeted activation specifically of the IFN-I pathway eliminates the non-specific immune activation induced by the current approaches and leads to induction of the correct/required phenotype of active polyfunctional T-cells that present effective tumor targeting and killing.

PDS Clinical Development Plan

Initially, PDS intends to demonstrate the application of the Versamune® platform s attributes:

- By applying PDS0101 as a monotherapy in first-line treatment of High Grade Cervical Intraepithelial Neoplasia (CIN2/3), and
- By applying PDS0101 as a more effective and safer combination therapy with Keytruda® in recurrent and metastatic head and neck cancer.

With additional financing, we plan to initiate clinical trials with PDS0102 (TARP-expressing cancers, e.g. prostate and breast cancers), PDS0103 (MUC-1 expressing cancers, e.g. colon, breast, lung and ovarian cancers) and PDS0104 (TRP2 expressing cancers, e.g. melanoma and glioma).

PDS 0101

We believe PDS0101, our lead product candidate, can fundamentally improve patient outcomes and transform the management of HPV-related pre-cancers and cancers. PDS0101 utilizes Versamune®, PDS proprietary and versatile multi-functional platform technology, and also includes various peptides from oncogenic strains of the HPV virus.

PDS0101 in Cervical Intraepithelial Neoplasia (CIN)

HPV-induced cancers, including cervical cancer, are one of the few cancer types with a well-defined pre-cancerous stage. Pre-cancerous lesions are defined as low-grade squamous intraepithelial lesions, including early stage cervical intraepithelial neoplasia (CIN1), and high grade squamous intraepithelial lesions, including

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late-stage cervical intraepithelial neoplasia (CIN2/3). There are currently no FDA-approved therapeutic drugs available to treat HPV-induced pre-cancers. High grade dysplasia is treated with various forms of surgery, with the most predominant being the loop electrosurgical excision (LEEP) procedure. Low grade dysplasia is not currently treated, primarily due to the potentially debilitating side effects that occur in approximately 15% of surgery patients. Strong association has been found between these surgical treatments of HPV-related lesions and then risk of future infertility or subfertility diagnoses. The procedures have also been associated with an increased risk of cervical stenosis and spontaneous abortion.

The worldwide annual incidence of pre-cancerous cervical intraepithelial neoplasia (CIN) is about 1,400,000. The estimated annual incidence of CIN in the United States among females who undergo cervical cancer screening is about four percent for early stage CIN (CIN1), and five percent for late stage CIN (CIN2/3). It is estimated that over 300,000 women in the US are diagnosed annually with CIN2/3. In China, the prevalence of CIN2 is about 1.5% of the general female population and the prevalence of CIN3 is about 1.2% of the female population.

PDS0101 + Keytruda® in HPV-positive recurrent or metastatic head and neck cancer

We have a collaboration agreement with Merck and Co. to combine PDS0101 with Merck s checkpoint inhibitor, Keytruda®, in a Phase 2 human clinical trial to treat HPV-positive recurrent or metastatic head and neck cancer.

HPV-Positive Head and Neck Cancer Including Oropharyngeal Squamous Cell Carcinoma:

Head and neck cancers have been reported to be increasing in recent years, and have been described as a silent epidemic attributed to HPV infection. A recent study showed the overall prevalence of oral HPV infection to be 11.5% in men and 3.2% in women, or 11 million men and 3.2 million women in the United States. High-risk oral HPV-16 was over three times more common in men. Over 70% of oropharyngeal cancers are estimated to be HPV-associated in developed Western countries. It has been reported that about 90% of the OSCC tumors were positive for HPV-16. The US National Cancer Institute (NCI) estimated that in 2013 about 36,000 people in the US would be diagnosed with OSCC. For 2017 the projections were increased to 49,670 new cases with an estimated 9,700 deaths. The current treatment options are surgery, radiation, chemotherapy or a targeted therapy, including checkpoint inhibitors.

PDS0101 Phase 1/2a Human Clinical Data

PDS completed a Phase 1/2a trial of PDS0101, which was conducted at three sites in the United States. The study was an Open-label Escalating Dose Study to Evaluate the Safety, Tolerability, and Pharmacodynamics of PDS0101 in subjects with Cervical Intraepithelial Neoplasia (CIN) and high-risk Human Papillomavirus (HPV) infections. The study included 3 cohorts of 3 to 6 subjects each, based on a modified 3 + 3 dose-escalation study design.

The study enrolled Cohort 1 and progressed through Cohort 3, with each subsequent cohort receiving a higher dose of PDS0101. Successive cohorts all receives a constant dose of the HPV-16 E6 and E7 antigens. Subjects were given three subcutaneous injections of PDS0101, three weeks apart, and blood was drawn 14-19 days after each injection, as well as 90 days after the last injection. HPV-specific CD8+ T-cells were quantified using both the Interferon-ELISPOT assay (quantities all HPV-specific T-cells) granzyme-b ELISPOT assay (specifically quantifies active HPV-specific CD8+ T-cells). Dosing and dose escalation were based on safety evaluation for determination of potential dose-limiting toxicity (DLT).

A total of 12 subjects were enrolled. There was a strong induction of active HPV-specific killer T-cells (CD8+) observed with quantifiable amounts of the CD8+ T-cells retrieved from patient blood as late as 14-19 days after treatment.

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Figure 2: CD8+ T-cell data generated in the phase 1/2a clinical trial

The CD8+ T-cells results seen in the Phase 1/2a study confirmed preclinical projections of high levels of active HPV-specific CD8+ T-cells. The results also confirmed preclinical projections of memory T-cell induction. Of note, T-cell responses were independent of patient genetic/HLA sub types.

No dose-limiting toxicities were observed, even at the highest tested dose of 10mg. A dose of approx. 3mg has been selected to move forward into the upcoming PDS0101 Phase 2b/3 clinical trials.

Other Development Programs

PDS0102 (TARP-expressing cancers) for the treatment of prostate and breast cancers

Prostate cancer: Based on promising Phase 2 clinical trials run by the NCI using TARP antigens, PDS and the NCI are collaborating to develop a Versamune platform-based immunotherapy for prostate cancer.

Prostate cancer is the most common non-skin cancer in the United States. Over 30,000 men die from the cancer every year according to the Prostate Cancer Foundation, and over two million Americans currently have prostate cancer. A recent report projects that the prostate cancer market will grow at a compound annual growth rate of 9.5%, from $7.6 billion in 2014 to $13.6 billion by 2021.

PDS0103 (MUC-1 expressing cancers) for the treatment of colorectal, breast, ovarian and lung cancers

PDS0103 is based on novel agonist antigens of the mucin-1 (MUC-1) oncogenic C-terminal region developed by the laboratory of Dr. Jeff Schlom, head of Tumor Biology at the NCI. MUC1 is highly expressed in multiple tumor types and has been shown to be associated with drug resistance and poor prognosis for a range of human tumors. The agonist peptides, compared to the native peptides, more efficiently enhance production of IFN- by peptide activated human T cells, and also more efficiently lyse human tumor cell targets in an MHC-restricted manner. It is also known that high avidity T-cells can lyse targets with 1,000-fold lower peptide–MHC complexes. The enhancer agonist epitopes developed induce higher avidity T-cells than self-antigens and has been demonstrated to be a successful strategy to enhance number and avidity of T-cells for MUC-1 directed immunotherapy.

These MUC-1 antigens have been licensed from the NCI for use with Versamune® in ovarian, breast, colorectal and lung cancers.

We believe that an effective and safe immunotherapy targeting solid tumors expressing MUC-1 will gain rapid acceptance as a monotherapy in early-stage disease and initially as a combination therapy in later stage disease.

Colorectal cancer (CRC): Colorectal or colon cancer, includes cancerous growths in the colon, rectum and appendix. It is the third most common form of cancer and the second leading cause of cancer-related death in the Western world. Global Markets estimates the colorectal cancer market to grow at 3% annually from $8.15 billion in 2015 to $11 billion in 2025 in the eight major markets, US, UK, England, France, Italy, Japan, China and

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Germany. We believe that there is significant market opportunity for immunotherapy, especially in early stage CRC disease where there is a lack of novel treatments outside chemotherapy.

Breast cancer: Breast cancer is a leading cause of cancer-related mortality among women worldwide. IMS Health reports that sales of breast cancer treatments will increase by an average of 5.8% a year in nine major markets, increasing from a value of $9.8 billion in 2013 to $18.2 billion by 2023.

Ovarian cancer: Ovarian cancer is the most common cause of death from gynecological tumors. Nearly 60,000 cases of ovarian cancer are diagnosed in the following seven major markets (the United States, Japan, Germany, France, Italy, the United Kingdom and Spain) each year. The five-year survival rate of ovarian cancer patients remains below 20%. The American Cancer Society reports that in the US about 22,240 women will receive a new diagnosis of ovarian cancer, and about 14,000 women will die from ovarian cancer in 2018. We believe that there is a significant market opportunity for immunotherapy especially in early stage disease where there is a lack of novel treatments outside chemotherapy.

Non-Small Cell Lung Cancer (NSCLC): NSCLC is the leading cause of cancer-related mortality in the major pharmaceutical markets. There is still a clear unmet need in the treatment of NSCLC despite products such as Alimta®, Avastin®, Iressa® and Tarceva®. The NSCLC treatment market is expected to reach $12.2 billion by 2025. Growth is expected to be driven by novel therapies entering the squamous cell carcinoma market segment, which is currently lacking effective treatment, unlike the non-squamous market segment.

PDS 0104 (TRP2 expressing cancers) for the treatment of melanoma

PDS has completed preclinical work in advanced melanoma tumor models where we have observed the ability of PDS0104 to overcome immune suppression and inhibit growth of B16 melanoma tumors. Preclinical studies have also demonstrated a strong synergy between PDS0104 and checkpoint inhibitors, resulting in dramatically improved antitumor response and prolonged survival.

Melanoma is a malignant tumor of the melanocytes. Melanoma is primarily a skin tumor, although it may also occur less frequently in the melanocytes of the eye. It is currently the seventh most common cancer in the US. Melanoma comprises 5% of all skin cancers. The most common causes are exposure to ultra violet radiation from the sun, leading to damage to the DNA of the melanocytes of the skin, family history, an impaired immune system and atypical moles on the body. The American Cancer Society estimated that there will be about 91,270 new cases of melanoma in 2018, and over 9,000 deaths. No effective therapies existed for advanced cancer until the immunotherapy Yervoy® was approved by the FDA in March of 2011.

Versamune-Based Product Candidates

The following table outlines PDS pipeline of product candidates.

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PDS is the sponsor of all of these clinical trials, and Merck and NCI referenced above are collaborators on such trials.

Commercialization of Product Candidates

PDS retains worldwide rights to all of our product candidates. If our product candidates are approved, we intend to establish targeted commercialization and marketing capabilities for our products in the United States, Canada and Europe by developing a sales force that would focus on academic medical centers and large oncology clinics. For commercialization outside of the United States, Canada and Europe, we generally expect to enter into collaborations with strategic partners.

A Summary of the Current State-of-the-art

Two approaches, dendritic cell vaccines and CAR T-cell immunotherapies, are the two commercial/FDA approved technologies that have presented the best promise to date in addressing other technologies inability to effectively present antigens to the dendritic cells inside the body:

Dendritic Cell Vaccines: Dendritic cell vaccines eliminate the need to target and deliver antigens to dendritic cells *in-vivo*. In these products, immature dendritic cells or monocyte precursors of the patient s dendritic cells are removed from the patient s blood and cultured outside the body. The dendritic cells are then treated with tumor antigens, and matured dendritic cells are re-infused into the patient to present the processed antigen material to the patient s T-cells.

Recent data reported with Provenge®, a prostate cancer vaccine, suggests that its induced immune responses are long-lived, with strong T-cell responses still observed in most surviving patients at two years after treatment. Nevertheless, this approach does not appear to address the immuno-suppressive environment in tumors, or provide immune activation/stimulation necessary to enhance activity of primed T-cells. Importantly, recent studies have demonstrated that antigen uptake and processing is still suboptimal when dendritic cells are treated ex-vivo.

CAR T-Cell Immunotherapy: CAR T-cell immunotherapy is based on manipulating T-cells collected from patients own blood. After collection, T-cells are genetically engineered to produce special receptors on their surface called chimeric antigen receptors (CARs). CARs are proteins that allow T-cells to recognize a specific protein (antigen) on tumor cells. These engineered CAR T-cells are then grown in the laboratory until they number in the billions. This expanded population of CAR T-cells is then intravenously infused into the patient. After the infusion, the T-cells are expected to multiply in the patient s body and, with guidance from their engineered receptor, recognize and kill cancer cells that display the antigen on their surfaces. Two CAR-T therapies have been approved to treat large B-cell lymphoma, Kymriah® and Yescarta®, and others are being tested in clinical trials.

CAR T-cell immunotherapy overcomes the need to perform *in-vivo* antigen processing and uptake by dendritic cells. Recent data in blood cancers have shown promising results with a high rate of complete remissions. These results confirm the ability or importance of killer T-cells in targeting and killing cancerous cells. Nevertheless, this approach does not appear to address the immuno-suppressive environment in solid tumors, and can cause significant side effects. Perhaps the most troublesome side effect is cytokine-release syndrome. The infused T-cells release cytokines, leading to a rapid and large presence in the bloodstream. This can cause dangerously high fevers and precipitous drops in blood pressure. Relatively high cost and complex manufacturing processes for CAR-T therapies may also limit the broader applicability of CAR T-cell immunotherapies in the long run.

Other promising approaches under evaluation in clinical trials are:

Live Vectors: This approach uses live vectors, predominantly live viruses or live bacteria, with added copies of a plasmid that encodes the protein antigen DNA sequence. The protein is then secreted by the virus or bacteria once

taken up by the dendritic cells. Studies have shown this approach can result in successful stimulation of T-cells and antibodies.

Antibodies: This approach uses dendritic cell targeting antibodies linked to tumor antigens in order to facilitate dendritic cell uptake of those antigens.

Electroporation: This approach involves generation of electrical pulses through the skin. This technology delivers antigenic DNA into the dendritic cells residing beneath the skin. The protein then has to be secreted

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by the dendritic cells once the DNA has been successfully delivered. Studies have shown this approach can result in successful stimulation of T-cells and antibodies.

Several of the technologies summarized above have not demonstrated the ability to effectively activate the necessary immunological mechanisms required to induce optimal killer T-cell responses. Additionally, many of these approaches do not activate mechanisms to combat or reduce immuno-suppressive cell populations within tumors. These drawbacks may lead to suboptimal responses, and the need to combine them with other technologies in the long run to improve their clinical responses.

Some efforts to address the immuno-suppressive environment have focused on developing antibodies focused on blocking immune checkpoints. These are known as the checkpoint inhibitors. Checkpoint inhibitors have had the most developmental attention and commercial success to date in the field of cancer immunotherapy. The function of checkpoint inhibitors is to block normal proteins on cancer cells, or the proteins on T-cells that respond to them. The result is to make cancer cells more visible to T-cells. This then helps generate a T-cell assault on the cancer. To date, more than six checkpoint inhibitors have received rapid approval from the U.S. Food and Drug Administration, or FDA. These include ipilimumab (Yervoy®), pembrolizumab (Keytruda®), and nivolumab (Opdivo®).

The development of each of the immunotherapies described below has encountered certain safety concerns:

Adjuvant-Based Cancer Vaccines: Adjuvant-based cancer vaccines appear to be quite well tolerated, with the most commonly reported adverse events being injection site reactions and systemic toxicities. These systemic inflammatory immune responses are sometimes caused by the use of the immune activators, known as adjuvants. Such adjuvants may have the potential to induce high cytokine levels in the blood, which can sometimes lead to severe side effects as a result of cytokine storms.

Cytokine Therapies: Products that administer cytokines present strong potential for high toxicity due to such cytokine storms.

Live Vector-Based Cancer Vaccines: Systemic toxicities have been reported with some live virus and bacteria technologies administered by intravenous infusion. Certain clinical trials have been suspended due to patient deaths suspected, but not confirmed, to have resulted from treatment-related toxicities.

CAR T-Cells: High numbers of infused T-cells can result in extremely high and debilitating systemic inflammation. In some recent clinical studies, patient deaths were reported as a result of high numbers of infused T-cells. These clinical trials were then suspended by the FDA.

Checkpoint Inhibitors: The use of checkpoint inhibitor antibodies to overcome tumor immune suppression is known to present the potential for triggering autoimmune disease.

Versamune® Mechanisms of Action (MOA)

We believe that the Versamune platform has a multi-functional mechansim of action, or MOA, which is responsible for its strong antigen-specific T-cell activity, that could potentially lead to clinical confirmation of efficacy. PDS continues to further study and validate some of these detailed molecular signaling mechanisms.

The section below summarizes studies that have been performed to confirm the mechanisms by which the Versamune-based products elicit strong anti-tumor responses apparently without the toxicities typical of current immunotherapy.

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Figure 3: Summary of the versatile and multi-functional mechanism of the Versamune® platform that leads to demonstrated anti-tumor activity

Antigen Uptake

The critical first step in the process of effectively priming T-cells is uptake of disease-related antigens in the formulation. Versamune® exploits the well-studied function of dendritic cells to take up particulate matter, and no targeting mechanisms are therefore believed to be required to facilitate this uptake. The positive charge of Versamune® leads to enhanced association with negatively charged cell surfaces, resulting in high internalization by the dendritic cells.

To confirm this effective uptake by dendritic cells, a number of in-vivo confirmatory studies were successfully completed:

- A bio-distribution study in mice demonstrated that, four hours after subcutaneous injection of Versamune®, 80% of dendritic cells in a draining lymph node (where dendritic cells interact with T-cells) had taken up Versamune®. This study also demonstrated that dendritic cells had been effectively activated and matured by Versamune®.
- Pharmacokinetic and absorption, distribution and excretion studies, in both rats and monkeys, demonstrated an extremely low presence of PDS0101 in the blood circulation (bio-availability 5-6%) after subcutaneous administration. These studies also demonstrated an extremely low presence of PDS0101 in all key organs of the body, with predominant presence in the lymphatic system. These studies confirmed effective uptake of the immunotherapy by the dendritic cells, and a subsequent high presence in the lymphatic system where effective interaction with T-cells can occur.

Example 1: *In-vitro* studies performed to examine the ability of Versamune® to promote antigen uptake and processing by bone marrow-derived dendritic cells (BMDC):

The protein ovalbumin (OVA) was used as a model antigen. Uptake of OVA into BMDC was visualized using Alexa 647-OVA. BMDC were incubated for various times with Versamune® and Alexa 647-OVA or Alexa 647 OVA alone followed by measurement of Alexa 647-OVA fluorescence by flow cytometry. Although some Alexa 647-OVA uptake was observed in BMDC incubated with Alexa 647-OVA alone, uptake was dramatically enhanced in the presence of Versamune®. Notably, Versamune® facilitated significant uptake within the first 10 minutes and continued throughout the hour (Figure 4).

Presumably, OVA uptake mediated by Versamune® would deliver OVA into acidic endosomes where OVA processing would be expected to occur. To evaluate processing, PDS utilized DQ-OVA, which is a heavily fluorescent OVA that self- quenches in the intact molecule, but fluoresces when degraded. Incubation of BMDC with DQ-OVA and Versamune® resulted in a significant shift to red fluorescence indicative of extensive processing and endosomal accumulation. Incubation of BMDC with DQ-OVA and the potent adjuvant LPS did not result in enhanced processing (Figure 5). Thus, in this study, Versamune® promoted rapid protein uptake and processing in BMDC, presumably in the endosomal compartments.

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Figure 4: Versamune® enhances protein uptake by dendritic cells

Bone marrow derived dendritic cells were incubated with Alexa-647 conjugated ovalbumin admixed with sucrose or Versamune® (R-DOTAP) nanoparticles for indicated times and the association of ovalbumin with BMDCs was represented as mean fluorescence intensity.

Figure 5: Versamune® enhances processing of antigen by dendritic cells

Bone marrow derived dendritic cells were incubated with DQ conjugated ovalbumin admixed with sucrose or Versamune® nanoparticles or LPS (1μg/ml) for indicated times and the association of ovalbumin with BMDCs was represented as mean fluorescence intensity.

DQ-Ovalbumin processing at 60 minutes was measured by assessing the fluorescence in the FITC channel (FL1H) and the fluorescence in the PE-channel (FL2H) which represents the ovalbumin processing.

To further examine the ability of Versamune® to influence cross presentation of antigens to killer T-cells (CD8+) by dendritic cells, studies were performed utilizing the B3Z T cell hybridoma, which expresses a T-cell receptor specific for the CD8-specific SL9 peptide of ovalbumin presented by H-2K^{b}. B3Z cells express a reporter lacZ gene under the control of the nuclear factor of activated T cells (NFAT) promoter providing a rapid and sensitive assay for the processing and presentation of SL9 antigen by dendritic cells. BMDCs were incubated with a long ovalbumin peptide ($OVA_{241-270}$) containing the SL9 epitope formulated with Versamune® nanoparticles or sucrose buffer for 1hr at 37^{o}C to load the peptide on to BMDCs. Excess peptide was removed by washing and BMDCs were then co-cultured with B3Z cells overnight. The efficiency of SL9 peptide cross presentation by BMDCs was measured using a colorimetric lacZ detection assay. While incubation of BMDC with peptide alone resulted in some cross presentation to B3Z cells, the addition of Versamune® nanoparticles resulted in maximal stimulation with approximately 100-fold less peptide (Figure 6). These results suggested that Versamune® potently enhances cross presentation of antigens to CD8+ T-cells.

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Figure 6: Versamune® promotes antigen cross-presentation to killer T-cells (CD8+) *in-vitro*

BMDCs were pulsed for 10 minutes with indicated concentrations of OVA (241-270) peptide admixed with sucrose (green) or Versamune® (red) and co-cultured with B3Z cells overnight and lacZ production by OVA peptide-stimulated B3Z was measured using lacZ colorimetric assay.

Overall the studies summarized in Example 1 demonstrate the ability of Versamune® to potentially overcome a significant limitation of current immunotherapeutic approaches, which is the sub-optimal uptake, processing and cross-presentation of antigens resulting in weak induction of tumor-targeting killer T-cells.

Antigen Presentation

One of the most important characteristics of the Versamune®-based lipids is their ability to facilitate entry of antigens into the cytoplasm of dendritic cells, and subsequent efficient presentation to T-cells leading to effective T-cell priming. This characteristic is expected to help the Versamune®-based products overcome one of the most significant obstacles facing the field of cancer immunotherapy.

The use of cationic lipids in cancer and infectious disease immunotherapy has gained significant attention due to the work of Prof. Leaf Huang and the unique properties of these lipid particles in delivering their content effectively into antigen presenting cells such as dendritic cells.

To confirm that Versamune® facilitates antigen presentation to CD8+ (killer) and CD4+ (helper) T-cells via MHC Class I and Class II, respectively, a number of in-vivo and in-vitro confirmatory studies were performed.

Example 2: In-vivo studies to confirm the ability of Versamune® to perform cross presentation to CD8+ T-cells

To directly examine cross presentation *in vivo* following Versamune® administration with antigen, these studies utilized an adoptive transfer model in which OTI T-cell receptor (TCR) transgenic T cells specific for the CD8 epitope SL9 of OVA presented by H-2K^b were labeled with carboxy fluorescein succinimidyl ester (*CFSE*), a fluorescent cell staining dye and transferred into normal C57BL/6 mice.

Activation and proliferation of OT1 cells in the adoptive transfer mice requires *in-vivo* processing of whole OVA into the SL9 epitope and presentation on the H-2K^b MHC class I molecule, i.e. cross presentation. Mice were then injected in the footpad with 1μg of whole OVA admixed with either sucrose or Versamune®. Proliferation of the transgenic T cells in the draining popliteal lymph node was assessed by flow cytometry measuring CFSE dilution in the transgenic T cells.

The draining lymph nodes (DLN) draining the Versamune® and OVA footpads were noticeably enlarged, and this was reflected in an increased total cell number isolated per lymph node. There was also a significant increase in total OT-1, both divided and undivided in the Versamune® and OVA-treated mice compared to OVA alone (Figure 7).

Thus, Versamune® facilitated MHC class I cross presentation of whole protein to CD8+ T cells in the draining lymph node when administered subcutaneously. Similar results were obtained utilizing class-II

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OVA-specific transgenic T-cells demonstrating that Versamune® facilitated MHC class II presentation of whole protein to CD4+ T cells in the draining lymph node when administered subcutaneously.

Figure 7: Versamune® (R-DOTAP) promotes antigen cross presentation *in-vivo* leading to superior proliferation of OT-1 CD8+ T-cells

Total number of antigen specific cells in the draining popliteal lymph nodes in each vaccinated mouse were enumerated using hemocytometer and antigen specific CD8 T cell expansion was measured by CFSE dilution assay and total number of OT-1 CD8T cells.

Immune Activation

The ability of certain structurally-specific cationic lipids to act as potent immune activators was first reported by Prof. Leaf Huang. Subsequent studies have identified the fact that the cationic lipids activate (or upregulate) the type I interferon genes. The type I interferon signaling pathway is well documented to be highly important in activation and proliferation of killer T-cells. PDS s studies have demonstrated that cationic lipids utilize certain pathways to upregulate type I interferons.

To better understand how the cationic lipids induce potent immune activation without the typically observed inflammatory toxic side effects, a number of further studies were performed.

Example 3: Studies to understand the immunological effects of Versamune® and resulting T-cell responses

To examine the immunostimulatory effect of Versamune® in the draining lymph node, mice were injected with Versamune® nanoparticles in the footpad and inflammatory gene expression was monitored in purified CD11c dendritic cells from the draining or non-draining popliteal lymph nodes after 4h or 24h by Nanostring multiplex analysis.

Among the inflammatory genes examined, the strongest genes up-regulated were those involved in the type I interferon pathway. These included IFN , IFN , CXCL10, and Stat 1. No induction of classical NF B dependent cytokines was observed (Figure 8). This result suggested that Versamune® is capable of inducing type I IFN in dendritic cells.

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To directly examine type I IFN production by DC, BMDC were incubated with Versamune® or LPS as a positive control for 18h and type I IFN was measured in the B16-Blue bioassay. There was a significant dose dependent induction of type I IFN in BMDC by Versamune®.

Figure 8: Versamune® (R-DOTAP) administration induces *in-vivo* lymph node production of Type I interferons known to be critical for CD8+ T-cell activation.

Mice were injected with Versamune® or sucrose in the foot pad and draining popliteal lymph nodes were harvested from each mouse and CD11c cells from pooled lymph nodes were sort purified. Relative gene expression from sort purified CD11c cells from Versamune® or LPS injected mice were analyzed using Nano string technology.

Cytokine/Chemokine Induction:

In preclinical studies, cytokine and chemokine induction were observed within lymph nodes within 24 hours of a single subcutaneous injection, and persisted for at least 5 days. This is important as cytokines and chemokines are known to be important in the activation and proliferation of T-cells (Figure 9). A separate study performed to evaluate the effect of Versamune® on induction of 20 key cytokines and chemokines demonstrated that, unlike a traditional T-cell activating immunotherapy used as a positive control, that Versamune® injection led to negligible increase in blood cytokine levels above normal baseline levels. This finding was important for 2 reasons:

1. Localized cytokine induction within the lymph nodes at the site of required T-cell activation could enhance activation of primed T-cells.
2. Localized induction of cytokines within the lymph node with negligible presence in the blood circulation minimizes potential for systemic toxicities, and improves clinical tolerability of the immunotherapy.

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Figure 9: Single subcutaneous injection of PDS0101 leads to sustained and elevated levels of the important CD8+ T-cell activating chemokine CCL2 (MCP-1).

On day 0, mice (n=3) were injected with PDS0101formulation.

On the indicated days, the mice were sacrificed and the draining lymph nodes collected.

The draining lymph nodes were homogenized in 100 µl ELISA buffer (10% FBS in PBS) and then analyzed by ELISA assay.

Activation and Proliferation of T-Cells:

As noted above, Versamune® was demonstrated to induce production of various chemokines in lymph nodes. Chemokines play a major role in selectively recruiting monocytes, neutrophils, and T-cells. It was demonstrated that, within a few hours of administering Versamune®, significant T-cell infiltration into the lymph nodes results.

Administration of Versamune® resulted in a visible increase in DLN size of wild type mice and this was due to a steady increase in total cell number over a seven-day period (Figure 10). This increase in total cell number was found to be dependent on the ability of Versamune® to induce type I IFN signaling, as this effect was greatly reduced in IFN R knock-out mice which are devoid of type I interferons.

Type I IFN is known to inhibit lymphocyte egress from lymphoid organs through the up-regulation of CD69, which in turn, inhibits the sphingosine 1 phosphate receptor required for lymphocyte egress. It has now been demonstrated that administration of Versamune® induces type I IFN in the lymph nodes, which in turn, up-regulates CD69 in T cells and natural killer cells resulting in their accumulation in the lymph nodes. This effect facilitates effective interaction of T-cells with dendritic cells leading to effective priming of T-cells.

When Versamune® is administered together with an antigen, strong T-cell priming to recognize the particular antigen, activation and proliferation is facilitated. Figure 11 shows a comparison of T-cell activation between Versamune® and the potent immune activator GM-CSF, demonstrating higher levels of CD8+ T-cell induction by Versamune®.

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Figure 10:

Versamune® administration induces production of chemoattractant chemokines leading to infusion of T-cells into the draining lymph nodes in vivo. B6 mice were injected with Versamune® or sucrose and draining lymph nodes were harvested from each mouse, and enzymatically digested lymph nodes were assessed for the total cell number at indicated times. Total infiltrating T cells are shown.

Figure 11:

Versamune® induces high levels of HPV-specific CD8+ T-cells in-vivo.

Groups of C57BL/6J mice (n=5) were treated with the indicated formulation containing HPV CD8 T cell epitopes mixed with Versamune, GMCSF, or sucrose on day 0 and boosted on day 7. Antigen specific CD8 T cell responses in spleen were assessed 7 days after the second injection by ELISPOT assay.

Quality of induced T-Cells:

A qualitative factor now known to be highly important in the ability of T-cells to lyse, or kill, infected cells is the quality or potency of T-cells. T-cell quality is directly related to its polyfunctionality, or its ability to induce more than one cytokine. In order to better understand the strength of Versamune®-induced immune responses and their clinical relevance, head-to-head comparisons were made with promising adjuvant-based therapeutic vaccine formulations which had shown promise in preclinical and clinical studies.

We first compared a prototype Versamune®-MUC1 formulation (PDS0103) to two emulsion-based adjuvants in clinical development. Montanide is a proprietary emulsion adjuvant currently being used in peptide-based cancer vaccines. Another potent emulsion-based combination adjuvant formulation specifically designed to induce strong *in-vivo* CD8 T cell responses consists of the 4-adjuvant combination of incomplete Freund s adjuvant, IL-12, GM-CSF, and $HBV_{128-140}$ helper epitope (IFA-Cyt). Mice receiving PDS0103 showed strong responses to both V1A and V2A CD8+ stimulatory. In contrast IFA-Cyt generated an equivalent strong response only to V2A, and Montanide induced responses were significantly lower for both V1A and V2A peptides.

Next, the polyfunctionality (ability to produce multiple cytokines) of induced antigen specific CD8 T cells was assessed by measuring their ability to produce cytokines interferon-gamma (IFN-), tumor necrosis factor-alpha (TNF-) or interleukin-2 (IL-2) by intracellular cytokine staining. In this assay, it was observed that Versamune®-based formulations stimulated the highest percentages of polyfunctional antigen specific CD8 T cells compared to the other two tested emulsion-based lipid formulations (Figure 13), suggesting that Versamune® may induce not only a higher number of CD8 T-cells *in-vivo*, but also potentially qualitatively superior T cells (higher potency) compared to other typical immunotherapy approaches.

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Figure 12: Versamune® (R-DOTAP) formulations containing multiple MUC-1 tumor associated antigens (PDS0103) induce quantitatively superior CD8 T cells responses.

Groups of AAD mice (n=6) were injected with the indicated formulations containing MUC-1 CD8 T cell epitope antigens on day 0 and boosted on day 7. MUC-1 specific CD8 T cell responses in the spleen were assessed 7 days after the second injection by ELISPOT assay. (A) Number of V1A, V2A, C1A, and C2A specific IFN producing cells in spleens from mice injected with human muc-1 peptides. (C) Number of V1A, and V2A specific IFN producing cells in spleen from mice vaccinated with Versamune®, IFN-Cyt or Montanide formulations containing Human MUC-1 peptides.

Figure 13:
Versamune® (R-DOTAP) formulations containing multiple MUC-1 tumor associated antigens (PDS0103) induce qualitatively superior CD8 T cells responses.

Groups of AAD mice (n=6) were injected with the indicated formulations containing MUC-1 CD8 T cell epitope antigens on day 0 and boosted on day 7. Fraction of V1A or PMA/Ionomycin (positive control) stimulated cells in spleen producing multi-cytokine (IFN , TNF- , and IL-2) among the IFN producing cells. PMA/Ionomycin is a commonly used *in-vitro* stimulant used to induce cytokine production by T-cells for research purposes.

Enantiomeric Specificity of the Cationic Lipids: Cationic lipids exist as 50:50 racemic mixtures of two asymmetric molecules, each called an enantiomer. Enantiomers are referred to as chiral, meaning they have identical physical and chemical structure and are mirror images of each other. Each of the enantiomers can be regarded as separate chemical entities if they can be demonstrated to possess different biological activity. PDS discovered that the R-enantiomer of the cationic lipid DOTAP is the immuno-active component of the mixture, with the S-enantiomer having weaker immune activating capability. R-DOTAP is the active ingredient now used

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in Versamune®. PDS s products are the first pharmaceutical products to contain a pure cationic lipid enantiomer, and its use in cancer immunotherapy is protected by several issued patents.

Altering the Tumor Microenvironment to Overcome Immune Suppression

The demonstrated ability of Versamune® to induce effective regression of established tumors strongly suggested that cationic lipids, such as R-DOTAP, could facilitate an altering of the tumor micro-environment sufficient to break tumor immune tolerance and induce killing of tumor cells.

Example 4: Studies to understand the effect of the Versamune®-based immunotherapy on the tumor s microenvironment:

To better understand Versamune®-induced changes within the tumor microenvironment, TC-1 tumor bearing B6 mice were subcutaneously injected on day 0 and day 7 with a Versamune®-based formulation containing a multi-epitope HPV peptide antigen (KF18) and assessed the effector (T-cell) and suppressor T cell (immune suppressive regulatory T-cells) recruitment to the tumor microenvironment on day 26. For comparison, a GMCSF adjuvant-based formulation that has been shown to induce strong CD8+ T cell immune responses *in vivo* in a clinical setting was also evaluated for comparative purposes. ELISPOT analysis (Figure 11) of CD8+ specific T cells (RF9) showed that tumor-bearing mice treated with the Versamune®-based formulation induced a superior sIFN- ELISPOT response to the RF9 CD8 T cell epitope detected in the spleens 7 days after the second injection.

Mice treated with GMCSF and KF18 stimulated a modest antigen specific T cell ELISPOT response, while, as expected, no response was observed with KF18 antigen alone, GMCSF, or Versamune® alone. To evaluate the tumor microenvironment during Versamune® induced tumor regression, groups of mice were treated with Versamune® and an HPV multi-peptide mixture containing KF18, with or without GMCSF.

To assess the cell types present within the tumor after various treatments, tumors were removed, enzymatically digested and cell populations analyzed by flow cytometry. CD4 helper T-cells, RF9-specific CD8 killer T-cells, FOXP3+ immune suppressive regulatory T-cells (Treg) were analyzed.

Versamune® and HPV peptide treated mice showed the highest percentage of CD8+ T cells within the tumor, and about 50% of these cells were RF9 specific. GMCSF and antigen, or antigen alone did not induce significant CD8 or CD8-RF9 specific T cell infiltration into the tumors. The CD8/CD4 ratio was highest in the Versamune® and HPV mix group and the Treg/RF9 specific T cell ratio within the tumors was dramatically lower in the Versamune® and HPV mix groups (Figure 3F-H).

These data collectively suggest that Versamune®-based formulations induced a quantitatively superior antigen specific T cell response and the cells were actively recruited to the tumors in large numbers promoting anti-tumor responses and eventually alter the tumor s microenvironment to promote regression and elimination of established tumors.

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Figure 14:
Versamune® efficiently alters effector T-cell to immune suppressor T cell ratio within the tumor, therefore promoting tumor regression.

Groups of C57BL/6J mice (n=5) were injected with the indicated formulation containing a HPV peptide antigen mixed with Versamune®, Versamune® plus GM-CSF, GMCSF, or sucrose on day 0 and injected again on day 7. Mice (n=10) were implanted subcutaneously with 1 X 10^5 TC-1 tumor cells and were given a single dose of each formulation when the tumors reached an average diameter of 4-5 mm on day 11 and tumor growth was monitored. The mice (n=5) were euthanized 8 days post treatment when the mice showed initial signs of regression and the tumors were processed to assess tumor infiltrating cells. Ratio of CD4/CD8 cells and ratio of immune suppressive Treg cells/RF9 CD8+ positive cells in the enzymatically digested tumor cell suspension were evaluated. Data represent mean ± SEM from each group (n= 5) and experiments are repeated at least 3 times with similar results.

Discussion of the effects of the studied attributes of Versamune® on tumor regression

T-cell-inducing immuno-therapeutic approaches to date have primarily focused on optimizing antigen-specific CD8 T cell induction. These approaches include designs to enhance antigen delivery, uptake and presentation of antigen including approaches such as the use of DNA, viral or intracellular bacterial vectors, nanoparticles, targeting of the antigen to DC through conjugation or pulsing DC in vitro with antigen.

Most of these approaches also include immunostimulatory compounds, typically toll-like-receptor, or TLR, agonists designed to induce the desired cytokine production. Still others include recombinant cytokines like IL-2, IL-12 or GMCSF. PDS s demonstration that the Versamune® platform functions as an activator of the type I interferon pathway explains the ability of Versamune® formulations to induce potent responses without inclusion in the formulation of extraneous cytokines or TLR agonists.

One of the most effective cancer vaccines reported to date consists of:

1) Anti-tumor antibody
2) IL-2
3) Lipid modified peptide
4) CpG, and
5) Anti-PD1 checkpoint inhibitor.

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This complex multi-component immunotherapy induced strong CD8+ T-cell responses and tumor regression in the HPV-positive TC-1 mouse model. However, in the absence of anti-PD1 checkpoint blockade, this product did not induce complete regression of a TC-1 tumor using the same RF9 peptide antigen as in PDS s studies.

In contrast, Versamune® nanoparticles, formulated with HPV peptide antigen KF18, effected complete regression of large TC-1 tumors with a single subcutaneous injection (Figure 15). PDS s studies support the projection that Versamune® nanoparticles, combined with protein or peptide antigens, may possess the critical properties for a powerful CD8+ T-cell immunotherapy. These include:

- Effective antigen delivery to the antigen presenting cells of the immune system
- Antigen uptake and cross presentation to CD4+ and CD8+ T-cells
- Intrinsic and specific immunostimulatory properties through activation of type I interferons; and
- Formation of an antigen depot without the severe injection site reactions observed with emulsions and other approaches.

Figure 15:
Versamune® (R-DOTAP) efficiently alters effector to suppressor T cell ratio promoting effective regression of HPV-positive TC-1 tumors.

Groups of C57BL/6J mice (n=10) were implanted subcutaneously with 1 X 10^5 TC-1 tumor cells and were given a single dose of a formulation containing HPV CD8 T cell epitopes mixed with Versamune®, Versamune® plus GM-CSF, GMCSF, or sucrose when the tumors reached an average diameter of 4-5 mm on day 11 and tumor growth was monitored. Tumor regression only occurred in the formulations containing Versamune®. Addition of GMCSF to Versamune® appeared to provide no additional benefit.

Anti-Tumor Efficacy in Advanced and Immuno-Suppressive B16F10 Model:

PDS utilized the aggressive subcutaneous B16F10 animal model in order to study Versamune® anti-tumor efficacy in a well-documented and extremely highly immuno-suppressive tumor microenvironment. This study was a follow-up to above described studies showing potent anti-tumor activity in HPV-positive TC-1 tumors with single doses.

The advanced B16F10 solid tumor model is rarely used in cancer immunotherapy development. More often, the prophylactic model is evaluated, where treatment occurs prior to inoculation with B16F10 tumor cells with the goal of preventing establishment of tumors. This is because once the tumors become well-established, various immune-suppressive mechanisms develop in tumors that are able to suppress T-cell activity. This suppression results in a lack of T-cell anti-tumor effect.

This study utilized an advanced tumor model, with 3 x 10^5 B16F10-luc cells subcutaneously inoculated into mice, to ensure that all mice had established and measurable tumors within 6 days of tumor cell inoculation.

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Examples of reported B16F10 studies using selected other immunotherapeutic technologies:

- *Dendritic cell vaccine*: Dendritic cells pulsed with Trp2 peptide were ineffective in both prophylactic and therapeutic 1316F10 tumor models.
- *Intracellular antigen delivery*: HIV TAT protein transduction domain was conjugated to a 472 amino acid sequence from the Trp2 protein or to the Trp2 peptide, and evaluated in a prophylactic model. Both showed better tumor prevention (not therapeutic) compared to the dendritic cell vaccine. This was suggested to be the result of successful intra-cellular delivery of Trp2 by the TAT domain enabling access to the MHC class I pathway.
- *Live virus delivery*: The recombinant adeno-associated virus (rAAV) carrying Trp2 cDNA delivered 22 days before tumor challenge was unable to induce any delay in tumor growth. The addition of other adjuvants, including CpG oligonucleotides and imiquimod failed to provide additional benefit.
- *Adoptive T-cell transfer*: Utilizing Trp2 peptide specific T-cells, adoptive T-cell transfer showed no ability to inhibit tumor growth when studied in the advanced solid tumor model (inoculation of 2 x 10^5 B16F10 cells). However, in the commonly used in-vivo CTL assay to monitor T-cell activity, nearly 98% specific lysis (killing) of injected non-tumor Trp2-expressing targets occurred. This study confirmed the ability of T-cells to identify the antigen-expressing cells and also confirmed the role of the immune-suppressive tumor environment in limiting T-cell efficacy.

In PDS s published study, a single dose of 300nmole Versamune® with 75nmole Trp2 peptide led to a significant increase in the presence of active CD8+ T-cells (IFN- secreting) and inhibition of tumor growth.

The ability of Versamune® to facilitate intracellular delivery of the Trp2 peptide, and to break the immune tolerance developed by the B16F10 tumor model after only one dose, strongly suggests that Versamune® may potentially provide a superior approach to currently available ` technologies.

Combination Immunotherapy

One common clinical goal of administration of immunotherapies to cancer patients is to spark a self-sustaining attack against cancer cells by the T cells, thereby producing long-term clinical benefit. Currently, there are approximately 2,000 immunotherapeutic agents in development. Some cancer patients respond better to the immunotherapies than others, due in part to the factors described above.

The limitations of current immunotherapy technologies as cancer monotherapies are now resulting in increasing testing of multiple cancer drugs in combination. As a result, combination immunotherapy is now generally believed to be the latest frontier in cancer research, and over a thousand such combination therapy clinical trials are currently ongoing. Due to the ability of the checkpoint inhibitors to alter the tumor s immune suppressive environment by blocking the immune checkpoints, the vast majority of the combination trials involve checkpoint inhibitors. However, due to the known need for CD8+ T-cell induction, checkpoint inhibitors have only generally been proven to be optimally clinically successful in a minority of treated patients to date.

Thus far, nivolumab with ipilimumab, which targets PD-1 and CTLA-4 respectively, is the only checkpoint-inhibitor combination approved for clinical use. It was approved to treat metastatic melanoma by the FDA in 2015. In a published study report, this combination was shown to delay tumor progression in melanoma by a median of 11.5 months, almost twice as long as in those on nivolumab alone, and almost four times as long as in people treated with only ipilimumab (Larkin, J. . Then, in October 2017, in a published study report, researchers demonstrated that this combination extended survival times: people with melanoma lived longer on the combined treatments, with 58% still alive after three years compared with 52% of those treated with nivolumab alone.

However, these improved survival rates were paired with reports of increased toxicity. Almost 60% of people taking the combination experienced severe side effects such as colitis or diarrhea — three times as many as those treated with nivolumab, and twice as many as those treated with ipilimumab.

PDS believes that rational design of combination immunotherapies using agents that promote synergy with each other and reduced potential for compounded toxicity would substantially improve potential for combination therapies to deliver improved clinical benefit for cancer patients. PDS believes that the fact that Versamune® appears to activate the appropriate combination of immunological pathways that promote strong CD8+ T-cell

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induction, while also altering the tumor s microenvironment to make the tumor more susceptible to T-cell attack, makes it an ideal complement to the checkpoint inhibitors to enhance their potency. In addition, the differences in mechanism of action between Versamune® and checkpoint inhibitors, as well as the initial demonstrated safety profile of Versamune®, suggests that these combinations may be much better tolerated by patients than many or most other combination therapies involving checkpoint inhibitors.

Example 5: Studies to understand the effect of Versamune®-based immunotherapy combined with a checkpoint inhibitor in a difficult-to treat preclinical tumor model:

To determine if checkpoint inhibitors enhanced the anti-tumor response of Versamune®, preclinical studies were performed employing the B16F10 melanoma model. B16F10 is a notoriously difficult tumor to successfully treat with antigen-specific immunotherapy, and monotherapy. One reason is that many of the antigens targeted are self-antigens to which there is some degree of immune tolerance. A previous study performed by PDS demonstrated that TRP2 antigen dose was important in the ability of R-DOTAP to break the tumor s immune tolerance, and a 75μmol dose was demonstrated to inhibit tumor growth but did not induce regression.

The Versamune® plus Trp2 formulation was shown to induce a strong CD8 T cell response. Trp2 is a 9aa tyrosinase related peptide presented by the H-2K^b molecule ($Trp2_{180\text{-}188}$: SVYDFFVWL). Subcutaneous injection with Versamune® and Trp2 resulted in strong CD8+ T-cell ELISPOT responses whereas Trp2 alone did not elicit any T-cell response (Figure 16A). To determine whether anti-PD1 treatment synergized with Versamune® and Trp2 treatment in slowing the growth of B16 melanoma, mice were implanted with B16F10 melanoma and injected with Versamune® and Trp2 when tumors reached a size of 3mm. In addition, some groups received 5 injections of anti-PD1 antibody.

Treatment with Versamune® and Trp2 resulted in some slowing of tumor growth compared to naïve or anti-PD1 only groups, which demonstrated no impact on tumor growth.

When Versamune® and Trp2 vaccination was combined with anti-PD1 treatment a synergistic effect was apparent resulting in a dramatic inhibition of tumor growth and an extension of survival (Figure 16 B-C). Tumor growth rate was observed to increase upon halting the anti-PD1 treatment.

These results strongly suggest an effective immunotherapeutic synergy between the Versamune® T-cell activating platform and the checkpoint inhibitors. Versamune® may therefore potentially be successfully combined with a checkpoint inhibitor in human combination immunotherapy strategies. One such trial is anticipated to begin in the second half of 2019.

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Figure 4: Versamune® (R-DOTAP) synergizes with anti-mouse PD1 checkpoint inhibitor treatment to significantly alter B16 melanoma tumor growth *in vivo*. Groups of C57BL/6J mice (n=5) were treated with the Versamune® plus TRP2 nanoparticles or TRP2 mixed in sucrose buffer on day 0 and boosted on day 7. A) Antigen specific CD8+ T cell responses in spleen were assessed 7 days after the second vaccination by ELISPOT assay. B-C) Mice were implanted subcutaneously with 1 X 10^5 B16.F10 tumor cells and were subcutaneously injected with two doses of Versamune® plus TRP2 nanoparticles on day 5 and 12 after tumor implant. For anti-mouse PD1 therapy, each mouse received five doses of 200 µg of anti-mouse PD1 antibody delivered i.p. at 3-day intervals starting on day 5 after tumor implant. B) Mean tumor volume ± SEM (n=5) in vaccinated or naïve mice. C) Survival over the course of the study.

Research and Development Strategy

PDS focuses on developing a relatively low-risk path to successful clinical development and proof of concept (POC). To accomplish this, PDS formed collaborations with a number of experts in tumor biology, immunology and immuno-oncology. These partnerships have historically reduced PDS development and clinical trial expenses. Partnerships also have provided and continue to provide PDS with expert clinical collaborators, who have been intricately involved the design of PDS upcoming Phase 2 clinical trials.

Extensive preclinical studies were performed to understand how cationic lipids interact with the immune system to prime CD8+ T-cell responses. Upon obtaining a good understanding of the immunology of the lipids and their interaction with tumor antigens, PDS optimized and evaluated PDS0101 for safety in extensive toxicology studies. Once safety was confirmed in preclinical models, PDS0101 was subsequently studied in a Phase 1/2a human clinical trial in order to confirm safety and to confirm induction of strong HPV-specific CD8+ T-cell responses in humans.

Based on the successful Phase 1/2a human clinical trial, which corroborated the preceding preclinical data, PDS established clinical supply agreements and collaborations with leaders in the field of immuno-oncology, including the NIH/NCI and Merck & Company, Inc. (Merck).

Facilities & Manufacturing

PDS is currently located at the Princeton Innovation Center BioLabs, 303A College Road East, Princeton, NJ 08540, which provides first-rate development facilities for biotech companies. All animal toxicology and efficacy testing is done via third party contracts and collaborations in order to provide maximum flexibility and to minimize operational costs and overhead. This approach allows for independent validation of PDS s data, and PDS believes it has historically been a cost-efficient way to progress its development programs.

PDS does not intend to incur the costs of building, staffing and maintaining manufacturing facilities in the near term. The PDS management team has extensive formulation, manufacturing and operations expertise, including past senior executive management roles in contract drug development and manufacturing. The team plans to utilize its expertise and knowledge to identify suitable contract manufacturers who will be capable of efficiently manufacturing PDS s products.

Competition

The biotechnology and pharmaceutical industries are characterized by intense competition to develop new technologies and proprietary products. While PDS believes that the Versamune platform provides it with competitive advantages, PDS faces competition from many different sources, including biotechnology and

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pharmaceutical companies, academic institutions, government agencies, as well as public and private research institutions. Any products that PDS may commercialize will have to compete with existing products and therapies as well as new products and immunotherapies that may become available in the future.

There are other organizations working to improve existing immunotherapies, vaccines or delivery methods, or to develop new vaccines, immunotherapies or delivery methods for its selected indications. Depending on how successful these efforts are, it is possible they may increase the barriers to adoption and success of the Versamune platform, if approved.

PDS anticipates that it will face intense and increasing competition as new immunotherapies enter the market and advanced technologies become available. PDS expects any products that it develops and commercializes to compete on the basis of, among other things, efficacy, safety, convenience of administration and delivery, price, availability of therapeutics, the level of generic competition and the availability of reimbursement from government and other third-party payors.

PDS s commercial opportunity could be reduced or eliminated if its competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that it may develop. PDS s competitors may obtain FDA or other regulatory approval for their products more rapidly than it may obtain approval for its products, which could result in PDS s competitors establishing a strong market position before it is able to enter the market. In addition, the ability of PDS to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic products.

There is currently no approved HPV therapeutic product available for sale globally. PDS has performed an evaluation of HPV therapeutic products in development and considers the products utilizing effective antigen delivery systems to the dendritic cells to be its closest competitors. Some have shown significant promise in on-going clinical studies. PDS believes its top clinical-stage competitors include Advaxis, Transgene, ISA Pharmaceuticals, and Inovio. PDS also has considered companies developing closely related products as competitors, including Etubics, Vaccibody, Admedus, Cel-Sci, Neo-ImmuneTech, Kite Pharma, Immune Design, Dynavax, Bavarian Nordic, Seattle Genetics, and Selecta Biosciences.

Intellectual Property

PDS strives to protect and enhance the proprietary technology, inventions and improvements that are commercially important to its business, including seeking, maintaining, and defending patent rights. PDS also relies on trade secrets relating to its platform and on know-how, continuing technological innovation to develop, strengthen and maintain its proprietary position in the vaccine field. In addition, PDS relies on regulatory protection afforded through data exclusivity, market exclusivity and patent term extensions where available. PDS also utilizes trademark protection for its company name, and expects to do so for products and/or services as they are marketed.

PDS has developed numerous patents and patent applications and owns substantial know-how and trade secrets related to its Versamune® platform. As of December, 2018, PDS holds three (3) U.S. patents with granted claims directed to its platform technology and six (6) pending patent applications. These issued patents will expire in 2025, 2031 and 2031. Should the more recently submitted patents currently in prosecution be issued, these will expire in 2033 through 2037 assuming no patent term extensions are granted. As of December, 2018, PDS holds five (5) issued foreign patents and four (4) pending foreign patent application, most of which are issued in multiple countries including Europe, Japan and Australia, and all of which cover compositions of matter and methods of use related to its platform technology. These issued patents will expire in 2031-2034, or later if patent term extension applies.

Licensed Patents

Licensed Patent Families 1 and 2 cover the Versamune®-based product candidates, as they are directed to the currently utilized Versamune® ingredient, (R)-DOTAP and its crystal forms, manufacturing methods, and pharmaceutical compositions using the compounds. PDS Biotechnology has an exclusive worldwide license from Merck & Cie to Licensed Patent Families 1 and 2, which are owned by Merck Patent GmbH, for use in the Company s immunotherapy compositions and immunotherapies. Merck & Cie has informed the Company that it has rights to license these patent families through an intra-company agreement with Merck Patent GmbH.

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Licensed Patent Families 1-2 (which cover (R)-DOTAP compositions and crystal forms and methods of use) are also of significance to the Company s future commercial endeavors in using (R)-DOTAP to develop additional immunotherapies and immune modulators.

Licensed Patent Families 3 and 4 are licensed from the US government, and are directed to mucin-1 (MUC-1) antigens to be used by the Company in future cationic lipid immunotherapy or vaccine products. Such immunotherapies can be used for treating a range of cancers, including colon, breast, ovarian, lung and pancreatic cancers.

Material Agreements

Cooperative Research and Development Agreement for Intramural-PHS Clinical Research with The U.S. Department of Health and Human Services.

Effective February 2, 2016, PDS entered into a Cooperative Research and Development Agreement (the *CRADA*) with the U.S. Department of Health and Human Services, as represented by the Nation Cancer Institute (*NCI*), pursuant to which the parties agreed to perform certain research and development activities as defined by the exhibited Research Plan. The principal goal of the CRADA is to determine whether PDS s Versamune® immunotherapeutic technology will be effective for enhancing delivery of cancer vaccines or viral vaccines or other immunotherapies developed by the Vaccine Branch, Center for Cancer Research, NCI, in mouse models and in human clinical trials.

The term of the CRADA is five (5) years, starting February 2, 2016. Pursuant to Appendix A, PDS agreed to provide up to $1,000,000 but no less than $500,000 during the first year of the CRADA and up to $1,000,000 but no less than $750,000 per year for the remaining years of the CRADA for NCI to use in connection with acquiring technical, statistical, and administrative support for the clinical research activities, as well as to pay for supplies and travel expenses and, upon consent of the parties, to acquire support for a postdoctoral research fellow to conduct additional preclinical studies. The CRADA may be terminated by either party at any time by mutual written consent. Either party may unilaterally terminate the CRADA at any time by providing sixty (60) days written notice. If PDS terminates prior to the completion of all approved or active study protocol(s) pursuant to the CRADA, PDS must supply enough study test product to complete these study protocol(s) unless termination is for safety reasons. If the CRADA is mutually or unilaterally terminated by PDS before its expiration, PDS must pay non-cancellable obligations for personnel for a period of six (6) months after the termination date or until the expiration date of the CRADA, whichever is sooner. If PDS suspends development on the test article without the transfer of its active development efforts, assets, and obligations to a third party within ninety (90) days of discontinuation, NCI may continue development. In such event, PDS must transfer all information necessary to enable NCI to contract for the manufacture of the test article and grant NCI a nonexclusive, irrevocable, worldwide, paid-up license regarding same.

Cost Reimbursement Agreement with University of Kentucky Research Foundation - I.

Effective November 1, 2015, PDS entered into a Cost Reimbursement Agreement (the Cost Reimbursement Agreement) with the University of Kentucky Research Foundation (UKRF), pursuant to which UKRF agreed to test PDS s preclinical and clinical-stage formulations based on HPV, TARP, MUC-1, Melanoma, WT1 and influenza antigens as specified more fully in the statement of work attached thereto in exchange for an amount not to exceed $188,350. The Cost Reimbursement Agreement terminated on June 30, 2016 unless extended by written mutual agreement of parties or is terminated by one of the parties. Either party may terminate the Cost Reimbursement Agreement for any reason with thirty (30) days written notice.

Cost Reimbursement Agreement with University of Kentucky Research Foundation - II.

Effective November 1, 2015, PDS entered into a Cost Reimbursement Agreement (the Cost Reimbursement Agreement) with the University of Kentucky Research Foundation (UKRF), pursuant to which UKRF agreed to perform a study of the mechanism of action of cationic lipids to better understand how they improve the activity of vaccines in exchange for an amount not to exceed $19,849. The Cost Reimbursement Agreement terminated on June 30, 2016 unless extended by the written mutual agreement of the parties or is terminated by one of the parties. Either party may terminate the Cost Reimbursement Agreement for any reason with thirty (30) days written notice.

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Patent License Agreement with National Institutes of Health.

Effective January 5, 2015, PDS entered into a Patent License Agreement (the Patent License Agreement) with the National Institutes of Health (NIH) an agency within the Department of Health and Human Services (HHS), pursuant to which NIH granted PDS a nonexclusive license to certain patent rights for the development of a therapeutic cancer vaccine specifically in combination with PDS s proprietary Versamune® technology for ovarian and pancreatic cancers. The Patent License Agreement expires when the last licensed patent expires, if the Patent License Agreement is not terminated prior to that date. NIH may terminate the Patent License Agreement if PDS is in default in the performance of any material obligation under the Patent License Agreement. PDS may unilaterally terminate the Patent License Agreement in any country or territory upon sixty (60) days written notice.

PDS agreed to pay NIH: (a) a noncreditable, nonrefundable royalty in the amount of $30,000 upon execution of the Patent License Agreement; (b) a nonrefundable minimum annual royalty of $5,000; (c) earned royalties of two percent (2%) on net sales, reducible by a half percent (0.5%) for any earned royalties PDS must pay to third parties; (d) benchmark royalties as follows: (i) $25,000 upon successful completion of Phase 2 Clinical Trials of a licensed product for ovarian cancer within each licensed territory; (ii) $50,000 upon initiation of the first Phase 3 Clinical Trial of a licensed product for ovarian cancer within each licensed territory; (iii) $750,000 upon the first commercial sale in the licensed territory utilizing and/or directed to licensed product(s) and/or licensed process(es) within the licensed patent rights for ovarian cancer; (iv) $25,000 upon successful completion of Phase 2 Clinical Trials of a licensed product for pancreatic cancer within each licensed territory; (v) $50,000 upon initiation (first patent dosed) of the first Phase 3 Clinical Trial of a licensed product for pancreatic cancer within each licensed territory; (vi) $750,000 upon the first commercial sale in the licensed territory utilizing and/or directed to licensed product(s) and/or licensed process(es) within the licensed patent rights for pancreatic cancer; and (e) additional sublicensing royalties for each sublicense required to be approved by NIH of four percent (4%) on the fair market value of any consideration received for granting such sublicense.

DOTAP Chloride Enantiomer License Agreement with Merck Eprova AG.

Effective November 1, 2008, PDS entered into a DOTAP Chloride Enantiomer License (the DOTAP License Agreement) with Merck Eprova AG (EPRO), pursuant to which PDS obtained a license from EPRO technology to undertake development of products relating to the R-enantiomer and S-enantiomer of Dotap Chloride for worldwide commercialization in a composition and method of inducing an immune response in a subject by administering at least one cationic lipid with or without an antigen. The DOTAP License Agreement expires on a licensed product-by-licensed product and country-by-country basis until the expiration of the obligation to pay royalties applicable to such licensed product in such country. PDS has the right to unilaterally terminate the DOTAP License Agreement (in its entirety or on a licensed product-by-licensed product or country-by-country basis) at any time for any reason upon nine (9) months prior written notice. In the event PDS is acquired, merged, re-organized or assigns all of its assets to a third party, PDS s successor will pay EPRO CHF 100,000. If PDS s successor elects not to develop the technology further within one (1) year, PDS s successor will pay EPRO a minimum of CHF200,000 or two percent (2%) of the value of the gross business transaction, whichever is greater.

Clinical Trial Collaboration and Supply Agreement with MSD International GmbH.

Effective May 19, 2017, PDS entered into a Clinical Trial Collaboration and Supply Agreement (the CTCSA) with MSD International GmbH (Merck) pursuant to which PDS and Merck agreed to collaborate in a Phase 2 clinical trial to evaluate the safety, and preliminary efficacy of the concomitant and/or sequenced administration of the combination of a Merck compound (i.e., pembrolizumab, a humanized anti-human PD-1 monoclonal antibody) and a PDS compound (i.e., PDS0101, a cationic lipid-based therapeutic vaccine encapsulating HPV peptides) in patients with recurrent or metastatic head and neck cancer and high-risk human papillomavirus-16 (HPV 16) infection after

failure with platinum-based chemotherapy. The term of the CTCSA commenced on May 19, 2017 and shall continue until the earlier of (i) delivery of the a final study report and (ii) Study Completion (i.e., upon database lock of the Study results) plus three (3) months, or until terminated by either party. In the event the CTCSA is terminated by Merck upon a material breach by PDS, PDS must reimburse Merck for its direct manufacturing costs, such as manufacturing fees, raw materials, direct labor, freight and duty, factory overhead costs and its indirect manufacturing costs, such as allocations of indirect factory overhead and site support costs.

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Government Regulation and Product Approval

Federal, state and local government authorities in the United States and in other countries extensively regulate, among other things, the research, development, testing, manufacturing, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of biological and pharmaceutical products such as those PDS is developing. PDS s product candidates must be approved by the FDA before they may be legally marketed in the United States and by the appropriate foreign regulatory agency before they may be legally marketed in foreign countries. Generally, its activities in other countries will be subject to regulation that is similar in nature and scope as that imposed in the United States. The process for obtaining regulatory marketing approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

U.S. Product Development Process

In the United States, the FDA regulates pharmaceutical and biological products under the Federal Food, Drug and Cosmetic Act, Public Health Service Act, or PHSA, and implementing regulations. Products are also subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. FDA sanctions could include, among other actions, refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, product recalls or withdrawals from the market, product seizures, total or partial suspension of production or distribution injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on PDS. The process required by the FDA before a drug or biological product may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests and animal studies according to good laboratory practices, or GLPs, and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an investigational new drug application, or an IND, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as good clinical practices, or GCPs, and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed biological product for its intended use;
- submission to the FDA of a Biologics License Application, or BLA, for marketing approval that meets applicable requirements to ensure the continued safety, purity, and potency of the product that is the subject of the BLA based on results of nonclinical testing and clinical trials;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced, to assess compliance with cGMP, to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity;
- potential FDA audit of the nonclinical study and clinical trial sites that generated the data in support of the BLA; and
- FDA review and approval, or licensure, of the BLA.

Before testing any product candidate in humans, the product enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs. The clinical trial sponsor

must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical testing may continue even after the IND is submitted. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions regarding the proposed

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clinical trials and places the trial on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or non-compliance. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA. Accordingly, PDS cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such trials.

Clinical trials involve the administration of the biological product candidate to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor s control. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur. Each protocol and any amendments to the protocol must be submitted to the FDA as part of the IND and also require IRB approval. Clinical trials must be conducted and monitored in accordance with the FDA s regulations composing the GCP requirements, including the requirement that all research subjects provide informed consent. Further, each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1. The biological product is initially introduced into healthy human subjects and tested for safety. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in seriously ill subjects.
- Phase 2. The biological product is evaluated in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.
- Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population generally at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk to benefit ratio of the product and provide an adequate basis for product labeling.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA and the investigators of potential safety risks, from clinical trials or any other source, including for serious and unexpected adverse events and serious and unexpected suspected adverse reactions, any findings from other studies suggesting a significant risk in humans exposed to the drug, tests in laboratory animals or in vitro testing that suggest a significant risk for human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction as soon as possible but no later than within seven calendar days after the sponsor s initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not

be completed successfully within any specified period, if at all. The FDA or the sponsor or its data safety monitoring board may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an

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unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB s requirements or if the biological product has been associated with unexpected serious harm to subjects.

Concurrently with clinical trials, companies usually complete additional studies and must also develop additional information about the physical characteristics of the biological product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. To help reduce the risk of the introduction of adventitious agents with use of biological products, the PHSA emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other criteria, the sponsor must develop methods for testing the identity, strength, quality, potency and purity of the final biological product. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Processes

After the completion of clinical trials of a biological product, FDA approval of a BLA must be obtained before commercial marketing of the biological product. The BLA must include results of product development, laboratory and animal studies, human trials, information on the manufacture and composition of the product, proposed labeling and other relevant information. The FDA may grant deferrals for submission of data, or full or partial waivers. The testing and approval processes require substantial time and effort and there can be no assurance that the FDA will accept the BLA for filing and, even if filed, that any approval will be granted on a timely basis, if at all.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each BLA must be accompanied by a significant user fee. The FDA adjusts the PDUFA user fees on an annual basis. For approved drugs, including BLA-licensed biological products, PDUFA also imposes an annual PDUFA program fee. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. No user fees are assessed on BLAs for products designated as orphan drugs, unless the application for the product also includes a non-orphan indication.

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission, and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe, potent, and/or effective for its intended use, and has an acceptable purity profile, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product s identity, safety, strength, quality, potency and purity. The FDA may refer applications for novel biological products or biological products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy, or REMS, is necessary to assure the safe use of the biological product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS. The FDA will not approve a BLA without a REMS, if required.

Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP

requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND trial requirements and GCP requirements. To assure cGMP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production, and quality control.

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Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than PDS interprets the same data. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that describes all of the specific deficiencies in the BLA identified by the FDA. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical trials. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product.

Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a risk management plan, or otherwise limit the scope of any approval. In addition, the FDA may require post marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product s safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

In addition, under the Pediatric Research Equity Act, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers.

Post-Approval Requirements

Any products for which PDS receives FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the product, providing the FDA with updated safety and efficacy information, product sampling and distribution requirements, and complying with FDA promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, restrictions on promoting products for uses or in patient populations that are not described in the product s approved uses, known as ‘off-label use, limitations on industry-sponsored scientific and educational activities, and requirements for promotional activities involving the internet. Although physicians may prescribe legally available products for off-label uses, if the physicians deem to be appropriate in their professional medical judgment, manufacturers may not market or promote such off-label uses.

In addition, quality control and manufacturing procedures must continue to conform to applicable manufacturing requirements after approval to ensure the long-term stability of the product. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including, among other things, recall or withdrawal of the product from the market. In addition, changes to the manufacturing process are strictly regulated, and depending on the significance of the change, may require prior FDA approval before being implemented. Other types of changes to the approved product, such as adding new indications and claims, are also

subject to further FDA review and approval.

The FDA also may require post-marketing testing, known as Phase 4 testing, and surveillance to monitor the effects of an approved product. Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, warning letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data may require changes to a product s approved labeling, including the addition of new warnings

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and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA s policies may change, which could delay or prevent regulatory approval of its product candidates under development.

Other U.S. Healthcare Laws and Compliance Requirements

In the United States, PDS s activities are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including but not limited to, the Centers for Medicare and Medicaid Services, or CMS, other divisions of the U.S. Department of Health and Human Services, for instance the Office of Inspector General, the U.S. Department of Justice, or DOJ, and individual U.S. Attorney offices within the DOJ, and state and local governments. For example, sales, marketing and scientific/educational grant programs must comply with the anti-fraud and abuse provisions of the Social Security Act, the false claims laws, the physician payment transparency laws, the privacy and security provisions of the Health Insurance Portability and Accountability Act, or HIPAA, as amended by the Health Information Technology and Clinical Health Act, or HITECH, and similar state laws, each as amended.

The federal anti-kickback statute prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. The term remuneration has been interpreted broadly to include anything of value. The anti-kickback statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, and formulary managers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. PDS s practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor, however, does not make the conduct per se illegal under the anti-kickback statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. However, the lack of uniform court interpretation of the anti-kickback statute makes compliance with the law difficult. Violations of the federal anti-kickback statute can result in significant criminal fines, exclusion from participation in Medicare and Medicaid and follow-on civil litigation, among other things, for both entities and individuals.

Additionally, the intent standard under the anti-kickback statute was amended by the Affordable Care Act to a stricter standard such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the Affordable Care Act codified case law that a claim including items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act, as discussed below.

The Criminal Healthcare Fraud statute, 18 U.S.C. § 1347 prohibits knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third-party payers. Federal criminal law at 18 U.S.C. § 1001, among other sections, prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services.

The civil monetary penalties statute imposes penalties against any person or entity that, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The federal False Claims Act prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to, or approval by, the federal government or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. The qui tam provisions of the False Claims Act and similar state laws allow a private individual to bring civil actions on behalf of the federal or state government and to share in any monetary recovery. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes any request or demand for money or property presented to the U.S. government. Recently, several

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pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies marketing of the product for unapproved, and thus non-reimbursable, uses.

HIPAA created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the federal anti-kickback statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

PDS may be subject to data privacy and security regulations by both the federal government and the states in which it conducts its business. HIPAA, as amended by the HITECH Act, and its respective implementing regulations, including the final omnibus rule published on January 25, 2013, imposes requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA s privacy and security standards directly applicable to business associates independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways, thus complicating compliance efforts.

Additionally, the Federal Physician Payments Sunshine Act under the Affordable Care Act, and its implementing regulations, require that certain manufacturers of drugs, devices, biological and medical supplies for which payment is available under Medicare, Medicaid or the Children s Health Insurance Program, with certain exceptions, report information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members. Failure to submit timely, accurately, and completely the required information may result in civil monetary penalties of up to an aggregate of $150,000 per year and up to an aggregate of $1 million per year for knowing failures . Certain states also mandate implementation of compliance programs, impose restrictions on pharmaceutical manufacturer marketing practices and/or require the tracking and reporting of gifts, compensation and other remuneration to healthcare providers and entities.

In order to distribute products commercially, PDS must also comply with state laws that require the registration of manufacturers and wholesale distributors of drug and biological products in a state, including, in certain states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several states have enacted legislation requiring pharmaceutical and biotechnology companies to establish marketing compliance programs, file periodic reports with the state, make periodic public disclosures on sales, marketing,

pricing, clinical trials and other activities, and/or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing certain physician prescribing data to pharmaceutical and biotechnology companies for use in sales and marketing, and to prohibit certain other sales and marketing practices. All of PDS s activities are potentially subject to federal and state consumer protection and unfair competition laws.

If PDS operations are found to be in violation of any of the federal and state healthcare laws described above or any other governmental regulations that apply to it, PDS may be subject to penalties, including without

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limitation, civil, criminal and/or administrative penalties; damages; fines; disgorgement; exclusion from participation in government programs, such as Medicare and Medicaid; injunctions; private qui tam actions brought by individual whistleblowers in the name of the government, or refusal to allow it to enter into government contracts; contractual damages; reputational harm; administrative burdens; diminished profits and future earnings; and the curtailment or restructuring of its operations; any of which could adversely affect PDS s ability to operate its business and its results of operations.

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which PDS obtains regulatory approval. In the United States and markets in other countries, sales of any products for which PDS receives regulatory approval for commercial sale will depend, in part, on the extent to that third-party payors provide coverage, and establish adequate reimbursement levels for such products. In the United States, third-party payors include federal and state healthcare programs, private managed care providers, health insurers and other organizations. The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price of a product or for establishing the reimbursement rate that such a payor will pay for the product. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the FDA-approved products for a particular indication. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical products, therapies and services, in addition to questioning their safety and efficacy. PDS may need to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of its tablet product candidates, in addition to the costs required to obtain the FDA approvals. PDS s product candidates may not be considered medically necessary or cost-effective. A payor s decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor s determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Adequate third-party reimbursement may not be available to enable PDS to maintain price levels sufficient to realize an appropriate return on its investment in product development.

Different pricing and reimbursement schemes exist in other countries. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other countries allow companies to fix their own prices for medicines, but monitor and control company profits. The downward pressure on health care costs has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any product candidates for which it receives regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, emphasis on managed care in the United States has increased and PDS expects the pressure on healthcare pricing will continue to increase. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which PDS receives regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

U.S. Healthcare Reform

PDS anticipates that current and future U.S. legislative healthcare reforms may result in additional downward pressure on the price that PDS receives for any approved product, if covered, and could seriously harm its business. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in

payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent PDS from being able to generate revenue, attain profitability or commercialize its product candidates. In addition, it is possible that there will be further legislation or regulation that could harm its business, financial condition and results of operations.

If PDS is able to obtain marketing approval for one or more of our products, we may also experience downward pricing pressure on the price of our products due to social or political pressure to lower the cost of

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drugs, which would reduce our revenue and future profitability. Price increases have resulted in increased public and governmental scrutiny of the cost of drugs. For example, U.S. federal prosecutors have issued subpoenas to pharmaceutical companies seeking information about pricing practices in connection with an investigation into pricing practices being conducted by the U.S. Department of Justice. Several state attorneys general also have commenced drug pricing investigations and filed lawsuits against pharmaceutical companies, and the U.S. Senate has publicly investigated a number of pharmaceutical companies relating to price increases and pricing practices. Our revenue and future profitability could be negatively affected if these or other inquiries were to result in legislative or regulatory proposals that limit our ability to increase the prices of any products for which we obtain marketing approval.

In addition, the Trump Administration and number of federal legislators continue to scrutinize drug prices and are seeking ways to lower prices. For example, the Trump Administration s Blueprint on drug prices describes a number of mechanisms for lowering manufacturer list prices and reducing patient out-of-pocket costs. Although the Blueprint contains a number of policy objectives, PDS cannot know the form that any new requirements will take or the effect that they may have on our business. In addition, Congress has held a number of hearings related to drug prices, and a bipartisan group of U.S. Senators introduced legislation in 2016 that would require pharmaceutical manufacturers to justify certain price increases. A large number of individual states also have introduced legislation aimed at drug pricing regulation, transparency or both. California, Oregon, Vermont, and Nevada have enacted such laws. Our revenue and future profitability could be negatively affected by the passage of these laws or similar federal or state legislation. Pressure from social activist groups and future government regulations may also put downward pressure on the price of drugs, which could result in downward pressure on the prices of our products in the future.

Foreign Regulation

In order to market any product outside of the United States, PDS would need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of its products. Whether or not PDS obtains FDA approval for a product, it would need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can commence clinical trials or marketing of the product in foreign countries and jurisdictions. Although many of the issues discussed above with respect to the United States apply similarly in the context of the European Union, the approval process varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

Employees

PDS s management team possesses considerable experience in drug development research, manufacturing, clinical development and regulatory matters. PDS semi-virtual operating strategy of collaborating with scientific and clinical experts in cancer immunology, tumor immunology and gynecological oncology provides additional considerable experience in immunotherapy development, clinical design and execution. PDS has no collective bargaining agreements with its employees and it has not experienced any work stoppages.

Scientific Advisory Board

PDS s management team is supported by a group of leading advisors, recognized experts in the fields of cancer immunotherapy, immunology, and gynecological oncology. PDS s key advisors include:

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- ***Darron R. Brown, M.D.,*** Professor of Medicine, Indiana University School of Medicine. Professor of Microbiology and Immunology, Indiana University School of Medicine.
- ***Mark Einstein, M.D.,*** Professor and Chair of Obstetrics, Gynecology and Women's Health, Rutgers New Jersey Medical School.
- ***Neil Gross, M.D.,*** Director of Clinical Research, Department of Head and Neck Surgery, MD Anderson Cancer Center.

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- ***Leaf Huang, Ph.D.,*** Fred N. Eshelman Distinguished Professor and Chair, Division of Molecular Pharmaceutics, University of North Carolina, Chapel Hill.
- ***Samir N. Khleif, M.D.,*** Professor of Medicine, The Loop Immuno-Oncology Lab, Lombardi Comprehensive Cancer Center, Georgetown University Medical Center.
- ***Lisa Rohan, Ph.D.,*** Professor of Pharmaceutical Sciences, School of Pharmacy and the Department of Obstetrics, Gynecology, and Reproductive Sciences, University of Pittsburgh School of Medicine. Investigator and Biotechnology Advisory Board Member, Magee Women's Research Institute.
- ***Jerold G. Woodward, Ph.D.,*** Professor, Department of Microbiology, Immunology and Molecular Genetics, University of Kentucky College of Medicine.

Several of PDS s advisors are employed by academic institutions and may have commitments to, or agreements with, other entities that may limit their availability to PDS. PDS s advisors may also serve as consultants to other biotechnology and pharmaceutical companies, including those that may be its competitors. PDS has agreements with each of its advisors pursuant to which they provide services to it. These agreements may generally be terminated by PDS or by the advisor upon 30 days notice. PDS owns the rights to any inventions or ideas made or conceived by each of its advisor during performance of the services. PDS generally compensates its advisors through payment of advisory fees and reimburses its advisors for travel and other expenses. In addition, PDS has granted some of its advisors options to purchase its common stock.

Legal Proceedings

From time to time, PDS may be subject to various legal proceedings and claims that arise in the ordinary course of its business activities. Litigation, regardless of the outcome, could have an adverse impact on PDS because of defense and settlement costs, diversion of management resources and other factors. PDS is not currently a party to any legal proceedings, the adverse outcome of which, in PDS s management s opinion, individually or in the aggregate, would have a material adverse effect on PDS s results of operations or financial position.

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EDGE MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of financial condition and results of operations should be read together with the section titled Selected Historical Financial Data of Edge in this proxy statement/prospectus/information statement and the consolidated financial statements of Edge and accompanying notes appearing elsewhere in this proxy statement/prospectus/information statement. This discussion of the Edge financial condition and results of operations contains certain statements that are not strictly historical and are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and involve a high degree of risk and uncertainty. Actual results may differ materially from those projected in the forward-looking statements due to other risks and uncertainties that exist in the Edge operations, development efforts and business environment, including those set forth in the section titled Risk Factors - Risks Related to Edge in this proxy statement/prospectus/information statement, the other risks and uncertainties described in the section titled Risk Factors in this proxy statement/prospectus/information statement and the other risks and uncertainties described elsewhere in this proxy statement/prospectus/information statement. All forward-looking statements included in this proxy statement/prospectus/information statement are based on information available to Edge as of the date hereof, and Edge assumes no obligation to update any such forward-looking statement.

These forward-looking statements may include, but are not limited to, statements about:

- Edge's plans to explore strategic alternatives and its ability to successfully complete a strategic transaction;
- the timing of completion of any strategic transaction, sale and/or liquidation, if any;
- Edge's ability to reduce operating expenses and conserve cash resources;
- timing and amount of termination costs incurred in connection with Edge's workforce reduction plan;
- the accuracy of estimates of Edge's expenses, future revenue, capital requirements and Edge's needs for additional financing;
- Edge's ability to obtain funding for its operations in the event Edge determines to raise additional capital;
- Edge's ability to retain key management personnel;
- the accuracy of Edge's estimates regarding expenses, future revenues and capital requirements;
- the possibility of dissolving Edge;
- the pending class action civil litigation against Edge;
- Edge's ability to maintain its listing on the Nasdaq Stock Market;
- regulatory developments in the United States and foreign countries;
- Edge's expectations regarding the time during which Edge will be an emerging growth company under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act; and
- other risks and uncertainties, including those listed under Risk Factors.

Any forward-looking statements in this proxy statement/prospectus/information statement reflect Edge s current views with respect to future events or to Edge s future financial performance and involve known and unknown risks, uncertainties and other factors that may cause Edge s actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, Edge assumes no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

Overview

Edge is a clinical-stage biotechnology company that seeks to discover, develop and commercialize novel therapies capable of transforming treatment paradigms in the management of medical conditions.

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On March 28, 2018, Edge announced that a pre-specified interim analysis performed on data from the Day 90 visit of the first 210 subjects randomized and treated in the Phase 3 multi-center, randomized, double-blind, placebo-controlled, NEWTON 2 study of EG-1962 in adults with aneurysmal subarachnoid hemorrhage demonstrated a low probability of achieving a statistically-significant difference compared to the standard of care in the study s primary endpoint, if the study were to be fully enrolled. The independent Data Monitoring Committee, or the DMC, for the NEWTON 2 study recommended that the study be stopped based on this demonstration. The DMC also reported that there were no safety concerns attributed to EG-1962.

Based on the DMC recommendation, Edge decided to discontinue the NEWTON 2 study and took steps to notify health authorities and clinical investigators participating in the study.

On April 17, 2018, the Edge Board established a committee of convenience, its Transactions Committee, to explore strategic alternatives for Edge in order to maximize both near and long-term value for Edge stockholders, to include, without limitation, an acquisition of another company, acquisitions or in-licensing of products or product candidates, technologies or other assets, the sale of all or substantially all of the assets of Edge, a sale of stock, a strategic merger or other business combination transaction or other transaction between Edge and a third party.

In April 2018, the Edge Board retained Piper Jaffray to serve as its financial advisor in the strategic review process. During the strategic alternatives process, Edge financed its operations with existing cash. In the near term, Edge reduced the scope of its operations, including the size of its workforce, in order to preserve its cash resources. Edge ceased research and development on EG-1962, other than the wind-down of the NEWTON 2 study, and all of its other product candidates.

The NEWTON 2 study was designed to detect a 15% absolute improvement in favorable outcomes at Day 90 for the EG-1962 treatment group with a target enrollment of 374 subjects with WFNS grades 2-4 and an external ventricular drain (EVD). Prior to discontinuation of the study, 289 subjects were randomized and 282 were treated. The final analysis showed that overall in the study s primary endpoint, 46% (64/138) of subjects treated with a single intraventricular injection of EG-1962 experienced a favorable outcome (a score of 6 to 8 on the extended Glasgow Outcome Scale, or GOSE) at Day 90, compared to 43% (62/144) of subjects treated with oral nimodipine. The GOSE is a clinically validated scale to assess recovery for patients who have suffered a brain injury.

In the NEWTON 2 study, at randomization, subjects were stratified by baseline severity as measured by the World Federation of Neurological Surgeons (WFNS) grade. Results of a logistic regression analysis of Day 90 GOSE outcomes including interactions revealed a statistically significant treatment by WFNS group interaction (p=0.0381). In the pre-specified subgroup of subjects with WFNS grade 3 or 4 (*i.e.*, severe aSAH subjects), 46% (32/69) of subjects treated with EG-1962 experienced a favorable outcome as measured by GOSE, compared to 32% (24/75) of subjects treated with oral nimodipine. While these results did not achieve statistical significance (as the NEWTON 2 study was not powered to provide statistical significance for subgroups), they suggest a clinically meaningful potential benefit for EG-1962 in subjects with WFNS grade 3 or 4. Further, these results are consistent with results from Edge s Phase 1/2 NEWTON study. In that study, EG-1962 demonstrated a similar efficacy trend in favorable outcome rate compared to oral nimodipine in severe aSAH subjects with WFNS grades 3 or 4, with 37% (10/27) of the subjects treated with EG-1962 experiencing a favorable outcome, compared to 23% (3/13) of the subjects treated with oral nimodipine.

In the WFNS grade 2 subgroup (*i.e.,* moderate aSAH subjects), favorable outcome rates from the NEWTON 2 study were inconsistent with those observed in the Phase 1/2 NEWTON study in both the EG-1962 and oral nimodipine treatment groups. In addition, the favorable response rate in the control group in NEWTON 2 was higher than, and inconsistent with, that reported in the medical literature.

Edge did not identify any safety concerns that would have halted the NEWTON 2 study or precluded further development of EG-1962. Notably, the incidence of vasospasm was significantly lower in the EG-1962 treatment group compared to standard of care oral nimodipine. In addition, there was a lower incidence of both mortality and hypotension in the EG-1962 treatment group.

Edge discontinued the Phase 1 study of the safety, pharmacokinetics and clinical outcomes of EG-1962 administered intracisternally, or directly into the basal cisterns of the brain.

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Edge has never been profitable and has incurred net losses in each year since inception. Edge s net losses were $37.8 million and $37.0 million for the nine months ended September 30, 2018 and 2017, respectively. As of September 30, 2018, Edge had an accumulated deficit of approximately $189.7 million. Substantially all of Edge s net losses resulted from costs incurred in connection with Edge s research and development programs and from general and administrative costs associated with Edge s operations. Edge expects to continue to incur expenses and operating losses for the foreseeable future.

In the nine months ended September 30, 2018, Edge recorded restructuring charges of $7.5 million. The components of the restructuring charge included expenses of $4.0 million for severance benefits and $2.3 million for financial advisor fees. Additionally, Edge incurred $0.3 million for legal fees, $0.3 million for non cash stock based retention compensation and accrued $0.6 million for retention compensation related to the restructuring of the organization.

Edge expects the restructuring charge to amount to approximately $5.2 million for employee severance, retention compensation and related costs. In addition, Edge expects these actions to result in annualized cost savings of approximately $6.5 million. These savings may be partially offset by higher costs for outsourced services which cannot be quantified at this time.

As of September 30, 2018, Edge had $36.8 million in cash and cash equivalents.

Key Components of Edge s Statement of Operations

Revenue

Edge has not generated any revenues from commercial product sales and does not expect to generate any such revenue in the near future. Edge may generate revenue in the future from a combination of research and development payments, license fees and other upfront payments or milestone payments.

Research and Development

Research and development expenses include employee-related expenses, licensing fees to use certain technology in Edge s research and development projects, costs of acquiring, developing and manufacturing clinical trial materials, as well as fees paid to consultants and various entities that perform certain research and testing on Edge s behalf. Costs for certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the condensed financial statements as prepaid or accrued expenses. Costs incurred in connection with research and development activities are expensed as incurred.

Edge expects its research and development expenses to decrease in the near term as it winds down its activities on the NEWTON 2 study. Edge has ceased all further research and development on EG-1962 and suspended development of its other product candidates.

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Results of Operations

Comparison of the Nine Months Ended September 30, 2018 and 2017

The following table summarizes the results of Edge s operations for the nine months ended September 30, 2018 and 2017:

	Nine Months Ended September 30,		Increase (Decrease)	
	2018	2017	$	%
	(in thousands)			
Operating expenses:				
Research and development expenses	$ 15,584	$ 23,478	$ (7,894)	(34)%
General and administrative expenses	11,303	12,365	(1,062)	(9)%
Restructuring expenses	7,494	—	7,494	100 %
Impairment charges	2,673	—	2,673	100 %
Total operating expenses	37,054	35,843	1,211	3 %
Loss from operations	(37,054)	(35,843)	(1,211)	3 %
Interest (expense), net	(729)	(1,113)	384	(35)%
Net loss and comprehensive loss	$ (37,783)	$ (36,956)	$ (827)	2 %

Research and Development Expenses

Research and development (R&D) expenses decreased to $15.6 million for the nine months ended September 30, 2018 from $23.4 million for the same period in 2017. The decrease of $7.8 million in 2018 was primarily attributable to a decrease in external expenses for clinical studies of $6.2 million and internal R&D personnel and departmental costs of $1.6 million resulting from the discontinuance of the clinical studies and reduction in force.

General and Administrative Expenses

General and administrative expenses decreased to $11.3 million for the nine months ended September 30, 2018 from $12.4 million for the same period in 2017. The $1.1 million decrease was primarily due to decreases in professional fees of $0.7 million and $0.3 million in other expenses, and personnel costs of $0.1 million.

Restructuring Expenses

Restructuring expenses amounted to $7.5 million for the nine months ended September 30, 2018 related to the previously announced discontinuance of the NEWTON 2 study. The components consisted of $4.0 million for severance benefits, $2.3 million for financial advisory fees, $0.3 million for legal fees and $0.9 million for retention compensation.

Impairment Charges

The charge in 2018 reflects the impairment charge to the write-down of machinery and equipment no longer needed as a consequence of ceasing research and development on EG-1962.

Interest Expense, net

Interest expense, net decreased primarily due to interest expense for Edge s loan of $0.2 million offset by an increase in interest income from interest earned on Edge s cash and cash equivalents of $0.2 million.

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Comparison of the Years Ended December 31, 2017 and 2016

	Year Ended December 31,		Increase (Decrease)	
	2017	**2016**	**$**	**%**
	(in thousands)			
Operating expenses:				
Research and development expenses	$ 34,312	$ 24,825	$ 9,487	38 %
General and administrative expenses	17,655	14,687	2,968	20 %
Total operating expenses	51,967	39,512	12,455	32 %
Loss from operations	(51,967)	(39,512)	(12,455)	32 %
Other expense	—	(163)	163	100 %
Interest income (expense), net	(1,479)	(992)	(487)	49 %
Loss before income taxes	(53,446)	(40,667)	(12,779)	31 %
Benefit for income taxes	2,586	1,846	740	40 %
Net loss and comprehensive loss	$ (50,860)	$ (38,821)	$ (12,039)	31 %

Research and Development Expenses

Research and development expenses increased to $33.3 million in the year ended December 31, 2017 from $24.8 million for the same period in 2016. The increase of $9.5 million was primarily attributable to an increase in external expenses for the EG-1962 and EG-1964 product of $6.1 million and $0.3 million, respectively and additional internal personnel costs of $3.0 million to support the growth in Edge s R&D activities.

General and Administrative Expenses

General and administrative expenses increased to $17.7 million in the year ended December 31, 2017 from $14.7 million for the same period in 2016. The $3.0 million increase was due primarily to increases in personnel costs of $1.3 million, stock based compensation of $0.4 million, legal fees $0.3 million and investor relations of $0.7 million and professional fees of $0.2 million.

Other Expense

Other expense reflects the non-recurring loss on asset disposal in 2016 representing the book value of leasehold improvements at Edge s former location due to the Company s relocation of its corporate office and debt issuance costs on Edge s new loan.

Interest Income and Expense, net

Interest income and expense, net increased primarily due to interest expense for Edge s loan offset by an increase in interest income from interest earned on Edge s cash and cash equivalents.

Benefit for Income Taxes

Benefit for income taxes increased as a result of selling additional New Jersey Net Operating Losses in 2017 as compared to 2016.

Liquidity and Capital Resources

Since Edge s inception and through September 30, 2018, Edge has raised aggregate net proceeds of $207.9 million to fund its operations, primarily $82.8 million from the sale of Common Stock, $87.5 million from the sale of preferred stock, par value of $0.00033 per share, or Edge Preferred Stock, $17.4 million net proceeds from a registered direct common stock offering and $20.0 million from a loan. As of September 30, 2018, Edge had total cash and cash equivalents of $36.8 million as compared to $88.1 million as of December 31, 2017. The $51.3 million decrease in total cash was due to repayment of debt totaling $20.9 million and to increased funding of operations, which mainly consisted of research and development activities and general and administrative expenses offset by proceeds from exercise of stock options.

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On October 6, 2015, Edge completed the IPO of its common stock for aggregate gross proceeds of approximately $92.5 million. Edge received approximately $82.8 million in net proceeds after deducting underwriting discounts and commissions and other offering costs of approximately $9.7 million. All of the net proceeds were utilized by the end of February 2018. In connection with the IPO, all Edge Preferred Stock was converted into Edge common stock. There is no Edge Preferred Stock outstanding as of September 30, 2018.

On April 21, 2017, Edge completed a registered direct common stock offering for gross proceeds of $18.0 million. Edge received approximately $17.4 million in net proceeds after deducting the finder s fee and other offering costs.

In April 2018, Edge announced that it planned to explore strategic alternatives in order to maximize both near and long-term value for Edge stockholders, which may include, without limitation, an acquisition of another company, acquisitions or in-licensing of products or product candidates, technologies or other assets, the sale of all or substantially all of the assets of Edge, a sale of stock, a strategic merger or other business combination transaction or other transaction between Edge and a third party. In April 2018, the Edge Board retained Piper Jaffray to serve as its financial advisor in the strategic review process. During the strategic alternatives process, Edge continued to finance its operations with its existing cash. Edge s ability to continue to support its operations is dependent, in the near-term, upon managing its cash resources as it pursues such strategic alternatives. Edge has ceased research and development on EG-1962, other than the wind-down of the NEWTON 2 study, and all of Edge s other product candidates.

Hercules Loan and Security Agreement

On August 1, 2016, Edge entered into an Amended and Restated Loan and Security Agreement, or the Edge Loan Agreement, with Hercules Capital, Inc., formerly known as Hercules Technology Growth Capital, Inc., or Hercules. Pursuant to the Edge Loan Agreement, Edge was able to borrow up to $20,000,000. At closing, Edge borrowed $15,000,000 of the amount available for draw under the Edge Loan Agreement (and received proceeds net of the amount then outstanding under the original loan agreement, fees and expenses). On May 23, 2017, Edge elected to draw down the second tranche of $5 million. Pursuant to the Edge Loan Agreement, in March 2018, Edge made a payment of $90,000, which is equal to 1.5% of the total amounts funded under the original loan agreement.

In June 2018, Edge agreed with Hercules to pay off its entire outstanding debt under the Edge Loan Agreement. The payment consisted of $20.0 million for the principal amount, an additional $0.9 million in back-end fees and $0.1 million in accrued and unpaid interest.

As of June 30, 2018, there are no future principal payments due under the Edge Loan Agreement.

Cash Flow Summary for the Nine Months Ended September 30, 2018 and 2017

The following table shows a summary of Edge cash flows for each of the periods indicated (in thousands):

	Nine Months Ended September 30,	
	2018	**2017**
Net cash used in operating activities	$ (30,984)	$ (31,457)
Net cash used in investing activities	—	(161)
Net cash (used in) provided by financing activities	(20,269)	22,526
Net (decrease) increase in cash	$ (51,253)	$ (9,092)

Net Cash Used in Operating Activities

Net cash used in operating activities was $31.0.million and $31.5 million for the nine months ended September 30, 2018 and 2017, respectively. The decrease in cash used in operating activities of $0.5 million was primarily due to the reduction of operating activities as compared to the prior year.

Net Cash Used in Investing Activities

Net cash used in investing activities in 2017 relates entirely to purchases of property and equipment.

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Net Cash (Used In) Provided by Financing Activities

Net cash used in financing activities for the nine months ended September 30, 2018 was due primarily to the repayment of debt and debt fees totaling $21.0 million offset by receipt of net proceeds from exercise of stock options of $0.7 million.

Net cash provided by financing activities for the nine months ended September 30, 2017 was due to the receipt of net proceeds of $17.4 million from a registered direct stock offering and $5.0 million from issuance of debt.

Cash Flow Summary for the Years Ended December 31, 2017 and 2016

The following table shows a summary of Edge s cash flows for each of the periods indicated (in thousands):

	Year Ended December 31,	
	2017	**2016**
Net cash used in operating activities	$ (40,697)	$ (32,189)
Net cash used in investing activities	(189)	(687)
Net cash provided by financing activities	22,554	9,085
Net decrease in cash	$ (18,332)	$ (23,791)

Net Cash Used in Operating Activities

Net cash used in operating activities was $40.7 million and $32.2 million for the years ended December 31, 2017 and 2016, respectively. The increase in cash used in operating activities of $8.5 million in 2017 was primarily due to an increase in Edge s research and development expenses of $9.4 million and general and administrative expenses of $3.0 million offset by an increase in the sale of New Jersey NOL of $0.7 million and increase in accounts payable and accrued expenses of $3.1 million.

Net Cash Used in Investing Activities

Net cash used in investing activities was $0.2 million and $0.7 million for the years ended December 31, 2017 and 2016, respectively, which in each period relates entirely to purchases of property and equipment.

Net Cash Provided by Financing Activities

Net cash provided by financing activities of $22.6 million for the year ended December 31, 2017 was primarily due to the receipt of net proceeds from the issuance of common stock of $17.4 million and debt of $5.0 million.

Net cash provided by financing activities of $9.1 million for the year ended December 31, 2016 was primarily due to the receipt of net proceeds from the issuance of debt of $10.8 million less payments of Edge s existing debt obligations of $1.5 million and deferred offering costs of $0.5 million.

Operating Capital Requirements

Edge s future capital requirements are difficult to forecast. Edge expects that its research and development expenses will decrease significantly due to the discontinuation of the NEWTON 2 study for EG-1962 and further research and development activities for EG-1962 and Edge s other product candidates.

Edge believes that its existing cash and cash equivalents as of September 30, 2018, will be sufficient to meet its anticipated cash requirements for at least the next 12 months.

Edge s forecast of the period of time through which its financial resources will be adequate to support its operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially as a result of a number of factors. Edge has based this estimate on assumptions that may prove to be wrong, and Edge could utilize its available capital resources sooner than Edge currently expects. Edge s future capital requirements are difficult to forecast and will depend on many factors, including:

- Edge's plans to explore strategic alternatives and its ability to execute on those plans;

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- Edge's ability to manage costs associated with winding down its current research and development activities and restructuring its organization;
- the timing and nature of any strategic transactions that Edge undertakes;
- personnel-related expenses, including salaries, benefits, severance, stock-based compensation expense and other compensation costs related to implementing Edge's restructuring plan;
- the scope and nature of activities Edge may pursue to advance clinical development for Edge's product candidates, if any;
- the number and characteristics of product candidates that Edge develops or may acquire or in-license;
- the costs incurred in defending the class action civil litigation; and
- the costs incurred in responding to disruptive actions by activist stockholders.

Please see the section titled Risk Factors elsewhere in this proxy statement/prospectus/information statement for additional risks associated with Edge s operations.

Contractual Obligations and Commitments

The following is a summary of Edge s contractual obligations as of the date indicated:

As of September 30, 2018	Total	Less than one year	1-3 Years	3-5 Years	More than 5 Years
			(in thousands)		
Operating lease obligations	$ 1,890	$ 607	$ 1,212	$ 71	$ —
Total contractual obligations	$ 1,890	$ 607	$ 1,212	$ 71	$ —

This table above does not include (a) any milestone payments related to contingent events which may become payable to third parties under Edge s license agreements as the timing and likelihood of such payments are not known, or (b) contracts that are entered into in the ordinary course of business which are not material in the aggregate in any period presented above.

Purchase Commitments

Edge has no material non-cancelable purchase commitments with service providers as Edge has generally contracted on a cancelable, purchase order basis.

Milestone and Royalty-based Commitments

Edge entered into an agreement with SurModics Pharmaceuticals, Inc., or SurModics in October 2010 for the exclusive worldwide licensing of certain technology, patent rights and know-how rights related to the production of EG-1962. Such agreement is referred to herein as the Evonik Agreement . The Evonik Agreement was later transferred to Evonik Industries AG, or Evonik, when it purchased substantially all the assets of SurModics. Pursuant to the Evonik Agreement, in exchange for the license, Edge agreed to make milestone payments totaling up to $14.75 million upon the achievement of certain development, regulatory and sales milestones detailed in the Evonik Agreement. Edge paid $0.25 million upon execution of the Evonik Agreement. In August 2016, Edge paid a milestone of $1.0 million after Edge dosed the first patient in the Phase 3 clinical trial of EG-1962. In addition, the Evonik Agreement calls for Edge to pay royalties on sales of certain products based on a mid-single digit percentage of net sales. The Evonik Agreement provides for the reduction of royalties in certain circumstances. Following the discontinuation of the NEWTON 2 trial for EG-1962, Edge has ceased all research and development efforts related to EG-1962 and suspended its other product candidates as it pursues strategic alternatives. As such, unless Edge resumes such development activities, it is unlikely that Edge will have any additional milestones or royalty obligations to Evonik in the future.

In June 2017, Edge entered into an Amended and Restated Master Formulation Development Agreement, or the Restated Development Agreement, with Oakwood Laboratories, L.L.C., or Oakwood, pursuant to which Oakwood agreed to continue to provide Edge with certain drug formulation development and non-commercial manufacturing services for EG-1962, in accordance with project plans that may be entered into from time to

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time. Under the Restated Development Agreement, Edge agreed to pay Oakwood to perform services under agreed upon project plans and to pay Oakwood up to an aggregate of $4.5 million. In July 2017 and April 2018, Edge paid $1.5 million and $0.5 million, respectively, of such aggregate amount in connection with entering into the Restated Development Agreement. The remaining $2.5 million was payable no later than April 1, 2019. The remaining payment was discounted to $2.375 million pursuant to an accelerated payment agreement entered into in August 2018. As of September 30, 2018, there are no remaining payments under the Restated Development Agreement. In addition, the Restated Development Agreement calls for Edge to pay royalties on sales of certain products based on a low single digit percentage of net sales of EG-1962, regardless of the manufacturer or supplier thereof.

Concurrent with its entry into the Restated Development Agreement, on June 30, 2017, Edge entered into a Manufacturing and Supply Agreement with Oakwood, or the Supply Agreement, pursuant to which Oakwood agreed to manufacture and supply, and Edge agreed to purchase from Oakwood, EG-1962 in commercial quantities following the commercial launch of the product. Following the discontinuation of the NEWTON 2 trial for EG-1962, Edge has ceased all research and development efforts related to EG-1962 and Edge s other product candidates. As such, Edge may terminate the Supply Agreement immediately upon notice to Oakwood (which will also result in the automatic termination of the Restated Development Agreement); provided, that if Edge chooses to do so prior to completion of the most recent project plan attached to the Restated Development Agreement, Edge must pay to Oakwood a termination fee. While certain of Edge s milestone payments to Oakwood will remain outstanding (including the termination fee in the event the Restated Development Agreement is terminated), unless Edge resumes such development activities, it is unlikely that Edge will be required to pay additional milestone or royalty payments to Oakwood in the future pursuant to the Restated Development Agreement or the Supply Agreement.

Critical Accounting Polices and Estimates

Edge s management s discussion and analysis of financial condition and results of operations is based on Edge s financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires Edge to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Edge s estimates are based on its historical experience and on various other factors that Edge believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Edge considers its critical accounting policies and estimates to be related to stock-based compensation. There have been no material changes to Edge s critical accounting policies and estimates during the nine months ended September 30, 2018 from those disclosed in Edge s Annual Report on Form 10-K for the year ended December 31, 2017.

Off-balance Sheet Arrangements

Edge did not have during the periods presented, and does not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

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PDS MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of PDS s financial condition and results of operations should be read in conjunction with PDS s financial statements and related notes included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. PDS s actual results could differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in Risk Factors included elsewhere in this proxy statement/prospectus/information statement.

Overview

PDS is a clinical-stage biopharmaceutical company developing multi-dimensional cancer immunotherapies that are designed to overcome the limitations of the current approaches. PDS owns the Versamune®, T-cell activating platform, a proprietary multi-mechanism immunotherapy technology, which has been developed to encompass the attributes of the most successful immunotherapy approaches, such as checkpoint inhibitors, CAR-T cells and live-vector based vaccines, etc., while also overcoming their shortcomings.

It is well documented that the most critical attribute of an effective cancer immunotherapy is the induction of high levels of active antigen-specific CD8+ (killer) T-cells. Priming adequate levels of active CD8+ T-cells in-vivo continues to be a major obstacle facing immunotherapy. PDS0101 in its first human clinical trial confirmed the impressive preclinical study results and demonstrated the unique in-vivo induction of high levels of active HPV-specific CD8+ T-cells in humans.

The Versamune® platform has the potential to rapidly become an industry-leading immuno-oncology technology and is currently being applied to the development of a robust pipeline of valuable new-generation, multi-functional immunotherapies, both as single agents and as part of combination therapies with other leading immuno-oncology technologies. PDS expects substantial value accretion as its development-stage products successfully progress through upcoming human Phase 2B and Phase 3 clinical trials.

The unique combination of high potency and excellent safety of the Versamune® platform has been corroborated in a successfully completed Phase 1-phase 2A clinical trial. The Phase 2A human trial immune responses mirrored the strong reported T-cell responses seen in preclinical studies, which led to superior anti-tumor regression efficacy in pre-clinical head-to-head studies with leading clinical development-stage technologies. Significantly superior anti-tumor response of PDS0101 monotherapy versus combinations of top competitors e.g. cancer vaccines + checkpoint inhibitors or chemotherapy was also demonstrated. Unique and rapid generation of a superior protective immune response has also been demonstrated by Versamune® in pandemic influenza strains.

Since PDS s inception in 2004, the company has devoted substantially all of its resources to developing its Versamune® platform, advancing preclinical programs, conducting clinical trials, manufacturing PDS0101 for clinical trials, and providing general and administrative support. PDS has funded its operations primarily from the issuance of common stock. PDS has not generated any product revenue.

PDS has never been profitable and has incurred net losses in each year since inception. PDS s net losses were $3.4 million and $4.5 million for the years ended December 31, 2017 and 2016, respectively, and $2.0 million for the nine months ended September 30, 2018. As of September 30, 2018, PDS had an accumulated deficit of $20.1 million. Substantially all of its net losses have resulted from costs incurred in connection with its research and development programs and from general and administrative costs associated with these operations.

PDS s future funding requirements will depend on many factors, including the following:

- the timing and costs of its planned clinical trials;
- the timing and costs of its planned preclinical studies of its Versamune® platform;
- the outcome, timing and costs of seeking regulatory approvals;
- the terms and timing of any future collaborations, licensing, consulting or other arrangements that it may enter into;

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the amount and timing of any payments PDS may be required to make in connection with the licensing,
- filing, prosecution, maintenance, defense and enforcement of any patents or patent applications or other intellectual property rights; and
- the extent to which PDS in-licenses or acquires other products and technologies.

PDS s independent auditor has expressed doubt about PDS s ability to continue as a going concern

Based on its cash balances, recurring losses since inception and existing capital resources to fund planned operations for the next twelve months, PDS s independent auditor has included an explanatory paragraph in its report on PDS s financial statements as of and for the year ending December 31, 2017 expressing substantial doubt about PDS s ability to continue as a going concern. If the merger is not consummated PDS will, during 2019, require significant additional funding to continue operations. If PDS is unable to continue as a going concern, it may be forced to liquidate its assets and the values it receives for its assets in liquidation or dissolution could be significantly lower than the values reflected in its financial statements.

Financial Operations Overview

Research and Development Expense

Research and development expenses represent costs incurred to conduct research, including the development of PDS s Versamune® platform, preclinical and clinical activities, and manufacturing for these activities. PDS recognizes all research and development costs as they are incurred. Research and development expenses consist primarily of the following:

- employee-related expenses, which include salaries, benefits and stock-based compensation;
- expenses incurred under agreements with contract research organizations, or CROs, that conduct clinical trials on its behalf;
- contract manufacturing expenses for the production of Versamune® candidates used primarily in clinical trials;
- process development expenses incurred internally and externally to improve the efficiency and yield of the bulk vaccine and tablet manufacturing activities;
- laboratory supplies and vendor expenses related to its preclinical research activities;
- consultant expenses for services supporting its clinical, regulatory and manufacturing activities; and
- facilities, depreciation and allocated overhead expenses.

PDS does not allocate its internal expenses to specific programs. PDS s employees and other internal resources are not directly tied to any one research program and are typically deployed across multiple projects. Internal research and development expenses are presented as one total.

PDS incurs significant external costs on contract manufacturing of its Versamune® candidates, and on CROs that conduct clinical trials on PDS s behalf. PDS captures these expenses for each program. PDS does not allocate external costs incurred on preclinical research or process development to specific programs.

The following table shows PDS s research and development expenses for the years ended December 31, 2017 and 2016 and for the nine months ended September 30, 2018 and 2017:

	Year Ended December 31,		Nine Month Ended September 30,	
	2017	**2016**	**2018**	**2017**
Internal costs	$ 631,486	$ 1,115,964	$ 128,268	$ 576,375

Professional fees	210,521	163,495	83,128	181,738
Contracted general research	314,097	417,772	258,558	244,291
Preclinical process and development	851,204	631,305	93,858	850,160
	$ 2,007,308	$ 2,328,536	$ 563,812	$ 1,852,564

PDS expects that its research and development expenses will increase significantly over the next several years as it advances its Versamune® candidates into and through clinical trials, pursues regulatory approval of its

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tablet Versamune® candidates and prepares for a possible commercial launch, all of which will also require a significant investment in contract and internal manufacturing and inventory related costs.

The process of conducting clinical trials necessary to obtain regulatory approval is costly and time consuming. PDS may never succeed in achieving marketing approval for its tablet vaccine candidates. The probability of successful commercialization of its tablet vaccine candidates may be affected by numerous factors, including clinical data obtained in future trials, competition, manufacturing capability and commercial viability. As a result, PDS is unable to determine the duration and completion costs of its research and development projects or when and to what extent it will generate revenue from the commercialization and sale of any of its tablet vaccine candidates.

General and Administrative Expense

General and administrative expenses consist of personnel costs, allocated expenses and expenses for outside professional services, including legal, audit, accounting, public relations, market research and other consulting services. Personnel costs consist of salaries, benefits and stock-based compensation. Allocated expenses consist of rent, deprecation and other facilities related expenses. PDS expects to incur additional expenses as a public company, including expenses related to compliance with the rules and regulations of SEC, the Nasdaq Global Market as well as additional insurance, investor relations and other professional expenses.

Interest Income

Interest income consists of interest earned on PDS s cash and cash equivalents.

Interest Expense

Interest expense mainly consists of interest incurred on PDS s convertible promissory notes issued in 2015, and related non-cash amortization of debt discount as well as interest incurred on convertible promissory notes issued in 2016 and 2017.

Results of Operations

Comparison of the Nine Months Ended September 30, 2018 and 2017

	Nine Months Ended September 30,		Change	
	2018	**2017**	**$**	**%**
Revenues	$ —	$ —	$ —	0 %
Operating Expenses				
Research and development	563,812	1,852,564	(1,288,752)	(70)%
General and administrative	1,428,113	1,066,617	361,496	34 %
Depreciation and amortization	21,415	21,459	(44)	(0)%
Total operating expenses	2,013,340	2,940,640	(927,300)	(32)%
Loss from operations	(2,013,340)	(2,940,640)	927,300	(32)%

Other income (expense):				
Interest expense, net	(2,691)	(716)	(1,975)	276 %
Other	(901)	(1,431)	530	(37)%
	(3,592)	(2,147)	(1,445)	(67)%
Net loss	$ (2,016,932)	$ (2,942,787)	$ 925,855	(31)%

Research and Development

The decrease of $1.3 million in research and development expense was due to a decrease of $0.4 million in compensation and other internal costs reflecting a decrease in headcount and activities in 2018. The decrease was also due to a $0.8 million decrease in preclinical research and process development costs as manufacturing and clinical trial efforts to support the PDS0101 program have been postponed until further fundraising is complete.

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General and Administrative

The $0.4 million increase in general and administrative expenses was due to a higher level of outside services in 2018 primarily related to fees for marketing, investor relations and business consulting activities.

Comparison of the Years Ended December 31, 2017 and 2016

	Year Ended December 31,		Change	
	2017	2016	$	%
Revenues	$ —	$ —	$ —	0 %
Operating Expenses				
Research and development	2,007,308	2,328,536	(321,228)	(14)%
General and administrative	1,384,266	1,844,685	(460,419)	(25)%
Depreciation and amortization	28,688	44,597	(15,909)	(36)%
Total operating expenses	3,420,262	4,217,818	(797,556)	(19)%
Loss from operations	(3,420,262)	(4,217,818)	797,556	(19)%
Other income (expense):				
Interest expense, net	(1,495)	(257,290)	255,795	(99)%
Other	(1,431)	(2,360)	929	(39)%
	(2,926)	(259,650)	256,724	99 %
Net loss	$ (3,423,188)	$ (4,477,468)	$ 1,054,280	(24)%

Research and Development

The decrease of $0.3 million in research and development expense was due to a decrease of $0.5 million in compensation and other internal costs reflecting a decrease in headcount and activities in 2017. This was partially offset by an increase of $0.2 million in manufacturing and clinical trial efforts to progress the PDS0101 program in 2017.

General and Administrative

General and administrative expenses decreased by $0.5 million. The decrease was primarily due to a $0.3 million decrease in legal and audit fees related to a write off of legal and accounting costs incurred in an attempted initial public offering in 2016. In addition, there was a decrease in stock compensation expense of $0.1 million as outstanding stock options became fully vested and the full expense was recognized. There was also a decrease of travel and entertainment expense of $0.05 million.

Interest Expense

The decrease of $0.3 million in interest expense mainly consists of interest incurred on PDS s convertible promissory notes issued in 2015, and related non-cash amortization of debt discount. The 2015 and plus additional 2016

outstanding convertible notes, converted to equity by December 31, 2016.

Liquidity and Capital Resources

Since inception, PDS s operations have been financed primarily by net proceeds of $11.3 million from the sale of its common stock and $5.0 million from the issuance of convertible promissory notes. As of September 30, 2018, PDS had $142,669 of cash and cash equivalents.

PDS s primary uses of cash are to fund operating expenses, primarily research and development expenditures. Cash used to fund operating expenses is impacted by the timing of when PDS pays these expenses, as reflected in the change in its outstanding accounts payable and accrued expenses.

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PDS plans to continue to fund its operations and capital funding needs through equity and/or debt financing. PDS may also enter into government funding programs and consider selectively partnering for clinical development and commercialization. The sale of additional equity would result in additional dilution to its stockholders. Incurring debt financing would result in debt service obligations, and the instruments governing such debt could provide for operating and financing covenants that would restrict the company s operations. If PDS is unable to raise additional capital in sufficient amounts or on acceptable terms, it may be required to delay, limit, reduce, or terminate its product development or future commercialization efforts or grant rights to develop and market immunotherapies that it would otherwise prefer to develop and market itself. Any of these actions could harm its business, results of operations and prospects.

Cash Flows

The following table summarizes PDS s cash flows for the periods indicated:

	Year Ended December 31,		Nine Month Ended September 30,	
	2017	**2016**	**2018**	**2017**
Net cash provided by (used in):				
Operating activities	$ (2,731,799)	$ (3,760,485)	$ (1,251,949)	$ (2,391,603)
Investing activities	(2,335)	(2,553)	—	(2,335)
Financing activities	953,053	3,888,265	1,218,734	926,465
Net increase (decrease) in cash and cash equivalents	$ (1,781,081)	$ 125,227	$ (33,215)	$ (1,467,473)

Cash Flows from Operating Activities

For the nine months ended September 30, 2018, cash used in operating activities was $1.3 million, which was primarily due to a net loss of $2.0 million, partially offset by non-cash charges of $0.3 million for consulting fees and $0.05 million for stock-based compensation. The changes in operating assets and liabilities of $0.4 million was primarily due to a net decrease of $0.4 million in accounts payable and accrued liabilities and prepaid expenses due to a reduction in research and development activities over the period.

For the nine months ended September 30, 2017, cash used in operating activities was $2.4 million, which was primarily due to a net loss of $2.9 million, partially offset by non-cash charges of $0.09 million for consulting fees and $.2 million for stock-based compensation. The changes in operating assets and liabilities of $0.2 million was primarily due to a net decrease of $0.2 million in accounts payable and accrued liabilities and prepaid expenses due to a reduction in research and development activities over the period.

For the year ended December 31, 2017, cash used in operating activities was $2.7 million, which was primarily due to a net loss of $3.4 million, partially offset by non-cash charges of $0.4 million for stock-based compensation and net changes in operating assets and liabilities of $0.3 million due to a reduction in research and development activities over the period.

For the year ended December 31 2016, cash used in operating activities was $3.8 million, which was primarily due to a net loss of $4.5 million, partially offset by non-cash charges of $0.4 million for stock-based compensation, $0.3 million of non-cash interest accruing on convertible promissory notes and amortization of discount on the convertible promissory notes.

Cash Flows from Investing Activities

For the nine months ended September 30, 2018, no cash was provided by investing activities. For the nine months ended September 30, 2017, cash used in investing activities was $2,335 which was related to purchases of property and equipment.

For the year ended December 31, 2017, cash used in investing activities was $2,335 which was related to purchases of property and equipment.

For the year ended December 31, 2016, cash used in investing activities was $2,553, which was related to purchases of property and equipment.

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Cash Flows from Financing Activities

For the nine months ended September 30, 2018, cash provided by financing activities was $1.2 million which was primarily due to issuance of common stock to investors totaling $1.2 million less deferred offering costs of $0.05 million. In addition, there was $0.1 million in warrant exercises and $0.03 million in stock option exercises.

For the nine months ended September 30, 2017, cash provided by financing activities was $0.9 million which was primarily due to issuance of common stock to investors totaling $1.0 million less deferred offering costs of $0.08 million.

For the year ended December 31, 2017, cash provided by financing activities was $1.0 million which was primarily due to issuance of common stock to investors totaling $1.0 million less deferred offering costs of $0.08 million. Cash was also provided from the issuance of a convertible promissory note for $0.03 million to a private investor.

For the year ended December 31, 2016, cash provided by financing activities was $3.9 million which was due to issuance of common stock to investors totaling $1.9 million less deferred offering costs of $0.2 million plus issuance of common stock due to $0.8 million in warrant exercises. In addition, cash was also provided from the issuance of convertible promissory notes to various private investors totaling $1.4 million.

Operating Capital Requirements and Plan of Operations

To date, PDS has not generated any product revenue. PDS does not know when, or if, it will generate any product revenue and PDS does not expect to generate significant product revenue unless and until it obtains regulatory approval and commercializes one of its current or future tablet vaccine candidates. PDS anticipates that it will continue to generate losses for the foreseeable future, and it expects the losses to increase as it continues the development of, and to seek regulatory approvals for, its tablet vaccine candidates, and to begin to commercialize any approved vaccine candidates. PDS is subject to all of the risks incident in the development of new products, and it may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may harm its business. PDS expects to incur additional costs associated with operating as a public company and it anticipates that it will need substantial additional funding in connection with its continuing operations.

PDS expects that its existing cash, cash equivalents and short-term investments, following the closing of the merger, will be sufficient to enable it to conduct planned preclinical studies and clinical trials for its Versamune® candidates into the second quarter of 2021. Substantial additional funding will be required to complete the process of obtaining regulatory approval for its tablet vaccine candidates and to build the sales, marketing and distribution infrastructure that PDS believes will be necessary to commercialize its Versamune® candidates.

PDS has based its projections of operating capital requirements on assumptions that may prove to be incorrect and it may use all of its available capital resources sooner than it expects. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, PDS is unable to estimate the exact amount of its operating capital requirements. PDS s future funding requirements will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of its planned clinical trials;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA, the European Medicines Agency, or EMA, and other comparable foreign regulatory authorities;
- the cost of filing, prosecuting, defending and enforcing its patent claims and other intellectual property rights;
-

the cost of defending potential intellectual property disputes, including patent infringement actions brought by third parties against PDS now or in the future;

- the effect of competing technological and market developments;
- the cost of establishing sales, marketing and distribution capabilities in regions where it chooses to commercialize its tablet vaccines on its own; and
- the initiation, progress, timing and results of its commercialization of its tablet vaccine candidates, if approved, for commercial sale.

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Contractual Obligations and Other Commitments

The following table summarizes PDS s non-cancelable contractual obligations as of September 30, 2018:

Payments Due By Period

	Total	Less Than 1 Year	2-3 Years	4-5 Years	More Than 5 Years
Debt principal and interest[1]	$ 31,929	$ —	$ 31,929	$ —	$ —
Capital lease obligation[2]	4,927	4,927	—		
Total contractual obligations	$ 36,856	$ 4,927	$ 31,929	$ —	$ —

(1) Reflects principal and interest payments due to a private investor under a convertible promissory note. Principal and interest are anticipated to convert to equity and no cash payment will be due.

(2) PDS has a capital lease for lab equipment. PDS agreed to an early buyout of the lease and final payment was made in October 2018. Title of the lab equipment has been transferred to PDS.

Off-Balance Sheet Arrangements

During 2016, 2017 and the nine months ended September 30, 2018, PDS did not have any off-balance sheet arrangements.

Quantitative and Qualitative Disclosures about Market Risk

PDS is exposed to market risks in the ordinary course of its business. These risks primarily include interest rate sensitivities. As of September30, 2018 and December 31, 2017, PDS had cash and cash equivalents of $142,669 and $175,884, respectively, which consisted primarily of bank deposit and money market funds. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations of interest income have not been significant.

Critical Accounting Polices and Estimates

PDS s management s discussion and analysis of its financial condition and results of operations is based on its financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. PDS s estimates are based on its historical experience and on various other factors that it believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. PDS believes that the accounting policies discussed below are critical to understanding its historical and future performance, as these policies relate to the more significant areas involving management s judgments and estimates.

Accrued Research and Development Costs

PDS records accrued expenses for estimated costs of its research and development activities conducted by third-party service providers, which include the conduct of preclinical and clinical trials and contract manufacturing activities. PDS records the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced, and include these costs in accrued liabilities in the balance sheets and within research and development expense in the statements of operations and comprehensive loss. These costs are a significant

component of its research and development expenses.

Stock-Based Compensation

PDS recognizes compensation costs related to stock options granted to employees and directors based on the estimated fair value of the awards on the date of grant, net of estimated forfeitures. PDS estimates the grant date fair value, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of the stock-based awards is generally recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective awards.

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PDS accounts for stock-based compensation arrangements with non-employees using the Block-Scholes option pricing model reflecting the same assumptions as applied to employee and director options in each of the reporting periods, other than the expected life, which is assumed to be the remaining contractual life of the options.

PDS recorded stock-based compensation expense related to options granted to employees and non-employees of $0.3 million and $0.4 million for 2017 and 2016, respectively, and $0.05 million and $0.2 million for the nine months ended September 30, 2018 and 2017, respectively. As of September 30, 2018, PDS had $0.3 million of total unrecognized stock-based compensation costs, net of estimated forfeitures, which PDS expects to recognize over a weighted-average period of 1.84 years.

The Black-Scholes option-pricing model requires the use of highly subjective assumptions, which determine the fair value of stock-based awards. These assumptions include:

- ***Expected Term***. Its expected term represents the period that its stock-based awards are expected to be outstanding and is determined using the simplified method (based on the mid-point between the vesting date and the end of the contractual term).
- ***Expected Volatility***. Since PDS is a privately held company and does not have any trading history for its common stock, the expected volatility was estimated based on the average volatility for comparable publicly traded life sciences companies over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their similar size, stage in the life cycle, or area of specialty.
- ***Risk-Free Interest Rate***. The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.
- ***Expected Dividend***. PDS has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, PDS has used an expected dividend yield of zero.

In addition to the Black-Scholes assumptions, PDS estimates its forfeiture rate based on an analysis of its actual forfeitures and will continue to evaluate the adequacy of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior, and other factors. The impact from any forfeiture rate adjustment would be recognized in full in the period of adjustment and if the actual number of future forfeitures differs from its estimates, PDS might be required to record adjustments to stock-based compensation in future periods.

The fair values of the shares of common stock underlying PDS s share-based awards were estimated on each grant date by its board of directors. Given the absence of a public trading market for its common stock, its board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of its common stock, including its stage of development; progress of its research and development efforts; equity market conditions affecting comparable public companies and the lack of marketability of its common stock.

In determining a fair value for its common stock, PDS estimated the enterprise value of its business based on similar public company benchmarks and the recent price history investors have paid for shares.

After the closing of this merger, the combined company s board of directors will determine the fair value of each share of underlying common stock based on the closing price of the combined company s common stock as reported on the Nasdaq Global Market or other Nasdaq market on the dates of grant.

Income Taxes

PDS uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and the tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are

expected to reverse. PDS assesses the likelihood that the resulting deferred tax assets will be realized. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

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As of December 31, 2017, PDS s total gross deferred tax assets were $4.5 million. Due to its lack of earnings history and uncertainties surrounding its ability to generate future taxable income, the gross deferred tax assets have been fully offset by a valuation allowance. The deferred tax assets were primarily comprised of federal and state tax net operating losses and tax credit carryforwards. Utilization of the net operating loss and tax credit carryforwards may be subject to an annual limitation due to historical or future ownership percentage change rules provided by the Internal Review Code of 1986, as amended, and similar state provisions. The annual limitation may result in the expiration of certain net operating loss and tax credit carryforwards before their utilization.

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MANAGEMENT FOLLOWING THE MERGER

Executive Officers and Directors of the Combined Company Following the Merger

Resignation of Current Executive Officers of Edge

Pursuant to the Merger Agreement, all of the current executive officers of Edge, except for Brian A. Leuthner and Andrew Saik, will resign immediately prior to the closing of the merger.

Executive Officers and Directors of the Combined Company Following the Merger

Pursuant to the Merger Agreement, five of the eight current directors of Edge will resign at or prior to the Effective Time. Prior to the Effective Time, the Edge board of directors will appoint four designees selected by PDS to serve as members of the combined company s board of directors upon the closing of the merger. Collectively the reconstituted board is expected to satisfy the requisite independence requirements for the Edge board of directors, as well as the sophistication and independence requirements for the required committees pursuant to Nasdaq listing requirements. It is anticipated that the PDS designees will be Frank Bedu-Addo, Sir Richard Sykes, De Lyle W. Bloomquist and Gregory Freitag, J.D., CPA. It is expected that the continuing Edge directors will be Brian A. Leuthner, James Loughlin and Robert Spiegel, M.D.

Following the merger, the management team of the combined company is expected to be composed of certain members of the management team of Edge and PDS. The following table lists the names and positions of the individuals who are expected to serve as executive officers and directors of the combined company upon the completion of the merger:

Name	Age	Position(s)
Executive Officers		
Frank Bedu-Addo, Ph.D.	54	Chief Executive Officer and Director
Brian A. Leuthner	54	President and Director
Lauren Wood, M.D.	59	Chief Medical Officer
Andrew Saik	49	Chief Financial Officer
Non-Employee Directors		
Sir Richard Sykes	76	Director
DeLyle W. Bloomquist	59	Director
Gregory Freitag	56	Director
James Loughlin	75	Director
Robert Spiegel, M.D.	69	Director

Executive Officers

Frank Bedu-Addo, Ph.D.

Dr. Bedu-Addo, one of the founders of PDS, has served as a director, president, and CEO of PDS since its inception in 2005. Dr. Bedu-Addo is a veteran biotech executive with experience successfully starting and growing biotechnology organizations. He has been responsible for the development and implementation of both operational and drug development strategies, supervising and managing both large organizations and emerging biotechnology companies.

Dr. Bedu-Addo was a founding and senior executive at KBI BioPharma, Inc. As Vice President of Drug Development, he oversaw all business and drug development operations. Before his tenure at KBI, he successfully started and managed Cardinal Health s East Coast biotechnology drug development operations. Prior to Cardinal Health, Dr. Bedu-Addo was an Associate Director at Akzo-Nobel, Senior Scientist at Elan (The Liposome Co.), and Principal Scientist at Schering-Plough. In these positions, he contributed to the development of numerous drugs, including antiviral and anticancer products. Dr. Bedu-Addo obtained his M.S. in Chemical Engineering and Ph.D. in Pharmaceutics from the University of Pittsburgh. The board of directors of PDS and Edge believe that Dr. Bedu-Addo s perspective and experience as PDS s President and CEO, as well as his depth of operating and senior management experience in the pharmaceuticals industry and educational background, provide him with the qualifications and abilities to serve as a director.

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Brian A. Leuthner

Mr. Leuthner, one of the co-founders of Edge, has served on Edge s board of directors and has been Edge s President and CEO since its inception in January 2009. He has more than 28 years of experience in the biotechnology and pharmaceutical marketplace, with a specific expertise in orphan products, critical care and neurocritical care. Mr. Leuthner has also worked in the hematology and oncology, infectious disease and cardiology marketplaces. Prior to founding Edge, Mr. Leuthner was the CEO of Fontus Pharmaceuticals, Inc. from 2007 to 2008, the Senior Head of Marketing for The Medicines Company (NASDAQ: MDCO) from 2005 to 2007 and the Director of Market Development for ESP Pharma, Inc. from 2003 to 2005. He also held marketing and sales positions of significant responsibility at Burroughs Wellcome and Company, Glaxo Wellcome plc and Johnson & Johnson (NYSE: JNJ). Mr. Leuthner received his B.S. and M.B.A. degrees from the University of North Carolina at Chapel Hill. The boards of directors of PDS and Edge believe that Mr. Leuthner s perspective and experience as Edge s President and CEO, as well as his depth of operating and senior management experience in the pharmaceutical industry and educational background, provide him with the qualifications and abilities to serve as a director.

Lauren Wood, M.D.

Dr. Wood will serve as Chief Medical Officer of the combined company upon the consummation of the merger. Dr. Wood served as the Head of the Vaccine Branch Clinical Trials Team for the National Cancer Institute Center for Cancer Research from 2005 until 2017, where she was charged with developing a clinical translational research program to develop vaccines and immune-based therapies that harness the immune response to control, eradicate or prevent cancer and HPV. Prior to that, Dr. Wood served as a member of the senior staff of the National Cancer Institute Pediatric HIV Working Group from 1996 to 2005. Dr. Wood completed a combined residence in internal medicine and pediatrics at Baylor College of Medicine Affiliated Hospitals in Houston, Texas and a fellowship with the National Institute of Allergy and Infectious Diseases in allergy and immunology. Dr. Wood obtained a B.A. in Biology from Oberlin College and an M.D. from Duke University School of Medicine.

Andrew Saik

Mr. Saik has served as Chief Financial Officer of Edge since October 2017. Mr. Saik was Chief Financial Officer at Vertice Pharma, LLC from August 2015 to July 2017. From August 2014 to April 2015 he was Chief Financial Officer at Auxilium Pharmaceuticals, Inc., where Mr. Saik led all financial and information technology activities and relationships and played a critical leadership role in executing Auxilium s diversification and growth strategy. From February 2013 to August 2014 Mr. Saik was Senior Vice President, Finance and Treasurer at Endo Health Solutions, Inc., where he was responsible for internal and external reporting, global consolidations of M&A transactions, cash management, debt financing and risk management. During his tenure at Endo, he helped complete the acquisition of Paladin Labs. Prior to Endo, Mr. Saik served in senior financial management roles with increasing responsibility at Valeant Pharmaceuticals International from January 2001 to July 2012, including Senior Vice President, Finance. In this post, he served as the overall finance lead for the acquisition and integration of the Johnson & Johnson and Sanofi-Aventis dermatology business units in the U.S. and Canada. From October 1999 to January 2001 he was a finance manager at Nexgenix, Inc. and prior to that, from 1996 to 1999, he was a senior financial analyst at Atlantic Richfield Corporation. He holds a Master of Business Administration from the University of Southern California and a Bachelor of Arts from the University of California, Los Angeles.

Non-Employee Directors

James Loughlin

Mr. Loughlin has served on Edge s board of directors since November of 2011. Since 2007, he has served on the board of Celgene Corporation (NASDAQ: CELG), where he is chair of the audit committee and a member of the compensation committee. Mr. Loughlin retired in 2003 after 40 years at KPMG LLP, a leading professional accounting and business consulting firm. As a partner at KPMG, he served for five years as a member of the board as well as National Director of the Pharmaceuticals Practice and as Chairman of the pension and investment committee of the KPMG Board from 1995 through 2001. Mr. Loughlin is a certified public accountant and received his B.S. degree in Accounting from St. Peter s University in 1964. The boards of

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directors of PDS and Edge believe Mr. Loughlin s valuable experiences as national director of the pharmaceuticals practice at KPMG LLP, an extensive background in accounting and financial reporting, and prior service on the board of directors of other publicly-held biopharmaceutical companies, provide him with the qualifications and skills to serve as a director.

Robert Spiegel, M.D.

Dr. Spiegel has served on Edge s board of directors since August 2013. He has been an Associate Professor at Weill Cornell Medical College since 2012 and is an Advisor to Warburg Pincus, LLC and the Israeli Biotech Fund. He served as Consultant and Chief Medical Officer of PTC Therapeutics, Inc. from 2011 to 2014. Prior to joining Edge s board of directors, Dr. Spiegel spent over 25 years at Schering-Plough Corporation, retiring in 2009 from his position as Chief Medical Officer and Senior Vice President of the Schering-Plough Research Institute. Dr. Spiegel serves as a member of the board of directors of Geron Corporation (NASDAQ: GERN), a biotechnology oncology company, where he also serves on the compensation committee. He currently serves as Chairman of Vidac Pharma and on the Board of Neximmune, private biotechnology companies. He was previously a director of Talon Therapeutics, Inc., a biopharmaceutical oncology company, where he also served on the audit committee, and Sucampo Pharmaceuticals where he served on the compensation and nominating and governance committees and Clavis Pharma ASA, a pharmaceutical company based in Oslo, Norway. Dr. Spiegel holds a B.A. from Yale University and an M.D. from the University of Pennsylvania. Following a residency in internal medicine, he completed a fellowship in medical oncology at the National Cancer Institute and held academic positions at the National Cancer Institute and New York University Medical Center. The board of directors of PDS and Edge believe that Dr. Spiegel s extensive medical experience in biopharmaceutical product development, deep understanding of pharmaceutical research and development, and broad expertise in gaining regulatory approval for drug candidates provide him with the qualifications and skills to serve as a director.

Sir Richard Sykes

Sir Richard Sykes has served on PDS s board of directors since December 2014. He is currently Chairman of Imperial College Healthcare NHS Trust, Chairman of the Royal Institution of Great Britain, Chairman of the UK Stem Cell Foundation, Chairman of Omnicyte, NetScientific and the investment board of Deepridge Capital. He was appointed Chancellor of Brunel University in 2013. Prior to that, he was Senior Independent Director and non-executive Chairman of ENRC from 2007 to June 2011, Chairman of NHS London from December 2008 to July 2010, Rector of Imperial College London from 2000 to 2008. He was a non-executive director of Rio Tinto plc from 1997 to 2007, and senior independent director from 2004 to 2007. He has over 30 years experience within the biotechnology and pharmaceutical industries field, serving as Chief Executive and Chairman of GlaxoWellcome from 1995 to 2000 and then as Chairman of GlaxoSmithkline until 2002. Internationally he is Chairman of the International Advisory Board, A*Star Biomedical Research Council, Singapore and a Board member of EDBI. He was awarded Honorary Citizenship of Singapore in 2004 for his contribution to the development of the country s biomedical sciences industry. Sir Richard holds a number of degrees and awards from Institutions both in the UK and overseas. He is a Fellow of the Royal Society and Academy of Medical Sciences, and an Honorary Fellow of the Royal Academy of Engineering, Royal Society of Chemistry, Royal Pharmaceutical Society, Royal College of Pathologists and the Royal College of Physicians. He is also President of the R and D Society, a position he has held since 2002. He is a Fellow of Imperial College London and the Imperial College School of Medicine, King s College London and Honorary Fellow of the Universities of Wales and Central Lancashire. Sir Richard received a Knighthood in the 1994 New Year s Honours list for services to the pharmaceutical industry. The board of directors of PDS and Edge believe that Sir Richard s extensive leadership experience, experience in biopharmaceutical product development, deep understanding of pharmaceutical development, and broad experience within the biotechnology and pharmaceutical industries provide him with the qualifications and skills to serve as a director.

De Lyle W. Bloomquist

Mr. Bloomquist has served on PDS s board of directors since December 2014. Mr. Bloomquist retired in March 2015 as the President, Global Chemicals Business for Tata Chemicals Ltd. as well as the President, CEO and Director of Tata Chemicals North America Inc. (the former General Chemical), which he was instrumental in selling to Tata Chemicals for over $1 billion in 2008. During his over 28 year career, he has held positions in finance, manufacturing, sales & marketing, logistics and general management. He has experience in taking

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companies public and private, raising financing in the public markets as well as with banks and private investors. Mr. Bloomquist serves on the Board of Directors for Rayonier Advanced Materials (NYSE: RYAM), Huber Engineered Materials, PDS Biotechnology Corporation, Crystal Peak Minerals and Costa Farms, and has served in past on the Boards of ANSAC and Oglebay Norton. He currently serves on the compensation and audit committees for RYAM, the technical and audit committees for Crystal Peak Minerals, and the compensation committee for Costa Farms. He also serves on the Board of Business Advisors for the Tepper School of Business at Carnegie Mellon University. The board of directors of PDS and Edge believe that Mr. Bloomquist s experience serving on public company board of directors, financial and managerial experience, and knowledge of PDS provide him with the qualifications and skills to serve as a director.

Gregory Freitag

Mr. Freitag has served on PDS s board of directors since December 2014. Mr. Freitag, AxoGen, Inc. s (NASDAQ: AXGN) General Counsel, SVP of Business Development and a member of its Board of Directors and was its Chief Financial Officer. AxoGen, Inc. is a leading regenerative medicine company dedicated to peripheral nerve repair. Mr. Freitag was Chief Executive Officer, Chief Financial Officer and a board member from June 2010 through September 2011 of LecTec Corporation, an intellectual property licensing and holding company that merged with AxoGen in September 2011. Mr. Freitag is a principal of FreiMc, LLC, a health care and life science consulting and advisory firm he founded that provides strategic guidance and business development services. Prior to founding FreiMc, Mr. Freitag was a Director of Business Development at Pfizer Health Solutions, a former subsidiary of Pfizer, Inc. and worked for Guidant Corporation in their business development group. Prior to Guidant Corporation, Mr. Freitag was the Chief Executive Officer of HTS Biosystems, a biotechnology tools start-up company and was the Chief Operating Officer, Chief Financial Officer and General Counsel of Quantech, Ltd. Prior to Quantech, Mr. Freitag practiced corporate law in Minneapolis, Minnesota. Mr. Freitag is also a director of the Foundation Board of HealthEast Care System, a health care system in Minnesota. The boards of directors of PDS and Edge believe that Mr. Freitag s leadership, legal, and accounting experiences and knowledge, as well as his familiarity with the pharmaceutical industry and PDS, provide him with the qualifications and skills to serve as a director.

Family Relationships

There are no family relationships among any of combined company s directors or executive officers.

Board Composition

The combined company s board of directors will consist of seven members upon the closing of the merger. Edge s certificate of incorporation and bylaws provide that directors are to be elected at each annual meeting of stockholders to hold office until the next annual meeting and until their respective successors are elected and qualified. Vacancies on the board of directors resulting from death, resignation, retirement, disqualification or removal may be filled by the affirmative vote of a majority of the remaining directors then in office, whether or not a quorum of the board of directors is present. Newly created directorships resulting from any increase in the number of directors may, unless the board of directors determines otherwise, be filled only by the affirmative vote of the directors then in office, whether or not a quorum of the board of directors is present. Any director elected as a result of a vacancy shall hold office for a term expiring at the next annual meeting of stockholders and until such director s successor shall have been elected and qualified.

Director Independence

The Edge board of directors undertook a review of the independence of the proposed directors of the combined company and considered whether any director has a material relationship with the combined company that could

compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. Based upon information requested from and provided by each director concerning their background, employment and affiliations, including family relationships, the board of directors has determined that all of the proposed directors, except Mr. Bedu-Addo and Mr. Leuthner, due to their positions as chief executive officer and president, respectively, of the combined company, is independent as that term is defined under the rules of Nasdaq.

In making these determinations, the board of directors considered the current and prior relationships that each non-employee director has with the combined company and all other facts and circumstances the board of

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directors deemed relevant in determining their independence, including the beneficial ownership of capital stock by each non-employee director, and the transactions involving them described in the section titled Certain Relationships and Related-Party Transactions.

Board Committees

The board of directors has the authority to appoint committees to perform certain management and administration functions. The board of directors has established an audit committee, a compensation committee and nominating and corporate governance committee. The board of directors may establish other committees to facilitate the management of the combined company s business. The composition and functions of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by the board of directors.

All of the committees will comply with all applicable requirements of the Sarbanes-Oxley Act, Nasdaq and SEC rules and regulations as further described below. Following the closing of the merger, the charters for each of these committees will be available on the combined company s website at www.pdsbiotech.com. Such charters are currently available on Edge s website at www.edgetherapeutics.com. Information contained on or accessible through Edge s or PDS s website is not a part of this proxy statement/prospectus/information statement, and the inclusion of such website address in this proxy statement/prospectus/information statement is an inactive textual reference only.

Audit Committee

The Edge Audit Committee consists of Mr. Spiegel and Mr. Loughlin, each of whom satisfies the independence requirements of the marketplace rules of the Nasdaq Stock Market and Rule 10A-3(b)(1) of the Exchange Act. The chairperson of the Audit Committee is Mr. Loughlin, whom the Edge Board has determined to be an audit committee financial expert within the meaning of SEC regulations. Each member of the Edge Audit Committee can read and understand fundamental financial statements in accordance with Audit Committee requirements. In arriving at this determination, the Board has examined each Audit Committee member s scope of experience and the nature of their employment in the corporate finance sector.

The primary purpose of the Audit Committee is to assist the Board in the oversight of the integrity of Edge s accounting and financial reporting process, the audits of the financial statements, and the company s compliance with legal and regulatory requirements. The functions of the Audit Committee include, among other things:

- hiring an independent registered public accounting firm to conduct the annual audit of the financial statements and monitoring its independence and performance;
- reviewing and approving the planned scope of the annual audit and the results of the annual audit;
- pre-approving all audit services and permissible non-audit services provided by the independent registered public accounting firm;
- reviewing the significant accounting and reporting principles to understand their impact on the financial statements;
- reviewing the internal financial, operating and accounting controls with management and the independent registered public accounting firm;
- reviewing with management and the independent registered public accounting firm, as appropriate, the financial reports, earnings announcements and the compliance with legal and regulatory requirements;
- reviewing potential conflicts of interest under and violations of the Code of Conduct;
- establishing procedures for the treatment of complaints received by Edge regarding accounting, internal accounting controls or auditing matters and confidential submissions by the employees of concerns regarding questionable accounting or auditing matters;
- reviewing and approving related-party transactions;

- primary responsibility for overseeing the risk management function; and
- reviewing and evaluating, at least annually, the Audit Committee's charter.

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With respect to reviewing and approving related-party transactions, the Audit Committee reviews related-party transactions for potential conflicts of interests or other improprieties. Under SEC rules, related-party transactions are those transactions to which Edge is or may be a party in which the amount involved exceeds $120,000, and in which any of the directors or executive officers or any other related person had or will have a direct or indirect material interest, excluding, among other things, compensation arrangements with respect to employment and board membership. The Audit Committee could approve a related-party transaction if it determines that the transaction is in the best interests. Edge s directors are required to disclose to the committee or the full Board any potential conflict of interest or personal interest in a transaction that the board is considering. Edge s executive officers are required to disclose any potential conflict of interest or personal interest in a transaction to the Audit Committee. Edge also poll its directors and executive officers on an annual basis with respect to related-party transactions and their service as an officer or director of other entities. Whenever possible, the transaction should be approved in advance and if not approved in advance, must be submitted for ratification as promptly as practical.

The Audit Committee of the combined organization is expected to retain these duties and responsibilities following completion of the merger.

The Board has adopted a charter for the Audit Committee that complies with SEC and NASDAQ Stock Market listing rules. The current charter is available on Edge s website at www.edgetherapeutics.com.

PDS believes that, after the completion of the merger, the composition of the Audit Committee will meet the requirements for independence under, and the Audit Committee will comply with, any applicable requirements of the rules and regulations of The NASDAQ Stock Market and the SEC.

Compensation Committee

The Edge Compensation Committee currently consists of Dr. Barer, Dr. Ratcliffe and Dr. Spiegel, each of whom the Edge Board has determined to be independent under the marketplace rules of the NASDAQ Stock Market, a non-employee director as defined in Rule 16b-3 promulgated under the Exchange Act, and an outside director as that term is defined in Section 162(m) of the Internal Revenue Code. The chairperson of the Compensation Committee is Dr. Spiegel.

The primary purpose of the Compensation Committee is to assist the Board in exercising its responsibilities relating to compensation of Edge s executive officers and employees and to administer its equity compensation and other benefit plans. In carrying out these responsibilities, this committee reviews all components of executive officer and employee compensation for consistency with its compensation philosophy, as in effect from time to time. The functions of the Compensation Committee include, among other things:

- designing and implementing competitive compensation policies to attract and retain key personnel;
- reviewing and formulating policy and determining the compensation of the executive officers and employees;
- reviewing and recommending to the Board the compensation of the directors;
- administering the equity incentive plans and granting equity awards to the employees and directors under these plans;
- if required from time to time, reviewing with management the disclosures under the caption Compensation Discussion and Analysis and recommending to the full board its inclusion in the periodic reports to be filed with the SEC;
- if required from time to time, preparing the report of the Compensation Committee to be included in the annual proxy statement;
- engaging compensation consultants or other advisors it deems appropriate to assist with its duties; and
- reviewing and evaluating, at least annually, the Compensation Committee’s charter.

The Compensation Committee of the combined organization is expected to retain these duties and responsibilities following completion of the merger.

The Board has adopted a charter for the Compensation Committee that complies with SEC and NASDAQ Stock Market listing rules. The current charter is available on Edge s website at www.edgetherapeutics.com.

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PDS believes that, after the completion of the merger, the composition of the Compensation Committee will meet the requirements for independence under, and the Compensation Committee will comply with, any applicable requirements of the rules and regulations of The NASDAQ Stock Market and the SEC.

Nominating and Corporate Governance Committee

The Edge Nominating and Corporate Governance Committee consists of Dr. Barer, Mr. Blech, Ms. Crane and Dr. Spiegel, each of whom the Edge Board has determined to be independent under the marketplace rules of the NASDAQ Stock Market. The chairperson of the Nominating and Corporate Governance Committee is Dr. Barer.

The primary purpose of the Nominating and Corporate Governance Committee is to assist the Board in promoting the best interests and the best interests of the Edge stockholders through the implementation of sound corporate governance principles and practices. The functions of the Nominating and Corporate Governance Committee include, among other things:

- identifying, reviewing and evaluating candidates to serve on the board;
- determining the minimum qualifications for service on the board;
- developing and recommending to the board an annual self-evaluation process for the board and overseeing the annual self-evaluation process;
- developing, as appropriate, a set of corporate governance principles, and reviewing and recommending to the board any changes to such principles; and
- periodically reviewing and evaluating the Nominating and Corporate Governance Committee's charter.

The Nominating and Corporate Governance Committee of the combined organization is expected to retain these duties and responsibilities following completion of the merger.

The Board has adopted a charter for the Nominating and Corporate Governance Committee that complies with SEC and NASDAQ Stock Market listing rules. The current charter is available on Edge s website at www.edgetherapeutics.com.

While the Nominating and Corporate Governance Committee does not have a formal diversity policy, the Nominating and Corporate Governance Committee recommends candidates based upon many factors, including the diversity of their business or professional experience, the diversity of their background and their array of talents and perspectives. The Nominating and Corporate Governance Committee s existing nominations process is designed to identify the best possible nominees for the Board, regardless of the nominee s gender, racial background, religion, or ethnicity. The Nominating and Corporate Governance Committee identifies candidates through a variety of means, including recommendations from members of the Board and suggestions from management, including the executive officers. In addition, the Nominating and Corporate Governance Committee considers candidates recommended by third parties, including stockholders. The Nominating and Corporate Governance Committee gives the same consideration to candidates recommended by stockholders as those candidates recommended by members of the board. Nominees should have a reputation for integrity, honesty and adherence to high ethical standards, should have demonstrated business acumen, experience and ability to exercise sound judgments in matters that relate to the company s current and long-term objectives, should be willing and able to contribute positively to the board s decision-making process, should have a commitment to understand the company and the industry and to regularly attend and participate in meetings of the board and its committees, should have the interest and ability to understand the sometimes conflicting interests of the various constituencies of the company, which include stockholders, employees, customers, creditors and the general public, and to act in the interests of all stockholders, should not have, nor appear to have, a conflict of interest that would impair the nominee s ability to represent the interests of all the stockholders and to fulfill the responsibilities of a director. Nominees shall not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law. The value of diversity on the board

should be considered.

Code of Business Conduct and Ethics

Edge has adopted a Code of Conduct, applicable to all of its employees, executive officers and directors, or Code of Conduct. The combined company anticipates maintaining the same Code of Conduct following the

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merger. The Code of Conduct is available on Edge s website at www.edgetherapeutics.com. The Nominating and Corporate Governance Committee is responsible for overseeing the Code of Conduct and must approve any waivers of the Code of Conduct for employees, executive officers or directors. Any amendments to the Code of Conduct, or any waivers of its requirements, will be disclosed on the combined company s website, within four business days of such amendment or waiver.

Compensation Committee Interlocks and Insider Participation

Following the closing of the merger, [_____] are expected to serve as members of the compensation committee. None of the proposed members of combined company s compensation committee has ever been an officer or employee of either company. None of the combined company s executive officers serve, or have served during the last fiscal year, as a member of the board of directors, compensation committee or other board committee performing equivalent functions of any entity that has one or more executive officers serving as one of the combined company s directors or on the compensation committee.

Non-Employee Director Compensation

PDS

During 2017, PDS did not pay any compensation or grant any stock options or stock awards to its non-employee directors. In October 2018, the Board agreed to grant each of Messrs. Bloomquist, Freitag and Postlethwaite and Sir Richard Sykes 34,390 shares of PDS common stock at $5.00 per share in lieu of cash compensation for advisory services.

Edge

The following table summarizes compensation for the fiscal year ended December 31, 2018, received by non-employee directors of Edge who are expected to serve as directors of the combined company:

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)[1]	Total ($)
James Loughlin	54,250	20,088	74,388
Robert Spiegel	59,250	20,088	79,388

(1) The amounts reported in the Stock Awards column represent the grant date fair value of the stock awards made to certain of the directors during the fiscal year ended December 31, 2018, in accordance with FASB ASC Topic 718, related to share-based payment awards. The amounts reported in this column reflect the compensation expense Edge recorded in its financial statements and do not correspond to the actual economic value that may be received by the directors from the awards.

Combined Company Non-Employee Director Compensation Policy

The combined company expects to adopt a non-employee director compensation policy, pursuant to which non-employee directors will be eligible to receive compensation for service on the combined company s board of directors and committees of the board of directors.

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EDGE EXECUTIVE COMPENSATION

2017 Summary Compensation Table

The following table sets forth information for the years ended December 31, 2016 and December 31, 2017 concerning compensation of Edge s executive officers that will continue as executive officers of the combined company. Edge refers to these two executives as Edge s continuing executive officers.

Name and Principal Position	Year	Salary ($)	Option Awards ($)[1]	Nonequity Incentive Plan Compensation ($)	All Other Compensation ($)[2]	Total ($)
Brian A. Leuthner	2017	500,000	1,761,831	255,000	10,800	2,527,631
President and Chief Executive Officer	2016	467,500	1,106,719	266,475		1,840,694
Andrew Saik[3]	2017	61,667	1,594,402	—	—	1,656,069
Chief Financial Officer						

(1) Amounts shown in this column do not reflect actual compensation received by the continuing executive officers. The amounts reflect the grant date fair value of stock option awards and are calculated in accordance with the provisions of Financial Accounting Standards Board Accounting Standards Codification Topic 718— Stock Compensation, and assume no forfeiture rate derived in the calculation of the grant date fair value of these awards. Assumptions used in calculating the value of these awards are included in Note 7, Stock-based Compensation in the notes to Edge's financial statements included in Edge's latest Annual Report on Form 10-K filed with the SEC on March 1, 2018. The executive will only realize compensation to the extent the trading price of Edge's common stock is greater than the exercise price of such stock options at the time such options are exercised.

(2) Amounts shown in this column reflect Edge's matching contributions to Edge's 401(k) plan in the amount of $10,800 for Mr. Leuthner.

(3) Mr. Saik began employment with Edge on October 31, 2017.

Narrative to Summary Compensation Table

Employment Agreements

Narrative description of the Edge executive officers is set forth under the section titled The Merger – Interests of the Edge Directors and Officers in the Merger.

2017 Annual Cash Incentive Compensation

Mr. Saik was not eligible for bonus opportunities in 2017 following his hiring on October 31, 2017. Expressed as a percentage of base salary, the target bonus opportunity for Mr. Leuthner in 2017 was 60%. The ultimate determinations of cash bonuses for Mr. Leuthner are based on achievement of corporate goals, provided that the Compensation Committee and the Edge Board retain discretion to award a higher or lower bonus than warranted based on the achievement of the corporate goals. These goals are reviewed and approved by the Compensation Committee and the Edge Board at the beginning of each year. At or after the end of such year, the Compensation Committee determines the extent to which these corporate goals have been attained and, based on such determination, the Edge Board or the Compensation Committee thereafter approve the annual cash bonus to be awarded. For 2017, the corporate goal categories (and weighting) were as follows: financial goals (15%); clinical/ medical affairs goals

(25%); regulatory goals (20%); manufacturing goals (15%); research goals (12%); commercial goals (5%) and corporate goals (8%). After reviewing performance for 2017, the Compensation Committee determined that the performance goals were achieved at 85% of target. The bonus earned by Mr. Leuthner for 2017 is listed in the "Nonequity Incentive Plan Compensation" column in the 2017 Summary Compensation Table above.

Equity Incentive Compensation – Option Awards

On November 3, 2014, Edge shareholders approved the Current Plan. The Current Plan is the primary program through which Edge grants equity-based incentive compensation to its employees (including Edge s continuing executive officers) and Edge s directors. Under the Current Plan, Edge may grant awards of restricted stock, options, stock appreciation rights, restricted stock units and other types of equity-based awards, in each case, with respect to Edge common stock. As of the date of this proxy statement/prospectus/information statement, Edge has only made grants of stock options under the Current Plan.

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All of the outstanding options granted to Edge s continuing executive officers are subject to time-based vesting, such that options vest with respect to one-fourth of the underlying shares on the first anniversary of the grant date and in equal installments of 1⁄48 of the underlying shares thereafter for the subsequent 36 months. Under the employment agreements of Edge s continuing executive officers, all equity awards will become 100% vested upon a change in control. However, during 2016, the Compensation Committee reviewed the practice of "single trigger" vesting under Edge s continuing executive officers employment agreements. In light of such review, the Compensation Committee decided to use a new form of option award for Edge s executives that eliminates automatic vesting on a change in control, and instead uses "double trigger" vesting (i.e., vesting does not automatically occur upon a change in control). This new vesting provision was adopted after Edge made stock option grants to Edge s continuing executive officers in 2016, so none of their 2016 stock options contain double trigger vesting. However, the stock options granted to Edge s continuing executive officers in March 2017 contain double trigger vesting in connection with a change in control, and the double trigger vesting feature supersedes the provisions in Edge s continuing executive officers employment agreements that specify single trigger vesting upon a change in control. While the Compensation Committee intends to use a "double trigger" vesting approach for new option awards granted to Edge s continuing executive officers, it will continue to analyze each separate option award to determine whether double trigger vesting is appropriate. Further, where double trigger vesting is utilized, Edge intends that the double trigger vesting feature will supersede any provision in Edge s continuing executive officers employment agreements that specifies single trigger vesting with respect to future stock option awards. The stock option awards granted to Edge s continuing executive officers under the Current Plan during 2017, including their vesting terms, are set forth in the Outstanding Equity Awards at Year-End table below.

Outstanding Equity Awards at Year-End

The table below sets forth the number of securities underlying outstanding plan awards for each named executive officer as of December 31, 2017.

Name	Number of Securities Underlying Unexercised Options that are Exercisable (#)	Number of Securities Underlying Unexercised Options that are Unexercisable (#)	Option Exercise Price ($)	Option Grant Date[1][2]	Option Expiration Date
Brian A. Leuthner	186,390	0	2.04	10/11/2013	10/11/2023
	69,440	0	8.28	3/27/2014 [3]	3/27/2024
	361,817	164,461	6.36	3/11/2015	3/11/2025
	105,430	124,570	6.99	2/16/2016	2/16/2026
	0	267,500	8.86	3/13/2017	3/13/2027
Andrew Saik	0	200,000	10.73	11/1/2017	11/1/2027

(1) Except as otherwise noted, options vest with respect to one-fourth of the underlying shares on the first anniversary of the grant date and in equal installments of 1⁄48 of the underlying shares on each monthly anniversary of the grant date thereafter for the subsequent 36 months.

(2) Options granted after November 3, 2014 were granted under the Current Plan. Options granted prior to such date were granted under the 2012 Plan.

(3) Options vest with respect to one-fourth of the underlying shares on June 1, 2014 and in equal installments of 1⁄48 of the underlying shares on each monthly anniversary of such date thereafter for the subsequent 36 months.

Potential Payments Upon a Termination or Change in Control

Under the terms of their respective employment agreements, Mr. Leuthner and Mr. Saik are entitled to certain payments and benefits in connection with the termination of their employment with Edge under specified circumstances.

Generally the employment agreements for Edge s continuing executive officers state that if a continuing executive officer resigns without good reason, is terminated for cause or, with respect to all of the continuing executive officers other than Mr. Leuthner, is terminated due to death or disability, the executive is only entitled to receive salary and benefits that were accrued but remain unpaid through the date of termination.

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The employment agreements provide severance benefits to be paid to each continuing executive officer, subject to the effectiveness of a general release of claims, if the continuing executive officer terminates his employment for good reason or if Edge terminates the continuing executive officer s employment without cause. Mr. Leuthner s employment agreement entitles him to severance benefits upon a termination due to death or disability as if such termination was without cause. The continued provision of severance benefits is conditioned on each executive s compliance with his release and the terms of Edge s confidentiality and invention and assignment agreement such that if an executive does not comply with such agreements, severance payments to the executive will cease and previously paid severance benefits must be repaid. The terms cause and good reason have the meanings set forth in each continuing executive officer s employment agreement with Edge.

Under Mr. Leuthner s employment agreement, upon a termination of Mr. Leuthner s employment by Mr. Leuthner for good reason or by Edge without cause, in either case, not in connection with a change in control, Mr. Leuthner is entitled to receive 18 months of continued base salary to be paid in accordance with Edge s normal payroll practices, plus 18 months of COBRA premium reimbursements for Mr. Leuthner and his eligible dependents. Under Mr. Saik s employment agreement, if Mr. Saik terminates his employment for good reason or Edge terminates Mr. Saik s employment without cause, and such termination was not in connection with a change in control, Mr. Saik is entitled to receive 12 months of continued base salary, to be paid in accordance with Edge s normal payroll practices, plus 12 months of COBRA premium reimbursements for Mr. Saik and his eligible dependents.

The employment agreements for Edge s continuing executive officers provide enhanced severance payments upon certain employment terminations that occur in connection with a change in control. Mr. Leuthner s employment agreement provides that if Mr. Leuthner terminates his employment for good reason within 12 months following a change in control or if Edge terminates Mr. Leuthner s employment other than for cause (i) within the 60-day period prior to a change in control or (ii) within the 12-month period following a change in control, then Mr. Leuthner would be entitled to receive the same severance benefits as provided above, plus a payment equal to 1.5 times his target bonus opportunity and accelerated vesting of all unvested equity awards that do not provide for double-trigger vesting(with performance-based awards, if any, to vest at not less than target).

Each continuing executive officer s employment agreement also provide for full vesting of all outstanding and unvested equity awards upon a change in control (with performance-based awards, if any, to vest at not less than target). However, as described above, the Compensation Committee has decided to utilize a double trigger vesting approach for option grants made to Edge s continuing executive officers in March 2017 and intends to use this approach for future grants (though it reserves the right to use a single trigger approach for any future equity awards). The stock option grants made to Edge s continuing executive officers in March 2017 provide for accelerated vesting in connection with a change in control only if the continuing executive officer s employment is terminated due to his death or disability, by Edge without cause or by the executive for good reason, in each case, within 12 months immediately following the change in control, and the double trigger vesting feature in these option grants supersedes any provision in the continuing executive officer s employment agreement specifying single trigger vesting.

The following table sets forth potential payments payable to Edge s continuing executive officers upon a termination of employment without cause or resignation for good reason and a termination of employment without cause or resignation for good reason in connection with a change in control. The table below reflects amounts payable to Edge s continuing executive officers assuming their employment was terminated on December 31, 2017 and, if applicable, a change in control also occurred on such date:

	Upon Termination Without Cause or Resignation for Good Reason — No Change in Control
Name	

	Cash Payment ($)	Accelerated Options Vesting	Other ($)[(1)]	Total ($)
Brian A. Leuthner	750,000		38,871	784,871
Andrew Saik	370,000		23,247	393,247

(1) Reflects the value of COBRA premium reimbursements for the continuing executive officer and his eligible dependents.

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Name	Cash Payment ($)	Accelerated Options Vesting ($)[1]	Other ($)[2]	Total ($)
Brian A. Leuthner	1,200,000	2,663,959	34,871	3,898,830
Andrew Saik	370,000	1,527,786	23,247	1,921,033

(1) Assumes all outstanding options vest upon termination.

(2) Reflects the value of COBRA premium reimbursements for the continuing executive officer and his eligible dependents.

The following table sets forth potential payments payable to Edge s continuing executive officers upon a change in control, regardless of whether a termination of employment occurs. For purposes of this table, the change in control is assumed to occur on December 31, 2017.

Name	Cash Payment ($)	Accelerated Options Vesting[1]	Other ($)	Total ($)
Brian A. Leuthner	0	1,280,767	0	1,280,767
Andrew Saik	0	0	0	0

(1) Options granted in 2017 are not included in this column because such options have double trigger vesting.

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PDS EXECUTIVE COMPENSATION

PDS s named executive officers, consist of its principal executive officer and the next two most highly compensated executive officers and, are:

- Frank K. Bedu-Addo, Ph.D., its President and Chief Executive Officer;
- Gregory L. Conn, Ph.D., its Chief Scientific Officer; and
- Michael King, its Chief Financial Officer.

Dr. Bedu-Addo and Dr. Conn are expected to serve the combined as described in the section titled Management Following the Merger.

2017 Summary Compensation Table

The following table sets forth all of the compensation awarded to, earned by or paid to PDS s named executive officers during 2016 and 2017.

Name and Principal Position	Fiscal Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards[1] ($)	All Other Compensation ($)	Total ($)
Frank K. Bedu-Addo, Ph.D. *President and Chief Executive Officer*	2017	275,000 [2]	—	—	—	—	275,000
	2016	275,000	—	—	—	—	275,000
Gregory L. Conn, Ph.D. *Chief Scientific Officer*	2017	121,800	—	—	—	—	121,800
	2016	81,200	—	—	121,884	—	203,084
Michael King *Chief Financial Officer and Chief Business Officer*	2017	168,000 [2]	—	—	—	—	168,800
	2016	168,000	—	—	—	—	168,000

(1) Amounts shown in this column do not reflect dollar amounts actually received by PDS's named executive officers. Instead, these amounts reflect the aggregate grant date fair value of the stock option granted in the year ended December 31, 2016, computed in accordance with the provisions of Financial Accounting Standards Board Accounting Standards Codification Topic 718. Assumptions used in the calculation of these amounts are included in Note 10 to PDS's financial statements included in this proxy statement/prospectus/information statement. As required by SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. PDS's named executive officers will only realize compensation to the extent the trading price of PDS common stock is greater than the exercise price of such stock options.

(2) These amounts include deferred salaries. Dr. Bedu-Addo and Mr. King voluntarily elected to defer salary payments of $57,292 and $42,000, respectively, until PDS completed a financing or strategic transaction.

Outstanding Equity Awards at December 31, 2017

The following table provides information regarding outstanding equity awards held by PDS s named executive officers as of December 31, 2017. None of the PDS named executive officers exercised any options to purchase PDS common stock in 2017 and no stock awards were granted to the PDS named executive officers in 2017.

			Option Awards[1]			
Name	Grant Date	Vesting Commencement	Number of Securities	Number of	Option Exercise	Option Expiration Date

		Date	Underlying Unexercised Options (#) Exercisable[2]	Securities Underlying Unexercised Options (#) Unexercisable	Price Per Share ($)[3]	
Frank K. Bedu-Addo, Ph.D.	1/15/2009	2/1/2009	163,010	—	1.635	1/15/2019
	1/1/2010	2/1/2010	54,337	—	1.527	1/1/2020
	7/27/2011	8/1/2011	163,011	—	2.143	7/27/2021
	12/1/2012	12/1/2012	673,009	—	2.143	12/1/2022
Gregory L. Conn, Ph.D.	1/1/2016	1/31/2016	54,460	—	2.238	1/31/2026
Michael King	12/15/2014	12/15/2014	162,275	—	2.238	12/15/2024

(1) All of the option awards were granted under the PDS Biotechnology Corporation 2009 Stock Option Plan, or the PDS 2009 Plan, the terms of which are described below under PDS Executive Compensation—Employee Benefit Plans—2009 Stock Option Plan.

(2) Pursuant to the PDS 2009 Plan, the vesting of all stock awards, including stock options held by its executive officers, will accelerate upon a change in control if the awardee is not offered employment with the acquirer.

(3) The exercise price per share of the stock options reflects the fair market value per share of PDS common stock on the date of grant as determined by the PDS Board.

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Pension Benefits

PDS s executive officers did not participate in, or otherwise receive any benefits under, any pension or retirement plan sponsored by PDS during 2017.

Nonqualified Deferred Compensation

PDS s executive officers did not participate in, or otherwise earn any benefits under, any non-qualified deferred compensation plan sponsored by PDS during 2017.

PDS s Employment Arrangements

The key terms of employment with PDS s executive officers are described below. In addition, each of PDS s named executive officers has executed its standard proprietary information and inventions agreement. Please see the section titled PDS Executive Compensation—Outstanding Equity Awards at December 31, 2017 for information regarding outstanding stock awards held by PDS s named executive officers.

Frank K. Bedu-Addo, Ph.D. Effective as of October 11, 2018, PDS entered into an employment agreement with Dr. Bedu-Addo, pursuant to which Dr. Bedu-Addo is employed as PDS s President and Chief Executive Officer. The agreement provides that Dr. Bedu-Addo will receive an initial base salary of $275,000 per year. If the merger is consummated, Dr. Bedu-Addo s base salary will increase to at least $450,000. Dr. Bedu-Addo is eligible to receive an annual performance-based cash bonus in an amount up to 50% of his base salary and is eligible to receive awards under the PDS 2009 Plan. In addition, immediately prior to the merger, (i) all options to purchase PDS common stock held by Dr. Bedu-Addo will become fully vested, and (ii) Dr. Bedu-Addo will receive a one-time cash payment of $395,000 and a one-time grant of 550,235 options to purchase shares of PDS common stock.

If Dr. Bedu-Addo s employment is terminated by PDS without cause, by Dr. Bedu-Addo for good reason, or by death, Dr. Bedu-Addo (or his estate) is entitled to receive (i) all earned but unpaid amounts of his base salary, (ii) all reasonable and documented expenses incurred but unpaid, (iii) his base salary for a period of 24 months following his termination, (iv) reimbursement for certain medical expenses, and (v) a lump sum payment in an amount equal to the greater of (a) the annual incentive bonus paid in the year prior to Dr. Bedu-Addo s termination (prorated for the period of the year Dr. Bedu-Addo was employed) or (b) the annual incentive bonus earned by Dr. Bedu-Addo in the year he was terminated.

Gregory L. Conn, Ph.D. Effective as of March 26, 2015, PDS entered into a consulting services agreement with Dr. Conn, pursuant to which Dr. Conn agreed to provide advisory and drug development services to PDS. The agreement provides that Dr. Conn will receive a $[14,500] consulting fee per month. The agreement is terminable by either PDS or Dr. Conn with or without cause upon 90 days advance written notice. In addition, immediately prior to the merger, Dr. Conn will receive a one-time grant of 137,559 options to purchase shares of PDS common stock.

Michael King. Effective as of December 15, 2014, PDS entered into a consulting services agreement with Mr. King, pursuant to which Mr. King agree to provide PDS with certain financial advisory services. Pursuant to the agreement, Mr. King initially received a $7,000 fee per month, which was subsequently increased to $14,000 per month. The agreement is terminable by either PDS or Mr. King with or without cause upon 90 days advance written notice. In addition, immediately prior to the merger, Mr. King will receive a one-time cash payment of $50,000 and a one-time grant of 137,559 options to purchase shares of PDS common stock.

Rule 10b5-1 Sales Plans

The combined company s directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of the combined company s common stock on a periodic basis. Under a Rule 10b5-1 plan a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from them. The director or officer may amend or terminate the plan in some circumstances. The combined company s directors and executive officers may also buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information. Any purchase or sales by the combined company s directors and executive officers, including pursuant to a 10b5-1 plan, will be subject to the terms of any lock-up agreements entered into by such directors and executive officers.

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Employment Benefits Plans

At the Effective Time, each option to purchase PDS common stock that is outstanding and unexercised immediately prior to the Effective Time, whether or not vested, will be converted into an option to purchase common stock of the combined company. The combined company will assume the PDS 2009 Plan and the PDS 2018 Plan (described below). All rights with respect to PDS common stock under PDS options assumed by the combined company will be converted into rights with respect to the combined company s common stock. Accordingly, from and after the Effective Time, each PDS stock option assumed by the combined company may be exercised for such number of shares of the combined company s common stock as is determined by multiplying the number of shares of PDS common stock subject to the option by the exchange ratio and rounding that result down to the nearest whole number of shares of common stock. The per share exercise price of the converted option will be determined by dividing the existing exercise price of the option by the exchange ratio and rounding that result up to the nearest whole cent. Any restrictions on the exercise of any PDS option assumed by the combined company will continue following the conversion and the term, exercisability, vesting schedules and other provisions of assumed PDS options will generally remain unchanged; provided, that any PDS options assumed by the combined company may be subject to adjustment to reflect changes in the combined company s capitalization after the Effective Time and that the combined company s board of directors or a committee thereof will succeed to the authority of the PDS Board with respect to each assumed PDS option.

2009 Stock Option Plan

The PDS Board adopted, and its stockholders approved, the PDS 2009 Plan in January 2009.

The PDS 2009 Plan provides for the grant of stock options to PDS s employees, directors and consultants.

Authorized Shares. As of September 30, 2018, stock options to purchase 1,654,699 shares were outstanding under the PDS 2009 Plan.

Plan Administration. The PDS Board or a duly authorized committee of its board of directors administers the PDS 2009 Plan and the option awards granted under it. Subject to the terms of the PDS 2009 Plan, the board of directors has the authority to determine and amend the terms of awards, including recipients, the exercise, strike price of awards, the fair market value of a share of PDS common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise of the award and the terms of the option agreements for use under the PDS 2009 Plan.

The board of directors has the power to modify outstanding awards under the PDS 2009 Plan. The board of directors has the authority to reprice any outstanding option or stock appreciation right, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under U.S. GAAP, with the consent of any adversely affected participant.

Change in Control. The PDS 2009 Plan provides that in the event of a specified change in control, as described under the PDS 2009 Plan, if the successor corporation does not offer an awardee employment, such option will become fully vested and exercisable prior to the change in control. Any awards that have not been assumed, continued, substituted, or exercised prior to the corporate transaction will terminate at the closing of the transaction.

Transferability. A participant may not transfer stock awards under the PDS 2009 Plan other than by will, the laws of descent and distribution, or as otherwise provided under the PDS 2009 Plan without the consent of the PDS Board.

2018 Stock Incentive Plan

The PDS Board adopted, and its stockholders approved, the PDS Biotechnology Corporation 2018 Stock Incentive Plan, or the PDS 2018 Plan, in January 2018.

The PDS 2018 Plan provides for the grant of stock options, stock appreciation rights, restricted stock, deferred stock, and other stock-based awards approved by the compensation committee to PDS s employees, directors and consultants.

Authorized Shares. As of September 30, 2018, stock options to purchase 0 shares were outstanding under the PDS 2018 Plan.

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Plan Administration. The PDS Board or a duly authorized committee of its board of directors administers the PDS 2018 Plan and the awards granted under it. Subject to the terms of the PDS 2018 Plan, the PDS Board has the authority to determine and amend the terms of awards, including recipients, the exercise, strike price of awards, performance goals, and vesting schedule applicable to the awards, and the terms of the agreements for use under the PDS 2018 Plan.

Change in Control and Other Transactions. The PDS 2018 Plan provides that in the event of a specified change in control, as described under the PDS 2018 Plan, the PDS Board may (i) accelerate the vesting of all awards granted under the PDS 2018 Plan or (ii) require the holders of any awards granted under the PDS 2018 Plan to tender the awards in exchange for a cash payment determined in accordance with the PDS 2018 Plan. In addition, if any person becomes a beneficial owner of at least 10% of PDS s combined voting power of the then-outstanding securities and the PDS board does not authorize or approve of such holding, then all awards granted under the 2018 PDS Plan will immediately vest.

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CERTAIN RELATIONSHIPS AND RELATED-PARTY TRANSACTIONS

The following is a summary of transactions since January 1, 2017 and all currently proposed transactions, to which either Edge or PDS has been a participant, in which:

- the amounts exceeded or will exceed $120,000; and
  any of the directors, executive officers or holders of more than 5% of the respective capital stock, or any
- member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Edge

Indemnification Agreements

On April 24, 2017, Edge entered into an indemnification agreement with Alyssa Wyant, Edge s Senior Vice President of Regulatory Affairs.

On September 18, 2017, Edge entered into an indemnification agreement with Rose Crane in connection with her service on the Edge Board.

On October 31, 2017, Edge entered into an indemnification agreement with Andrew Saik, Edge s Chief Financial Officer.

Pursuant to these agreements, Edge has agreed to indemnify Ms. Wyant, Ms. Crane and Mr. Saik against any and all expenses incurred by them resulting from their status as one of Edge s executive officers or directors, as applicable, to the fullest extent permitted by Delaware law, Edge s certificate of incorporation and Edge s bylaws, except in limited circumstances. In addition, these indemnification agreement provide that, to the fullest extent permitted by Delaware law, Edge will pay for all expenses incurred by Ms. Wyant, Ms. Crane and Mr. Saik in connection with a legal proceeding arising out of their service to Edge. Similarly, prior to January 1, 2017, each of Edge s directors and other officers entered into indemnification agreements on similar terms.

Employment Agreements

On February 21, 2017, Edge entered into an at-will employment agreement with Ms. Wyant. Under her agreement, Ms. Wyant received an annual base salary of $300,000, which may be increased, decreased or stay the same, depending on Ms. Wyant s performance and the performance of Edge. Under her employment agreement, Ms. Wyant was eligible to earn an annual discretionary performance-based bonus, with a target bonus opportunity equal to 35% of the base salary, as determined by the Edge Board or the compensation committee of the Edge Board; provided that Ms. Wyant remained employed with Edge on the last day of the relevant performance period. During her employment, Ms. Wyant was eligible to be granted equity awards by Edge, as may be determined by the Edge Board or the compensation committee of the Edge Board. The employment agreement could be terminated by Edge with or without cause, on the one hand, or by Ms. Wyant with or without good reason or upon her death or termination by reason of a disability, on the other hand. Under her employment agreement, Ms. Wyant was also entitled to participate in the employee benefit plans, policies, practices and arrangements and was eligible for the same number of holidays and vacation days, in each case as are generally allowed to other similarly situated executives of Edge. Edge and Ms. Wyant are parties to a separation agreement pursuant to which (i) Ms. Wyant will receive a cash payment in the amount of $125,400 on the first payroll date after February 1, 2019 and (ii) all of Ms. Wyant s stock options and Edge RSUs, in each case, (99,534 stock options granted on June 14, 2018 and 49,766 Edge RSUs granted on August 14, 2018) became fully vested upon the effectiveness of the release of claims in her separation agreement. All such stock options will remain exercisable for a period of three years following her termination date (which was December 14,

2018).

On October 31, 2017, Edge entered into an at-will employment agreement with Mr. Saik. Under his agreement, Mr. Saik will receive an annual base salary of $370,000, which may be increased, decreased or stay the same, depending on Mr. Saik s performance and the performance of Edge. Under his employment agreement, Mr. Saik is eligible to earn an annual discretionary performance-based bonus, with a target bonus opportunity equal to 45% of the base salary, as determined by the Edge Board or the compensation committee of the Edge Board; provided that Mr. Saik remains employed with Edge on the last day of the relevant performance period.

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During his employment, Mr. Saik will be eligible to be granted equity awards by Edge, as may be determined by the Edge Board or the compensation committee of the Edge Board. The employment agreement may be terminated by Edge with or without cause, on the one hand, or by Mr. Saik with or without good reason or upon his death or termination by reason of a disability, on the other hand. In the event that Mr. Saik s employment is terminated (a) by Edge other than for cause, death or disability or (b) upon his resignation with good reason, Mr. Saik will be entitled to certain severance payments and benefits, including an amount equal to his base salary plus (i) certain accrued obligations through the date of termination and (ii) 12 months of COBRA premium reimbursement in exchange for his execution of a release of claims against Edge. Under the employment agreement, Mr. Saik is also entitled to participate in the employee benefit plans, policies, practices and arrangements and is eligible for the same number of holidays and vacation days, in each case as are generally allowed to other similarly situated executives of Edge.

Edge Related-Party Transactions Policy

Edge s audit committee is charged with the responsibility of reviewing and approving all related person transactions (as defined in SEC regulations), and periodically reassessing any related person transaction entered into by Edge to ensure continued appropriateness. Under SEC rules, related-party transactions are those transactions to which Edge is or may be a party in which the amount involved exceeds $120,000, and in which any of Edge s directors or executive officers or any other related person had or will have a direct or indirect material interest, excluding, among other things, compensation arrangements with respect to employment and board membership. Edge s audit committee could approve a related-party transaction if it determines that the transaction is in Edge s best interests. In addition, Edge s audit committee will review these transactions under Edge s Code of Conduct, which governs conflicts of interests, among other matters, and is applicable to Edge employees, officers and directors. Edge s directors are required to disclose to the Edge audit committee or the Edge Board any potential conflict of interest or personal interest in a transaction that the Edge Board is considering. Edge s executive officers are required to disclose any potential conflict of interest or personal interest in a transaction to Edge s audit committee. Edge also polls its directors and executive officers on an annual basis with respect to related-party transactions and their service as an officer or director of other entities. Any director involved in a related-party transaction that is being reviewed or approved must recuse himself or herself from participation in any related deliberation or decision. Whenever possible, the transaction is approved in advance and if not approved in advance, must be submitted for ratification as promptly as practical. Following the merger, the combined company will retain Edge s processes and policies relating to the review and approval of all related person transactions.

PDS

In November 2015, PDS received $1,000,000 from the Mr. Bloomquist in exchange for a convertible promissory note. The promissory note plus related accrued interest totaling $1,056,301 was converted into equity in December 2016, resulting in the issuance of 138,536 shares of PDS common stock to Mr. Bloomquist at a price of $7.62 per share. In August 2016, PDS received $218,767 from Mr. Bloomquist in exchange for a convertible promissory note. The promissory note plus related accrued interest totaling $223,442 was converted into equity in December 2016, resulting in the issuance of 26,048 shares of PDS common stock to Mr. Bloomquist at a price of $8.58 per share. In December 2016, Mr. Bloomquist purchased 26,230 shares of PDS common stock in conjunction with a stock offering at a price of $9.53 per share, resulting in the receipt of $250,000 by PDS.

In May 2016, PDS received $500,000 from NetScientific plc in exchange for a convertible promissory note. The promissory note plus related accrued interest totaling $516,096 was converted into equity in December 2016, resulting in the issuance of 67,687 shares of PDS common stock to NetScientific at a price of $7.64 per share. Sir Richard Sykes is the Chairman of NetScientific, and Mr. Postlethwaite is the Chief Financial Officer and Secretary of NetScientific.

In November 2015, PDS received $500,000 from The Sherrie Labrum Trust, or the Labrum Trust, in exchange for a convertible promissory note. The promissory notes plus related accrued interest totaling $528,151 were converted into equity in December 2016, resulting in the issuance of 69,268 shares of PDS common stock at a price of $7.62 per share. In August 2016, PDS received $218,767 from The Sherrie Labrum Trust in

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exchange for a convertible promissory note. The promissory notes plus related accrued interest totaling $223,442 were converted into equity in December 2016, resulting in the issuance of 26,048 shares of PDS common stock at a price of $8.58 per share. As of December 31, 2018, the Labrum Trust owned approximately [__]% of the outstanding shares of PDS common stock.

In January 2018, the PDS Board approved the reduction in the conversion or purchase price per share, as applicable, for each of the transactions described above (other than the exercise of warrants by NetScientific) to $5.00 per share. As a result, PDS issued an additional (i) 23,607; 124,682 and 23,444 shares of PDS common stock to Mr. Bloomquist, for the December 2016 private placement, the November 2015 convertible promissory note, and the August 2016 convertible promissory note, respectively, (ii) 60,918 shares of PDS common stock to NetScientific for the May 2016 convertible promissory note, and (iii) 62,234 and 23,444 shares of PDS common stock to the Labrum Trust for the November 2015 convertible promissory note and the August 2016 convertible promissory note, respectively.

PDS Related-Party Transactions Policy

Although PDS has not had a written policy for the review and approval of transactions with related persons, its board of directors has historically reviewed and approved any transaction where a director or officer had a financial interest. Prior to approving such a transaction, the material facts as to a director s or officer s relationship or interest in the agreement or transaction were disclosed to its board of directors. The PDS board of directors takes this information into account when evaluating the transaction and in determining whether such transaction was fair to PDS and in the best interest of all its stockholders.

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UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

The following information does not give effect to the proposed reverse stock split of Edge common stock described in the Reverse Stock Split Proposal.

The following unaudited pro forma condensed combined financial information was prepared using the acquisition method of accounting under United States generally accepted accounting principles, or U.S. GAAP, and gives effect to the transaction between Edge, Merger Sub, and PDS to be accounted for as a reverse acquisition, with PDS being deemed the acquiring company for accounting purposes.

PDS was determined to be the accounting acquirer based upon the terms of the Merger Agreement and other factors including: (i) PDS stockholders are expected to own approximately 70% of the voting interests of the combined organization immediately following the closing of the transaction and (ii) directors recommended by PDS to be appointed or elected will hold a majority of the seats on the board of directors of the combined organization.

The following unaudited pro forma condensed combined financial statements are based on PDS historical financial statements and Edge historical financial statements, as adjusted, to give effect to PDS acquisition of Edge. These unaudited pro forma condensed combined financial statements do not give effect to the proposed reverse stock split of Edge common stock. The unaudited pro forma condensed combined statements of operations for the nine months ended September 30, 2018 and the year ended December 31, 2017 give effect to these transactions as if they had occurred on January 1, 2017. The unaudited pro forma condensed combined balance sheet as of September 30, 2018 gives effect to these transactions as if they had occurred on September 30, 2018.

Because PDS will be treated as the accounting acquirer, PDS assets and liabilities will be recorded at their precombination carrying amounts in the unaudited pro forma financial information. Edge assets and liabilities will be measured and recognized at their fair values as of the transaction date and combined with the assets and liabilities of PDS.

The unaudited pro forma condensed combined financial information is based on the assumptions and adjustments that are described in the accompanying notes. The application of the acquisition method of accounting is dependent upon certain valuations and other studies that have yet to be completed. Accordingly, the pro forma adjustments are preliminary, subject to further revision as additional information becomes available and additional analyses are performed and have been made solely for the purpose of providing unaudited pro forma condensed combined financial information. Differences between these preliminary estimates and the final acquisition accounting, expected to be completed after the closing of the transaction, will occur and these differences could have a material impact on the accompanying unaudited pro forma condensed combined financial information and the combined organization s future results of operations and financial position.

The unaudited pro forma condensed combined financial information does not give effect to the potential impact of current financial conditions, regulatory matters, operating efficiencies or other savings or expenses that may be associated with the integration of the two companies. The unaudited pro forma condensed combined financial information is preliminary and has been prepared for illustrative purposes only and is not necessarily indicative of the financial position or results of operations in future periods or the results that actually would have been realized had Edge and PDS been a combined organization during the specified periods. The actual results reported in periods following the transaction may differ significantly from those reflected in the pro forma financial information presented herein for a number of reasons, including, but not limited to, differences between the assumptions used to prepare this pro forma financial information.

The assumptions and estimates underlying the unaudited adjustments to the pro forma condensed combined financial statements are described in the accompanying notes, which should be read together with the pro forma condensed combined financial statements

The unaudited pro forma condensed combined financial statements should be read together with Edge s historical financial statements, which are included in Edge s latest Annual Report on Form 10-K filed with the SEC on March 1, 2018 and the September 30, 2018 results included in Edge s report on Form 10-Q filed with the SEC on November 1, 2018, and PDS s historical information included herein.

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Unaudited Pro Forma Condensed Combined Balance Sheet
As of September 30, 2018
(in thousands)

	PDS	Edge	ProForma Adjustments	Note	ProForma Combined
Assets					
Current assets:					
Cash and cash equivalents	$ 142.7	$ 36,814.9	$ (522.0)	a	$ 36,435.6
Prepaid expenses and other receivables	20.4	247.2	—		267.6
Total current assets	163.1	37,062.1	(522.0)		36,703.2
Equipment, net	34.2	468.1	—		502.3
Intangible assets, net	43.0	—	1,000.0	b	1,043.0
Other assets	11.5	142.9	—		154.4
	88.7	611.0	1,000.0		1,699.7
Total assets	$ 251.8	$ 37,673.1	$ 478.0		$ 38,402.9
Liabilities and Stockholders' Equity (Deficit)					
Current Liabilities:					
Capital lease obligation	$ 4.9	$ —	$ —		$ 4.9
Accounts payable	868.4	590.7	—		1,459.1
Accrued expenses	418.7	917.9	5,179.7	c	6,516.3
Restructuring reserve	—	5,179.7	(5,179.7)	c	—
Payroll taxes	8.5	—	—		8.5
Total current liabilities	1,300.5	6,688.3	—		7,988.8
Convertible Promissory Note Payable	30.0	—	—		30.0
Total liabilities	1,330.5	6,688.3	—		8,018.8
Stockholders' equity (deficit):					
Preferred stock	—	—	—		—
Common stock	0.1	10.6	(10.3)	e	1.1
			0.7	e	
Additional paid-in capital	19,040.7	220,705.5	(218,484.9)	e	43,021.3
			21,760.0	e	
Accumulated deficit	(20,119.5)	(189,731.3)	(522.0)	a	(12,638.3)
			189,731.3	e	
			8,003.2	e	
Total stockholders' equity (deficit)	(1,078.7)	30,984.8	478.0		30,384.1
Total liabilities and stockholders' equity	$ 251.8	$ 37,673.1	$ 478.0		$ 38,402.9

See accompanying notes to the unaudited pro forma condensed combined financial statements

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Unaudited Pro Forma Condensed Combined Statement of Operations
For the Year Ended December 31, 2017
(in thousands, except share and per share data)

	PDS	Edge	Pro Forma Adjustments	Notes	Pro Forma Combined
Operating expenses:					
Research and development	$ 2,036.0	$ 34,311.6	$ —		$ 36,347.6
General and administrative	1,384.2	17,655.0	—		19,039.2
Total operating expenses	3,420.2	51,966.6	—		55,386.8
Loss from operations	(3,420.2)	(51,966.6)	—		(55,386.8)
Other income (expense):					
Interest expense, net	(1.5)	(1,479.2)	—		(1,480.7)
Other	(1.4)	—	—		(1.4)
	(2.9)	(1,479.2)	—		(1,482.1)
Loss before income taxes	(3,423.1)	(53,445.8)	—		(56,868.9)
Benefit for income taxes	—	2,586.1	—		2,586.1
Net Loss	$ (3,423.1)	$ (50,859.7)	$ —		$ (54,282.8)
Net (loss) per common share:					
Basic and diluted		$ (1.67)			$ (0.52)
Weighted average number of shares outstanding basic and diluted	N/A	30,393,952	74,667,304	f	105,061,256

See accompanying notes to the unaudited pro forma condensed combined financial statements

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Unaudited Pro Forma Condensed Combined Statement of Operations
For the Nine Months Ended September 30, 2018
(in thousands, except share and per share data)

	PDS	Edge	Pro Forma Adjustments	Notes	Pro Forma Combined
Operating expenses:					
Research and development	$ 563.8	$ 15,583.6	$ —		$ 16,147.4
General and administrative	1,428.1	11,303.4	4,026.6	d	16,758.1
Restructuring Expenses	—	7,494.1	(7,494.1)	d	—
Impairment charges	—	2,672.6	—		2,672.6
Depreciation and amortization	21.4	—	—		21.4
Total operating expenses	2,013.3	37,053.7	(3,467.5)		35,599.5
Loss from operations	(2,013.3)	(37,053.7)	3,467.5		(35,599.5)
Other income (expense):					
Interest expense, net	(2.7)	(729.2)	—		(731.9)
Other	(0.9)	—	—		(0.9)
	(3.6)	(729.2)	—		(732.8)
Net loss	$ (2,016.9)	$ (37,782.9)	$ 3,467.5		$ (36,332.3)
Net (loss) per common share:					
Basic and diluted		$ (1.21)			$ (0.34)
Weighted average number of shares outstanding basic and diluted	N/A	31,198,804	74,667,304	f	105,866,108

See accompanying notes to the unaudited pro forma condensed combined financial statements

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Notes to the Unaudited Pro Forma Condensed Combined Financial Information

Note 1 — Description of Transaction and Basis of Presentation

The unaudited pro forma condensed combined financial information was prepared in accordance with U.S. GAAP and pursuant to the rules and regulations of SEC Regulation S-X and presents the pro forma financial position and results of operations of the combined organization based upon the historical data of Edge and PDS.

For the purposes of the unaudited pro forma combined financial information, the accounting policies of Edge and PDS are aligned with no differences. Accordingly, no effect has been provided for the pro forma adjustments described in Note 3, Pro forma adjustments.

Description of Transaction

On November 23, 2018, Edge, Merger Sub and PDS entered into the Merger Agreement, pursuant to which, among other things, subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into PDS, with PDS becoming a wholly-owned subsidiary of Edge and the surviving corporation of the merger .The merger is intended to qualify for federal income tax purposes as a tax-free reorganization under the provisions of Section 368(a) of the Code.

Subject to the terms and conditions of the Merger Agreement, at the closing of the merger, each outstanding share of capital stock of PDS (other than any shares held as treasury stock, that will be cancelled), will be converted into the right to receive the number of shares of Edge s common stock equal to the exchange ratio described below.

Under the exchange ratio formula in the Merger Agreement, as of immediately after the Merger and assuming no adjustments for net cash balances as provided for in the Merger Agreement, the former PDS securityholders are expected to own approximately 70% of the aggregate number of Post-Closing Shares, and the stockholders of Edge as of immediately prior to the Merger are expected to own approximately 30% of the aggregate number of Post-Closing Shares. This exchange ratio will be fixed prior to closing to reflect Edge s and PDS s capitalization as of immediately prior to such time.

Immediately following the merger, the name of Edge will be changed from Edge Therapeutics, Inc. to PDS Biotechnology Corporation. At the Effective Time, the Merger Agreement contemplates that the board of directors of Edge will consist of seven members, four of whom will be directors designated by PDS and three of whom will be independent directors designated by Edge. The executive officers of the combined company immediately after the Effective Time will be designated by PDS with Frank Bedu-Addo, Ph.D. being the combined company s Chief Executive Officer.

The Merger Agreement contains customary representations, warranties and covenants made by Edge and PDS, including covenants relating to obtaining the requisite approvals of the stockholders of Edge and PDS, indemnification of directors and officers, and Edge s and PDS s conduct of their respective businesses between the date of signing the Merger Agreement and the closing of the merger. Consummation of the merger is subject to certain closing conditions, including, among other things, approval by the stockholders of Edge and PDS. The Merger Agreement contains certain termination rights for both Edge and PDS, and further provides that, upon termination of the Merger Agreement under specified circumstances, Edge may be required to pay PDS a termination fee of $1.75 million.

The Merger Agreement contemplates that Edge will also seek approval from its stockholders to effect a reverse stock split intended to increase its trading price above the minimum requirements of the Nasdaq Stock Market. Subject to

stockholder approval, Edge expects to implement the reverse stock split at a ratio to be mutually agreed to by Edge and PDS within the range of 5 and 10 currently outstanding shares for 1 share.

At the Effective Time, PDS board of directors is expected to consist of seven members, four of whom will be designated by PDS and three of whom will be designated by Edge.

Basis of Presentation

PDS Biotechnology has preliminarily concluded that the transaction represents a business combination pursuant to Financial Accounting Standards Board Accounting Standards Codification Topic 805, *Business Combinations*. Because PDS security holders will own approximately 70% of the voting stock of the combined

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company after the merger, PDS directors will hold a majority of the board seats in the combined company, and PDS management will hold a majority of key positions in the management of the combined company, PDS is deemed to be the acquiring company for accounting purposes and the transaction will be accounted for as a reverse acquisition under the acquisition method of accounting for business combinations. PDS has not yet completed an external valuation analysis of the fair market value of Edge s assets to be acquired and liabilities to be assumed. Using the estimated total consideration for the transaction, PDS has estimated the allocations to such assets and liabilities. This preliminary purchase price allocation has been used to prepare pro forma adjustments in the unaudited pro forma condensed combined balance sheet. The final purchase price allocation will be determined when PDS has determined the final consideration and completed the detailed valuations and other studies and necessary calculations. The final purchase price allocation could differ materially from the preliminary purchase price allocation used to prepare the pro forma adjustments. The final purchase price allocation may include (i) changes in allocations to intangible assets and bargain purchase gain or goodwill based on the results of certain valuations and other studies that have yet to be completed, (ii) other changes to assets and liabilities and (iii) changes to the ultimate purchase consideration.

Note 2 — Preliminary purchase price allocation

Pursuant to the Merger Agreement, at the closing of the transaction, Edge will issue to PDS stockholders a number of shares of Edge common stock representing approximately 70% of the outstanding shares of common stock of the combined company. The estimated preliminary purchase price, which represents the consideration transferred to Edge security holders in the reverse transaction is calculated based on the number of shares of common stock of the combined company that Edge security holders will own as of the closing of the transaction, as described below. The accompanying unaudited pro forma condensed combined financial information reflects an estimated purchase price of approximately $21,760,000, which consists of the following (in thousands except for share and per share amounts):

Estimated number of shares of the combined company to be owned by Edge security holders[(1)]		32,000,273
Multiplied by the assumed price per share of Edge stock[(2)]	$	0.68
Total preliminary estimated purchase price	$	21,760

(1) Represents the number of shares of common stock of the combined company that Edge security holders would own as of the closing of the transaction pursuant to the Merger Agreement. This amount is calculated, for purposes of this unaudited pro forma condensed combined financial information, as 32,000,273 treasury stock method shares of Edge common stock outstanding as of September 30, 2018 (including 30,429 common shares issued in November 2018 due to 401k matching requirements) and does not give effect to the proposed reverse stock split of Edge common stock described in the Reverse Stock Split Proposal. The effect of the reverse stock split is not expected to have an impact on the dollar amounts in the preliminary purchase price or pro forma financial statements.

(2) The estimated purchase price was based on the volume weighted average closing trading price of a share of Edge Common Stock on NASDAQ for the five consecutive trading days ending November 20, 2018. The requirement to base the final purchase price on the number of shares of Edge common stock outstanding and volume weighted average closing trading price of a share of Edge Common Stock on NASDAQ for the five consecutive trading days ending five trading days immediately prior to the date upon which the merger becomes effective could result in a purchase price and gain on bargain purchase, different from that assumed in this unaudited pro forma condensed combined financial information, and that difference may be material. The actual purchase price will fluctuate until the effective date of the transaction and the final valuation could differ significantly from the current estimate.

The following table illustrates the effect of changes in Edge common stock price and the resulting impact on the estimated total purchase price and estimated bargain purchase gain (in thousands except for share and per share amounts):

Change in stock price	Share price	Estimated purchase price	Estimated bargain purchase gain
Increase of 10%	$ 0.75	$ 23,936	$ 5,827
Decrease of 10%	$ 0.61	$ 19,584	$ 10,179
Increase of 30%	$ 0.88	$ 28,288	$ 1,475
Decrease of 30%	$ 0.48	$ 15,232	$ 14,531
Increase of 50%	$ 1.02	$ 32,640	$ (2,877)
Decrease of 50%	$ 0.34	$ 10,880	$ 18,883

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The number of shares of common stock Edge will issue to PDS stockholders, for purposes of this unaudited pro forma condensed combined financial information, is calculated pursuant to the terms of the Merger Agreement based on Edge common stock outstanding as of September 30, 2018, as follows:

Treasury Stock Method Shares of Edge Common Stock outstanding as of September 30, 2018	32,000,273
Divided by the assumed percentage of Edge ownership of combined company	30%
Estimated adjusted total shares of common stock of combined company	106,667,577
Multiplied by the assumed percentage of PDS Biotechnology ownership of combined company	70%
Estimated shares of Edge common stock issued to PDS Biotechnology upon closing of transaction	74,667,304

The excess of the estimated fair values of net assets acquired over the acquisition consideration paid will be recorded as a bargain purchase gain in the condensed combined statement of operations. The bargain purchase gain has not been reflected in the unaudited pro forma condensed combined statements of operations as it is directly attributable to the transaction and will not have a continuing impact on the operating results of the combined company.

The allocation of the total preliminary estimated purchase price to the acquired assets and assumed liabilities of Edge, based on the estimated fair values as of September 30, 2018, is as follows (in thousands):

Cash, cash equivalents and marketable securities	$ 36,815
Prepaid expense and other assets	858
Intangible assets-IPR&D	1,000
Accounts payable, accrued expenses, other liabilities	(8,910)
Net assets acquired	29,763
Less: estimated purchase price	21,760
Bargain purchase gain	$ 8,003

The application of the acquisition method of accounting is dependent upon certain valuations and other studies that have yet to be completed. The purchase price allocation will remain preliminary until PDS management determines the fair values of assets acquired and liabilities assumed. The final determination of the purchase price allocation is anticipated to be completed as soon as practicable after completion of the transaction and will be based on the fair values of the assets acquired and liabilities assumed as of the transaction closing date. The final amounts allocated to assets acquired and liabilities assumed could differ significantly from the amounts presented in the unaudited pro forma condensed combined financial statements for the reasons described in Note 1.

Note 3 — Pro forma adjustments

The pro forma adjustments are based on PDS s preliminary estimates and assumptions that are subject to change. The estimated issuance of shares is based upon a preliminary exchange ratio that will be subject to change as well. These unaudited pro forma condensed combined financial statements do not include a pro forma adjustment for a Permitted Bridge Financing or post-measurement date financing of up to an aggregate of $6.0M or any net cash adjustments for either party.

The unaudited pro forma condensed combined financial information does not give effect to the proposed reverse stock split of Edge common stock described in the Reverse Stock Split Proposal.

The following adjustments have been reflected in the unaudited pro forma condensed combined financial information:

(a) Represents the payment of severance to an executive upon closing of the transaction.

(b) To reflect the estimated fair value Edge's intangible assets acquired for in-process research and development related to EG-1962.

(c) To reflect the accrued liabilities that are assumed by PDS of approximately $2.2 million in severance and change in control obligations for Edge employees and for estimated transaction costs directly attributable to the closing of the transaction of approximately $3.0 million that have been incurred but not yet paid. Note that the $3.0 million in transaction costs includes the following costs incurred by

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Edge: $2.3 million for investment banking services and $0.7 million in legal and other expenses. These pro forma adjustments are not reflected in the unaudited pro forma condensed combined statements of operations as these amounts are not expected to have a continuing effect on the operating results of the combined company.

(d) To reclassify applicable ongoing restructuring expenses into general and administrative expense going forward and to eliminate the costs previously incurred by the Company relating to the transaction.

(e) Represents the elimination of the historical equity of Edge, and recording the preliminary estimated purchase price and the bargain purchase gain summarized as follows:

Elimination of Edge historical equity	(29,763.20)
Estimated purchase price	21,760.00
Bargain purchase gain	8,003.2

(f) Reflects the increase in the weighted average shares in connection with the issuance of common shares to finance the transaction. The table presents these pro forma share adjustments as follows:

	Nine months ended September 30, 2018	**For the Year Ended December 31, 2017**
Weighted average shares outstanding	31,198,804	30,393,952
Issuance of additional shares to finance the transaction	74,667,304	74,667,304
Pro forma combined weighted average shares outstanding	105,866,108	105,061,256

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DESCRIPTION OF EDGE CAPITAL STOCK

Edge s certificate of incorporation authorizes Edge to issue up to 80,000,000 shares of capital stock, of which 75,000,000 are designated as common stock with a par value of $0.00033 per share, and 5,000,000 of which are designated as preferred stock with a par value of $0.00033 per share.

As of September 30, 2018, there were outstanding:

- 31,328,128 shares of common stock;
- zero shares of preferred stock;
- 5,946,568 shares of common stock underlying outstanding options, with a weighted average exercise price of $5.01 per share issued prior to June 2018;
- 1,202,806 shares of common stock underlying outstanding options, with a weighted average exercise price of $1.10 per share issued in June 2018; and
- 601,394 shares of common stock underlying outstanding restricted stock units, with a weighted average grant price of $0.85 per share.

The reverse stock split of Edge common stock described in the Reverse Stock Split Proposal, if approved the affirmative vote of holders of a majority of the Edge common stock outstanding on the record date for the Edge special meeting, is expected to occur immediately prior to the merger and prior to issuance of shares of Edge common stock to PDS. As a result, the issuance of shares of common stock to PDS is not expected to exceed Edge s authorized shares of common stock.

The following description of Edge s capital stock is not complete and is subject to and qualified in its entirety by Edge s eighth amended and restated certificate of incorporation, filed as an exhibit on Edge s Current Report on Form 8-K filed with the SEC on October 6, 2015, and second amended and restated bylaws, publicly filed as an exhibit to Edge s Current Report on Form 8-K filed with the SEC on October 6, 2018, and by the relevant provisions of the DGCL.

Common Stock

Voting

Each holder of common stock shall be entitled to one vote on all matters submitted to a vote of the stockholders.

Dividends

Subject to preferences that may be applicable to any outstanding preferred stock, holders of Edge common stock shall be entitled to receive ratably any dividends that may be declared by the board of directors out of funds legally available for that purpose. Edge has never paid cash dividends and has no present intention to pay cash dividends.

Liquidation

In the event of Edge s liquidation, dissolution or winding up, holders of Edge common stock shall be entitled to share ratably in all assets remaining after payment of Edge s liabilities and the liquidation preference of any outstanding preferred stock.

No Preemptive or Similar Rights

Edge s common stock shall not be subject to preemptive rights, conversion, redemption or sinking fund provisions.

Fully Paid and Nonassessable

All of Edge s outstanding shares of common stock are fully paid and nonassessable.

Preferred Stock

The Edge Board has the authority, without further action by the stockholders and subject to the limitations prescribed by Delaware law, to issue up to 5,000,000 shares of preferred stock in one or more series, to establish

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from time to time the number of shares to be included in each such series and to fix the designation, powers, preferences and rights of the shares of each series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

The Edge Board may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in Edge s control that may otherwise benefit holders of Edge common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. As of September 30, 2018, there were no shares of preferred stock outstanding and Edge has no current plans to issue any shares of preferred stock.

Stock Options

As of September 30, 2018, there were 5,946,568 shares of common stock issuable upon the exercise of outstanding stock options granted prior to June 2018, at a weighted-average exercise price of $5.01 per share. In June 2018, there were 1,202,806 shares of common stock issuable upon the exercise of outstanding stock options at a weighted-average exercise price of $1.10 per share. Upon the closing of the merger and/or the termination of optionholders employment in connection therewith, all unvested stock options will accelerate and vest in full and will remain outstanding in accordance with their terms.

Restricted Stock Unit Awards

As of December 31, 2018, there were [601,394] shares of common stock issuable upon the exercise of outstanding restricted stock units, at a weighted-average grant price of $[0.85] per share. Upon the closing of the merger and/or the termination of the holders employment in connection therewith, all unvested restricted stock unit awards will accelerate and vest in full and will be settled within five days after the effective date of the merger.

Warrants

As of December 31, 2018, there were [78,596] warrants to purchase shares of common stock outstanding at a price of $6.36 expiring on August 24, 2024.

Anti-Takeover Effects of Provisions of Edge Charter Documents and Delaware Law

Delaware Anti-Takeover Law

Edge is subject to Section 203 of the DGCL, or Section 203. Section 203 generally prohibits a public Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding upon consummation of the transaction, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

on or subsequent to the consummation of the transaction, the business combination is approved by the board
- and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3 % of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;

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- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Certificate of Incorporation and Bylaws

Provisions of Edge s certificate of incorporation and bylaws may delay or discourage transactions involving an actual or potential change in Edge s control or change in Edge s management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that Edge s stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of Edge common stock. Among other things, Edge s certificate of incorporation and bylaws:

- permit the Edge Board to issue up to 5,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in Edge's control);
- provide that the authorized number of directors may be changed only by resolution adopted by a majority of the board of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law or subject to the rights of holders of preferred stock as designated from time to time, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- divide the Edge Board into three classes;
- require that any action to be taken by Edge's stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice, and also specify requirements as to the form and content of a stockholder's notice;
- not provide for cumulative voting rights, thereby allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election; and
- provide that special meetings of Edge's stockholders may be called only by the board of directors.

Nasdaq Global Market Listing

Edge common stock is currently listed on the Nasdaq Global Select Market under the symbol EDGE.

Transfer Agent and Registrar

The transfer agent and registrar for Edge common stock is Computershare Trust Company, N.A. The transfer agent and registrar s address is 250 Royall Street, Canton, MA 02021.

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COMPARISON OF RIGHTS OF HOLDERS OF EDGE STOCK AND PDS STOCK

Both Edge and PDS are incorporated under the laws of the State of Delaware and, accordingly, the rights of the stockholders of each of Edge and PDS are currently, and will continue to be, governed by the DGCL. If the merger is completed, PDS stockholders will become stockholders of Edge, and their rights will be governed by the DGCL, the certificate of incorporation and bylaws of Edge.

The table below summarizes the material differences between the current rights of PDS stockholders under the PDS certificate of incorporation and PDS bylaws and the rights of Edge stockholders under the Edge certificate of incorporation and Edge bylaws, as applicable. Other than with respect to the reverse split and a change in its name, the current provisions of the Edge certificate of incorporation and Edge bylaws will remain unchanged immediately following the merger and will reflect the rights of stockholders of the combined company.

While Edge and PDS believe that the summary table covers the material differences between the rights of the respective Edge and PDS stockholders prior to the merger and the rights of the stockholders of the combined company following the merger, these summary tables may not contain all of the information that is important to you. You should carefully read this entire proxy statement/prospectus/information statement and the other documents referred to in this proxy statement/prospectus/information statement for a more complete understanding of the differences between being a stockholder of Edge or PDS before the merger and being a stockholder of the combined company after the merger. Edge has filed copies of its current certificate of incorporation and bylaws as Exhibits 3.1 and 3.2, respectively, to the registration statement of which this proxy statement/prospectus/information statement forms a part and will send copies of the documents referred to in this proxy statement/prospectus/information statement to you upon your request. PDS will also send copies of its organizational documents referred to in this proxy statement/prospectus/information statement to you upon your request. See the section titled Where You Can Find More Information in this proxy statement/prospectus/information statement.

PDS Rights Versus Edge Rights

Provision	PDS	Edge
Number of Directors	The bylaws of PDS currently provide that the PDS Board shall consist of one or more members and that the number of directors may be changed from time to time by resolutions of a majority of the total number of authorized directors on the PDS Board.	The certificate of incorporation of Edge provides that the Edge Board shall consist of at least three and not more than ten directors, with the exact number of directors to be fixed from time to time by the majority of directors.
Classification of Directors	Neither the certificate of incorporation nor the bylaws of PDS provide that the PDS Board will be divided into classes. Each director will hold office until the next annual meeting of stockholders or until such director's earlier resignation, removal from office, death or incapacity.	The certificate of incorporation of Edge provides that the Edge Board shall be divided into three classes. Each director will hold office until the next annual meeting of stockholders at which his or her class stands for election or until such director's earlier resignation, removal from office, death or incapacity.
Stockholder Nominations and	Neither the certificate of incorporation nor the bylaws of PDS provide for procedures with	The bylaws of Edge provide that in order for a stockholder to make a director

Proposals	respect to stockholder proposals or director nominations.	nomination or propose business at (a) an annual meeting of stockholders, the stockholder must give written notice to Edge's secretary no later than the close of business 60 days, and no earlier than 90 days, from the first anniversary of the prior year's

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Provision	PDS	Edge
		annual meeting, except that if the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary, written notice must be given no later than the close of business 60 days before such annual meeting or 10 days after the public announcement of the date of such meeting, whichever is later); and (b) a special meeting of stockholders, the stockholder must give written notice to Edge s secretary no earlier than the close of business 90 days prior to such special meeting and no earlier than the 60 days prior to such special meeting or 10 days following the day after the public announcement of the date of such special meeting, whichever is later.
Quorum	The bylaws of PDS provide that one-third of the capital stock issued and outstanding and entitled to vote at a meeting of stockholders will constitute a quorum.	The bylaws of Edge provide that a majority of the capital stock issued and outstanding and entitled to vote at a meeting of stockholders will constitute a quorum, except as otherwise provided by statute or by the certificate of incorporation.
Removal of Directors	Neither the certificate of incorporation nor the bylaws of PDS provide for procedures with respect to removal of directors.	Under the bylaws of Edge, a director may be removed at any time with cause by the vote of the holders of at least a majority of the shares issued and outstanding and entitled to vote in the election of directors.
Special Meeting of the Stockholders	The bylaws of PDS provide that a special meeting of stockholders may be called by the PDS Board, or a committee that has been designated such power and authority or by any stockholder that owns at least 10% of the issued and outstanding shares of PDS common stock.	The bylaws of Edge provide that a special meeting of stockholders may be called by the Edge Board pursuant to a resolution adopted by a majority of the Edge Board.
Stockholder Agreements	The PDS stockholder support agreements provide that the officers, directors and certain stockholders of PDS (solely in their capacity as stockholders of PDS) agree to vote all of their shares of PDS common stock in favor of the adoption of the Merger Agreement and thereby	The Edge stockholder support agreements provide that the officers and directors of Edge (solely in their capacity as stockholders of Edge) agree to vote all of their shares of Edge capital stock in favor of the issuance of the shares of Edge

approve the transactions contemplated thereunder and against any competing proposals.	common stock to the stockholders of PDS pursuant to the terms of the Merger Agreement.

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Provision	PDS	Edge
	PDS's Stockholder Agreement, dated as of December 15, 2014, or the PDS Stockholder Agreement, provides for: • the election of five directors, with certain groups of stockholders having the right to designate the directors; • the right of PDS and the stockholders party thereto to offer to purchase the shares of a stockholder that wishes to sell its shares; • the right of the stockholders party thereto to participate, on a pro-rata basis, in any new equity financings conducted by PDS; and • the requirement of each stockholder party thereto to vote in favor of a sale of PDS if approved by the PDS Board and a majority of the then-outstanding shares of capital stock of PDS. The PDS Stockholder Agreement will terminate upon the closing of the merger.	
Stockholder Action by Written Consent	The bylaws of PDS provide that any action required or permitted to be taken at any annual or special meeting of stockholders may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, is signed by the holders of outstanding stock of PDS having not less than the number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote on such action were present and voted.	The bylaws of Edge prohibit stockholder action by written consent.
Approval of Certain Transactions	The certificate of incorporation of PDS provides that stockholder approval is required for transactions involving (a) under certain circumstances, the issuance of PDS common stock in connection with the acquisition of the stock or assets of another company, (b) the	Other than as provided for under the DGCL or under the rules of Nasdaq, neither the certificate of incorporation nor the bylaws of Edge expressly provide for stockholder approval of similar transactions.

issuance of securities that will or could result in a change of control of PDS, or (c) the issuance of certain equity compensation.

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Provision	PDS	Edge
Forum Selection	Neither the certificate of incorporation nor bylaws of PDS include a forum selection provision.	The certificate of incorporation designates that the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any derivate action, any claim asserting a breach of fiduciary duties, any claim against Edge arising pursuant to any provision of the DGCL, the certificate of incorporation or bylaws or any action asserting a claim against Edge governed by the internal affairs doctrine.
Amendments to Certificate of Incorporation or Bylaws	The certificate of incorporation of PDS may be amended by the affirmative vote of the holders of at least a majority of the voting power of the then-outstanding shares of capital stock of PDS. The bylaws of PDS may also be amended by stockholders at a duly called meeting or by written consent.	The certificate of incorporation and the bylaws of Edge may be amended in any manner provided by law, provided that the affirmative vote of the holders of at least two-thirds of the voting power of the then-outstanding shares of capital stock of Edge entitled to vote generally at an election of directors is required for stockholders to amend the bylaws, and to amend certain specified provisions of the certificate of incorporation concerning the Edge Board, limitations on the liability of directors and the amendment provision of the certificate of incorporation.

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PRINCIPAL STOCKHOLDERS OF EDGE

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus/information statement do not give effect to the proposed reverse stock split described in the Reverse Stock Split Proposal.

The following table sets forth information with respect to the beneficial ownership of Edge common stock as of December 31, 2018, by:

- each person, entity or group known to Edge to beneficially own more than 5% of its common stock;
- each of Edge's named executive officers;
- each of Edge's directors; and
- all of Edge's executive officers and directors as a group.

The percentage of shares beneficially owned is based on [__] shares of Edge common stock outstanding as of December 31, 2018. Beneficial ownership is determined according to the rules of the SEC and generally means that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power of that security, including options that are exercisable within 60 days of December 31, 2018. Shares of Edge common stock issuable pursuant to stock options and RSUs are deemed outstanding for computing the percentage of the person holding such options and the percentage of any group of which the person is a member but are not deemed outstanding for computing the percentage of any other person. Except as indicated by the footnotes below, Edge believes, based on the information furnished to it, that the persons named in the table below have sole voting and investment power with respect to all shares of common stock shown that they beneficially own, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Section 13(d) and 13(g) of the Securities Act. The information set forth below is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and 13G, if any, filed with the SEC, which information may not be accurate as of December 31, 2018.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Edge Therapeutics, Inc., 300 Connell Drive, Suite 4000, Berkeley Heights, New Jersey 07922.

	Beneficial Ownership	
Name of Beneficial Owner	**Shares**	**%**
Greater than 5% Stockholders:		
Sofinnova Venture Partners IX, L.P.(1)	[•]	[•]
Entities affiliated with New Leaf Ventures III, L.P.(2)	[•]	[•]
[•]	[•]	[•]
Named Executive Officers and Directors:		
Sol Barer, Ph.D.(3)	[•]	[•]
Isaac Blech(4)	[•]	[•]
Brian Leuthner(5)	[•]	[•]
Rose Crane	[•]	[•]
James Loughlin(6)	[•]	[•]
R. Loch Macdonald, M.D., Ph.D.(7)	[•]	[•]
Liam Ratcliffe, M.D., Ph.D.(2)	[•]	[•]
Robert Spiegel, M.D., FACP(8)	[•]	[•]

Herbert Faleck, D.O.[9]	[•]	[•]
All current executive officers and directors as a group ([16] persons)	[•]	[•]

* Less than 1%

(1) Includes [•] shares held directly by Sofinnova Venture Partners IX, L.P., or SVP IX, and [•] shares subject to outstanding options held by Dr. James Healy that are currently exercisable with 60 days of December 31, 2018. Dr. James Healy, together with Dr. Michael F. Powell and Dr. Anand Mehra, are the managing members of Sofinnova Management IX, L.L.C., the general partner of SVP IX, and as such, may be deemed to share voting and investment power with respect to such shares. Dr. Healy disclaims beneficial ownership with regard to the shares held by SVP IX, except to the extent of his proportionate pecuniary interest therein. The mailing address of SVP IX is c/o Sofinnova Ventures, Inc., 3000 Sand Hill Road, Bldg. 4, Suite 250, Menlo Park, CA 94025.

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(2) New Leaf Venture Associates III, L.P., or NLVA-III LP, is the general partner of NLV-III and New Leaf BPO Associates I, L.P., or BPOA-I LP, is the general partner of New Leaf Biopharma Opportunities I, L.P., or BPO-I. New Leaf Venture Management III, L.L.C., or NLVM-III LLC, is the General Partner of both NLVA-III LP and BPOA-I LP. Ronald M. Hunt, Vijay K. Lathi, and Liam Ratcliffe are individual members of NLVM-III LLC, or collectively, the Individual Members. NLVA-III LP, BPOA-I LP and NLVM-III LLC disclaim beneficial ownership of such shares, except to the extent of their pecuniary interest therein. As one of three individual members, each of the Individual Members disclaims beneficial ownership over the shares, and in all events disclaims pecuniary interest except to the extent of his economic interest. The mailing address of the beneficial owner is Times Square Tower, 7 Times Square, Suite 3502, New York, NY 10036.

(3) Includes [•] shares owned of record by Meryl Barer, Dr. Barer's wife, all of which she may be deemed to have beneficial ownership of, and [•] shares for Dr. Barer subject to stock options that are currently exercisable within 60 days of December 31, 2018.

(4) Represents shares that are subject to outstanding options held by Mr. Blech that are currently exercisable with 60 days of December 31, 2018.

(5) Includes [•] shares owned of record by Cristina Leuthner, Mr. Leuthner's wife, [•] shares held directly by Mr. Leuthner and [•] shares held in trust for the Leuthner children, to which Mr. Leuthner disclaims beneficial ownership, and [•] shares subject to outstanding options held by Mr. Leuthner that are currently exercisable with 60 days of December 31, 2018.

(6) Includes [•] shares held directly by Mr. Loughlin and [•] shares subject to outstanding options held by Mr. Loughlin that are exercisable within 60 days of December 31, 2018.

(7) Includes [•] shares held directly by Dr. Macdonald and [•] shares subject to outstanding options held by Dr. Macdonald that are currently exercisable with 60 days of December 31, 2018.

(8) Includes [•] shares held directly by Dr. Spiegel and [•] shares subject to outstanding options held by Dr. Spiegel that are exercisable within 60 days of December 31, 2018.

(9) Includes [•] shares held directly by Dr. Faleck and [•] shares subject to outstanding options held by Dr. Faleck that are exercisable within 60 days of December 31, 2018.

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PRINCIPAL STOCKHOLDERS OF PDS

The following table sets forth information with respect to the beneficial ownership of PDS common stock as of December 31, 2018 by:

- each person, entity or group of persons known by PDS to beneficially own more than 5% of its common stock;
- each of PDS's named executive officers;
- each of PDS's directors; and
- all of PDS's executive officers and directors as a group.

The percentage of shares beneficially owned is based on [ ] shares of PDS common stock outstanding as of December 31, 2018. Beneficial ownership is determined according to the rules of the SEC and generally means that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power of that security, including options that are exercisable within 60 days of December 31, 2018. Shares of PDS common stock issuable pursuant to stock options are deemed outstanding for computing the percentage of the person holding such options and the percentage of any group of which the person is a member but are not deemed outstanding for computing the percentage of any other person. Except as indicated by the footnotes below, PDS believes, based on the information furnished to it, that the persons named in the table below have sole voting and investment power with respect to all shares of PDS common stock shown that they beneficially own, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Section 13(d) and 13(g) of the Securities Act.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o PDS Biotechnology Corporation., 303B College Road East, Princeton, NJ 08540.

	Beneficial Ownership	
Name of Beneficial Owner	**Shares**	**%**
Greater than 5% Stockholders:		
Asklepios Capital LLC[1]	[ ]	[ ]
NetScientific plc[2]	[ ]	[ ]
Indian 21st Century Fund, L.P.	[ ]	[ ]
Named Executive Officers and Directors:		
Frank Bedu-Addo[3]	[ ]	[ ]
Sir Richard Sykes[4]	[ ]	[ ]
DeLyle W. Bloomquist	[ ]	[ ]
Gregory Freitag[5]	[ ]	[ ]
Ian Postlethwaite	[ ]	[ ]
Gregory L. Conn[6]	[ ]	[ ]
Michael King[7]	[ ]	[ ]
Lauren Wood	[ ]	[ ]
All current executive officers and directors as a group (8 persons)[8]	[ ]	[ ]

(1) Mr. Bloomquist is a partner of Asklepios Capital LLC. Mr. Bloomquist disclaims beneficial ownership of the shares of PDS common stock held by Asklepios Capital LLC. The business address of Asklepios Capital LLC is [__].

(2)

Includes [__] shares of PDS common stock issuable pursuant to purchase warrants exercisable within 60 days of December 31, 2018. Sir Richard Sykes the Chairman of NetScientific plc, or NetScientific. Additionally, Mr. Postlethwaite is the Chief Financial Officer and Secretary of NetScientific. Each of Sir Richard Sykes and Mr. Postlethwaite disclaim beneficial ownership of the shares of PDS common stock held by NetScientific. The business address of NetScientific is [__].

(3) Includes [__] shares of PDS common stock issuable pursuant to stock options exercisable within 60 days of December 31, 2018.

(4) Includes [__] shares of PDS common stock issuable pursuant to stock options exercisable within 60 days of December 31, 2018.

(5) Includes [__] shares of PDS common stock issuable pursuant to stock options exercisable within 60 days of December 31, 2018.

(6) Includes [__] shares of PDS common stock issuable pursuant to stock options exercisable within 60 days of December 31, 2018.

(7) Consists of [__] shares of PDS common stock issuable pursuant to stock options exercisable within 60 days of December 31, 2018.

(8) Includes (i) the following directors: Dr. Bedu-Addo, Sir Richard Sykes, and Messrs. Bloomquist, Freitag, and Postlethwaite, (ii) the following executive officers: Drs. Conn and Wood and Mr. King. Consists of [__] shares of PDS common stock issuable pursuant to stock options exercisable within 60 days of December 31, 2018.

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PRINCIPAL STOCKHOLDERS OF THE COMBINED COMPANY

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus/information statement do not give effect to the reverse stock split described in the Reverse Stock Split Proposal.

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus/information statement do not give effect to the reverse stock split described in the Reverse Stock Split Proposal.

The following table sets forth information with respect to the beneficial ownership of the combined company s common stock immediately after the closing of the merger, assuming the closing of the merger occurs on [__], 2019 by:

- each person, or group of affiliated persons, expected by Edge and PDS to become the beneficial owner of more than 5% of the outstanding common stock of the combined company;
- each executive officer and director of the combined company; and
- all of the combined company's executive officers and directors as a group.

Beneficial ownership is determined according to the rules of the SEC and generally means that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power of that security, including options that are exercisable within 60 days of [__], 2019. Shares of common stock issuable pursuant to stock options are deemed outstanding for computing the percentage of the person holding such options and the percentage of any group of which the person is a member but are not deemed outstanding for computing the percentage of any other person. Except as indicated by the footnotes below, the combined company believes, based on the information furnished to it, that the persons named in the table below have sole voting and investment power with respect to all shares of common stock shown that they beneficially own, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Section 13(d) and 13(g) of the Securities Act.

The percentage of shares beneficially owned is based on [__]shares of common stock of the combined company expected to be outstanding upon the closing of the merger, excluding the effect of the reserve stock split, if approved, adjusted as required by the rules promulgated by the SEC to determine beneficial ownership. Neither Edge nor PDS know of any arrangements, including any pledge by any person of securities of the combined company.

Immediately after the closing of the merger, based on the exchange ratio, Edge stockholders, warrantholders and optionholders will own approximately [__]% of the fully-diluted common stock of the combined companies with PDS stockholders and optionholders holding approximately [__]% of the fully-diluted common stock of the combined company. The following table and the related notes assume that, at the Effective Time, each share of PDS common stock will convert into the right to receive approximately [__] shares of Edge common stock based on the closing price of $[__] of Edge common stock of [__], 2019 and to account for the occurrence of certain events discussed elsewhere in this proxy statement/prospectus/information statement. The estimated exchange ratio calculation used herein is based upon Edge s and PDS s capitalization immediately prior to the date of this proxy statement/prospectus/information statement, and will be adjusted to account for the issuance of any additional shares of Edge and PDS common stock prior to the closing of the merger. See The Merger Agreement—Merger Consideration for more information regarding the exchange ratio.

Except as indicated in footnotes to this table, Edge and PDS believe that the stockholders named in this table have sole voting and investment power with respect to all shares of common stock of the combined company shown as beneficially owned by them, based on information provided to Edge and PDS by such stockholders and subject to

community property laws where applicable.

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Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Edge Therapeutics, Inc., 300 Connell Drive, Suite 4000, Berkeley Heights, New Jersey 07922.

	Beneficial Ownership	
Name of Beneficial Owner	**Shares**	**%**
Greater than 5% Stockholders:		
[__]	[__]	[__]
Named Executive Officers and Directors:		
Frank Bedu-Addo	[__]	[__]
Brian A. Leuthner	[__]	[__]
Sir Richard Sykes	[__]	[__]
DeLyle W. Bloomquist	[__]	[__]
Gregory Freitag	[__]	[__]
James Loughlin	[__]	[__]
Robert Spiegel	[__]	[__]
Andrew Saik	[__]	[__]
Lauren Wood	[__]	[__]
All current executive officers and directors as a group (9 persons)	[__]	[__]

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LEGAL MATTERS

Dechert LLP, New York, New York, will pass upon the validity of the Edge common stock offered by this proxy statement/prospectus/information statement. The material U.S. federal income tax consequences of the merger will be passed upon for Edge by Dechert LLP and for PDS by DLA Piper LLP (US).

EXPERTS

The financial statements of Edge Therapeutics, Inc. as of December 31, 2017 and 2016, and for each of the years in the three-year period ended December 31, 2017, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

The financial statements of PDS Biotechnology Corporation as of December 31, 2017 and 2016, and for each of the years in the two-year period ended December 31, 2017, have been included in this proxy statement/prospectus/information statement in reliance on the report of Haynie & Company, independent auditors, appearing elsewhere herein, and upon authority of such firm as experts in accounting and auditing. The audit report covering the December 31, 2017 consolidated financial statements contains an explanatory paragraph that states that PDS s recurring losses from operations and has debt obligations that raise substantial doubt about the entity s ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of that uncertainty.

WHERE YOU CAN FIND MORE INFORMATION

Edge files annual, quarterly and special reports, proxy statements and other information with the SEC. Edge s SEC filings are available to the public from commercial document retrieval services and on the website maintained by the SEC at http://www.sec.gov. Reports, proxy statements and other information concerning Edge also may be inspected at the offices of the National Association of Securities Dealers, Inc., Listing Section, 1735 K Street, Washington, D.C. 20006.

As of the date of this proxy statement/prospectus/information statement, Edge has filed a registration statement on Form S-4 to register with the SEC the Edge common stock that Edge will issue to PDS stockholders in the merger. This proxy statement/prospectus/information statement is a part of that registration statement and constitutes a prospectus of Edge, as well as a proxy statement of Edge for its special meeting and an information statement for the purpose of PDS for its written consent.

Edge has supplied all information contained in this proxy statement/prospectus/information statement relating to Edge and PDS has supplied all information contained in this proxy statement/prospectus/information statement relating to PDS.

If you would like to request documents from Edge or PDS, please send a request in writing or by telephone to either Edge or PDS at the following addresses:

Edge Therapeutics, Inc.
300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
Telephone: (800) 208-3343
Attn: Corporate Secretary

PDS Biotechnology Corporation
303B College Road East
Princeton, NJ 08540
Telephone: (609) 423-1540
Attn: Chief Executive Officer

If you are an Edge stockholder and would like additional copies, without charge, of this proxy statement/prospectus/information statement or if you have questions about the merger, including the procedures for voting your shares, you should contact Edge s proxy solicitor:

D.F. King & Co., Inc.
(800) 967-5074 (toll free)
(212) 269-5550 (collect)

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OTHER MATTERS

Stockholder Proposals to Be Presented at the Next Annual Meeting of Edge

Pursuant to Rule 14a-8 of the Exchange Act, some stockholder proposals may be eligible for inclusion in the proxy statement for Edge s next annual meeting of the stockholders. For a proposal of a stockholder to be considered for inclusion in next year s proxy statement, it must be submitted in writing, with the proof of stock ownership in accordance with Rule 14a-8 and received by the Secretary of Edge a reasonable time before Edge begins to print and send proxy materials.

Under Edge s bylaws, if a stockholder wants to submit a proposal for the next annual meeting of stockholders under Rule 14a-8, or wants to nominate candidates for election as directors at an annual meeting of stockholders, the stockholder must provide timely notice of his or her intention in writing. To be timely, a stockholder s notice must be delivered to the Secretary, at Edge s principal executive offices, not less than 60 days nor earlier than 90 days prior to the first anniversary of the preceding year s annual meeting. However, in the event that the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, notice by the stockholder must be sol delivered not earlier than the close of business on the 90th day prior to such annual meeting and not later than the close of business on the later of the 60th day prior to such annual meeting or the 10th day following the day on which public announcement of the date of such meeting is first made by Edge. Edge s bylaws also specify requirements as to the form and content of a stockholder s notice. Edge will not entertain any proposals or nominations that do not meet these requirements.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Edge Therapeutics, Inc.:

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Edge Therapeutics, Inc. (the Company) as of December 31, 2017 and 2016, and the related statements of operations and comprehensive loss, convertible preferred stock and changes in stockholders equity (deficit), and cash flows for each of the years in the three-year period ended 2017 and the related notes (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company s auditor since 2014.

Short Hills, New Jersey
March 1, 2018

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EDGE THERAPEUTICS, INC.

Balance Sheets

	December 31, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 88,067,647	$ 106,398,919
Prepaid expenses and other current assets	986,680	954,581
Total current assets	89,054,327	107,353,500
Property and equipment, net	3,423,880	3,418,077
Other assets	142,870	142,870
Total assets	$ 92,621,077	$ 110,914,447
LIABILITIES AND STOCKHOLDERS' EQUITY		
LIABILITIES		
Current liabilities:		
Accounts payable	$ 4,369,133	$ 3,471,032
Accrued expenses	5,422,205	3,213,715
Short term debt	3,075,421	—
Total current liabilities	12,866,759	6,684,747
Noncurrent liability:		
Long term debt	17,382,907	14,953,143
STOCKHOLDERS' EQUITY		
Preferred stock, 5,000,000 shares authorized at December 31, 2017 and 2016, zero outstanding	—	—
Common stock, $0.00033 par value, 75,000,000 shares authorized at December 31, 2017 and December 31, 2016, 30,869,205 shares and 28,918,516 shares issued and outstanding at December 31, 2017 and December 31, 2016, respectively	10,400	9,756
Additional paid-in capital	214,309,370	190,341,769
Accumulated deficit	(151,948,359)	(101,074,968)
Total stockholders' equity	62,371,411	89,276,557
Total liabilities and stockholders' equity	$ 92,621,077	$ 110,914,447

See accompanying notes to the financial statements.

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EDGE THERAPEUTICS, INC.

Statements of Operations and Comprehensive Loss

	Year Ended December 31,		
	2017	**2016**	**2015**
Operating expenses:			
Research and development expenses	$ 34,311,650	$ 24,825,379	$ 17,839,951
General and administrative expenses	17,654,970	14,686,767	8,658,867
Total operating expenses	51,966,620	39,512,146	26,498,818
Loss from operations	(51,966,620)	(39,512,146)	(26,498,818)
Other income (expense):			
Warrant remeasurement	—	—	(1,879,823)
Other expense	—	(163,463)	—
Interest income	700,903	212,299	9,084
Interest expense	(2,180,143)	(1,203,674)	(816,494)
Loss before income taxes	(53,445,860)	(40,666,984)	(29,186,051)
Benefit for income taxes	2,586,057	1,845,986	1,107,405
Net loss and comprehensive loss	(50,859,803)	(38,820,998)	(28,078,646)
Cumulative dividend on Series C, C-1 and C-2 convertible preferred stock	—	—	(4,356,408)
Net loss attributable to common stockholders	$ (50,859,803)	$ (38,820,998)	$ (32,435,054)
Loss per share attributable to common stockholders basic and diluted	$ (1.67)	$ (1.34)	$ (4.01)
Weighted average common shares outstanding basic and diluted	30,393,952	28,864,216	8,087,924

See accompanying notes to the financial statements.

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EDGE THERAPEUTICS, INC.

Statements of Convertible Preferred Stock and Changes in Stockholders' Equity (Deficit)

	Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Deficit Accumulated	Total
	Shares Issued	Amount	Shares Issued	Amount			
Balance - January 1, 2015	**11,895,755**	**$ 36,788,409**	**1,688,475**	**$ 770**	**$ 1,984,399**	**$ (29,818,916)**	**$ (27,833,747)**
Issuance of Series C-2 Preferred Stock, net of issuance costs of $3,782,650	12,043,006	52,217,328	—	—	—	—	—
Other	—	2,130	—	—	—	—	—
Dividend Series C Preferred Stock	—	1,101,926	—	—	—	(1,101,926)	(1,101,926)
Dividend Series C-1 Preferred Stock	—	1,008,346	—	—	—	(1,008,346)	(1,008,346)
Dividend Series C-2 Preferred Stock	—	2,246,136	—	—	—	(2,246,136)	(2,246,136)
Conversion of Preferred Stock to Common Stock upon initial public offering	(23,938,761)	(93,364,275)	18,566,856	6,127	93,358,148	—	93,364,275
Initial public offering of common stock, net of issuance costs	—	—	8,412,423	2,776	82,752,836	—	82,755,612
Conversion of Preferred Stock Warrant to Common Stock Warrant	—	—	—	—	3,726,043	—	3,726,043
Issuance of common stock from exercise of stock options	—	—	4,753	1	1,093	—	1,094
Issuance of common stock	—	—	138,338	46	(46)	—	—

from exercise of warrants							
Stock based compensation expense	—	—	—	—	2,899,304	—	2,899,304
Net loss	—	—	—	—	—	(28,078,646)	(28,078,646)
Balance - December 31, 2015	**—**	**—**	**28,810,845**	**9,720**	**184,721,777**	**(62,253,970)**	**122,477,527**
Stock based compensation expense	—	—	—	—	5,305,070	—	5,305,070
Issuance of common stock from exercise of stock options	—	—	63,639	21	293,967	—	293,988
Issuance of common stock from exercise of warrants	—	—	44,032	15	20,955	—	20,970
Net loss	—	—	—	—	—	(38,820,998)	(38,820,998)
Balance - December 31, 2016	**—**	**—**	**28,918,516**	**9,756**	**190,341,769**	**(101,074,968)**	**89,276,557**
Stock based compensation expense	—	—	—	—	6,182,841	—	6,182,841
Issuance of common stock, net of issuance costs	—	—	1,800,000	594	17,382,349	—	17,382,943
Issuance of common stock from exercise of stock options	—	—	35,366	12	118,176	—	118,188
Issuance of common stock from exercise of warrants	—	—	94,200	31	53,118	—	53,149
Issuance of common stock from 401K match	—	—	21,123	7	217,529	—	217,536

Cumulative-effect of new share-based compensation guidance	—	—	—	—	13,588	(13,588)	—
Net loss	—	—	—	—	—	(50,859,803)	(50,859,803)
Balance - December 31, 2017	**—$**	**—**	**30,869,205**	**$ 10,400**	**$ 214,309,370**	**$ (151,948,359)**	**$ 62,371,411**

See accompanying notes to the financial statements.

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EDGE THERAPEUTICS, INC.

Statements of Cash Flows

	Year Ended December 31,		
	2017	**2016**	**2015**
Cash flows from operating activities:			
Net loss	$ (50,859,803)	$ (38,820,998)	$ (28,078,646)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation expense	6,182,841	5,305,070	2,899,304
Stock-based 401K company common match	217,536	—	—
Warrant remeasurement	—	—	1,879,823
Depreciation expense	182,918	100,117	53,116
Loss on disposal of fixed assets	—	102,788	—
Amortization of debt discount	32,869	75,214	104,311
Amortization of debt issuance costs	108,407	90,800	94,648
Non-cash interest expense	363,909	175,909	38,521
Changes in assets and liabilities:			
Prepaid expenses and other assets	(32,099)	38,794	(814,156)
Accounts payable	898,101	1,420,556	(71,751)
Accrued expenses	2,208,490	(676,918)	2,142,187
Net cash used in operating activities	(40,696,831)	(32,188,668)	(21,752,643)
Cash flows from investing activities:			
Purchases of property and equipment	(188,721)	(686,705)	(1,305,086)
Net cash used in investing activities	(188,721)	(686,705)	(1,305,086)
Cash flows from financing activities:			
Proceeds from issuance of debt	5,000,000	11,022,286	3,000,000
Proceeds from exercise of stock options	118,188	293,988	1,094
Proceeds from exercise of warrants	53,149	20,970	—
Payments for issuance costs	—	(544,773)	(1,402,845)
Payments for debt issuance costs	—	(219,042)	—
Repayment of debt	—	(1,488,558)	(533,729)
Proceeds from issuance of common stock, net of underwriting costs	17,382,943	—	86,059,087
Proceeds from issuance of preferred stock, net of issuance costs	—	—	52,394,571

Net cash provided by financing activities	22,554,280	9,084,871	139,518,178
Net (decrease) increase in cash	(18,331,272)	(23,790,502)	116,460,449
Cash and cash equivalents at beginning of period	106,398,919	130,189,421	13,728,972
Cash and cash equivalents at end of period	$ 88,067,647	$ 106,398,919	$ 130,189,421

See accompanying notes to the financial statements.

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	Year Ended December 31,		
	2017	**2016**	**2015**
Supplemental disclosure of cash flow information:			
Cash paid for:			
Interest	$ 1,635,562	$ 790,402	$ 559,175
Supplemental cash flow information:			
Conversion of Preferred Stock to Common Stock	$ —	$ —	$ 93,364,275
Conversion of Preferred Stock Warrants to Common Stock Warrants	$ —	$ —	$ 3,726,043
Deferred issuance costs included in accrued expenses and accounts payable	$ —	$ —	$ 549,178
Non-cash financing costs	$ —	$ —	$ 175,114
Accrued capital expenditures included in accrued expenses and accounts payable	$ —	$ 167,285	$ 71,040

See accompanying notes to the financial statements.

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Edge Therapeutics, Inc.

Notes to Financial Statements

Note 1 - Nature of operations:

Edge Therapeutics, Inc. (the Company) is a clinical-stage biotechnology company that discovers, develops and seeks to commercialize novel, hospital-based therapies capable of transforming treatment paradigms in the management of acute, life-threatening neurological and other conditions. The Company s initial product candidates target rare, acute, life-threatening neurological and other conditions for which the Company believes the approved existing therapies, if any, are inadequate. The Company s product candidates utilize its proprietary, programmable, biodegradable polymer-based development platform (the Precisa Platform), a novel delivery mechanism that seeks to enable targeted and sustained drug exposure and avoid the dose-limiting side effects associated with the current standards of care.

From the Company s inception, it has devoted substantially all of its efforts to business planning, engaging regulatory, manufacturing and other technical consultants, acquiring operating assets, planning and executing clinical trials and raising capital. The Company s future operations are highly dependent on a combination of factors, including (i) the success of its research and development, (ii) the development of competitive therapies by other biotechnology and pharmaceutical companies, and, ultimately, (iii) regulatory approval and market acceptance of the Company s proposed future products.

Note 2 - Summary of Significant Accounting Policies

(A) Use of estimates:

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(B) Significant risks and uncertainties:

The Company s operations are subject to a number of factors that may affect its operating results and financial condition. Such factors include, but are not limited to: the results of clinical testing and trial activities of the Company s product candidates, the Company s ability to obtain regulatory approval to market its products, the Company s intellectual property, competition from products manufactured and sold or being developed by other companies, the price of, and demand for, Company products if approved for sale, the Company s ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, and the Company s ability to raise capital.

The Company currently has no commercially approved products and there can be no assurance that the Company s research and development programs will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its employees and consultants and obtaining and protecting its intellectual property.

(C) Cash equivalents and concentration of cash balance:

The Company considers all highly liquid securities with a maturity weighted average of less than three months to be cash equivalents. The Company s cash and cash equivalents in bank deposit accounts, at times, may exceed federally insured limits.

(D) Property and equipment:

Property and equipment is recorded at cost. Depreciation is recorded for property and equipment using the straight-line method over the estimated useful lives of three to five years. Leasehold improvements are amortized over the shorter of the estimated useful life or term of the underlying lease. The Company reviews the recoverability of all long-lived assets, including the related useful lives, whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset might not be recoverable.

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(E) Research and development:

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company s research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company.

Costs for certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of specific tasks using data, such as patient enrollment, clinical site activations or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred.

(F) Patent costs:

The Company expenses patent costs as incurred and classifies such costs as general and administrative expenses in the accompanying statements of operations and comprehensive loss.

(G) Stock-based compensation:

The Company measures employee stock-based awards at grant-date fair value and recognizes employee compensation expense on a straight-line basis over the vesting period of the award.

Determining the appropriate fair value of stock-based awards requires the input of subjective assumptions, including, for stock options, the expected life of the option, and expected stock price volatility. The Company uses the Black-Scholes option pricing model to value its stock option awards. The assumptions used in calculating the fair value of stock-based awards represent management s best estimates and involve inherent uncertainties and the application of management s judgment. As a result, if factors change and management uses different assumptions, stock-based compensation expense could be materially different for future awards.

The expected life of stock options was estimated using the simplified method, as the Company has limited historical information to develop reasonable expectations about future exercise patterns and employment duration for its stock options grants. The simplified method is based on the average of the vesting tranches and the contractual life of each grant. For stock price volatility, the Company uses comparable public companies as a basis for its expected volatility to calculate the fair value of options grants. The risk-free interest rate is based on U.S. Treasury notes with a term approximating the expected life of the option.

(H) Net loss per common share:

Basic and diluted net loss per common share is determined by dividing net loss attributable to common stockholders by the weighted average common shares outstanding during the period. For all periods presented, the common shares underlying the preferred stock, common stock options and warrants have been excluded from the calculation because their effect would be anti-dilutive. Therefore, the weighted average shares outstanding used to calculate both basic and diluted loss per common share are the same.

The following potentially dilutive securities have been excluded from the computations of diluted weighted average shares outstanding as they would be anti-dilutive:

	As of December 31,		
	2017	**2016**	**2015**
Stock options to purchase Common Stock	6,462,795	5,316,511	4,302,267
Warrants to purchase Common Stock	374,653	541,415	600,184
Total	6,837,448	5,857,926	4,902,451

(I) Income taxes:

The Company provides for deferred income taxes under the asset and liability method, which requires deferred tax assets and liabilities to be recognized for the future tax consequences attributable to net operating loss carryforwards and for differences between the financial statement carrying amounts and the respective tax bases of assets and liabilities. Deferred tax assets are reduced if necessary by a valuation allowance if it is more likely than not that some portion or all of the deferred tax assets will not be realized.

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(J) Fair value of financial instruments:

Financial Accounting Standards Board (FASB) guidance specifies a hierarchy of valuation techniques based on whether the inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement).

The three levels of the fair value hierarchy are as follows:

- Level 1 — Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 1 primarily consists of financial instruments whose value is based on quoted market prices such as exchange-traded instruments and listed equities.
- Level 2 — Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly (e.g., quoted prices of similar assets or liabilities in active markets, or quoted prices for identical or similar assets or liabilities in markets that are not active). Level 2 includes financial instruments that are valued using models or other valuation methodologies.
- Level 3 — Unobservable inputs for the asset or liability. Financial instruments are considered Level 3 when their fair values are determined using pricing models, discounted cash flows or similar techniques and at least one significant model assumption or input is unobservable.

(K) Subsequent events:

Subsequent events have been evaluated through the date these financial statements were issued.

(L) New accounting standards:

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, Leases (Topic 842). The new standard requires organizations that lease assets—referred to as lessees —to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases (see Note 9). This standard is effective for annual reporting periods beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted. The Company is evaluating the impact of adoption.

In March 2016, the FASB issued ASU No. 2016-09 which simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Public companies will be required to adopt this standard in annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods. The Company adopted this ASU on January 1, 2017.

The impact of adopting ASU 2016-09 resulted in the following:

- The Company recognized $84,786 of tax benefit along with a full valuation allowance as of the adoption date related to the historical excess tax benefits from historical option exercises related to employee equity award activity.
- The Company elected to recognize forfeitures as they occur. The cumulative effect adjustment as a result of the adoption of this amendment on a modified retrospective basis was not material.

There were no other material impacts to our consolidated financial statements as a result of adopting this updated standard.

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Note 3 - Fair Value of Financial Instruments

	Fair Value Measurements at Reporting Date Using			
	Total	Quoted Prices in Active Markets (Level 1)	Quoted Prices in Inactive Markets (Level 2)	Significant Unobservable Inputs (Level 3)
As of December 31, 2017:				
Cash and cash equivalents	$ 88,067,647	$ 88,067,647	$ —	$ —
As of December 31, 2016:				
Cash and cash equivalents	$ 106,398,919	$ 106,398,919	$ —	$ —

There were no transfers between Levels 1, 2, or 3 during 2017 or 2016.

Note 4 - Property and Equipment

Property and equipment is summarized as follows:

	December 31,	
	2017	2016
Furniture and equipment	$ 564,596	$ 456,515
Leasehold Improvements	438,996	358,356
Construction in Process	2,725,569	2,725,569
	3,729,161	3,540,440
Less accumulated depreciation	(305,281)	(122,363)
Property and equipment, net	$ 3,423,880	$ 3,418,077

Note 5 - Accrued Expenses

Accrued expenses and other liabilities consist of the following:

	December 31,	
	2017	2016
Accrued research and development costs	$ 2,857,025	$ 654,795
Accrued professional fees	267,646	366,394
Accrued compensation	1,886,638	1,866,255
Accrued other	385,896	319,434
Deferred rent	25,000	6,837
Total	$ 5,422,205	$ 3,213,715

Note 6 - Convertible Preferred Stock

Immediately prior to the closing of the IPO on October 6, 2015, all of the outstanding shares of convertible preferred stock, including shares received for accrued dividends, automatically converted into 18,566,856 shares of common stock at the applicable conversion ratio then in effect. There were no shares of preferred stock outstanding as of

December 31, 2017 and 2016.

Dividends

The holders of the Series C, Series C-1 and Series C-2 Convertible Preferred Stock were entitled to receive, when, as and if declared by the board, cumulative dividends at the rate of 8% of the original purchase price per annum. The Series C, Series C-1 and Series C-2 dividends accrued from the date of issuance and were payable semi-annually on January 1 and July 1 in cash or common stock at the Company s option. In accordance with accounting literature, Series C, Series C-1 and Series C-2 dividends since the date of issuance have been accrued in conjunction with the conversion of the Preferred Stock into Common.

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The other series of Convertible Preferred Stock had no dividend requirement.

Stock Warrants

In connection with certain of our preferred stock sales and debt issuances we issued warrants to the placement agent and lender, for preferred stock. The warrants were recorded as liabilities with changes in fair value being recorded in the statement of operations and are calculated utilizing the Black-Scholes option pricing model. At the closing of the IPO date on October 6, 2015 these warrants become exercisable for shares of our common stock. These warrants were exercisable for 600,184 shares of common stock at exercise prices ranging from $5.79 to $12.10 and expire at various dates through 2020. During 2017 and 2016, 166,762 and 58,769 warrants were exercised resulting in the issuance of 94,200 and 44,032 shares of common stock, respectively. As of December 31, 2017, 374,653 warrants were exercisable.

Note 7 - Stock Options

The Company has three equity compensation plans: the 2010 Equity Incentive Plan, the 2012 Equity Incentive Plan and the 2014 Equity Incentive Plan (the Plans). Originally, the Company was able to grant up to 548,206 and 1,096,411 shares of Common Stock as both incentive stock options (ISOs) and nonqualified stock options (NQs) under the 2010 Equity Incentive Plan and the 2012 Equity Incentive Plan, respectively. In 2013, the Company s stockholders approved an increase to 1,279,146 shares authorized for issuance under the 2010 Equity Incentive Plan. In 2014, the Board of Directors of the Company (the Board) approved an increase to 1,350,412 shares authorized for issuance under the 2010 Equity Incentive Plan.

In 2014, the Company s stockholders approved the 2014 Equity Incentive Plan pursuant to which the Company may grant up to 1,827,351 shares as both ISOs and NQs, subject to increases as hereafter described (the Plan Limit). However, on January 1, 2015 and each January 1 thereafter prior to the termination of the 2014 Equity Incentive Plan, pursuant to the terms of the 2014 Equity Incentive Plan, the Plan Limit was and shall be increased by the lesser of (x) 4% of the number of shares of Common Stock outstanding as of the immediately preceding December 31 and (y) such lesser number as the Board of Directors may determine in its discretion. On January 1, 2016 the Plan Limit was increased to 3,047,323 shares. As of January 1, 2017, the Plan Limit increased to 4,204,063.

Pursuant to the terms of the Plans, ISOs have a term of ten years from the date of grant or such shorter term as may be provided in the option agreement. Unless specified otherwise in an individual option agreement, ISOs generally vest over a four year term and NQs generally vest over a three or four year term. Unless terminated by the Board, the Plans shall continue to remain effective for a term of ten years or until such time as no further awards may be granted and all awards granted under the Plans are no longer outstanding.

The Company issued the following non-qualified options to purchase shares of common stock to its newly appointed executives. The awards were granted outside of the Company s 2014 Equity Incentive Plan and vests over four years with 25% vesting one year following the date of hire, and the remaining 75% vesting in 36 equal monthly installments thereafter, subject to continued service to the Company through each vesting date and subject to acceleration or forfeiture upon the occurrence of certain events as set forth in the applicable option agreement and employment agreement. The grant awards were made pursuant to the NASDAQ inducement grant exception as a material component of employment compensation.

Issue Date	25% Vesting Date	Executive	Number of Options
November 16, 2015	October 30, 2016	SVP, General Counsel and Secretary	80,000

November 1, 2016	October 17, 2017	Chief Operating Officer	150,000
March 1, 2017	February 28, 2018	SVP, Regulatory Affairs	80,000
November 1, 2017	October 31, 2018	Chief Financial Officer	200,000

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The Company s stock-based compensation expense was recognized in operating expense as follows:

	Year Ended December 31,		
	2017	2016	2015
Stock-Based Compensation			
Research and development	$ 2,687,975	$ 2,177,643	$ 1,129,556
General and administrative	3,494,866	3,127,427	1,769,748
Total	$ 6,182,841	$ 5,305,070	$ 2,899,304

The fair value of options and warrants granted during the years ended December 31, 2017, 2016 and 2015 was estimated using the Black-Scholes option valuation model utilizing the following assumptions:

	Year Ended December 31,		
	2017	2016	2015
	Weighted Average	Weighted Average	Weighted Average
Volatility	88.87 %	77.20 %	79.80 %
Risk-Free Interest Rate	1.88 %	1.39 %	1.74 %
Expected Term in Years	6.00	6.02	6.05
Dividend Rate	0.00 %	0.00 %	0.00 %
Fair Value of Option on Grant Date	$ 6.93	$ 5.39	$ 5.42

The following table summarizes the number of options outstanding and the weighted average exercise price:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
Options outstanding at January 1, 2015	2,445,711	3.13		
Granted	1,902,609	7.87		
Exercised	(4,753)	0.23		
Forfeited	(30,640)	7.98		
Expirations	(10,660)	8.28		
Options outstanding at December 31, 2015	4,302,267	$ 5.19	8.14	$ 31,659,550
Vested and expected to vest at December 31, 2015	4,213,091	$ 5.14	8.12	$ 31,202,132
Exercisable at December 31, 2015	1,857,077	$ 2.83	7.05	$ 17,952,965
Options outstanding at December 31, 2015	4,302,267	$ 5.19		
Granted	1,211,400	8.09		
Exercised	(63,639)	4.62		
Forfeited	(133,517)	5.79		
Options outstanding at December 31, 2016	5,316,511	$ 5.84	7.60	$ 35,599,646

Vested and expected to vest at December 31, 2016	5,235,931	$ 5.80	7.58	$ 35,246,927
Exercisable at December 31, 2016	3,027,112	$ 4.41	6.76	$ 24,559,384
Options outstanding at December 31, 2016	5,316,511	$ 5.84		
Granted	1,365,400	9.39		
Exercised	(35,366)	3.34		
Forfeited	(183,750)	9.46		
Options outstanding at December 31, 2017	6,462,795	$ 6.50	7.13	$ 20,467,335
Vested and expected to vest at December 31, 2017	6,462,795	$ 6.50	7.13	$ 20,467,335
Exercisable at December 31, 2017	4,066,066	$ 5.14	6.21	$ 18,100,589

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At December 31, 2017 there was approximately $12,968,689 of unamortized stock compensation expense, which is expected to be recognized over a remaining average vesting period of 2.48 years.

Note 8 - Income Taxes

A reconciliation of the statutory U.S. federal income tax rate to the Company s effective tax rate is as follows:

	Year Ended December 31,		
	2017	**2016**	**2015**
Federal statutory rate	34.0 %	34.0 %	34.0 %
State taxes	1.1 %	1.2 %	2.9 %
Change in Statutory Rate	(25.6)%	—	—
Permanent differences	(11.0)%	(10.6)%	(5.8)%
Research and development	21.2 %	16.0 %	14.3 %
State taxes/ sale of NOL	4.8 %	4.5 %	3.8 %
Valuation allowance	(19.7)%	(40.6)%	(45.8)%
Other	—	—	0.4 %
Effective tax rate	4.8 %	4.5 %	3.8 %

The tax effects of temporary differences that gave rise to significant portions of the deferred tax assets were as follows:

	December 31,	
	2017	**2016**
Federal net operating losses	$ 21,312,121	$ 23,644,647
State net operating losses	2,268,249	1,554,730
Stock options	1,608,750	1,419,494
Federal tax credit	24,060,243	12,709,438
State tax credits	384,740	353,684
Amortization	612,878	69,529
Accrued expense	7,027	2,731
Other	30,999	18,042
Total gross deferred tax assets	50,285,007	39,772,295
Less valuation allowance	(50,285,007)	(39,772,295)
Net deferred tax assets	$ —	$ —

In assessing the realizability of the net deferred tax assets, the Company considers all relevant positive and negative evidence to determine whether it is more likely than not that some portion or all of the deferred income tax assets will not be realized. The realization of the gross deferred tax assets is dependent on several factors, including the generation of sufficient taxable income prior to the expiration of the net operating loss carryforwards. There was a full valuation allowance against the net deferred tax assets as of December 31, 2017 and December 31, 2016.

At December 31, 2017, the Company had federal net operating loss (NOL) carryforwards of approximately $101.5 million which expire between 2029 and 2037. At December 31, 2017, the Company had federal research and development credits carryforwards of approximately $1.9 million and an orphan drug credit carryover of

approximately $22.1 million. The Company may be subject to the net operating loss utilization provisions of Section 382 of the Internal Revenue Code. The effect of an ownership change would be the imposition of an annual limitation on the use of NOL carryforwards attributable to periods before the change. The amount of the annual limitation depends upon the value of the Company immediately before the change, changes to the Company s capital during a specified period prior to the change, and the federal published interest rate. Although we have not completed an analysis under Section 382 of the Code, it is likely that the utilization of the NOLs will be limited.

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At December 31, 2017, the Company had approximately $31.9 million of State of New Jersey NOL s which expire between 2030 and 2037. At December 31, 2017, the Company had approximately $0.4 million of the State of New Jersey research development credits carryforwards. The State of New Jersey has enacted legislation permitting certain corporations located in New Jersey to sell state tax loss carryforwards and state research and development credits, or net loss carryforwards. In 2017, the Company sold $26,097,607 of State of New Jersey NOL s and $424,466 of State of New Jersey R&D Credits for $2,586,057. In 2016, the Company sold $19,196,765 of State of New Jersey NOL s and $257,222 of State of New Jersey R&D Credits for $1,845,986.

Entities are also required to evaluate, measure, recognize and disclose any uncertain income tax provisions taken on their income tax returns. The Company has analyzed its tax positions and has concluded that as of December 31, 2017, there were no uncertain positions. The Company s U.S. federal and state net operating losses have occurred since its inception in 2009 and as such, tax years subject to potential tax examination could apply from that date because the utilization of net operating losses from prior years opens the relevant year to audit by the IRS and/or state taxing authorities. In September 2017, the IRS concluded auditing the Company s 2015 tax year resulting in a no change letter. Interest and penalties, if any, as they relate to income taxes assessed, are included in the income tax provision. The Company did not have any unrecognized tax benefits and has not accrued any interest or penalties through 2017.

On December 22, 2017, H.R. 1 (also, known as the Tax Cuts and Jobs Act (the Act)) was signed into law. Among its numerous changes to the Internal Revenue Code, the Act reduces U.S. federal corporate tax rate to 21%. As a result, the Company believes that the most significant impact on its consolidated financial statements will be reduction of approximately $13.6 million for the deferred tax assets related to net operating losses and other assets. Such reduction is offset by changes to the Company s valuation allowance. The Company is also in the process of considering the impact under the Act of the disallowance of certain incentive based compensation tax deductibility under Internal Revenue Code Section 162(m). If an adjustment to the deferred tax asset is required, the impact will be offset by a corresponding adjustment to the valuation allowance.

Note 9 - Commitments and Contingencies

Evonik

The Company entered into an agreement with SurModics Pharmaceuticals, Inc. (SurModics) in October 2010 for the exclusive worldwide licensing of certain technology, patent rights and know-how rights related to the production of EG-1962, the Company s lead product candidate (the Evonik Agreement). This agreement was later transferred to Evonik Industries AG (Evonik) when it purchased substantially all the assets of SurModics.

Pursuant to the Evonik Agreement, in exchange for the license, the Company agreed to make milestone payments totaling up to $14.75 million upon the achievement of certain development, regulatory and sales milestones detailed in the Evonik Agreement. The Company paid $0.25 million upon execution of the Evonik Agreement. In August 2016, the Company paid a milestone of $1.0 million after the first patient in the Phase 3 clinical trial of EG-1962 was dosed. In addition, the Evonik Agreement calls for the Company to pay royalties on sales of certain products based on a mid-single digit percentage of net sales. The Evonik Agreement provides for the reduction of royalties in certain limited circumstances.

The term of the Evonik Agreement will continue until the expiration of the Company s obligation to pay royalties to Evonik. Either party may terminate the Evonik Agreement due to material breach by the other party. Evonik may terminate the Evonik Agreement or convert it to a non-exclusive license, in either case upon giving the Company written notice, if the Company fails to use commercially reasonable efforts to hit certain specified development, regulatory and commercial milestones.

Oakwood Amended and Restated Master Formulation Development Agreement

In June 2017, the Company entered into an Amended and Restated Master Formulation Development Agreement (the Restated Development Agreement) with Oakwood Laboratories, L.L.C. (Oakwood), pursuant to which Oakwood will continue to provide the Company with certain drug formulation development and non-commercial manufacturing services for EG-1962, in accordance with project plans to be entered into from time to time. Oakwood is currently performing process engineering, optimization and other scale up activities for the Company and is currently the sole manufacturer of EG-1962 used in Edge s ongoing NEWTON 2 Phase 3 pivotal trial for EG-1962.

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Under the Restated Development Agreement, we agreed to pay Oakwood to perform services under agreed upon project plans and to pay Oakwood up to an aggregate of $4.5 million. In July 2017, we paid $1.5 million of such aggregate amount in connection with entering into the Restated Development Agreement. Of the remaining $3.0 million of such aggregate amount, $0.5 million is payable no later than April 1, 2018 and $2.5 million is payable no later than April 1, 2019. These remaining payments may be accelerated if: (i) we achieve various regulatory milestones, (ii) we close an equity or similar financing in excess of a predetermined amount, or (iii) there is an early termination, under certain circumstances, of the Restated Development Agreement or the Supply Agreement with Oakwood.

As additional consideration for performance under the Restated Development Agreement and the Supply Agreement (as defined below), the Company agreed to pay Oakwood a royalty, during the Royalty Term, in an amount equal to a low single digit percentage of net sales of EG-1962, regardless of the manufacturer or supplier thereof. The Royalty Term is the period commencing upon the commercial launch of EG-1962 by the Company and continuing until twelve (12) years following such launch.

The term of the Restated Development Agreement continues until the expiration or termination of the Supply Agreement, unless earlier terminated (the Term). The Company has the right to terminate project plans upon the occurrence of various circumstances described in the Restated Development Agreement. In the event that the Company terminates the most recent project plan prior to completion (including due to the Company s decision to discontinue the development or commercialization of EG-1962), the Company must pay to Oakwood a termination fee. Either party has the right to terminate the Restated Development Agreement upon sixty (60) days written notice for failure by the other party to cure a material breach during the applicable cure period. The Company can terminate the Restated Development Agreement immediately upon notice to Oakwood if Oakwood s annual financial audit report required to be provided to the Company contains any going concern or similar qualification or if Oakwood fails to maintain a pre-determined working capital ratio. Either party may also terminate the Restated Development Agreement immediately in the event of certain failures with regard to validation of the manufacturing process and other specified regulatory failures.

Oakwood Manufacturing and Supply Agreement

Concurrent with its entry into the Restated Development Agreement, on June 30, 2017, the Company entered into a Manufacturing and Supply Agreement with Oakwood (the Supply Agreement), pursuant to which Oakwood will manufacture and supply, and the Company will purchase from Oakwood, EG-1962 in commercial quantities following the commercial launch of the product.

Pursuant to the Supply Agreement, the price per unit of EG-1962 to be purchased by the Company is based on the expected commercially usable units per batch. In addition, the Company has agreed to pay Oakwood milestone payments that could total up to an aggregate of $2.25 million upon the achievement of certain development and regulatory milestones.

The Company will have no minimum order requirement under the Supply Agreement until the third (3rd) year following commercial launch of EG-1962. Beginning in the third year following commercial launch and continuing until the fifth year following commercial launch, the Company will be required to (x) order, at a minimum, the greater of (a) five (5) batches and (b) fifty percent (50%) of the aggregate vials of EG-1962 purchased by the Company from all sources in such year (such greater amount being the Minimum Order Commitment) or (y) pay a catch-up price to Oakwood based on the amount of EG-1962 actually ordered by the Company during the applicable time period.

The term of the Supply Agreement will continue (unless earlier terminated) until three (3) years following commercial launch of EG-1962. Thereafter, the Supply Agreement will automatically renew for additional two (2)-year periods

unless Edge provides notice of non-renewal at least twelve (12) months prior to the end of the then-current term. The Supply Agreement will also terminate automatically upon the termination of the Restated Development Agreement for any reason. Following the first anniversary of the commercial launch of EG-1962, either party may terminate upon two (2) years written notice. Further, either party may terminate the Supply Agreement upon a material breach by the other party that fails to be cured in the applicable cure period.

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The Company may terminate the Supply Agreement immediately upon notice to Oakwood in the event that (a) any regulatory authority requires or causes the withdrawal of EG-1962 from the market or (b) the Company ceases to develop or commercialize EG-1962; provided, that in the latter case of termination prior to completion of the most recent project plan attached to the Restated Development Agreement, the Company must pay to Oakwood a termination fee.

Employment Agreements

The Company has entered into employment agreements with each of its executive officers. The agreements generally provide for, among other things, salary, bonus and severance payments. The employment agreements provide for between 12 months and 18 months of severance benefits to be paid to an executive (as well as certain potential bonus, COBRA and equity award benefits), subject to the effectiveness of a general release of claims, if the executive terminates his or her employment for good reason or if the Company terminates the executive s employment without cause. The continued provision of severance benefits is conditioned on each executive s compliance with the terms of the Company s confidentiality and invention and assignment agreement as well as his or her release of claims.

Leases

Effective December 13, 2013, the Company entered into a 63 month lease for approximately 8,000 square feet of office space in Berkeley Heights, New Jersey. On February 18, 2016, the Company entered into a new 63 month lease for approximately 20,410 square feet of office space within the same office complex in Berkeley Heights, New Jersey. The terms of the new lease were structured so that the termination date of the December 13, 2013 lease coincided with the commencement date of the new lease on August 13, 2016. As a result of the lease termination, the Company wrote off $67,118 of leasehold improvements.

Rent expense is recognized on a straight line basis where there are escalating payments, and was approximately $602,925, $344,341 and $207,541 for the years ended December 31, 2017, 2016 and 2015 , respectively.

The following is a schedule by years of future minimum rental payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2017:

Year Ended December 31,	
2018	$ 602,461
2019	604,541
2020	603,371
2021	530,385
2022 and after	—
Total minimum payments required	$ 2,340,758

Note 10 - Debt

On August 28, 2014, the Company entered into a loan and security agreement with Hercules Technology Growth Capital, Inc. (the Original Loan Agreement). The Original Loan Agreement provided funding for an aggregate principal amount of up to $10,000,000 in three separate term loans. The first term loan was funded on August 28, 2014 in the amount of $3,000,000. The second term loan of $3,000,000 was funded on January 29, 2015. Both the first and second term loans were due to mature on March 1, 2018. The Company elected not to draw the third term loan of $4.0 million, the availability of which expired on June 30, 2015. Initially, the loan bore interest at a rate per annum equal to the greater of (i) 10.45% or (ii) the sum of (a) 10.45% plus (b) the prime rate (as reported in *The Wall Street*

Journal) minus 4.50%. On April 6, 2015, the base rate on the loan was lowered to the greater of (i) 9.95% or (ii) the sum of (a) 9.95% plus (b) the prime rate (as reported in *The Wall Street Journal*) minus 4.50. The Company was required to make interest-only payments on the loan through September 2015.

Commencing in October 2015, the term loans began amortizing in equal monthly installments of principal and interest over 30 months. On the maturity date or the date the loan otherwise became due and payable, the Company was also required to make a payment equal to 1.5% of the total amounts funded under the Original Loan Agreement.

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On August 1, 2016, the Company entered into an Amended and Restated Loan and Security Agreement (the Amended Loan Agreement) with Hercules Capital, Inc., formerly known as Hercules Technology Growth Capital, Inc. Pursuant to the Amended Loan Agreement, the Company may borrow up to $20,000,000. At closing, the Company borrowed $15,000,000 of the amount available for draw under the Amended Loan Agreement (and received proceeds net of the amount then outstanding under the Original Loan Agreement, fees and expenses). On May 23, 2017, the Company elected to draw down the second tranche of $5 million. Amounts drawn under the Amended Loan Agreement bear interest at a rate per annum equal to the greater of either (i) the sum of (a) 9.15%, plus (b) the prime rate as reported in The Wall Street Journal minus 4.50% or (ii) 9.15%. The effective interest rate on the loan as of December 31, 2017 was 9.15%. The Amended Loan Agreement requires interest-only payments until March 1, 2018, and on that date the Company will begin to repay the principal balance of the loan in 24 equal monthly payments of principal and interest through the scheduled maturity date of February 3, 2020. In January 2018, the Company satisfied a certain condition as described in the Amended Loan Agreement to extend the period of interest-only payments to September 1, 2018 and the maturity date was extended to August 3, 2020. The interest-only payment period may be extended for an additional six months at the lender s discretion.

Pursuant to the Amended Loan Agreement, in March 2018, the Company must make a payment of $90,000, which is equal to 1.5% of the total amounts funded under the Original Loan Agreement. On the maturity date or the date the loan otherwise becomes due and payable, under the Amended Loan Agreement the Company must also make a payment of $900,000, which is equal to 4.5% of the total amounts available under the Amended Loan Agreement. In addition, if the Company prepays the term loan (i) during the first year following the initial closing, the Company must pay a prepayment charge equal to 2% of the amount being prepaid, (ii) during the second year following the closing, the Company must pay a prepayment charge equal to 1% of the amount being prepaid, and (iii) after the second year following the closing, the Company must pay a prepayment charge equal to 0.5% of the amount being prepaid.

The loan is secured by substantially all of the Company s assets, other than intellectual property, which is the subject of a negative pledge. Under the Amended Loan Agreement, the Company is subject to certain customary covenants that limit or restrict the Company s ability to, among other things, incur additional indebtedness, investments, distributions, transfer assets, make acquisitions, grant any security interests, pay cash dividends, repurchase its Common Stock, make loans, or enter into certain transactions without prior consent. The Amended Loan Agreement contains several events of default, including, among others, payment defaults, breaches of covenants or representations, material impairment in the perfection of Hercules security interest or in the collateral and events related to bankruptcy or insolvency. Upon an event of default, Hercules may declare all outstanding obligations immediately due and payable (along with a prepayment charge), a default rate of an additional 5.0% may be applied to the outstanding loan balances, and Hercules may take such further actions as set forth in the Amended Loan Agreement, including collecting or taking such other action with respect to the collateral pledged in connection with the Amended Loan Agreement.

Future principal payments on the note as of December 31, 2017 were as follows:

Year Ended December 31,	**(000's)**
2018	$ 3,075
2019	9,822
2020	7,103
	$ 20,000

The estimated fair value of the debt (categorized as a Level 2 liability for fair value measurement purposes) is determined using current market factors and the ability of the Company to obtain debt at comparable terms to those that are currently in place. The Company believes the estimated fair value at December 31, 2017 approximates the

carrying amount.

Note 11 - Retirement Plan

The Company has a 401(k) defined contribution plan for the benefit for all employees and permits voluntary contributions by employees subject to IRS-imposed limitations. The 401K employer contribution for the 2017, 2016 and 2015 plan years were $258,383, $16,979 and $15,253 respectively.

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Note 12 - Selected Quarterly Financial Data (Unaudited)

The following table summarizes unaudited quarterly financial data for the years ended December 31, 2017 and 2016 (in thousands, except per share data).

	2017				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Total operating expenses	$ 11,791	$ 13,149	$ 10,903	$ 16,124	$ 51,967
Loss from operations	$ (11,791)	$ (13,149)	$ (10,903)	$ (16,124)	$ (51,967)
Net loss and comprehensive loss	$ (12,170)	$ (13,504)	$ (11,281)	$ (13,905)	$ (50,860)
Net loss attributable to common stockholders	$ (12,170)	$ (13,504)	$ (11,281)	$ (13,905)	$ (50,860)
Loss per share attributable to common stockholders basic and diluted	$ (0.42)	$ (0.44)	$ (0.37)	$ (0.45)	$ (1.67)

	2016				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Total operating expenses	$ 9,032	$ 9,264	$ 10,277	$ 10,939	$ 39,512
Loss from operations	$ (9,032)	$ (9,264)	$ (10,277)	$ (10,939)	$ (39,512)
Net loss and comprehensive loss	$ (9,170)	$ (9,376)	$ (10,759)	$ (9,516)	$ (38,821)
Net loss attributable to common stockholders	$ (9,170)	$ (9,376)	$ (10,759)	$ (9,516)	$ (38,821)
Loss per share attributable to common stockholders basic and diluted	$ (0.32)	$ (0.33)	$ (0.37)	$ (0.33)	$ (1.34)

Basic and diluted net loss per share amounts included in the above table were computed independently for each of the quarters presented. Accordingly, the sum of the quarterly basic and diluted net loss per share amounts may not agree to the total for the year.

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EDGE THERAPEUTICS, INC.

Condensed Balance Sheets

	September 30, 2018 (unaudited)	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 36,814,899	$ 88,067,647
Prepaid expenses and other current assets	247,182	986,680
Total current assets	37,062,081	89,054,327
Property and equipment, net	468,170	3,423,880
Other assets	142,870	142,870
Total assets	$ 37,673,121	$ 92,621,077
LIABILITIES AND STOCKHOLDERS' EQUITY		
LIABILITIES		
Current liabilities:		
Accounts payable	$ 590,694	$ 4,369,133
Accrued expenses	917,871	5,422,205
Restructuring reserve	5,179,722	—
Short term debt	—	3,075,421
Total current liabilities	6,688,287	12,866,759
Noncurrent liability:		
Long term debt	—	17,382,907
STOCKHOLDERS' EQUITY		
Preferred stock, 5,000,000 shares authorized at September 30, 2018 and December 31, 2017, 0 outstanding	—	—
Common stock, $0.00033 par value, 75,000,000 shares authorized at September 30, 2018 and December 31, 2017, 31,328,128 shares and 30,869,205 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	10,551	10,400
Additional paid-in capital	220,705,548	214,309,370
Accumulated deficit	(189,731,265)	(151,948,359)
Total stockholders' equity	30,984,834	62,371,411

Total liabilities and stockholders' equity	$ 37,673,121	$ 92,621,077

See accompanying notes to the condensed financial statements.

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EDGE THERAPEUTICS, INC.

Condensed Statements of Operations and Comprehensive Loss

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	**2017**	**2018**	**2017**
Operating expenses:				
Research and development expenses	$ 317,684	$ 6,913,171	$ 15,583,565	$ 23,477,971
General and administrative expenses	3,286,891	3,990,283	11,303,446	12,365,509
Restructuring expenses	847,852	—	7,494,094	—
Impairment charges	—	—	2,672,581	—
Total operating expenses	4,452,427	10,903,454	37,053,686	35,843,480
Loss from operations	(4,452,427)	(10,903,454)	(37,053,686)	(35,843,480)
Other income (expense):				
Interest income	187,256	214,064	696,035	479,297
Interest expense	—	(592,089)	(1,425,255)	(1,591,998)
Net loss and comprehensive loss	(4,265,171)	(11,281,479)	(37,782,906)	(36,956,181)
Loss per share basic and diluted	$ (0.14)	$ (0.37)	$ (1.21)	$ (1.23)
Weighted average common shares outstanding basic and diluted	31,328,128	30,852,514	31,198,804	30,091,640

See accompanying notes to the condensed financial statements.

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EDGE THERAPEUTICS, INC.

Condensed Statements of Cash Flows
(Unaudited)

	Nine Months Ended September 30,	
	2018	**2017**
Cash flows from operating activities:		
Net loss	$ (37,782,906)	$ (36,956,181)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	5,551,573	4,637,142
Stock-based 401K company common match	123,561	170,620
Depreciation expense	133,130	134,569
Impairment of machinery and equipment	2,672,581	—
Amortization of debt discount	1,039	28,871
Amortization of debt issuance costs	125,355	81,306
Non-cash interest expense	405,278	274,530
Changes in assets and liabilities:		
Prepaid expenses and other assets	889,497	627,848
Accounts payable	(3,778,439)	(524,145)
Accrued expenses	(4,504,334)	68,683
Restructuring reserve	5,179,722	—
Net cash used in operating activities	(30,983,943)	(31,456,757)
Cash flows from investing activities:		
Purchases of property and equipment	—	(160,751)
Net cash used in investing activities	—	(160,751)
Cash flows from financing activities:		
Proceeds from issuance of debt	—	5,000,000
Proceeds from exercise of stock options	721,195	91,982
Proceeds from exercise of warrants	—	50,922
Payments for debt back-end fees	(990,000)	—
Repayment of debt	(20,000,000)	—
Proceeds from issuance of common stock, net of issuance costs	—	17,382,943
Net cash (used in) provided by financing activities	(20,268,805)	22,525,847

Net decrease in cash		(51,252,748)		(9,091,661)
Cash and cash equivalents at beginning of period		88,067,647		106,398,919
Cash and cash equivalents at end of period	$	36,814,899	$	97,307,258
Supplemental disclosure of cash flow information:				
Cash paid for:				
Interest	$	1,051,167	$	1,172,979
Supplemental cash flow information:				
Accrued capital expenditures included in accrued expenses and accounts payable	$	—	$	18,084

See accompanying notes to the condensed financial statements.

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Edge Therapeutics, Inc.

Notes to Condensed Financial Statements
(Unaudited)

Note 1 - Nature of Operations

Edge Therapeutics, Inc. (the Company) is a clinical-stage biotechnology company that seeks to discover, develop and commercialize novel therapies capable of transforming treatment paradigms in the management of medical conditions. On March 28, 2018, the Company announced that a pre-specified interim analysis performed on data from the Day 90 visit of the first 210 subjects randomized and treated in the Phase 3 multi-center, randomized, double-blind, placebo-controlled NEWTON 2 study of EG-1962 in adults with aneurysmal subarachnoid hemorrhage demonstrated a low probability of achieving a statistically significant difference compared to the standard of care in the study s primary endpoint, if the study were to be fully enrolled. The independent Data Monitoring Committee (DMC) for the NEWTON 2 study recommended that the study be stopped based on this demonstration. The DMC also reported that there were no safety concerns attributed to EG-1962.

Based on the DMC recommendation, the Company decided to discontinue the NEWTON 2 study and took steps to notify health authorities and clinical investigators participating in the study.

On April 30, 2018, the Company announced that it is exploring strategic alternatives, which may include, without limitation, an acquisition of another company, acquisitions or in-licensing of products or product candidates, technologies or other assets, the sale of all or substantially all of the assets of the Company, a sale of stock, a strategic merger or other business combination transaction or other transaction between the Company and a third party. The Company has retained Piper Jaffray & Co. to serve as the financial advisor to its Board of Directors in the process. The Company does not have a defined timeline for the exploration of strategic alternatives and there can be no assurance that the process will result in any strategic alternative being announced or consummated. The Company does not intend to discuss or disclose further developments during this process unless and until its Board of Directors has approved a specific action or otherwise determined that further disclosure is appropriate. The Company has reduced the scope of its operations, including the size of its workforce, in order to preserve its cash resources.

In the second quarter of 2018, the Company recorded an initial restructuring charge of $6.3 million. The components of the restructuring charge included expenses of $4.0 million for severance benefits and $2.3 million for financial advisor fees, as well as ongoing legal fees expensed as incurred, and accrued retention compensation related to the restructuring of the organization.

The restructuring activity during 2018 is as follows:

Restructuring reserve at December 31, 2017	$ —
Initial restructuring charge	6,276,563
Incurred legal fees	334,212
Retention compensation	618,349
Restructuring expenses to date[(1)]	7,229,124
Payment of legal fees	(191,976)
Payment of retention compensation	(56,925)
Payment of severance benefits	(1,800,501)

Restructuring reserve as of September 30, 2018	$ 5,179,722

(1) Excludes non-cash stock based retention compensation of $264,970 expensed to date through restructuring expenses.

From the Company s inception, it has devoted substantially all of its efforts to business planning, engaging regulatory, manufacturing and other technical consultants, acquiring operating assets, planning and executing clinical trials and raising capital. The Company s future operations are highly dependent on the success of its strategic alternatives review and any transactions and operations resulting from that process.

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Note 2 - Summary of Significant Accounting Policies

(A) Unaudited interim financial statements:

The interim balance sheet at September 30, 2018, the statements of operations and comprehensive loss for the three and nine months ended September 30, 2018 and 2017, and cash flows for the nine months ended September 30, 2018 and 2017 are unaudited. The accompanying unaudited condensed financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP), and following the requirements of the Securities and Exchange Commission (SEC) for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by U.S. GAAP can be condensed or omitted. These condensed financial statements have been prepared on the same basis as the Company s annual financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments that are necessary for a fair statement of its financial information. The results of operations for the nine months ended September 30, 2018 are not necessarily indicative of the results to be expected for the year ending December 31, 2018 or for any other future annual or interim period. The balance sheet as of December 31, 2017 included herein was derived from the audited condensed financial statements as of that date. These condensed financial statements should be read in conjunction with the Company s audited financial statements and notes thereto included in the Company s Form 10-K for the year ended December 31, 2017.

(B) Use of estimates:

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(C) Significant risks and uncertainties:

The Company s operations are subject to a number of factors that may affect its operating results and financial condition. Such factors include, but are not limited to: the Company s review of strategic alternatives, the Company s ability to preserve its cash resources, the Company s ability to add product candidates to its pipeline, the Company s intellectual property, competition from products manufactured and sold or being developed by other companies, the price of, and demand for, Company products if approved for sale, the Company s ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, and the Company s ability to raise capital.

The Company currently has no commercially approved products and has ceased all research and development activities related to EG-1962 and suspended research for its other product candidates. As such, there can be no assurance that the Company s future research and development programs will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its employees and consultants and obtaining and protecting its intellectual property.

(D) Cash equivalents and concentration of cash balance:

The Company considers all highly liquid securities with a maturity weighted average of less than three months to be cash equivalents. The Company s cash and cash equivalents in bank deposit accounts, at times, may exceed federally insured limits.

(E) Research and development:

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company s research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company.

Costs for certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of specific tasks using data, such as patient enrollment, clinical site activations or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred.

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Following the DMC s recommendation that the NEWTON 2 Trial for EG-1962 be stopped, the Company decided to discontinue the NEWTON 2 study and took steps to notify health authorities and clinical investigators participating in the study. The Company has ceased all further research and development activities for EG-1962 and suspended research for its other product candidates and implemented operating cost reductions and organizational restructurings while it seeks a strategic alternative, including a reduction in the Company s workforce, to preserve its cash resources and better align the organization with its current operating plan. The estimated costs associated with the study discontinuance have been accrued as of September 30, 2018.

(F) Patent costs:

The Company expenses patent costs as incurred and classifies such costs as general and administrative expenses in the accompanying statements of operations and comprehensive loss. In light of the Company s cessation of all further research and development activities for EG-1962 and suspension of research for its other product candidates, the Company has substantially scaled back its patent prosecution activities.

(G) Stock-based compensation:

The Company measures employee stock-based awards at grant-date fair value and recognizes employee compensation expense on a straight-line basis over the vesting period of the award.

Determining the appropriate fair value of stock-based awards requires the input of subjective assumptions, including, for stock options, the expected life of the option, and expected stock price volatility. The Company uses the Black-Scholes option pricing model to value its stock option awards. The assumptions used in calculating the fair value of stock-based awards represent management s best estimates and involve inherent uncertainties and the application of management s judgment. As a result, if factors change and management uses different assumptions, stock-based compensation expense could be materially different for future awards.

The expected life of stock options was estimated using the simplified method, as the Company has limited historical information to develop reasonable expectations about future exercise patterns and employment duration for its stock options grants. The simplified method is based on the average of the vesting tranches and the contractual life of each grant. For stock price volatility, the Company uses comparable public companies as a basis for its expected volatility to calculate the fair value of options grants. The risk-free interest rate is based on U.S. Treasury notes with a term approximating the expected life of the option.

(H) Net loss per common share:

Basic and diluted net loss per common share is determined by dividing net loss attributable to common stockholders by the weighted average common shares outstanding during the period. For all periods presented, the common shares underlying the preferred stock, common stock options and warrants have been excluded from the calculation because their effect would be anti-dilutive. Therefore, the weighted average shares outstanding used to calculate both basic and diluted loss per common share are the same.

The following potentially dilutive securities have been excluded from the computations of diluted weighted average shares outstanding as they would be anti-dilutive:

	As of September 30,	
	2018	**2017**
Stock options to purchase Common Stock	7,149,374	6,387,495
Unvested Restricted Stock Units	601,394	—
Warrants to purchase Common Stock	78,596	376,682

Total	7,829,364	6,764,177

(I) Accounting standards not yet adopted:

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, Leases (Topic 842). The new standard requires organizations that lease assets—referred to as lessees —to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases (see Note 9). This standard is effective for annual reporting periods beginning

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after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted. The standard requires a modified retroactive approach, but use of certain practical expedients is permitted as per ASU 2018-11. The Company expects to use the package of practical expedients that allows it to not reassess: (1) whether any expired or existing contracts are or contain leases, (2) lease classification for any expired or existing leases, and (3) initial direct costs for any expired or existing leases. The Company additionally expects to use the practical expedient that allows it to treat the lease and non-lease components of its leases as a single component. The Company expects to adopt ASU 2016-2 in the first quarter of 2019 and is in the process of evaluating the impact of adoption on its consolidated financial statements.

(J) Accounting standards adopted:

In March 2016, the FASB issued ASU No. 2016-09 which simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Public companies were required to adopt this standard in annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods. The Company adopted this ASU on January 1, 2017.

The impact of adopting ASU 2016-09 resulted in the following:

- The Company recognized $84,786 of tax benefit along with a full valuation allowance as of the adoption date related to the historical excess tax benefits from historical option exercises related to employee equity award activity.
- The Company elected to recognize forfeitures as they occur. The cumulative effect adjustment as a result of the adoption of this amendment on a modified retrospective basis was not material.

There were no other material impacts to the Company s condensed financial statements as a result of adopting this updated standard.

Note 3 - Fair Value of Financial Instruments

There were no transfers among Levels 1, 2, or 3 during 2018 or 2017.

		Fair Value Measurements at Reporting Date Using		
	Total	Quoted Prices in Active Markets (Level 1)	Quoted Prices in Inactive Markets (Level 2)	Significant Unobservable Inputs (Level 3)
As of September 30, 2018: (unaudited)				
Cash and cash equivalents	$ 36,814,899	$ 36,814,899	$ —	$ —
As of December 31, 2017:				
Cash and cash equivalents	$ 88,067,647	$ 88,067,647	$ —	$ —

Note 4 - Property and Equipment

In March 2018, following the recommendation of the Data Monitoring Committee, the Company made the decision to close down the EG-1962 NEWTON 2 study. The Company believes that it would be highly unlikely that the Company would be able to use the manufacturing equipment associated with EG-1962 for future use. As a result, the Company has taken an equipment impairment charge of $2,672,581. The write-down would bring down the value of

the equipment to the Company s best estimate of its future value based on a range of estimates from a third-party seller. The equipment is being classified as Other Current Assets on the condensed balance sheet.

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Note 5 - Accrued Expenses

Accrued expenses and other liabilities consist of the following:

	As of September 30, 2018	As of December 31, 2017
Accrued research and development costs[1]	$ 224,786	$ 2,857,025
Accrued professional fees	404,940	267,646
Accrued compensation	41,605	1,886,638
Accrued other	214,615	385,896
Deferred rent	31,925	25,000
Total	$ 917,871	$ 5,422,205

(1) Balance as of September 30, 2018 represents estimated close down NEWTON 2 trial costs.

Note 6 - Stock-Based Compensation

The Company has three equity compensation plans: the 2010 Equity Incentive Plan, the 2012 Equity Incentive Plan and the 2014 Equity Incentive Plan (the Plans). Originally, the Company was able to grant up to 548,206 and 1,096,411 shares of Common Stock as both incentive stock options (ISOs) and nonqualified stock options (NQs) under the 2010 Equity Incentive Plan and the 2012 Equity Incentive Plan, respectively. In 2013, the Company s stockholders approved an increase to 1,279,146 shares authorized for issuance under the 2010 Equity Incentive Plan. In 2014, the Board of Directors of the Company (the Board) approved an increase to 1,350,412 shares authorized for issuance under the 2010 Equity Incentive Plan.

In 2014, the Company s stockholders approved the 2014 Equity Incentive Plan pursuant to which the Company may grant up to 1,827,351 shares as ISOs, NQs and restricted stock units (RSUs), subject to increases as hereafter described (the Plan Limit). In addition, on January 1, 2015 and each January 1 thereafter prior to the termination of the 2014 Equity Incentive Plan, pursuant to the terms of the 2014 Equity Incentive Plan, the Plan Limit was and shall be increased by the lesser of (x) 4% of the number of shares of Common Stock outstanding as of the immediately preceding December 31 and (y) such lesser number as the Board of Directors may determine in its discretion. On January 1, 2016, 2017 and 2018 the Plan Limit was increased to 3,047,323 shares, 4,204,063 shares and 5,438,831 shares, respectively.

Pursuant to the terms of the Plans, ISOs have a term of ten years from the date of grant or such shorter term as may be provided in the option agreement. Unless specified otherwise in an individual option agreement, ISOs generally vest over a four year term and NQs generally vest over a one, three or four year term. Unless terminated by the Board, the Plans shall continue to remain effective for a term of ten years or until such time as no further awards may be granted and all awards granted under the Plans are no longer outstanding.

The Company issued the following non-qualified options to purchase shares of common stock to its newly appointed executives who are still employed by the Company. The awards were granted outside of the Company s 2014 Equity Incentive Plan and vest over four years with 25% vesting one year following the date of hire, and the remaining 75% vesting in 36 equal monthly installments thereafter, subject to continued service to the Company through each vesting date and subject to acceleration or forfeiture upon the occurrence of certain events as set forth in the applicable option agreement and employment agreement. The grant awards were made pursuant to the NASDAQ inducement grant exception as a material component of employment compensation.

Issue Date	25% Vesting Date	Executive	Number of Options
November 16, 2015	October 30, 2016	SVP, General Counsel and Secretary	80,000
March 1, 2017	February 28, 2018	SVP, Regulatory Affairs	80,000
November 1, 2017	October 31, 2018	Chief Financial Officer	200,000

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The Company s stock-based compensation expense related to stock options and RSUs was recognized in operating expense as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(unaudited)		(unaudited)	
Stock-Based Compensation				
Research and development	$ 612,218	$ 702,284	$ 2,041,070	$ 2,090,076
General and administrative	1,029,980	868,630	3,245,533	2,547,066
Retention Compensation	264,970	—	264,970	—
Total	$ 1,907,168	$ 1,570,914	$ 5,551,573	$ 4,637,142

The fair value of options granted during the nine months ended September 30, 2018 and the three and nine months ended September 30, 2017 was estimated using the Black-Scholes option valuation model utilizing the following assumptions. There were no options granted during the three months ended September 30, 2018.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	Weighted Average	Weighted Average	Weighted Average	Weighted Average
	(unaudited)		(unaudited)	
Volatility	0.00 %	86.98 %	89.06 %	88.82 %
Risk-Free Interest Rate	0.00 %	1.83 %	2.31 %	1.89 %
Expected Term in Years	—	6.03	4.24	5.99
Dividend Rate	0.00 %	0.00 %	0.00 %	0.00 %
Fair Value of Option on Grant Date	$ —	$ 7.22	$ 5.54	$ 6.76

The following table summarizes the number of options outstanding and the weighted average exercise price:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
Options outstanding at December 31, 2017	6,462,795	$ 6.50		
Granted	2,322,906	7.52		
Exercised	(198,300)	3.64		
Forfeited	(1,438,027)	10.13		
Options outstanding at September 30, 2018	7,149,374	$ 6.18	6.13	$ 42,723
Vested and expected to vest at September 30, 2018	7,149,374	$ 6.18	6.13	$ 42,723
Exercisable at September 30, 2018	4,120,549	$ 5.54	5.73	$ 42,723

At September 30, 2018 there was approximately $13,294,326 of unamortized stock option compensation expense, which is expected to be recognized over a remaining average vesting period of 2.64 years.

The Company may grant RSUs to eligible employees, including its executives, and non-employee directors.

RSUs represent a right to receive one share of the Company s common stock, upon the completion of a specific period of continued service or achievement of a certain milestone. RSU awards are valued at the market price of the Company s common stock on the date of grant. The Company recognizes noncash compensation expense for the fair values of these RSU awards on a straight-line basis over the requisite service period of these awards.

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The following table summarizes the number of RSUs outstanding and the weighted average grant price:

	Number of RSUs	Weighted Average Grant Price
RSUs outstanding at December 31, 2017	—	$ —
Granted	601,394	0.85
Released	—	—
Forfeited	—	—
RSUs outstanding at September 30, 2018	601,394	$ 0.85

At September 30, 2018, there was approximately $444,667 of unamortized RSU compensation expense, which is expected to be recognized over a remaining average vesting period of 0.87 years.

Note 7 - Income Taxes

In assessing the realizability of the net deferred tax assets, the Company considers all relevant positive and negative evidence to determine whether it is more likely than not that some portion or all of the deferred income tax assets will not be realized. The realization of the gross deferred tax assets is dependent on several factors, including the generation of sufficient taxable income prior to the expiration of the net operating loss carryforwards. There was a full valuation allowance against the net deferred tax assets as of September 30, 2018 and December 31, 2017.

At December 31, 2017, the Company had federal net operating loss (NOL) carryforwards of approximately $101.5 million which expire between 2029 and 2037. At December 31, 2017, the Company had federal research and development credits carryforwards of approximately $1.9 million and an orphan drug credit carryover of approximately $22.1 million. The Company may be subject to the net operating loss utilization provisions of Section 382 of the Internal Revenue Code. The effect of an ownership change would be the imposition of an annual limitation on the use of NOL carryforwards attributable to periods before the change. The amount of the annual limitation depends upon the value of the Company immediately before the change, changes to the Company s capital during a specified period prior to the change, and the federal published interest rate. Although the Company has not completed an analysis under Section 382 of the Code, it is likely that the utilization of the NOLs will be limited.

At December 31, 2017, the Company had approximately $31.9 million of State of New Jersey NOLs which expire between 2030 and 2037. At December 31, 2017, the Company had approximately $0.4 million of the State of New Jersey research development credits carryforwards. The State of New Jersey has enacted legislation permitting certain corporations located in New Jersey to sell state tax loss carryforwards and state research and development credits, or net loss carryforwards. The Technology Business Tax Certificate Transfer Program enables qualified, unprofitable NJ-based technology or biotechnology companies with fewer than 225 US employees (including parent company and all subsidiaries) to sell a percentage of New Jersey NOLs and research and development (R&D) tax credits to unrelated profitable corporations. In 2017, the Company sold $26,097,607 of State of New Jersey NOLs and $424,466 of State of New Jersey R&D Credits for $2,586,057. In 2016, the Company sold $19,196,765 of State of New Jersey NOLs and $257,222 of State of New Jersey R&D Credits for $1,845,986.

Entities are also required to evaluate, measure, recognize and disclose any uncertain income tax provisions taken on their income tax returns. The Company has analyzed its tax positions and has concluded that as of December 31, 2017, there were no uncertain positions. The Company s U.S. federal and state net operating losses have occurred since its inception in 2009 and as such, tax years subject to potential tax examination could apply from that date because the utilization of net operating losses from prior years opens the relevant year to audit by the IRS and/or state taxing

authorities. In September 2017, the IRS concluded auditing the Company s 2015 tax year resulting in a no change letter. Interest and penalties, if any, as they relate to income taxes assessed, are included in the income tax provision. The Company did not have any unrecognized tax benefits and has not accrued any interest or penalties for the nine months ended September 30, 2018 and 2017.

On December 22, 2017, H.R. 1 (also, known as the Tax Cuts and Jobs Act (the Act)) was signed into law. Among its numerous changes to the Internal Revenue Code, the Act reduces U.S. federal corporate tax rate to 21%. As a result, the most significant impact on its condensed financial statements was the reduction of

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approximately $13.6 million for the deferred tax assets related to net operating losses and other assets. Such reduction is offset by changes to the Company s valuation allowance. The Company is also in the process of considering the impact under the Act of the disallowance of certain incentive based compensation tax deductibility under Internal Revenue Code Section 162(m). If an adjustment to the deferred tax asset is required, the impact will be offset by a corresponding adjustment to the valuation allowance.

On July 1, 2018, the New Jersey governor signed into law a bill which included significant changes to the New Jersey taxation of corporations. Chiefly, this legislation imposes a 2.5% surtax on taxpayers with allocated net income over $1 million for 2018 and 2019, and a 1.5% surtax for taxpayers with allocated net income over $1 million for 2020 and 2021. In addition, the state is changing its filing requirements from separate entity reporting to combined reporting on a water s edge basis. Further, there are changes to the state s computation of its dividend received deduction and application of IRC section 163(j). The Company has considered these changes and does not believe this change in law will have a material impact on its tax provision going forward, due to the full valuation allowance, significant New Jersey NOLs and current year losses.

Note 8 - Commitments and Contingencies

Evonik

The Company entered into an agreement with SurModics Pharmaceuticals, Inc. (SurModics) in October 2010 for the exclusive worldwide licensing of certain technology, patent rights and know-how rights related to the production of EG-1962, (the Evonik Agreement). This agreement was later transferred to Evonik Industries AG (Evonik) when it purchased substantially all the assets of SurModics.

Pursuant to the Evonik Agreement, in exchange for the license, the Company agreed to make milestone payments totaling up to $14.75 million upon the achievement of certain development, regulatory and sales milestones detailed in the Evonik Agreement. The Company paid $0.25 million upon execution of the Evonik Agreement. In August 2016, the Company paid a milestone of $1.0 million after the first patient in the Phase 3 clinical trial of EG-1962 was dosed. In addition, the Evonik Agreement calls for the Company to pay royalties on sales of certain products based on a mid-single digit percentage of net sales. The Evonik Agreement provides for the reduction of royalties in certain limited circumstances.

The term of the Evonik Agreement will continue until the expiration of the Company s obligation to pay royalties to Evonik. Either party may terminate the Evonik Agreement due to material breach by the other party. Evonik may terminate the Evonik Agreement or convert it to a non-exclusive license, in either case upon giving the Company written notice, if the Company fails to use commercially reasonable efforts to hit certain specified development, regulatory and commercial milestones.

Following the discontinuation of the NEWTON 2 trial for EG-1962, the Company has ceased all research and development efforts related to EG-1962 and suspended efforts on its other product candidates as it pursues strategic alternatives. As such, unless the Company resumes such development activities, it is unlikely that the Company will have any additional milestone or royalty obligations to Evonik in the future.

Oakwood Amended and Restated Master Formulation Development Agreement

In June 2017, the Company entered into an Amended and Restated Master Formulation Development Agreement (the Restated Development Agreement) with Oakwood Laboratories, L.L.C. (Oakwood), pursuant to which Oakwood agreed to continue to provide the Company with certain drug formulation development and non-commercial manufacturing services for EG-1962, in accordance with project plans that may be entered into from time to time.

Under the Restated Development Agreement, the Company agreed to pay Oakwood to perform services under agreed upon project plans and to pay Oakwood up to an aggregate of $4.5 million. In July 2017 and April 2018, the Company paid $1.5 million and $0.5 million, respectively, of such aggregate amount in connection with entering into the Restated Development Agreement. The remaining $2.5 million was payable no later than April 1, 2019. The remaining payment was discounted to $2.375 million and paid pursuant to an accelerated payment agreement entered into in August 2018. As of September 30, 2018, there are no remaining payments under the Restated Development Agreement.

As additional consideration for performance under the Restated Development Agreement and the Supply Agreement (as defined below), the Company agreed to pay Oakwood a royalty, during the Royalty Term, in an

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amount equal to a low single digit percentage of net sales of EG-1962, regardless of the manufacturer or supplier thereof. The Royalty Term is the period commencing upon the commercial launch of EG-1962 by the Company and continuing until twelve (12) years following such launch.

The term of the Restated Development Agreement continues until the expiration or termination of the Supply Agreement, unless earlier terminated (the Term). The Company has the right to terminate project plans upon the occurrence of various circumstances described in the Restated Development Agreement. In the event that the Company terminates the most recent project plan prior to completion (which would include the Company s decision to discontinue the development or commercialization of EG-1962), the Company must pay to Oakwood a termination fee for work completed, which has been accrued as of September 30, 2018.

Oakwood Manufacturing and Supply Agreement

Concurrent with its entry into the Restated Development Agreement, on June 30, 2017, the Company entered into a Manufacturing and Supply Agreement with Oakwood (the Supply Agreement), pursuant to which Oakwood agreed to manufacture and supply, and the Company agreed to purchase from Oakwood, EG-1962 in commercial quantities following the commercial launch of the product.

Pursuant to the Supply Agreement, the Company agreed to pay Oakwood milestone payments that could total up to an aggregate of $2.25 million upon the achievement of certain development and regulatory milestones.

The term of the Supply Agreement will terminate automatically upon the termination of the Restated Development Agreement for any reason. Additionally, either party may terminate the Supply Agreement upon a material breach by the other party that fails to be cured in the applicable cure period.

Following the discontinuation of the NEWTON 2 trial for EG-1962, the Company has ceased all research and development efforts related to EG-1962 and suspended efforts on its other product candidates. As such, the Company may terminate the Supply Agreement immediately upon notice to Oakwood (which will also result in the automatic termination of the Restated Development Agreement); provided, that if it chooses to do so prior to completion of the most recent project plan attached to the Restated Development Agreement, the Company must pay to Oakwood a termination fee. While certain of the Company s milestone payments to Oakwood will remain outstanding (including the termination fee in the event the Restated Development Agreement is terminated), unless the Company resumes such development activities, it is unlikely that the Company will be required to pay additional milestone or royalty payments to Oakwood in the future pursuant to the Restated Development Agreement or the Supply Agreement.

Class Action Civil Litigation

On April 23, 2018, a purported securities class action complaint was filed against the Company, Brian Leuthner (the Company s President and Chief Executive Officer) and Andrew Saik (the Company s Chief Financial Officer) in the United States District Court for the District of New Jersey, captioned *Sanfilippo v. Edge Therapeutics, Inc.*, Case No. 2:18-cv-8236. The complaint alleges that the Company, Mr. Leuthner and Mr. Saik violated Section 10(b) of the Securities Exchange Act of 1934 by making false and misleading statements concerning the Company s business, operations and prospects by failing to disclose that EG-1962 would likely fail a futility analysis. The complaint is brought on behalf of all purchasers of the Company s common stock between December 27, 2017 and March 27, 2018, and seeks unspecified damages. None of the Company, Mr. Leuthner, or Mr. Saik has been served with the complaint and their time to respond has not yet expired. Various individuals have moved to be appointed lead plaintiff to act on behalf of the putative class. After the court appoints that party (or parties), it is expected that the lead plaintiff will file an amended complaint. The Company and its executives intend to defend themselves vigorously in the action. There can be no guarantee as to the outcome or timing of any resolution.

Employment Matters

The Company has entered into employment agreements with each of its executive officers. The agreements generally provide for, among other things, salary, bonus and severance payments. The employment agreements generally provide for between 12 months and 18 months of severance benefits to be paid to an executive (as well as certain potential bonus, COBRA and equity award benefits), subject to the effectiveness of a general release of claims, if the executive terminates his or her employment for good reason or if the Company terminates the

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executive s employment without cause. Such severance payments may be provided for as long as 24 months in connection with a termination following a change of control. The continued provision of severance benefits is conditioned on each executive s compliance with the terms of the Company s confidentiality and invention and assignment agreement as well as his or her release of claims.

On April 30, 2018, the Company initiated a corporate realignment to focus its efforts and resources on its ongoing operations and future plans that include a reduction in its workforce. This realignment was initiated following the Company s recent announcement that it is discontinuing the Phase 3 NEWTON 2 study, based on the recommendation of an independent Data Monitoring Committee (the DMC) that the Company stop its Phase 3 NEWTON 2 study. The DMC recommendation was based on its conclusion that the study had a low probability of meeting its primary endpoint.

During the second and third quarters, the Company reduced its workforce from 37 employees to 14 employees. The Company anticipates a further reduction of its workforce as the Company completes NEWTON 2 closedown activities and completes the analysis of the related NEWTON 2 data. In addition, the Company anticipates completing the payment of certain employee severance and benefits and certain retention compensation, as approved by the Compensation Committee of the Board of Directors, by the fourth quarter of fiscal year 2019.

Leases

Effective December 13, 2013, the Company entered into a 63 month lease for approximately 8,000 square feet of office space in Berkeley Heights, New Jersey. On February 18, 2016, the Company entered into a new 63 month lease for approximately 20,410 square feet of office space within the same office complex in Berkeley Heights, New Jersey. The terms of the new lease were structured so that the termination date of the December 13, 2013 lease coincided with the commencement date of the new lease on August 13, 2016. As a result of the lease termination, the Company wrote off $67,118 of leasehold improvements.

Rent expense is recognized on a straight line basis where there are escalating payments, and was approximately $148,284 and $152,026 for the three months ended September 30, 2018 and 2017, respectively and $450,053 and $450,700 for the nine months ended September 30, 2018 and 2017, respectively.

The following is a schedule by years of future minimum rental payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of September 30, 2018:

Year ended December 31,	
2018 (remaining)	$ 151,572
2019	604,541
2020	603,371
2021	530,385
2022 and after	—
Total minimum payments required	$ 1,889,869

Note 9 - Debt

On August 1, 2016, the Company entered into an Amended and Restated Loan and Security Agreement (the Amended Loan Agreement) with Hercules Capital, Inc., formerly known as Hercules Technology Growth Capital, Inc. (Hercules). Pursuant to the Amended Loan Agreement, the Company was able to borrow up to $20,000,000. At closing, the Company borrowed $15,000,000 of the amount available for draw under the Amended Loan Agreement

(and received proceeds net of the amount then outstanding under the Original Loan Agreement, fees and expenses). On May 23, 2017, the Company elected to draw down the second tranche of $5 million. Pursuant to the Amended Loan Agreement, in March 2018, the Company made a payment of $90,000, which is equal to 1.5% of the total amounts funded under the Original Loan Agreement.

In June 2018, the Company agreed with Hercules Capital, Inc. to pay off its entire outstanding debt under the Amended Loan Agreement. The payment consisted of $20.0 million for the principal amount, an additional $0.9 million in back-end fees and $0.1 million in accrued and unpaid interest.

As of September 30, 2018, the Company has no outstanding debt.

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Note 10 - Retirement Plan

The Company has a 401(k) defined contribution plan for the benefit for all employees and permits voluntary contributions by employees subject to IRS-imposed limitations. The 401K employer contributions were $21,605 and $46,916 for the three months ended September 30, 2018 and 2017, respectively and $152,154 and $217,536 for the nine months ended September 30, 2018 and 2017, respectively.

Note 11 - Subsequent Events

Subsequent events have been evaluated through the date these financial statements were issued.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of PDS Biotechnology Corporation

Opinion on the Financial Statements

We have audited the accompanying balance sheets of PDS Biotechnology Corporation (the Company) as of December 31, 2017 and 2016, and the related statements of income, stockholders' equity, and cash flows for each of the years in the two-year period ended December 31, 2017, and the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Matter

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has negative cash flows from operations, negative working capital, and does not currently have revenue generating operations. This raises substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Haynie & Company
Salt Lake City, Utah
October 1, 2018

We have served as the Company's auditor since 2018.

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PDS Biotechnology Corporation
Balance Sheets

	December 31, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 175,884	$ 1,956,965
Prepaid expenses and other receivables	54,802	144,479
Total current assets	230,686	2,101,444
Property and equipment, net	51,821	73,061
Intangible assets, net	46,805	51,918
Other assets	11,452	18,052
	110,078	143,031
Total assets	$ 340,764	$ 2,244,475
Liabilities and Stockholders' Equity (Deficit)		
Current Liabilities:		
Capital lease obligation	$ 14,319	$ 13,261
Accounts payable	624,124	397,314
Accrued expenses	272,169	288,203
Payroll taxes	8,436	8,436
Total current liabilities	919,048	707,214
Convertible promissory notes payable	30,000	—
Capital lease obligation, net of current portion	1,244	15,563
	31,244	15,563
Total liabilities	950,292	722,777
Commitments and contingencies (note 11)		
Stockholders' equity (deficit):		
Preferred stock; $0.00001 par value; 5,534,647 shares authorized; and 0 and 0 shares issued and outstanding at December 31, 2017 and 2016, respectively	—	—
Common stock; $0.00001 par value; 22,138,587 shares authorized; 9,354,808 and 9,238,520 shares issued and outstanding at December 31, 2017 and 2016, respectively	94	92
Additional paid-in capital	17,492,996	16,201,036
Accumulated deficit	(18,102,618)	(14,679,430)
Total stockholders' equity (deficit)	(609,528)	1,521,698
Total liabilities, and stockholders' equity (deficit)	$ 340,764	$ 2,244,475

See accompanying notes to financial statements

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PDS Biotechnology Corporation
Statements of Operations

	Years Ended December 31,	
	2017	**2016**
Revenues	$ —	$ —
Operating expenses:		
Research and development	2,007,308	2,328,536
General and administrative	1,384,266	1,844,685
Depreciation and amortization	28,688	44,597
Total operating expenses	3,420,262	4,217,818
Loss from operations	(3,420,262)	(4,217,818)
Other income (expense):		
Interest expense	(1,495)	(257,290)
Other	(1,431)	(2,360)
	(2,926)	(259,650)
Net (loss)	$ (3,423,188)	$ (4,477,468)
Net (loss) per common share:		
Basic and diluted	$ (0.37)	$ (0.54)
Weighted average number of shares oustanding		
Basic and diluted	9,329,526	8,363,131

See accompanying notes to financial statements

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PDS Biotechnology Corporation
Statements of Stockholders' Equity (Deficit)

	Common Stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity (deficit)
	Shares	Amount			
Balance at January 1, 2016	8,270,274	$ 83	$ 10,136,088	$ (10,201,962)	$ (65,791)
Capitalized offering costs	—	—	(245,410)	—	(245,410)
Stock based compensation	—	—	389,296	—	389,296
Issuance of warrants	—	—	38,160	—	38,160
Issuance of common stock for cash	569,802	6	2,742,426	—	2,742,432
Issuance of common stock for conversion of debt	398,444	3	3,140,476	—	3,140,479
Net loss	—	—	—	(4,477,468)	(4,477,468)
Balance at December 31, 2016	9,238,520	92	16,201,036	(14,679,430)	1,521,698
Capitalized offering costs	—	—	(78,686)	—	(78,686)
Stock based compensation	—	—	262,248	—	262,248
Issuance of common stock for cash	106,489	2	1,014,998	—	1,015,000
Issuance of common stock for consulting fees	9,799	—	93,400	—	93,400
Net loss	—	—	—	(3,423,188)	(3,423,188)
Balance at December 31, 2017	9,354,808	$ 94	$ 17,492,996	$ (18,102,618)	$ (609,528)

See accompanying notes to financial statements

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PDS Biotechnology Corporation
Statements of Cash Flows

	Years Ended December 31,	
	2017	**2016**
Cash flows from operating activities:		
Net loss	$ (3,423,188)	$ (4,477,468)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	28,688	44,597
Stock-based compensation expense	355,648	389,296
Accretion of discount on convertible promissory notes	—	141,479
Accrued Interest on Convertible Debt	—	122,944
Changes in operating assets and liabilities:		
Deferred offering costs	—	130,476
Prepaid expenses and other receivables	89,677	(128,248)
Other assets	6,600	(1,252)
Accounts payable	226,810	(20,294)
Accrued expenses	(16,034)	41,301
Payroll taxes	—	(3,316)
Net cash used in operating activities	(2,731,799)	(3,760,485)
Cash flows from investing activities:		
Purchases of property and equipment	(2,335)	(2,553)
Net cash used in investing activities	(2,335)	(2,553)
Cash flows from financing activities:		
Proceeds from issuance of common stock	1,015,000	2,742,432
Issuance costs	(78,686)	(245,410)
Proceeds from issuance of convertible promissory notes	30,000	1,402,535
Repayments of capital lease obligation	(13,261)	(11,292)
Net cash provided by financing activities	953,053	3,888,265
Net increase (decrease) in cash and cash equivalents	(1,781,081)	125,227
Cash and cash equivalents at beginning of year	1,956,965	1,831,738
Cash and cash equivalents at end of year	$ 175,884	$ 1,956,965
Supplemental disclosures of cash flow information:		
Conversion of promissory notes payable and related accrued interest	$ —	$ 3,017,532
Capital lease obligation	$ 40,116	$ —
Warrants related to convertible promissory notes	$ —	$ 38,160
Cash paid for interest	$ 2,552	$ 3,544
Cash paid for income taxes	$ 500	$ 1,000

See accompanying notes to financial statements

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PDS BIOTECHNOLOGY CORPORATION

Notes to Financial Statements
December 31, 2017 and 2016

(1) Nature of Business and Liquidity

Organization

PDS Biotechnology Corporation (the Company) is a biopharmaceutical company developing novel cancer immunotherapies and vaccines for infectious diseases. The Company was incorporated on December 6, 2005 under the laws of the State of Delaware. The Company s operations are located in North Brunswick, New Jersey.

Business Condition

The financial statements have been prepared on a going concern basis which assumes the realization of assets and liabilities in the normal course of business. The Company has incurred losses and negative cash flows from operations since inception and had an accumulated deficit of $18.1 million as of December 31, 2017. The Company anticipates incurring additional losses until such time, if ever, that it can generate significant revenues from its product candidates currently in development. The Company s primary source of liquidity to date has been the issuance of debt and equity securities. Management believes that the cash and cash equivalents as of December 31, 2017 are sufficient to fund operations through the third quarter of 2018. Substantial additional financing will be needed by the Company to fund its operations and to commercially develop its product candidates. There is no assurance that such financing will be available when needed or on acceptable terms. In view of these matters, the Company s ability to continue as a going concern is dependent upon the Company s ability to expand operations and to achieve a level of profitability. The financial statements of the Company do not include any adjustments relating to the recoverability and classification of recorded assets, or the amounts and classifications of liabilities that might be necessary should the Company be unable to continue as a going concern.

Management is currently evaluating different strategies to obtain the required funding of future operations. These strategies may include, but are not limited to: additional funding from current or new investors, borrowings of debt, and/or an initial public offering (IPO) of the Company s common stock. There can be no assurance that these future funding efforts will be successful.

Risks and Uncertainties

The Company is subject to those risks associated with any specialty pharmaceutical company that has substantial expenditures for research and development. There can be no assurance that the Company s research and development projects will be successful, that products developed will obtain necessary regulatory approval, or that any approved product will be commercially viable. In addition the Company operates in an environment of rapid technological change, and is largely dependent on the services of its employees and consultants.

Basis of Presentation

The Company has prepared the accompanying financial statements in conformity with U.S. GAAP.

(2) Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Fair Value of Financial Instruments

The carrying amounts of the Company s financial instruments, including cash equivalents, accounts payable, and accrued expenses approximate fair value given their short-term nature.

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Cash and Cash Equivalents

The Company considers all highly liquid investments that have original maturities of three months or less when acquired to be cash equivalents. As of December 31, 2017 and 2016, the Company invested a portion of its cash balances in money market funds, which has been included as cash equivalents on the balance sheets.

Prepaid Expenses

Prepaid expenses consist of the following:

	December 31,	
	2017	**2016**
Insurance	$ 5,901	$ 5,986
Service agreements	40,000	120,000
Other receivables	3,901	13,493
Annual royalty fee	5,000	5,000
	$ 54,802	$ 144,479

Property and Equipment

Property and equipment is recorded at cost and is depreciated on a straight-line basis over their estimated useful lives. The Company estimates a life of three years for computer equipment, five years for lab equipment and seven years for lab furniture. When property and equipment are sold or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and the resulting gain or loss is included in operating expenses. Repairs and maintenance costs are expensed as incurred.

Impairment of Long-Lived Assets

The Company assesses the recoverability of its long-lived assets, which include property and equipment, whenever significant events or changes in circumstances indicate impairment may have occurred. If indicators of impairment exist, projected future undiscounted cash flows associated with the asset are compared to its carrying amount to determine whether the asset s value is recoverable. Any resulting impairment is recorded as a reduction in the carrying value of the related asset in excess of fair value and a charge to operating results. For the years ended December 31, 2017 and 2016, the Company determined that there was no impairment of its long-lived assets.

Deferred Offering Costs

The Company capitalizes certain legal, professional, accounting, travel and other third party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in shareholders equity (deficit) as a reduction to the carrying value of the shares issued. If an offering is not successful, deferred offering costs are expensed to general and administrative expenses.

Intangible Assets

The Company capitalizes the patent license fees paid to third parties. Patent license fees are amortized on a straight-line basis over the remaining life of the patent license.

The Company capitalizes the professional fees incurred in relation to issuance of debt instruments, as deferred financing fees. Deferred financing fees are amortized on a straight-line over the remaining life of the related debt instrument.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs include salaries, share-based compensation and benefits of employees, third-party license fees and other operational costs related to the Company s research and development activities, including allocated facility-related expenses and external costs of outside vendors engaged to conduct preclinical studies and other research and development activities.

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Stock-Based Compensation

The Company measures and recognizes share-based compensation expense, for both employee and director option awards, based on the grant date fair value of the awards. The Company recognizes share-based compensation expense, net of estimated forfeitures, on a straight-line basis over the requisite service period of the awards, which is generally the vesting period.

The Company determines the fair value of share-based awards granted to non-employees as either the fair value of the consideration received or the fair value of the equity instruments issued, whichever is more reliably measurable. All issuances of equity instruments issued to non-employees as consideration for goods or services received by the Company are accounted for based on the fair value of the equity instruments issued. These awards are recorded in expense and additional paid-in capital in shareholders (deficit) equity over the applicable service periods based on the fair value of the options at the end of each period.

The Company classifies share-based compensation expense in its statements of operations in the same manner in which the award recipient s payroll costs are classified or in which the award recipients service payments are classified.

The Company estimates the fair value of employee and director share options as of the date of grant using the Black-Scholes option pricing model. The Company historically has been a private company and lacks company-specific historical and implied volatility information. Therefore, it estimates its expected share price volatility based on the historical volatility of a publicly traded set of peer companies and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded share price. The expected term of the Company s share options has been determined utilizing the simplified method for awards that qualify as plain-vanilla options. The risk-free interest rate is determined by reference to the yield curve of a zero-coupon U.S. Treasury bond on the date of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that the Company has never paid cash dividends on ordinary shares and does not expect to pay any cash dividends in the foreseeable future.

The Company also estimates the fair value of consultant and non-employee share options using the Black-Scholes option pricing model reflecting the same assumptions as applied to employee and director options in each of the reporting periods, other than the expected life, which is assumed to be the remaining contractual life of the options.

Per Share Information

Basic earnings (loss) per share are calculated using the weighted average number of common shares outstanding for the period presented. Diluted earnings per share includes the addition of potentially dilutive securities as of December 31, 2017 and 2016. As the Company reported net losses, the effect is anti-dilutive and were excluded from the diluted earnings (loss) calculation. There were 155,181 and 155,181, warrants outstanding as of December 31, 2017 and 2016, respectively which are considered dilutive but are not included in the calculation because they are anti-dilutive.

Common Stock Warrants

The Company measures and recognizes warrants, for non-employees for the value or goods or services received or in conjunction with the issuance of a debt or equity financing issuance based on the grant date fair value of the warrant.

The Company determines the fair value of warrants granted to non-employees or investors as either the fair value of the consideration received or the fair value of the debt or equity instruments issued, whichever is more reliably measurable. All issuances of debt and equity instruments issued to investors or non-employees as consideration for

goods or services received by the Company are accounted for based on the fair value of the debt and equity instruments issued. These awards can be recorded as either an expense or liability depending on the nature of the warrant.

Generally, if a warrant cannot be settled in cash by the holder or a stock settled transaction, the warrant is considered an equity transaction to the Company and has an offsetting debit to additional paid-in capital in shareholders (deficit) equity based on the fair value of the warrant at the issuance date.

The Company estimates the fair value of warrants as of the date of grant using the Black-Scholes option pricing model as described in Stock-Based Compensation in the previous section.

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Revenue Recognition

License Agreement

Revenue associated with licensing agreements primarily consists of non-refundable upfront license fees, nonrefundable annual license fees and milestone payments. Non-refundable upfront license fees received under license agreements, whereby continued performance or future obligations are considered inconsequential to the relevant license technology, are recognized as revenue upon delivery of the technology. If a licensing agreement has multiple elements, The Company analyzes each element of its licensing agreements and considers a variety of factors in determining the appropriate method of revenue recognition of each element. The Company has no license agreement revenue for the years ended December 31, 2017 and 2016.

In June 2012, the Company signed an Enantiomer licensing agreement with Merck KGaA (Merck). The agreement gives Merck & its affiliates an exclusive (even to the Company), worldwide, royalty-bearing right and license to research, develop, manufacture, have manufactured, import, export, use and commercialize the Merck Products in the Territory.

In partial consideration of the rights and licenses granted to Merck by the Company, Merck paid the Company a one-time up-front non-refundable fee of $1,800,000 payable in two installments. The first installment of $1,200,000 was paid in September 2012 and the second installment of $600,000 was paid in July 2013. Because the Company does not have any other additional responsibilities, the revenue was recognized in 2012.

In addition to the license agreement, the Company has an opportunity to earn an additional $22 million, $11 million per Antigenic Sequence, based on achieving certain milestones related to human trials and commercial sales throughout the world in certain countries, as defined. The Company also has an opportunity to earn an additional $34 million, $17 million per Antigenic Sequence, if certain milestones based on worldwide net sales of Merck products with the Antigenic Sequence, as defined, are met.

Product Revenue

The Company has had no product revenue to date.

Grant Revenue

The Company periodically enters into grant agreements with both federal agencies and Pharmaceutical companies related to both research and result analysis. Grant revenues received in advanced are deferred until related expenditures are incurred. Grant revenues earned during 2017 and 2016, respectively were $0 and $0.

Current Income Taxes

The Company assesses its current income tax expense based upon the taxes due in each operating tax jurisdiction, which are comprised of the United States and the States of Indiana and New Jersey. All of the Company s revenue and operating expenses occurring within these tax jurisdictions.

Payments of advance taxes and income taxes payable in the same tax jurisdictions are offset.

Deferred Income Taxes

Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial information carrying amounts of assets and liabilities and their respective tax basis, operating loss carry forwards and tax credits. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the Statements of Operations in the period of change.

The Company accounts for uncertainty in income taxes recognized in the financial statements by applying a two-step process to determine the amount of tax benefit to be recognized. First, the tax position must be evaluated to determine the likelihood that it will be sustained upon external examination by the taxing authorities. If the tax position is deemed more-likely-than-not to be sustained, the tax position is then assessed to determine the amount of benefit to recognize in the financial statements.

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The amount of the benefit that may be recognized is the largest amount that has a greater than 50% likelihood of being realized upon ultimate settlement. The provision for income taxes includes the effects of any resulting tax reserves, or unrecognized tax benefits, that are considered appropriate as well as the related net interest and penalties.

The Company recognizes interest and penalties related to uncertain tax positions in income tax provision.

Concentrations of Credit Risk

The Company does not have a customer concentration risk, as its only current source of revenue occurred in 2012 and that was from the continuation of an existing government grant and a one-off contract with a pharmaceutical company. The Company does not expect to have recurring revenue for several years but may have periodic grants, research projects and licensing fee revenue.

Financial instruments that potentially expose the Company to concentrations of credit risk consist principally of cash and cash equivalents. The Company principally utilized national/regional banks to maintain its operating cash accounts. At certain times, such balances may be in excess of Federal Deposit Insurance Corporation (FDIC) insurance limits.

In the normal course of its operations, the Company enters into contracts and agreements that contain indemnifications. The Company s maximum exposure under these agreements is unknown as this would involve future claims that may be made against the Company that have not occurred. The Company expects the risk of loss to be remote.

Recently Adopted Accounting Pronouncements

In November 2015, the FASB issued ASU 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes*. This ASU simplifies the presentation of deferred income taxes by eliminating the requirement for entities to separate deferred tax liabilities and assets into current and noncurrent amounts in classified balance sheets. Instead, it requires deferred tax assets and liabilities be classified as noncurrent in the balance sheet. ASU 2015-17 is effective for financial statements issued for annual periods beginning after December 15, 2017. Early adoption is permitted, and this ASU may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented.] The adoption of this standard is not expected to have a material impact on the Company s financial statements. Upon adoption of this standard on a retrospective basis, all deferred income tax assets and liabilities will be presented as noncurrent.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The guidance in this ASU supersedes the leasing guidance in Topic 840, *Leases*. Under the new guidance, lessees are required to recognize lease assets and lease liabilities on the balance sheet for all leases with terms longer than 12 months.

Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The new standard is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. We are currently evaluating the impact of our pending adoption of the new standard on our consolidated financial statements. The Company currently expects that upon adoption of ASU 2016-02, right-of-use assets and lease liabilities will be recognized in the balance sheet in amounts that will be material.

In March 2016, the FASB issued ASU 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. The ASU is intended to simplify various aspects of accounting for share-based compensation arrangements, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. For example, the new guidance requires all excess tax benefits and tax deficiencies related to share-based payments to be recognized in income tax expense, and for those excess tax benefits to be recognized regardless of whether it reduces current taxes payable. The ASU also allows an entity-wide accounting policy election to either estimate the number of awards that are expected to vest or account for forfeitures as they occur. ASU 2016-09 will be effective for the Company beginning on January 1, 2018. Different methods of adoption are required for the various amendments and early adoption is permitted, but all of the amendments must be adopted in the same period. The Company is currently evaluating the impact of the adoption of this guidance on its consolidated financial condition, results of

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operations and cash flows. The Company has not completed its assessment of the potential impact of adopting the provisions of ASU 2016-09 on its financial statements. The adoption is not expected to have a material impact on the consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting,* to provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in ASC 718. The amendments in the ASU are effective for fiscal years beginning after December 15, 2017, and should be applied prospectively to an award modified on or after the adoption date. The adoption of ASU 2017-09 is not expected to have a material impact on the financial statements.

Other accounting standards that have been issued or proposed by the FASB or other standards-setting bodies that do not require adoption until a future date are not expected to have a material impact on the Company s consolidated financial statements upon adoption.

(3) Property and Equipment

Property and equipment consisted of the following:

	Estimated useful life (in years)	December 31, 2017	December 31, 2016
Lab equipment	5	$ 135,369	$ 135,369
Lab furniture	7	1,343	1,343
Computer equipment	3	16,963	14,628
Total cost		153,675	151,340
Less accumulated depreciation		(101,854)	(78,279)
Property and equipment, net		$ 51,821	$ 73,061

Depreciation expense was $23,575 and $22,065, respectively, for the years ended December 31, 2017 and 2016.

(4) Intangible Assets

Intangible assets consisted of the following:

	Estimated Life (in Months)	December 31, 2017	December 31, 2016
Patent license fees #1	111	15,000	15,000
Patent license fees #2	201	15,000	15,000
Patent license fees #1 - Amendment	107	15,000	15,000
Patent license fees #2 - Amendment	197	15,000	15,000
		60,000	60,000
Less accumulated amortization		(13,195)	(8,082)
Intangible assets, net		$ 46,805	$ 51,918

Future amortization expense as of December 31, 2018

Year Ending December 31,	Amount
2018	$ 5,113
2019	5,113
2020	5,113
2021	5,113
2022	5,113
Thereafter	21,240
	$ 46,805

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Amortization expense was $5,113 and $22,532, for the years ending December 31, 2017 and 2016, respectively.

(5) Convertible Promissory Notes

In October 2015, the Company commenced a debt financing of up to $12,000,000. In November the Company received $1,525,000 from investors in exchange for convertible promissory notes (2015 issuances). The 2015 issuances bear interest at 5.00% per annum. The 2015 issuances have no defined payment terms and matured on December 31, 2016, unless one of the following occurs prior to the maturity date, as defined in the agreement.

1. If the 2015 issuances are outstanding at the time of a Qualified Financing, defined as financing in excess of $40M, then the outstanding principal amount of the 2015 issuances and any accrued but unpaid interest thereon shall convert automatically into the number of shares of the class and series of capital stock issued to the investor(s) at the initial closing of such Qualified Financing, equal to the quotient obtained by dividing the outstanding principal amount of the 2015 issuances and any accrued but unpaid interest thereon, by the product of (1) 0.85 times (2) the Qualified Financing price per share.
2. If the 2015 issuances remain outstanding at the time of consummation of a Change of Control (as defined prior to the Maturity Date, then the outstanding principal amount of the 2015 issuances and any accrued but unpaid interest thereon shall automatically convert (as of immediately prior to, but contingent upon the occurrence of, such Change of Control) into such number of shares of Common Stock, equal to the quotient obtained by dividing the outstanding principal amount of the 2015 issuances and any accrued but unpaid interest thereon, by the product of (I) 0.90 times (2) the Change of Control Price Per Share. Notwithstanding the above, an equity financing, reincorporation and other restructuring transaction (including a transaction the result of which is that the Maker becomes a wholly-owned subsidiary of another entity) consummated for the purpose of changing the Maker’s state of incorporation, or otherwise facilitating a Qualified Financing, shall not be deemed a Change of Control transaction.
3. If the 2015 issuances remain outstanding on the Maturity Date (12/31/16), then the outstanding principal amount of the 2015 issuances and any accrued but unpaid interest thereon shall automatically convert into the number of shares of Common Stock equal to the quotient obtained by dividing the outstanding principal amount of the 2015 issuances and any accrued but unpaid interest thereon by the product of (l) 0.80 times (2) the Maturity Date Price Per Share.

In conjunction with the 2015 issuances, the Company provided 10% warrant coverage based on principal invested. The warrants were determined using a fair value of $152,500. This resulted in the issuance of 80,157 warrants issued at $1.90 per warrant (85% of the fair value per share of $2.24). Using the Black-Scholes model for the warrants described further in Note 9, resulted in a fair value of $125,824, which is required to be bifurcated from the amount of proceeds received $1,525,000 on a pro-rata basis. This resulted in an $116,234 value for the warrants and the recording of a promissory note discount of the same amount. The promissory note discount of $116,234 is accreted against the 2015 issuances and amortized on a straight-line basis through the maturity date of December 31, 2016, resulting in an amortization period of 13.5 months. For the years ended December 31, 2017 and 2016 accretion on the 2015 issuances was $0 and $103,319, respectively, which is included with interest expenses in the statement of operations.

In May 2016 the Company received $500,000 from an investor in exchange for convertible promissory notes (2016 issuances #1). The 2016 issuances #1 bear interest at 5.00% per annum. The 2016 issuances #1 has no defined payment terms and matures on December 31, 2016, unless one of the following occurs prior to the maturity date, as defined in the agreement.

1. If the 2016 issuances #1 is outstanding at the time of a Qualified Financing, defined as financing in excess of $40M, then the outstanding principal amount of the 2016 issuances #1 and any accrued but unpaid interest thereon shall convert automatically into the number of shares of the class and series of capital stock issued to

the investor(s) at the initial closing of such Qualified Financing, equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #1 and any accrued but unpaid interest thereon, by the product of (1) 0.80 times (2) the Qualified Financing price per share.

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2. If the 2016 issuances #1 remains outstanding at the time of consummation of a Change of Control (as defined prior to the Maturity Date, then the outstanding principal amount of the 2016 issuances #1 and any accrued but unpaid interest thereon shall automatically convert (as of immediately prior to, but contingent upon the occurrence of, such Change of Control) into such number of shares of Common Stock, equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #1 and any accrued but unpaid interest thereon, by the product of (I) 0.80 times (2) the Change of Control Price Per Share.

Notwithstanding the above, an equity financing, reincorporation or other restructuring transaction (including a transaction, the result of which is that the Maker becomes a wholly-owned subsidiary of another entity) consummated for the purpose of changing the Maker s state of incorporation, or otherwise facilitating a Qualified Financing, shall not be deemed a Change of Control transaction.

3. If the 2016 issuances #1 remains outstanding on the Maturity Date (12/31/16), then the outstanding principal amount of the 2016 issuances #1 and any accrued but unpaid interest thereon shall automatically convert into the number of shares of Common Stock equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #1 and any accrued but unpaid interest thereon by the product of (l) 0.80 times (2) the Maturity Date Price Per Share.

In conjunction with the 2016 issuances #1, the Company provided 10% warrant coverage based on principal invested. The warrants were determined using a fair value of $50,000. This resulted in the issuance of 26,281 warrants issued at $1.90 per warrant (85% of the fair value per share of 2.24). Using the Black-Scholes model for the warrants described further in Note 9, resulted in a fair value of $41,313, which is required to be bifurcated from the amount of proceeds received $500,000 on a pro-rata basis. This resulted in an $38,160 value for the warrants and the recording of a promissory note discount of the same amount. The promissory note discount of $38,160 was accreted against the 2016 issuances #1 and amortized on a straight-line basis through the maturity date of December 31, 2016, resulting in an amortization period of 7.7 months. For the years ended December 31, 2017 and 2016 accretion on the 2016 issuances #1 was $0 and $38,160, respectively, which is included with interest expenses in the statement of operations.

In July 2016, the Company converted $90,000 of consulting fees owed to certain board members/investors (Board Member #1, #2 and #3), described in Note 13 below (2016 issuances #2) to convertible promissory notes. The 2016 issuances #2 bear interest at 5.00% per annum. The 2016 issuances #2 have no defined payment terms and mature on December 31, 2016, unless one of the following occurs prior to the maturity date, as defined in the agreement.

1. If the 2016 issuances #2 are outstanding at the time of a Qualified Financing, defined as financing in excess of $40M, the then outstanding principal amount of the 2016 issuances #2 and any accrued but unpaid interest thereon shall convert automatically into the number of shares of the class and series of capital stock issued to the investor(s) at the initial closing of such Qualified Financing, equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #2 and any accrued but unpaid interest thereon, by the product of (1) 0.80 times (2) the Qualified Financing price per share.

2. If the 2016 issuances #2 remain outstanding at the time of consummation of a Change of Control (as defined prior to the Maturity Date, the then outstanding principal amount of the 2016 issuances #2 and any accrued but unpaid interest thereon shall automatically convert) as of immediately prior to, but contingent upon the occurrence of, such Change of Control) into such number of shares of Common Stock, equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #2 and any accrued but unpaid interest thereon, by the product of (1) 0.80 times (2) the Change of Control Price Per Share.

Notwithstanding the above, an equity financing, reincorporation or other restructuring transaction (including a transaction, the result of which is that the Maker becomes a wholly-owned subsidiary of a another entity) consummated for the purpose of changing the Maker s state of incorporation, or otherwise facilitating a Qualified Financing, shall not be deemed a Change of Control transaction.

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3. If the 2016 issuances #2 remain outstanding on the Maturity Date (12/31/16), the then outstanding principal amount of the 2016 issuances #2 and any accrued but unpaid interest thereon shall automatically convert into the number of shares of Common Stock equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #2 & #3 and any accrued but unpaid interest thereon by the product of (l(1) 0.80 times (2) the Maturity Date Price Per Share.

In July 2016, the Company commenced a debt financing of up to $1,000,000. In July & August 2016 the Company received $902,535 from investors in exchange for convertible promissory notes (2016 issuances #3). The 2016 issuances #3 have no defined payment terms and mature on December 31, 2016, unless one of the following occurs prior to the maturity date, as defined in the agreement.

1. If the 2016 issuances #3 are outstanding at the time of a Qualified Financing, defined as financing in excess of $40M, the then outstanding principal amount of the 2016 issuances #2 & #3 and any accrued but unpaid interest thereon shall convert automatically into the number of shares of the class and series of capital stock issued to the investor(s) at the initial closing of such Qualified Financing, equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #3 and any accrued but unpaid interest thereon, by the product of (1) 0.90 times (2) the Qualified Financing price per share.
2. If the 2016 issuances #3 remain outstanding at the time of consummation of a Change of Control (as defined prior to the Maturity Date, the then outstanding principal amount of the 2016 issuances #3 and any accrued but unpaid interest thereon shall automatically convert) as of immediately prior to, but contingent upon the occurrence of, such Change of Control) into such number of shares of Common Stock, equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances #3 and any accrued but unpaid interest thereon, by the product of (1) 0.90 times (2) the Change of Control Price Per Share.

Notwithstanding the above, an equity financing, reincorporation or other restructuring transaction (including a transaction, the result of which is that the Maker becomes a wholly-owned subsidiary of a another entity) consummated for the purpose of changing the Maker s state of incorporation, or otherwise facilitating a Qualified Financing, shall not be deemed a Change of Control transaction.

3. If the 2016 issuances #3 remain outstanding on the Maturity Date (December 31, 2016), the then outstanding principal amount of the 2016 issuances #3 and any accrued but unpaid interest thereon shall automatically convert into the number of shares of Common Stock equal to the quotient obtained by dividing the outstanding principal amount of the 2016 issuances and any accrued but unpaid interest thereon by the product of (l) 0.90 times (2) the Maturity Date Price Per Share.

The term Maturity Date Price Per Share shall mean the higher of (a) the fair market value of a share of Common Stock as of the Maturity Date (as determined in good faith by the Board of Directors of the Maker) and (b) the price of a share of Common Stock calculated as follows: $100,000,000 divided by the number of outstanding shares of Common Stock, all on a fully-diluted and as converted basis.

In November 2017 the Company received $30,000 from an investor in exchange for a convertible promissory note (2017 issuances). The 2017 issuances bear interest at 7.50% per annum. The 2017 issuances have no defined payment terms and mature on December 1, 2020, unless one of the following occurs prior to the maturity date, as defined in the agreement.

1. Automatic QF Conversion. In the event the Company issues and sells shares (in a sale or series of sales) of its Equity Securities on or before the Maturity Date in an equity financing in which cumulative gross proceeds including the aggregate outstanding principal balance and all accrued and unpaid interest on the Notes equal or exceed $5M (the Qualified financing) then the outstanding principal balance of the Note and all unpaid interest (Conversion Amount) shall be converted into such Equity Securities at the Conversion Price. The Conversion price shall be the lesser of a) the price per share paid by the purchasers of such Equity Securities in such Qualified Financing, and (b) $2.11 per share.

2. MD Conversion. In the event that a Qualified Financing has not closed on or prior to the Maturity Date, all outstanding principal and interest of the Note will convert at a conversion price equal to $2.11 per share.

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A summary of convertible promissory notes outstanding is listed below

	2017	2016
Convertible promissory note holder #1, net, December 31,	$ 30,000	$ —

(6) Capital Lease Obligation

In February 2016, the Company leased lab equipment with a value of $40,116 from an unrelated third party. Based on the terms of the lease, it met the criteria to be capitalized. The capital lease obligation is payable over 36 months beginning in February 2016, with a final payment due in January 2019. The implicit interest rate on the capital lease obligation is 7.70%. In conjunction with the recording of the capital lease obligation, property and equipment was recorded in the same amount, to be amortized over a 60 months on a straight-line basis.

Years ending December 31,	Amount
2018	$ 15,020
2019	1,251
Total minimum lease payments	16,271
Less amounts representing interest	(708)
Present value of net minimum lease payments	15,563
Less current maturities	(14,319)
Long-term capital lease obligations	$ 1,244

Amortization expense recorded for the years ended December 31, 2017 and 2016 were $8,023 and $7,355, respectively.

(7) Accrued Expenses

Accrued expenses consisted of the following:

	December 31,	
	2017	2016
Consulting	$ 100,500	$ 83,329
Expense Reimbursement	—	1,869
General Research	21,016	22,504
Interest	247	—
Other	44,176	74,176
Payroll	57,292	—
Professional	40,938	98,325
Rent	8,000	8,000
	$ 272,169	$ 288,203

(8) Warrants

In May 2016, in conjunction with the issuance of $500,000 of Convertible Promissory Notes, the Company provided common stock warrant coverage based on 10% of the amount invested in the equity financing round. The value of the warrants was $50,000 and was converted to warrants at 85% of the current exercise price. As a result, the Company issued 11,764 warrants to the investor. These warrants were valued in the same manner as those described in Note 5,

resulting in the bifurcation of $38,160 from the debt of $500,000.

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The assumptions used in the Black-Scholes option pricing model to determine the fair value of warrants granted to vendors and investors during the period were as follows:

	Years Ended December 31,	
	2017	2016
Risk-free interest rate	N/A	1.20 %
Expected term (in years)	N/A	5.00
Expected volatility	N/A	86.4 %
Expected dividend yield	—	—
Exercise price	$ —	$ 8.42
Fair value of ordinary share	$ —	$ 7.93

A summary of warrant activity is listed below:

	Warrants
Balance as of January 1, 2016	512,311
Granted	11,764
Exercised	(368,894)
Balance as of December 31, 2016	155,181
Granted	—
Exercised	—
Balance as of December 31, 2017	155,181

(9) Stockholders' Equity (Deficit)

Common Stock Transactions

In August 2016, the Company increased the number of authorized shares of common stock to 13,283,154. In January 2018, the Company increased the number of authorized shares of common stock to 22,138,587.

In August 2016, the Company issued a Private Placement Memorandum (PPM) (August 2016 PPM) to raise $10,000,000 by offering 1,049,222 shares of common stock at $9.53 per share. The Company issued 155,794 shares of common stock to investors at the $9.53 share price in conjunction with the August 2016 PPM, resulting in gross equity financing of $1,485,000. After subtracting out cumulative offering costs of $190,305, the Company received net proceeds of $1,294,695. In December 2016, the Company issued a PPM (December 2016 PPM) to raise $7,000,000 by offering 734,450 shares of common stock at $9.53 per share. The Company issued 45,114 shares of common stock to investors at $9.53 per share in conjunction with the December 2016 PPM, resulting in gross equity financing of $430,000. After subtracting out cumulative financing costs of $55,105, the Company received net proceeds of $374,895. In January 2018, as described in Note 15, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 140,215 and 40,601 shares of common stock, respectively, for the August 2016 PPM and December 2016 PPM investors.

The conversion of debt to equity upon maturity of debt on December 31, 2016 associated with promissory notes issued during 2015 and 2016, as described in Note 5 above, resulted in the Company issuing 211,267 and 187,177 shares of common stock to investors, respectively, from 2015 and 2016 promissory note issuances and related accrued interest. The promissory notes were converted at share prices of $7.62 and a range from $7.62 - $8.58, respectively,

for the 2015 and 2016 promissory note issuances. As a result, $3,140,479 of promissory notes and related accrued interest were transferred from debt to equity. In January 2018, as described in Note 15, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $2.11 to $1.11 per share. As a result since the convertible promissory notes were originally converted at $9.53 per share, these investors received the same reduction to $5.00 per share. As a result, the Company issued an additional 190,140 and 168,458 shares of common stock, respectively, for the convertible promissory note issued in 2015 and 2016, respectively.

Throughout 2017, the Company issued 106,489 shares of common stock to investors at $9.53 per share, in conjunction with the existing December 2016 PPM described previously, resulting in gross equity financing of $1,015,000. After subtracting out cumulative offering costs of $78,686, the Company received net proceeds of

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$936,314. In September 2017, the Company signed a consulting agreement with a related third consultant, in which, in lieu of cash payment of $93,400, the related third party consultant elected to receive shares at the current fair value of $9.53 per common shares, resulting in the issuance of 9,799 common shares. In January 2018, as described in Note 15, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 95,837 and 8,819 shares of common stock, respectively, for the 2017 December 2016 PPM investors and

A summary of equity transactions is as follows:

	2017	2016
Cash received	$ 1,015,000	$ 2,742,432
Conversion of convertible promissory notes	—	3,140,479
Gross proceeds	1,015,000	5,882,911
Offering costs	(78,686)	(245,410)
Net Proceeds	$ 936,314	$ 5,637,501
Services rendered	$ 93,400	$ —
Shares issued	525,303	4,373,696

Preferred Stock Transactions

In January 2018, the Company increased the number of authorized shares to 27,673,234, which included 22,138,587 shares of common stock described previously in footnote and 5,534,647 shares of preferred shares. There were no preferred shares issued through June 30, 2018.

(10) Stock Option Plan

Adoption of Stock Option Plan

On January 22, 2009, the Company s board of directors adopted the PDS Biotechnology 2009 Stock Option Plan (the 2009 Plan), the 2009 Plan is effective November 1, 2008 and reserved 815,054 shares for issuance under the this plan. In addition, the 2009 Plan limited the number of shares issued to an employee/director to 442,772 per year. The 2009 Plan was approved by the Company s shareholders in October 2009. On March 12, 2012, the Company s board and shareholders amended the plan (Amendment #1) to increase the number of common shares issuable under the 2009 Plan to 1,479,212 ordinary shares. In addition, the 2009 Plan increased the number of shares that can be issued to an employee/director to 885,544 per year. On December 15, 2014, the Company s board and shareholders amended the plan (Amendment #2) to increase the number of common shares issuable under the 2009 Plan to 1,713,217 ordinary shares. The 2009 Plan authorizes the board of directors or a committee of the board to grant incentive share options, non-qualified share options, or NQSOs, to eligible employees, outside directors and consultants of the Company. As of December 31, 2017 and 2016, respectively, 136,529 and 24,862 common shares remained available for future grants.

During the years ended December 31, 2017 and 2016, respectively, the Company granted options to purchase 0 and 166,128 common shares, respectively, to employees and outside directors. The Company recorded share-based compensation expense of $262,248 and $389,295, respectively, for the years ended December 31, 2017 and 2016. Options generally vest over a period of one to five years, and options that lapse or are forfeited are available to be granted again. The contractual life of all options is ten years. The expiration dates of the outstanding options range from 2019 to 2026. The Company measures and records the value of options granted to non-employees over the period of time services are provided and, as such, unvested portions are subject to re-measurement at subsequent

reporting periods.

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Unrecognized share based compensation charges as of December 31, 2017, are expected to be recognized as follows:

Years Ending December 31,	Amount
2018	$ 8,905
2019	2,520
2020	622
2021	—
2022	—
	$ 12,047

The assumptions used in the Black-Scholes option pricing model to determine the fair value of share options granted to employees during the period were as follows:

	Years Ended December 31,	
	2017	2016
Risk-free interest rate	N/A	1.59 %
Expected term (in years)	N/A	6.25
Expected volatility	N/A	85.3 %
Expected dividend yield	—	—
Exercise price	$ —	$ 9.91
Fair value of ordinary share	$ —	$ 8.98

The following table summarizes the stock option activity:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Life (In Years)	Aggregate Intrinsic Value
Balance as of January 1, 2016	1,523,919	2.03	6.82	$ 223,764
Granted	166,128	2.24		
Forfeited	(4,082)	2.24		
Balance as of December 31, 2016	1,685,965	2.09	6.14	222,697
Granted	—	—		
Forfeited	(111,667)	2.24		
Balance as of December 31, 2017	1,574,298	$ 2.10	4.93	$ 222,697
Options exercisable, December 31, 2017	1,560,229	$ 2.10	4.91	$ 222,697

As of December 31, 2017, the unrecognized compensation cost related to outstanding options was $12,047 and is expected to be recognized as expense over a weighted-average period of approximately 2.25 years.

Share-based compensation is allocated to employees based on their respective departments. All Board of Directors compensation is charged to general and administrative compensation.

Share-based compensation expense was classified in the statements of operations as follows:

	Years Ended December 31,

	2017	2016
Research and development	$ 60,966	$ 83,787
General and administrative	201,282	305,509
Total share-based compensation	$ 262,248	$ 389,296

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(11) Income Taxes

As of December 31, 2017 and 2016, the Company has approximately $16,319,000 and $13,229,000 of federal net operating loss carryforwards and $439,000 and $357,000 of federal research tax credit carry-forwards as of December 31, 2017 and 2016, respectively. As of December 31, 2017 and 2016, the Company has approximately $16,247,000 and $13,157,000 of state net operating loss carryforwards. The federal and state net operating loss carry-forwards and the federal research tax credit carry-forwards begin to expire in 2028 and 2037, respectively.

The Tax Reform Act of 1986 (the Act) provides for limitation on the use of net operating loss and research and development tax credit carryforwards following certain ownership changes (as defined by the Act) that could limit the Company s ability to utilize these carryforwards. The Company may have experienced various ownership changes, as defined by the Act, as a result of past financings. Accordingly, the Company s ability to utilize the aforementioned carryforwards may be limited. Additionally, U.S. tax laws limit the time during which these carryforwards may be applied against future taxes; therefore, the Company has determined it is more likely than not that the these net operating losses will not be realized.

The components of the net deferred income tax asset as of December 31, 2017, 2016 are as follows:

	Years Ended December 31,	
	2017	**2016**
Deferred tax assets:		
Net operating loss carry-forwards	$ 4,392,017	$ 5,279,272
Research and development credit carry-forwards	92,146	121,245
Fixed assets	(1,221)	(3,331)
Intangible assets	2,208	3,228
Deferred rent	—	—
Accrued expenses	40,972	22,543
Gross deferred tax assets	4,526,122	5,422,957
Less valuation allowance	(4,526,122)	(5,422,957)
Net deferred tax asset	$ —	$ —

In assessing the realizability of deferred tax assets, the Company considers whether it is more-likely-than-not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the temporary differences representing net future deductible amounts become deductible. After consideration of all the evidence, both positive and negative, the Company has recorded a full valuation allowance against its net deferred tax assets as of December 31, 2017 and 2016, respectively, because the Company has determined that is it more likely than not that these assets will not be fully realized due to historic net operating losses incurred. The valuation allowance increased (decreased) by approximately ($897,000) and $1,630,000 during the years ended December 31, 2017 and 2016, respectively, due primarily to the generation of net operating loss carryforwards during 2017and 2016. For the year ended December 31, 2017 only, the decline in the valuation is a result of the change in Federal Statutory Rate from 34.00% to 21.00%.

The Company does not have unrecognized tax benefits as of December 31, 2017 and 2016, respectively. The Company recognizes interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense.

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A reconciliation of income tax expense (benefit) at the statutory federal income tax rate and income taxes as reflected in the financial statements is as follows:

	Years Ended December 31,			
	2017		2016	
Federal income tax benefit at statutory rate	21.00	%	34.00	%
State income tax, net of federal benefit	5.49	%	5.46	%
Permanent differences	-1.61	%	-3.05	%
Research and development credit benefit	-0.84	%	0.84	%
Change on tax rate	-50.01	%	0.00	%
Change in valuation allowance	25.97	%	-37.25	%
Effective income tax rate	0.00	%	0.00	%

The Company files income tax returns in the U.S. federal jurisdiction and various state jurisdictions. The Company s 2016 to 2017 tax years remain open and subject to examination. The Company s tax returns are subject to examination by the relevant tax authority until expiration of the applicable statute of limitations, which is generally three years after the filing of the tax return. It is difficult to predict the final timing and resolution of any particular uncertain tax position, Based on the Company s assessment of many factors, including past experience and complex judgments about future events, the Company does not currently anticipate significant changes in its uncertain tax positions over the next 12 months.

(12) Commitments and Contingencies

Operating Leases

The Company leases its corporate offices and laboratory facilities in North Brunswick, New Jersey under several non-cancellable operating leases with an unrelated third party, which expired on June 2016. The Company elected to extend the leases for an additional two-year period through June 2018. Beginning in July 2018, the Company is lease on a month to month basis through September 2018. The Company is in the process of obtaining a new facility lease.

The company recorded rent expense of $88,258 and $101,675 for the years ended December 31, 2017 and 2016, respectively.

Employment Agreements

The Company has entered into an employment contract with one of its officers that provide for severance and continuation of benefits in the event of termination of employment either by the Company without cause or by the employee for good reason, both as defined in the agreements. The agreement covers twelve months of salary and benefits. In addition, in the event of termination of employment following a change in control, as defined in the employment contracts, either by the Company without cause or by the employee for good reason, any unvested portion of the employee s stock options become immediately vested.

Retainer/Advisory and Finders Fee Agreements

The Company entered into a consultant agreement with related party consultant (Related Party Consultant #1) described in Note 13, beginning in May 2016. Under the terms of the arrangement the Company will pay a 4.00% Finders Fee of the aggregate gross proceeds received by the Company in any offering of Company securities from investors first introduced to the Company by related party consultant. The agreement was modified in September 2017

and the Finders Fee owed was converted to common stock at $9.53 per share. The agreement terminates in September 2021.

The Company entered into a 12 month agreement with a consultant (Consultant #1) beginning November 2017. Under the terms of the arrangement the Company will pay a monthly advisory fee of $5,000 to Consultant #1. In addition, the Company will pay a 4.00% Finders Fee of the aggregate gross proceeds received by the Company in any offering of Company securities from investors first introduced to the Company to Consultant #1. The agreement terminates November 2018.

The Company entered into a 12 month agreement with a consultant (Consultant #2) beginning November 2017. Under the terms of the arrangement the Company will pay a monthly consulting fee of $25,000 to

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Consultant #2 on the successful completion by the Company of not less than $1,000,000 in new equity funding during the term of the agreement. The Company also granted Consultant #2 a 5 year cashless option to purchase 0.5% of the Company s then outstanding common stock at a price equal to the price at which the Company conducts its next private offering of common stock and an additional five year cashless option to purchase 0.5% of the Company s then outstanding common stock at a price equal to the price at which the Company conducts its public offering of common stock, provided that such offering occurs within one year of the effective date. The agreement terminates October 2018.

The Company entered into a consultant agreement with related party consultant (Related Party Consultant #2) described in Note 13, beginning on December 22, 2017. Under the terms of the arrangement the Company will pay a monthly consulting fee of $75,000. The agreement terminates June 2018.

Litigation

Liabilities for loss contingencies arising from claims, assessments, litigation, fines, penalties, and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. The Company believes no matters will have a material impact to the Company s financial position or results of operations.

(13) Related Party Transactions

In December 2014, in conjunction with the offering described in Note 5, a board member/investor (Board Member #1) signed a consulting agreement with the Company for a $30,000 per year effective January 1, 2015. For the years ended December 31, 2017 and 2016, the Company incurred consulting fees of $30,000 and, $30,000. Consulting fees outstanding to Board Member #1 at December 31, 2017 and 2016 were $45,000 and $15,000, respectively and are included in Accrued Expenses on the balance sheet. In July 2016, Board Member #1 converted balances outstanding of $45,000 into convertible promissory notes, as described in Note 5, 2016, issuances #2. The promissory notes plus related accrued interest totaling $46,042 were converted into equity in December 2016, as described in Note 9, resulting in the issuance of 6,038 shares of common stock at a price of $7.62 per share. In September 2016, Board Member #1 exercised 27,921 warrants at a price of $2.24 per share, resulting in the receipt of $62,485 by the Company. In January 2018, as described in Note 15, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 5,434 shares of common stock for the promissory note issued in 2016.

In December 2014, in conjunction with the offering described in Note 5, a board member/investor (Board Member #2) signed a consulting agreement with the Company for a $15,000 per year effective January 1, 2015. For the years ended December 31, 2017 and 2016, the Company incurred consulting fees of $15,000 and $15,000. Consulting fees outstanding to Board Member #2 at December 31, 2017 and 2016 were $22,500 and $7,500, respectively and are included in Accrued Expenses on the balance sheet. In November 2015, the Company received $1,000,000 from the Board Member #2 in exchange for a convertible promissory note, as described in Note 5, 2015 issuances. The promissory notes plus related accrued interest totaling $1,056,301 were converted into equity in December 2016, as described in Note 9, resulting in the issuance of 138,536 shares of common stock at a price of $7.62 per share. In July 2016, a Limited Liability Company in which Board Member #2, is a partial owner exercised 12,844 warrants at a price of $2.24 per share, resulting in the receipt of $28,748 by the Company. In July 2016, the Board Member #2 converted balances outstanding of $22,500 into convertible promissory notes, as described in Note 5, 2016, issuances #2. The promissory notes plus related accrued interest totaling $23,020 were converted into equity in December 2016, as described in Note 9, resulting in the issuance of 3,019 shares of common stock at a price of $7.62 per share. In December 2016, as described in Note 9, Board Member #2 purchased 26,230 shares of common stock in conjunction with a stock offering at a price of $9.53 per share, resulting in the receipt of $250,000 by the Company. In August 2016, the Company received $218,767 from Board Member #2 in exchange for a convertible promissory note, as

described in Note 5, 2016, issuances #3. The promissory notes plus related accrued interest totaling $223,442 were converted into equity in December 2016, as described in Note 9, resulting in the issuance of 26,048 shares of common stock at a price of $8.58 per share. In January 2018, as described in Note 14, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 23,607, 124,682, 2,717 and 23,444 shares of common stock, respectively for the December 2016 PPM, the November 2015 convertible promissory note, the August 2016 convertible promissory note, and the Board compensation convertible promissory note, respectively.

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In December 2014, in conjunction with the offering described in Note 5, a board member/investor (Board Member #3) signed a consulting agreement with the Company for a $15,000 per year effective January 1, 2015. For the years ended December 31, 2017 and 2016, the Company incurred consulting fees of $15,000 and $15,000. Consulting fees outstanding to the Board Member #3 at December 31, 2017 and 2016 were $22,500 and $7,500, respectively and are included in Accrued Expenses on the balance sheet. In July 2016, Board Member #3 converted balances outstanding of $22,500 into convertible promissory notes, as described in Note 5, 2016, issuances #2. The promissory notes plus related accrued interest totaling $23,020 were converted into equity in December 2016, as described in Note 9, resulting in the issuance of 3,019 shares of common stock at a price of $7.63 per share. In January 2018, as described in Note 14, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 2,717 shares of common stock for the promissory note issued in 2016.

In July 2016, the Company signed a consulting agreement with a related party (Related Party Consultant #1) to assist in raising capital. In addition, the consultant is entitled to a Finders Fee of 4.00% of capital raised from its investors. In August 2016 the Company received $200,000 from Related Party Consultant #1 in exchange for a convertible promissory note, as described in Note 5, 2016 issuances #3. The promissory notes plus related accrued interest totaling $204,110 were converted into equity in December 2016, as described in Note 9, resulting in the issuance of 23,794 shares of common stock at a price of $8.58 per share. Finders Fees of $93,400 and $0, were earned, respectively for December 31, 2017 and 2016. As described in Note 9, in lieu of cash payment, Related Party Consultant #1 elected to receive shares at the current fair value of $9.53 per common shares, resulting in the issuance of 9,799 common shares of the Company. In January 2018, as described in Note 14, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 21,415 and 8,819 shares of common stock, respectively, for the promissory note issued in 2016 and the Finders Fee earned in 2017.

In December 2017, the Company signed a consulting agreement with a related party (Related Party Consultant #2) to provide marketing services. Under the terms of the arrangement, the Company will pay a monthly consulting fee of 15,000 shares of common stock, which is equal to $75,000 based on the January 2018 PPM price of $5.00 per share As of December 31, 2017 and 2016, no consulting fees were earned.

(14) Subsequent Events

In preparing the financial statements as of and for the year ended December 31, 2017, we evaluated subsequent events for recognition and measurement purposes through October 1, 2018, the date that the independent auditors report was originally issued and the audited annual financial statements were available for issuance. After the original issuance of the financial statements and through October 1, 2018, we have evaluated subsequent events or transactions that have occurred that may require disclosure in the accompanying financial statements. Except as described below, the Company has concluded that no other events or transactions have occurred that require disclosure in the accompanying consolidated financial statements.

In January 2018, the board of directors approved a 1:4.517 reverse stock split on common shares. In addition, the Company increased the increased the number of authorized shares to 27,673,234. Common shares were increased to 22,138,587 and preferred shares of 5,534,647 were added.

In January 2018, the Company issued a PPM (January 2016 PPM) to raise $4,000,000 by offering 800,000 shares of common stock at $5.00 per share. The Company has issued 230,000 shares of common stock and received $1,150,000 in gross proceeds through October 1, 2018.

In February 2018, the Company revised its 2016 PPM and reduced the price per share to those investors participating in the August 2016 PPM, December 2016 PPM, converting convertible promissory notes to equity on December 31, 2016, transaction with Related Party #1 and the private sale of shares of the Company President to outside investors, from $2.11 to $1.11, resulting in the issuance of an additional 659,011 shares of common stock.

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In February 2018, the Company has entered into a 6 month agreement with a consultant (Consultant #3). Under the terms of the arrangement the Company will pay a monthly retainer of $7,000 to Consultant #3. In addition, if the Company retains a first financing, Consultant #3 will receive a one-time $15,000 bonus, and increase the retainer to $8,000 per month. Following the Company s IPO, the monthly retainer would increase to $10,000 per month. The agreement has been renewed.

In March 2018, in conjunction with the sale of 200,000 shares of common stock to an investor, described previously in this note, the Company has given an investor the following incentives: The right to purchase an additional 200,000 shares of common stock can be purchased at 0.80 times the fair market value of a common share (as determined in good faith by the Board of Directors of the Company); The right to purchase an additional 200,000 shares of common stock at 150% of the Qualified Financing price per share, if such events occurs. These purchase options are considered warrants. The current market value at the date of the transaction was the January 2018 PPM price of $5.00 per common share. The fair value of the first set of warrants using the Black-Scholes Model was $520,000 and was converted at the exercise price of $4.00, which was 80% of the current market value of $5.00. These warrants were valued in the same manner as those described in Note 5, resulting in the bifurcation of $342,105 from the equity investment of $1,000,000. These warrants are equity warrants because they are associated with an equity investment. The fair value of the second set of warrants has not been determined because a Qualified Financing has not occurred through October 1, 2018. The Company also gave the investor the right to receive additional common stock shares due to dilution, as defined in the agreement;

In March 2018, as part of an agreement with Related Party Consultant #1, described previously in Note 13, in conjunction with the raising of $1,100,000, the Company has recorded a liability to pay the related party consultant for Finders Fees earned of $44,000 or 4.00% of the funds raised.

In March 2018, as part of an agreement with a Consultant #2 described previously in Note 13, in conjunction with the raising of $1,000,000, the Company began paying a consulting fee of $25,000 per month to Consultant #2.

In March 2018, the Company signed a deferment arrangement with the law firm described in Note 13 to address the Company s outstanding liability of $527,123 (the Fee Amount) at December 31, 2017. Under the terms of the agreement, the law firm agreed to issue a credit of 20% of the outstanding balance or $105,424, if the Company repays the Fee Amount within fifteen months, which is May 2019.

In conjunction with the deferment arrangement described above, the Company shall issue to law firm on the closing of a $2,000,000 Qualified Financing, a warrant, in a form to be mutually agreed by the parties, to purchase an amount of common stock of the Company issued in such Qualified Financing equal to 1.00% of the outstanding securities of the Company as of the date of issuance of the warrant (including, but not limited to any issued options and warrants). The term of the warrant shall be 10 years from the issuance date and an exercise price equal to the lesser of $5.00, such price subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to shares of the Company, or the price per share at which one share of the Company s stock is sold in the Qualified Financing.

In addition, upon the occurrence of the next equity financing transaction in which the Company receives gross proceeds of $2,000,000 Qualified Financing, the Company shall commence payment of the Fee Amount in equal installments over the 12 month period immediately following such Qualified Financing, provided, however, that if the Company receives more than $5,000,000 in gross proceeds from the next Qualified Financing then the Company shall pay the remaining balance on the Fee Amount within 30 days.

In the event there is a change in control of the Company other than pursuant to a bonafide financing, the Company shall immediately pay the remaining balance on Fee Amount any outstanding amounts owed other than the Fee

Amount and shall pay the law firm an amount equal to one percent of the net from such transaction.

In June 2018, the Company signed an agreement with a consultant (Related Party Consultant #3). Under the arrangement, the Related Party Consultant #3 will be paid in common stock at $5.00 per share in lieu of cash of $2,115 per week. The consultant will become a full-time employee if the Company is able to complete a successful Corporate Financing. In addition, upon employment, the consultant will be entitled to a base salary and options, as defined.

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In July 2018, the Board of Directors granted 95,300 common stock options to 5 non-employees at the current offering price per the January 2018 PPM of $5.00 per share. As of the issuance date, 38,775 of the options granted vested immediately and the remaining 56,525 options vest either monthly or annually through April 2021.

In July 2018, the agreement with Related Party Consultant #2, described in Note 13 was modified to reduce the cumulative liability from 90,000 common shares or $450,000 for the six months ending June 30, 2018 and reflect a one-time payment of 45,000 shares of common stock at $5.00 per share, in lieu of cash which equates to $225,000. The amendment also includes an opportunity for the consultant to be compensated with up to an additional 45,000 shares of the Company s common stock upon the achievement of certain future milestones and deliverables as defined with no current expiration date.

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PDS Biotechnology Corporation
Balance Sheets
(Unaudited)

	September 30, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 142,669	$ 175,884
Prepaid expenses and other receivables	20,438	54,802
Total current assets	163,107	230,686
Equipment, net	34,240	51,821
Intangible assets, net	42,970	46,805
Other assets	11,452	11,452
	88,662	110,078
Total assets	$ 251,769	$ 340,764
Liabilities and Stockholders' (Deficit)		
Current Liabilities:		
Capital lease obligation	$ 4,927	$ 14,319
Accounts payable	868,430	624,124
Accrued expenses	418,731	272,169
Payroll taxes	8,436	8,436
Total current liabilities	1,300,524	919,048
Long-Term Liabilities:		
Convertible Promissory Note Payable	30,000	30,000
Capital lease obligation, net of current	—	1,244
Total long-term liabilities	30,000	31,244
Total liabilities	1,330,524	950,292
Commitments and contingencies (note 10)		
Stockholders' (deficit):		
Preferred stock; $0.00001 par value; 5,534,647 shares authorized; and 0 and 0 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	—	—
Common stock; $0.00001 par value; 22,138,587 shares authorized; 10,332,495 and 9,354,808 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	103	94
Additional paid-in capital	19,040,692	17,492,996
Accumulated deficit	(20,119,550)	(18,102,618)
Total stockholders' (deficit)	(1,078,755)	(609,528)
Total liabilities, and stockholders' (deficit)	$ 251,769	$ 340,764

See accompanying notes to unaudited condensed financial statements

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PDS Biotechnology Corporation
Statements of Operations
(Unaudited)

	Nine Months Ended		Three Months Ended	
	September 30, 2018	**September 30, 2017**	**September 30, 2018**	**September 30, 2017**
Revenues	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	563,812	1,852,564	194,068	398,421
General and administrative	1,428,113	1,066,617	509,083	366,666
Depreciation and amortization	21,415	21,459	7,119	7,230
Total operating expenses	2,013,340	2,940,640	710,270	772,317
Loss from operations	(2,013,340)	(2,940,640)	(710,270)	(772,317)
Other income (expense):				
Interest expense, net	(2,691)	(716)	(939)	(482)
Other	(901)	(1,431)	—	—
	(3,592)	(2,147)	(939)	(482)
Net loss	$ (2,016,932)	$ (2,942,787)	$ (711,208)	$ (772,799)
Net (loss) per common share:				
Basic and diluted	$ (0.20)	$ (0.32)	$ (0.08)	$ (0.08)
Weighted average number of shares oustanding				
Basic and diluted	9,972,670	9,300,214	10,258,238	9,339,779

See accompanying notes to unaudited condensed financial statements

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PDS Biotechnology Corporation
Statements of Stockholders' Deficit
(Unaudited)

	Common Stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity (deficit)
	Shares	Amount			
Balance at January 1, 2018	9,354,808	$ 94	$ 17,492,996	$ (18,102,618)	$ (609,528)
Capitalized offering costs	—	—	(46,000)	—	(46,000)
Stock based compensation	—	—	49,336	—	49,336
Issuance of common stock for cash	923,887	9	933,255	—	933,264
Issuance of common stock for consulting fees	53,800	1	268,999		269,000
Issuance of warrants			342,105		342,105
Net loss	—	—	—	(2,016,932)	(2,016,932)
Balance at September 30, 2018	10,332,495	103	19,040,692	(20,119,550)	(1,078,755)

See accompanying notes to unaudited condensed financial statements

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PDS Biotechnology Corporation
Statements of Cash Flows
(Unaudited)

	Nine Months Ended	
	September 30, 2018	**September 30, 2017**
Cash flows from operating activities:		
Net loss	$ (2,016,932)	$ (2,942,787)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	21,415	21,459
Stock-based compensation expense	49,336	202,248
Stock-based consulting fees	268,999	93,400
Changes in operating assets and liabilities:		
Prepaid expenses and other receivables	34,366	84,833
Accounts payable	244,305	163,602
Accrued expenses	146,562	(14,358)
Net cash used in operating activities	(1,251,949)	(2,391,603)
Cash flows from investing activities:		
Purchases of property and equipment	—	(2,335)
Net cash used in investing activities	—	(2,335)
Cash flows from financing activities		
Proceeds from issuance of common stock	1,275,370	1,015,000
Issuance costs	(46,000)	(78,685)
Repayments of capital lease obligation	(10,636)	(9,850)
Net cash provided by financing activities	1,218,734	926,465
Net decrease in cash and cash equivalents	(33,215)	(1,467,473)
Cash and cash equivalents at beginning of year	175,884	1,956,965
Cash and cash equivalents at end of nine months	$ 142,669	$ 489,492
Supplemental disclosures of cash flow information:		
Deferred offering costs included in accounts payable and accrued expenses	$ 2,000	$ —
Cash paid for interest	$ 1,022	$ 1,741
Cash paid for income taxes	$ 400	$ 500

See accompanying notes to unaudited condensed financial statements

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PDS BIOTECHNOLOGY CORPORATION

Notes to Financial Statements
September 30, 2018
(Unaudited)

(1) Nature of Business and Liquidity

Organization

PDS Biotechnology Corporation (the Company) is a biopharmaceutical company developing novel cancer immunotherapies and vaccines for infectious diseases. The Company was incorporated on December 6, 2005 under the laws of the State of Delaware. The Company s operations are located in North Brunswick, New Jersey.

Business Condition

The financial statements have been prepared on a going concern basis which assumes the realization of assets and liabilities in the normal course of business. The Company has incurred losses and negative cash flows from operations since inception and had an accumulated deficit of $20,119,550 as of September 30, 2018. The Company anticipates incurring additional losses until such time, if ever, that it can generate significant revenues from its product candidates currently in development. The Company s primary source of liquidity to date has been the issuance of debt and equity securities. Management believes that the cash and cash equivalents as of September 30, 2018 are sufficient to fund operations through the fourth quarter of 2018. Substantial additional financing will be needed by the Company to fund its operations and to commercially develop its product candidates. There is no assurance that such financing will be available when needed or on acceptable terms. In view of these matters, there is substantial doubt that the Company will be able to continue as a going concern. The Company s ability to continue as a going concern is dependent upon the Company s ability to expand operations and to achieve a level of profitability. The financial statements of the Company do not include any adjustments relating to the recoverability and classification of recorded assets, or the amounts and classifications of liabilities that might be necessary should the Company be unable to continue as a going concern.

Management is currently evaluating different strategies to obtain the required funding of future operations. These strategies may include, but are not limited to: additional funding from current or new investors, borrowings of debt, and/or an initial public offering (IPO) of the Company s common stock. In November 2018, the Company announced it had entered into a merger agreement with Edge Therapeutics. The merger is expected to create a combined company with sufficient cash to fund operations into 2020, as described in Note 12. There can be no assurance that these future funding efforts will be successful.

Risks and Uncertainties

The Company is subject to those risks associated with any specialty pharmaceutical company that has substantial expenditures for research and development. There can be no assurance that the Company s research and development projects will be successful, that products developed will obtain necessary regulatory approval, or that any approved product will be commercially viable. In addition, the Company operates in an environment of rapid technological change, and is largely dependent on the services of its employees and consultants.

Basis of Presentation

The Company has prepared the accompanying unaudited interim condensed financial statements in conformity with U.S. GAAP. Certain footnotes and other financial information that are normally required by U.S. GAAP can be

condensed or omitted. These condensed financial statements have been prepared on the same basis as the Company s annual financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments that are necessary for a fair statement of its financials information. The balance sheet as of December 31, 2017 included herein was derived from the audited financial statements as of that date. These condensed financial statements and notes should be read in conjunction with the Company s audited financial statements for the year ended December 31, 2017.

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(2) Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Prepaid Expenses

Prepaid expenses consist of the following at September 30, 2018 and December 31, 2017:

	September 30, 2018	December 31, 2017
Insurance	$ 4,188	$ 5,901
Service agreements	15,000	40,000
Other receivables	—	3,901
Annual royalty fee	1,250	5,000
	$ 20,438	$ 54,802

Impairment of Long-Lived Assets

The Company assesses the recoverability of its long-lived assets, which include property and equipment, whenever significant events or changes in circumstances indicate impairment may have occurred. If indicators of impairment exist, projected future undiscounted cash flows associated with the asset are compared to its carrying amount to determine whether the asset s value is recoverable. Any resulting impairment is recorded as a reduction in the carrying value of the related asset in excess of fair value and a charge to operating results. For the nine months ended September 30, 2018 and for the year ended December 31, 2017, the Company determined that there was $0 and $0, respectively, impairment of its long-lived assets.

Per Share Information

Basic earnings (loss) per share are calculated using the weighted average number of common shares outstanding for the period presented. Diluted earnings per share includes the addition of potentially dilutive securities as of September 30, 2018 and 2017. As the Company reported net losses, the effect is anti-dilutive and were excluded from the diluted earnings (loss) calculation. There were 331,656 and 155,181 warrants outstanding as of September 30, 2018 and 2017, respectively, which are considered common stock equivalents but are not included in the calculation because they are anti-dilutive.

(3) Property and Equipment

Property and equipment consisted of the following:

	Estimated useful life (in years)	September 30, 2018	December 31, 2017
Lab equipment	5	$ 86,911	$ 135,369
Lab furniture	7	1,343	1,343

Computer equipment	3	13,545	16,963
Total cost		101,799	153,675
Less accumulated depreciation		(67,559)	(101,854)
Property and equipment, net		$ 34,240	$ 51,821

Depreciation expense was $17,581 and $17,624, respectively, for the nine months ended September 30, 2018 and 2017 and $5,841 and $5,952, respectively, for the three months ended September 30, 2018 and 2017. For the nine months ended September 30, 2018 and 2017, the Company determined that there was $0 and $0, respectively, impairment of its property and equipment.

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(4) Convertible Promissory Notes

In November 2017 the Company received $30,000 from an investor in exchange for a convertible promissory note (2017 issuances). The 2017 issuances bears interest at 7.50% per annum. The 2017 issuances have no defined payment terms and matures on December 1, 2020, unless one of the following occurs prior to the maturity date, as defined in the agreement.

1. Automatic QF Conversion. In the event the Company issues and sells shares (in a sale or series of sales) of its Equity Securities on or before the Maturity Date in an equity financing in which cumulative gross proceeds including the aggregate outstanding principal balance and all accrued and unpaid interest on the Notes) equal or exceed $5M (the Qualified financing) then the outstanding principal balance of the Note and all unpaid interest (Conversion Amount), shall be converted into such Equity Securities at the Conversion Price. The Conversion price shall be the lesser of a) the price per share paid by the purchasers of such Equity Securities in such Qualified Financing, and (b) $2.11 per share.
2. MD Conversion. In the event that a Qualified Financing has not closed on or prior to the Maturity Date, all outstanding principal and interest of the Note will convert at a conversion price equal to $2.11 per share.

A summary of convertible promissory notes outstanding is listed below

	September 30, 2018	December 31, 2017
Convertible promissory note holder #1 , net	$ 30,000	$ 30,000

(5) Capital Lease Obligation

In February 2016, the Company leased lab equipment with a value of $40,116 from an unrelated third party. Based on the terms of the lease, it met the criteria to be capitalized. The capital lease obligation is payable over 36 months beginning in February 2016, with a final payment due in January 2019. The implicit interest rate on the capital lease obligation is 7.70%. In conjunction with the recording of the capital lease obligation, a property and equipment was recorded in the same amount, to be amortized over a 60 months on a straight-line basis.

September 30,	Amount
2018	$ 3,755
2019	1,251
Total minimum lease payments	5,006
Less amounts representing interest	(79)
Present value of net minimum lease payments	4,927
Current capital lease obligations	$ 4,927

Amortization expense recorded for the nine months ended September 30, 2018 and 2017 was $6,017 and $6,017, respectively, and $2,006 and $2,006 for the three months ended September 30, 2018 and 2017, respectively. The Company has subsequently decided to buyout the capital lease and the final payment was made in October 2018.

(6) Accrued Expenses

Accrued expenses consisted of the following:

	September 30, 2018	December 31, 2017
Consulting	$ 199,800	$ 100,500
General Research	34,825	21,016
Interest	1,929	247

Other	44,177	44,176
Payroll	—	57,292
Professional	130,000	40,938
Rent	8,000	8,000
	$ 418,731	$ 272,169

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(7) Warrants

In March 2018, in conjunction with sale of 200,000 shares of common stock to an investor, described in Note 8, the Company has given an investor the following incentives: The right to purchase an additional 200,000 shares of common stock which can be purchased at 0.80 times the fair market value of a common share (as determined in good faith by the Board of Directors of the Company); The right to purchase an additional 200,000 shares of common stock at 150% of the Qualified Financing price per share, if such events occurs. The current market value at the date of the transaction was the January 2018 PPM price of $5.00 per common share. These purchase options are considered warrants. The fair value of the first set of warrants using the Black-Scholes Model was $520,000 and was converted at the exercise price of $4.00, which was 80% of the current market value of $5.00. These warrants were valued using the Black-Scholes model described herein, resulting in the bifurcation of $342,105 from the equity investment of $1,000,000. The fair value of the second set of warrants has not been determined because a Qualified Financing has not occurred through September 30, 2018.

The assumptions used in the Black-Scholes option pricing model to determine the fair value of warrants granted to vendors and investors during the period were as follows:

	September 30, 2018	December 31, 2017
Risk-free interest rate	2.89 %	N/A
Expected term (in years)	2.00	N/A
Expected volatility	82.9 %	N/A
Expected dividend yield	—	—
Exercise price	$ 4.00	$ —
Fair value of ordinary share	$ 5.00	$ —

A summary of warrant activity is listed below:

	Warrants
Balance as of January 1, 2017	155,181
Granted	—
Exercised	—
Balance as of December 31, 2017	155,181
Granted	200,000
Exercised	(23,525)
Balance as of September 30, 2018	331,656

(8) Stockholders' Deficit

Common Stock Transactions

In January 2018, the Company increased the number of authorized shares of common stock to 22,138,587.

In January 2018, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2018 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 140,215 and 40,601 shares of common stock, respectively, for the August 2016 PPM and December 2016 PPM investors.

In addition, since the convertible promissory notes issued during 2015 and 2016 were originally converted at $9.53 per share upon maturity on December 31, 2016, these investors received the same reduction to $5.00 per share. As a result, the Company issued an additional 190,140 and 168,458 shares of common stock, respectively, for the convertible promissory notes issued in 2015 and 2016, respectively.

In addition, the Company issued an additional 95,837 and 8,819 shares of common stock for the 2017 December 2016 PPM investors and a related party consultant, respectively. The Company further issued an additional 14,941 shares of common stock to three shareholders which resulted from a private stock sale in 2017.

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In January 2018, the Company issued a PPM (January 2018 PPM) to raise $4,000,000 by offering 800,000 shares of common stock at $5.00 per share. The Company has issued 230,000 shares of common stock and received $1,150,000 in gross proceeds through September 30, 2018. After subtracting out cumulative financing costs of $46,000, the Company received net proceeds of $1,104,000.

In March 2018, in conjunction with the sale of common stock, the Company has given an investor the following incentives. The right to receive additional common stock shares due to dilution, as defined in the agreement. The right to purchase an additional 200,000 shares of common stock can be purchased at 0.80 times the fair market value of a common share (as determined in good faith by the Board of Directors of the Company). An additional 200,000 shares of common stock can be purchased at 150% of the Qualified Financing price per share.

A summary of equity transactions is as follows:

	September 30, 2018	December 31, 2017
Cash received	$ 1,275,370	$ 1,015,000
Offering costs	(46,000)	(78,686)
Net Proceeds	$ 1,229,370	$ 936,314
Services rendered	$ 271,000	$ 93,400
Shares issued	977,687	116,288

Preferred Stock Transactions

In January 2018, the Company increased the number of authorized shares to 27,673,234, which included 22,138,587 shares of common stock described previously in this footnote and 5,534,647 shares of preferred shares. There were no preferred shares issued through September 30, 2018.

(9) Stock Option Plan

Adoption of Stock Option Plan

On January 22, 2009, the Company s board of directors adopted the PDS Biotechnology 2009 Stock Option Plan (the 2009 Plan), the 2009 Plan is effective November 1, 2008 and reserved 815,054 shares for issuance under the plan. In addition, the 2009 Plan limited the number of shares issued to an employee/director to 442,772 per year. The 2009 Plan was approved by the Company s shareholders in October 2009. On March 12, 2012, the Company s board and shareholders amended the plan (Amendment #1) to increase the number of common shares issuable under the 2009 Plan to 1,479,212 ordinary shares. In addition, the 2009 Plan increased the number of shares that can be issued to an employee/director to 885,544 per year. On December 15, 2014, the Company s board and shareholders amended the plan (Amendment #2) to increase the number of common shares issuable under the 2009 Plan to 1,713,217 ordinary shares. The 2009 Plan authorizes the board of directors or a committee of the board to grant incentive share options, non-qualified share options, or NQSOs, to eligible employees, outside directors and consultants of the Company. As of September 30, 2018, and December 31, 2017, 56,126 and 136,529, respectively common shares remained available for future grants.

During the nine months ended September 30, 2018, the Company granted options to purchase common shares to employees and outside directors. The Company recorded share-based compensation expense of $49,336 and $202,248 for the nine months ended September 30, 2018 and 2017, respectively, and $41,691 and $60,667 for the three months ended September 30, 2018 and 2017, respectively. Options generally vest over a period of one to five years, and options that lapse or are forfeited are available to be granted again. The contractual life of all options is ten years. The

expiration dates of the outstanding options range from 2019 to 2028. The Company measures and records the value of options granted to non-employees over the period of time services are provided and, as such, unvested portions are subject to re-measurement at subsequent reporting periods.

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Unrecognized share-based compensation charges as of September 30, 2018, are expected to be recognized as follows:

September 30,	**Amount**
2019	$ 143,158
2020	94,837
2021	13,667
2022	—
2023	—
Thereafter	—
	$ 251,662

The assumptions used in the Black-Scholes option pricing model to determine the fair value of share options granted to employees during the period were as follows:

	Nine Months Ended September 30, 2018	**Twelve Months Ended December 31, 2017**
Risk-free interest rate	2.75 %	N/A
Expected term (in years)	6.25	N/A
Expected volatility	83.6 %	N/A
Expected dividend yield	—	—
Exercise price	$ 5.00	$ —
Fair value of ordinary share	$ 4.21	$ —

The following table summarizes the stock option activity:

	Options	**Weighted Average Exercise Price**	**Weighted Average Remaining Life (In Years)**	**Aggregate Intrinsic Value**
Balance as of January 1, 2017	1,685,965	$ 2.09	6.14	$ 222,697
Granted	—	—	—	—
Forfeited	(111,667)	2.24	—	—
Balance as of December 31, 2017	1,574,298	2.10	4.93	222,697
Granted	95,300	5.00	—	—
Forfeited	(3,542)	2.24	—	—
Exercised	(11,351)	2.24	—	—
Balance as of September 30, 2018	1,654,705	2.26	4.48	4,529,500
Options exercisable, September 30, 2018	1,603,261	$ 2.17	4.31	$ 4,529,501

As of September 30, 2018, the unrecognized compensation cost related to outstanding options was $251,662 and is expected to be recognized as expense over a weighted-average period of approximately 1.84 years.

Share-based compensation is allocated to employees based on their respective departments. All Board of Directors compensation is charged to general and administrative compensation.

Share-based compensation expense was classified in the statements of operations as follows:

	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017
Research and development	$ 24,801	$ 51,309	$ 21,582	$ 10,354
General and administrative	24,535	150,939	20,109	50,313
Total share-based compensation	$ 49,336	$ 202,248	$ 41,691	$ 60,667

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(10) Commitments and Contingencies

Operating Leases

The Company leases its corporate offices and laboratory facilities in North Brunswick, New Jersey under several non-cancellable operating leases with an unrelated third party, which expired on June 2016. The Company elected to extend the leases for an additional two-year period through June 2018. Beginning in July 2018, the Company leases on a month to month basis through October 2018. Beginning in October 2018, the Company rents a storage space with an unrelated third party. The Company leases this space on a month to month basis. In November 2018, the Company began leasing its corporate offices and laboratory facilities in Princeton, New Jersey under an operating lease with an unrelated third party. The Company leases this space on a month to month basis.

The company recorded rent expense of $46,931 and $71,615, respectively for the nine months ended September 30, 2018 and September 30, 2017.

Employment Agreements

The Company has entered into an employment contract with one of its officers that provides for severance and continuation of benefits in the event of termination of employment either by the Company without cause or by the employee for good reason, both as defined in the agreements. The agreement covers twenty-four months of salary and benefits. In addition, in the event of termination of employment following a change in control, as defined in the employment contracts, either by the Company without cause or by the employee for good reason, any unvested portion of the employee s stock options become immediately vested.

Retainer/Advisory and Finders Fee Agreements

The Company entered into a consultant agreement with related party consultant (Related Party Consultant #1) described in Note 11, beginning in May 2016. Under the terms of the arrangement the Company will pay a 4.00% Finders Fee of the aggregate gross proceeds received by the Company in any offering of Company securities from investors first introduced to the Company by related party consultant. The agreement was modified in September 2017 and the Finders Fee owed was converted to common stock at $9.53 per share. In 2018, the Finders Fee earned through June 2018 was converted to 8,800 shares at $5.00 per share. The additional Finders Fee earned through September 2018 is included as an accrued expense. The agreement terminates in September 2021.

The Company entered into a 12 month agreement with a consultant (Consultant #1) beginning November 2017. Under the terms of the arrangement the Company will pay a monthly advisory fee of $5,000 to Consultant #1 for the first three months. In addition, the Company will pay a 4.00% Finders Fee of the aggregate gross proceeds received by the Company in any offering of Company securities from investors first introduced to the Company by Consultant #1. As of September 30, 2018, no introductions have been made. The agreement terminated November 2018.

The Company entered into a 12 month agreement with a consultant (Consultant #2) beginning November 2017. Under the terms of the arrangement the Company will pay a monthly consulting fee of $25,000 to Consultant #2 on the successful completion by the Company of not less than $1,000,000 in new equity funding during the term of the agreement. The Company will grant Consultant #2 a 5 year cashless option to purchase 0.5% of the Company s then outstanding common stock at a price equal to the price at which the Company conducts its next private offering of common stock and an additional five year cashless option to purchase 0.5% of the Company s then outstanding common stock at a price equal to the price at which the Company conducts its public offering of common stock, provided that such offering occurs within one year of the effective date. The agreement terminated October 2018.

The Company entered into a consultant agreement with related party consultant (Related Party Consultant #2) described in Note 11, beginning in December, 2017. Under the terms of the arrangement, the Company will pay a monthly consulting fee of 15,000 shares of common stock, which is equal to $75,000 based on the January 2018 PPM price of $5.00 per share. The agreement was amended in July 2018. Under the terms of the amendment, the Company made a one-time payment to related party consultant of 45,000 shares at $5.00 per share in lieu of cash which equates to $225,000. The amendment also includes an opportunity for the consultant to be compensated with up to an additional 45,000 shares of the Company s common stock upon the achievement of certain future milestones and deliverables as defined with no current expiration date.

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In February 2018, the Company entered into an agreement with a consultant (Consultant #3). Under the terms of the arrangement the Company will pay a monthly retainer of $7,000 to Consultant #3. In addition, if the Company retains a first financing, Consultant #3 will receive a one-time $15,000 bonus, and increase the retainer to $8,000 per month. Following the Company s IPO, the monthly retainer would increase to $10,000 per month. The agreement can terminate any time with thirty days written notice.

In March 2018, in conjunction with the sale of 200,000 shares of common stock to an investor, described previously in Note 8, the Company has given the investor the right to receive additional common stock shares due to dilution, as defined in the agreement.

In June 2018, the Company entered into agreement with a consultant (Consultant #4). Under the terms of the arrangement the Company will pay a monthly retainer of $10,000 to Consultant #4. In addition, the Company will pay a Transaction Fee equal to a percentage of the gross proceeds received by the Company in any offering of Company securities from investors first introduced to the Company by Consultant #4 based on a sliding scale in the agreement. As of September 30, 2018, no introductions have been made. The agreement was terminated in August 2018.

In September 2018, the Company entered into an employment agreement for the position of Chief Medical Officer. The employment is contingent upon the Company s notification of the closing, or imminent closing, of an impending corporate finance. The employee would receive a base salary of cash compensation plus an option grant of 190,466 shares of common stock upon approval by the Board of Directors.

In October 2018, the Company agreed to provide cash compensation to certain employees and service providers of the Company upon the earlier of a consummation of Change of Control or a Qualified Equity Financing. In addition, the Company agreed to grant stock options to employees and service providers immediately prior to the consummation of a Change of Control with an exercise price equal to the fair market value of a share of common stock on the date of grant.

Litigation

Liabilities for loss contingencies arising from claims, assessments, litigation, fines, penalties, and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. The Company believes no matters will have a material impact to the Company s financial position or results of operations.

(11) Related Party Transactions

In March 2018, the Company signed a deferment arrangement with its law firm to address the Company s outstanding liability of $527,123 (the Fee Amount) at December 31, 2017. Under the terms of the agreement, the law firm agreed to issue a credit of 20% of the outstanding balance or $105,424, if the Company repays the Fee Amount within fifteen months, which is May 2019.

In conjunction with the deferment arrangement described above, the Company shall issue to law firm on the closing of a $2,000,000 Qualified Financing, a warrant, in a form to be mutually agreed by the parties, to purchase an amount of common stock of the Company issued in such Qualified Financing equal to 1.00% of the outstanding securities of the Company as of the date of issuance of the warrant (including, but not limited to any issued options and warrants). The term of the warrant shall be 10 years from the issuance date and an exercise price equal to the lesser of $5.00, such price subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to shares of the Company, or the price per share at which one share of the Company s stock is sold in the Qualified Financing.

In addition, upon the occurrence of the next equity financing transaction in which the Company receives gross proceeds of $2,000,000 Qualified Financing, the Company shall commence payment of the Fee Amount in equal installments over the 12 month period immediately following such Qualified Financing, provided, however, that if the Company receives more than $5,000,000 in gross proceeds from the next Qualified Financing then the Company shall pay the remaining balance on the Fee Amount within 30 days.

In the event there is a change in control of the Company other than pursuant to a bonafide financing, the Company shall immediately pay the remaining balance on Fee Amount any outstanding amounts owed other than the Fee Amount and shall pay the law firm an amount equal to one percent of the net from such transaction.

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In December 2014, a board member/investor (Board Member #1) signed a consulting agreement with the Company for a $30,000 per year effective January 1, 2015. For the nine months ended September 30, 2018, the Company incurred consulting fees of $22,500. Consulting fees outstanding to Board Member #1 at September 30, 2018 are $67,500 and are included in Accrued Expenses on the balance sheet. In January 2018, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 5,434 shares of common stock for the Board compensation convertible promissory note issued to Board Member #1 in 2016.

In December 2014, a board member/investor (Board Member #2) signed a consulting agreement with the Company for a $15,000 per year effective January 1, 2015. For the nine months ending September 30, 2018, the Company incurred consulting fees of $11,250. Consulting fees outstanding to Board Member #2 at were $33,750 and are included in Accrued Expenses on the balance sheet. In January 2018, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 23,607, 124,682, 23,444, and 2,717 shares of common stock, respectively to Board Member #2 for the December 2016 PPM, the November 2015 convertible promissory note, the August 2016 convertible promissory note and the Board compensation convertible promissory note, respectively. In July 2018, Board Member #2 exercised 15,362 warrants at a price of $4.25 per share, resulting in the receipt of $65,277 by the Company. In August 2018, Board Member #2 exercised 8,163 warrants at a price of $4.25 pe share, resulting in the receipt of $34,686 by the Company. In September 2018, Board Member #2 exercised 11,351 stock options at a price of $2.24 per share, resulting in the receipt of $25,406 by the Company. In October 2018, Board Member #2 exercised 42,755 stock options at a price of $2.24 per share, resulting in the receipt of $95,693 by the Company.

In December 2014, a board member/investor (Board Member #3) signed a consulting agreement with the Company for a $15,000 per year effective January 1, 2015. For the nine months ended September 30, 2018, the Company incurred consulting fees of $11,250. Consulting fees outstanding to the Board Member #3 at September 30, 2018 were $33,750, and are included in Accrued Expenses on the balance sheet. In January 2018, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 2,717 shares of common stock for the Board compensation convertible promissory note issued to Board Member #3 in 2016.

In July 2016, the Company signed a consulting agreement with a related party (Related Party Consultant #1) to assist in raising capital. In addition, the consultant is entitled to a Finders Fee of 4.00% of capital raised from its investors. In January 2018, the Board of Directors approved the reduction in the price per common share listed in both the August 2016 PPM and December 2016 PPM from $9.53 to $5.00 per share. As a result, the Company issued an additional 21,415 and 8,819 shares of common stock, respectively, for the promissory note issued in 2016 and the Finders Fee earned in 2017. In the nine months ended September 30, 2018, as part of an agreement with Related Party Consultant #1, in conjunction with the raising of $1,150,000, the Company has recorded a liability to pay the related party consultant for Finders Fees earned of $46,000 or 4.00% of the funds raised. In June 2018, Related Party Consultant #1 elected to be paid in common stock at $5.00 per share resulting in the issuance of 8,800 common shares. The remaining $2,000 is recorded as an accrued expense as of September 30, 2018. The Company issued the remaining 400 common shares to Related Party Consultant #1 in November 2018.

In December 2017, the Company signed a consulting agreement with a related party (Related Party Consultant #2) to provide marketing services. The Related Party Consultant #2 was entitled to a monthly consulting fee of $75,000. The agreement was amended in July 2018 and the consulting fee was reduced to $225,000 due to failure of Related Party Consultant #2 to produce new investors for the Company based on its marketing efforts. In lieu of the cash payment of $225,000, under the terms of the amendment, Related Party Consultant #2 elected to receive shares of common stock at the current fair value of $5.00 per common share, resulting in the issuance of 45,000 common shares of the

Company.

In June 2018, the Company signed an agreement with a consultant (Related Party Consultant #3). Under the arrangement, the Related Party Consultant #3 will be paid in common stock at $5.00 per share in lieu of cash of $2,115 per week. The consultant will become a full-time employee if the Company is able to complete a

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successful Corporate Financing. In addition, upon employment, the consultant will be entitled to a base salary and options, as defined. As of September 30, 2018, $42,300 of consulting expense has been accrued. The engagement was terminated November 2018 and it was agreed that no compensation was due.

(12) Subsequent Events

In preparing the financial statements as of and for the nine months ended September 30, 2018, we evaluated subsequent events for recognition and measurement purposes through December 5, 2018, the date that the financial statements were available for issuance. After the original issuance of the financial statements and through December 5, 2018, we have evaluated subsequent events or transactions that have occurred that may require disclosure in the accompanying financial statements. Except as described below, the Company has concluded that no other events or transactions have occurred that require disclosure in the accompanying interim financial statements.

In October 2018, the Board of Directors agreed to amend all outstanding options to purchase common stock granted under the 2009 Stock Option Plan and the 2018 Stock Incentive Plan. The amendment states that vesting of all outstanding options will accelerate immediately prior the earlier of (i) the holder s termination without cause, (ii) the consummation of a change of Control and (iii) a Qualified Equity Financing. In the event that the service relationship or employment of an option holder is terminated without cause or voluntarily terminates the service relationship, vested portions of all Company options outstanding may be exercised at any time prior to the expiration date of such options.

In October 2018, the Board of Directors agreed to provide cash compensation totaling $475,000 to certain employees and service providers of the Company upon the earlier of a consummation of Change of Control or a Qualified Equity Financing. In addition, the Board of Directors agreed to grant 894,132 stock options to employees and service providers of the Company immediately prior to the consummation of a Change of Control with an exercise price equal to the fair market value of a share of common stock on the date of grant.

In October 2018, the Board of Directors granted a total 137,560 shares of common stock to four Board Members at $5.00 per share of common stock in lieu of cash compensation for the previous two years.

In October 2018, the Company agreed to an early buyout of its lab equipment lease described in Note 5 above. The final payment was made in November 2018 and title of the lab equipment has been transferred to the Company.

In October 2018, Board Member #2 exercised 42,755 stock options at a price of $2.24 per share, resulting in the receipt of $95,693 by the Company.

In October 2018, a previous employee exercised 5,313 stock options at a price of $2.24 per share, resulting in the receipt of $11,891 by the Company.

In October 2018, the Company entered into a rental agreement for storage space in North Brunswick, New Jersey with an unrelated third party. The Company leases this space on a month to month basis.

In November 2018, the Company began leasing its corporate offices and laboratory facilities in Princeton, New Jersey under an operating lease with an unrelated third party. The Company leases this space on a month to month basis.

In November 2018, the Board of Directors approved an option grant of 52,593 stock options to Consultant #2 per the November 2017 consulting agreement, as described in Note 10, for services deemed rendered. The Consulting agreement was terminated October 2018.

In November 2018, the consulting agreement with Related Party Consultant #3 as described in Note 11 was terminated and it was agreed that no compensation was due.

In November 2018, the Board of Directors, Related Party Consultant #1 received their remaining 400 shares of common stock at $5.00 per share in lieu of cash compensation per the July 2016 consulting agreement.

In November 2018, the Board of Directors approved an option grant of 68,779 stock options to service provider of the Company as compensation for general advising and non-legal services.

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In November 2018, the Board of Directors approved the reduction in the conversion price for that certain outstanding Convertible Promissory Note dated November 2017, as described in Note 4, from $2.11 to $1.11. This investor will now receive the same price reduction per share as the Board had previously approved for the August 2016 PPM and December 2016 PPM.

In November 2018, the Board of Directors approved the issuance of a warrant to its law firm as satisfaction of the deferment arrangement described in Note 11. As no triggering event has occurred to date, the Company approved the issuance of a warrant of 138,838 shares based on equity raised to date plus estimated future equity issuances.

In November 2018, the Board of Directors approved an amendment to the 2009 Stock Option Plan. The amendment adds a cashless exercise feature to all outstanding options issued under the 2009 Plan.

On November 26, 2018, the Company announced it had entered into a merger agreement with Edge Therapeutics. The merger would create a publicly traded company developing novel products for treating early and late state cancers. The merger is expected to create a combined company with sufficient cash to fund operations into 2020. The merger is structured as a stock-for-stock transaction whereby all of the Company s shares of common stock and securities convertible into or exercisable for common stock will convert into Edge s common stock and securities convertible into or exercisable for Edge common stock. Under the exchange ratio formula of the merger agreement, immediately following the merger, the former PDS security holders will own approximately 70% of the combined company. The transaction has been approved by the Board of Directors of both companies and is expected to close in the first quarter of 2019. Upon the closing of the transaction, the merged company will operate under the PDS Biotechnology Corporation name, and the combined company s common stock is expected to continue to trade on NASDAQ under a new ticker symbol.

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Annex A

EXECUTION VERSION

**AGREEMENT AND PLAN OF MERGER
AND REORGANIZATION**

among:

EDGE THERAPEUTICS, INC.,
a Delaware corporation;

ECHOS MERGER SUB, INC.,
a Delaware corporation; and

PDS BIOTECHNOLOGY CORPORATION
a Delaware corporation

Dated as of November 23, 2018

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AGREEMENT AND PLAN OF MERGER AND REORGANIZATION

THIS AGREEMENT AND PLAN OF MERGER AND REORGANIZATION (this ***Agreement***) is made and entered into as of November 23, 2018, by and among **Edge Therapeutics, Inc.**, a Delaware corporation (***Parent***), **ECHOS MERGER SUB, INC.**, a Delaware corporation and wholly owned subsidiary of Parent (***Merger Sub***), and **PDS Biotechnology Corporation**, a Delaware corporation (the ***Company***). Certain capitalized terms used in this Agreement are defined in **Exhibit A**.

RECITALS

A. Parent and the Company intend to effect a merger of Merger Sub with and into the Company (the ***Merger***) in accordance with this Agreement and the DGCL. Upon consummation of the Merger, Merger Sub will cease to exist and the Company will become a wholly owned subsidiary of Parent.

B. The Parties intend that the Merger qualify as a reorganization within the meaning of Section 368(a) of the Code and the Treasury Regulations promulgated thereunder, and by executing this Agreement, the Parties intend to adopt a plan of reorganization within the meaning of Treasury Regulations Sections 1.368-2(g) and 1.368-3.

C. The Parent Board has (i) determined that the Contemplated Transactions are fair to, advisable and in the best interests of Parent and its stockholders, (ii) approved and declared advisable this Agreement and the Contemplated Transactions, including the issuance of shares of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement and (iii) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of Parent vote to approve the issuance of shares of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement.

D. The Merger Sub Board has (i) determined that the Contemplated Transactions are fair to, advisable, and in the best interests of Merger Sub and its sole stockholder, (ii) approved and declared advisable this Agreement and the Contemplated Transactions and (iii) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholder of Merger Sub vote to adopt this Agreement and thereby approve the Contemplated Transactions.

E. The Company Board has (i) determined that the Contemplated Transactions are fair to, advisable and in the best interests of the Company and its stockholders, (ii) approved and declared advisable this Agreement and the Contemplated Transactions and (iii) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of the Company vote to adopt this Agreement and thereby approve the Contemplated Transactions.

F. Concurrently with the execution and delivery of this Agreement and as a condition and inducement to Parent s willingness to enter into this Agreement, the officers, directors and stockholders of the Company listed on Section A of the Company Disclosure Schedule (solely in their capacity as stockholders of the Company) are executing support agreements in favor of Parent in substantially the form attached hereto as **Exhibit B-1** (the ***Company Stockholder Support Agreement***), pursuant to which such Persons have, subject to the terms and conditions set forth therein, agreed to vote all of their shares of Company Capital Stock in favor of the adoption of this Agreement and thereby approve the Contemplated Transactions and against any competing proposals.

G. Concurrently with the execution and delivery of this Agreement and as a condition and inducement to the Company s willingness to enter into this Agreement, the officers and directors of the Company listed on Section A of the Parent Disclosure Schedule (solely in their capacity as stockholders of Parent) are executing support agreements in favor of the Company in substantially the form attached hereto as **Exhibit B-2** (the ***Parent Stockholder Support***

Agreement), pursuant to which such Persons have, subject to the terms and conditions set forth therein, agreed to vote all of their shares of Parent Common Stock in favor of the issuance of shares of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement and the other Parent Stockholder Matters and against any competing proposals.

H. It is expected that within three Business Days after the Registration Statement is declared effective under the Securities Act, the holders of shares of Company Capital Stock sufficient to adopt and approve this Agreement and the Merger as required under the DGCL and the Company s certificate of incorporation and

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bylaws will execute and deliver an action by written consent adopting this Agreement in a form reasonably acceptable to Parent, in order to obtain the Required Company Stockholder Vote (each, a Company Stockholder Written Consent and collectively, the ***Company Stockholder Written Consents***).

AGREEMENT

The Parties, intending to be legally bound, agree as follows:

Section 1. DESCRIPTION OF TRANSACTION

1.1. **The Merger.** Upon the terms and subject to the conditions set forth in this Agreement, at the Effective Time, Merger Sub shall be merged with and into the Company, and the separate existence of Merger Sub shall cease. The Company will continue as the surviving corporation in the Merger (the ***Surviving Corporation***).

1.2. **Effects of the Merger.** The Merger shall have the effects set forth in this Agreement and in the applicable provisions of the DGCL. As a result of the Merger, the Company will become a wholly owned subsidiary of Parent.

1.3. **Closing; Effective Time.** Unless this Agreement is earlier terminated pursuant to the provisions of Section 9.1, and subject to the satisfaction or waiver of the conditions set forth in Sections 6, 7 and 8, the consummation of the Merger (the ***Closing***) shall take place remotely as promptly as practicable (but in no event later than the second Business Day following the satisfaction or waiver of the last to be satisfied or waived of the conditions set forth in Sections 6, 7 and 8, other than those conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver of each of such conditions), or at such other time, date and place as Parent and the Company may mutually agree in writing. The date on which the Closing actually takes place is referred to as the Closing Date. At the Closing, the Parties shall cause the Merger to be consummated by executing and filing with the Secretary of State of the State of Delaware a certificate of merger with respect to the Merger, satisfying the applicable requirements of the DGCL and in a form reasonably acceptable to Parent and the Company (the ***Certificate of Merger***). The Merger shall become effective at the time of the filing of such Certificate of Merger with the Secretary of State of the State of Delaware or at such later time as may be specified in such Certificate of Merger with the consent of Parent and the Company (the time as of which the Merger becomes effective being referred to as the ***Effective Time***).

1.4. **Certificate of Incorporation and Bylaws; Directors and Officers.** At the Effective Time:

(a) the certificate of incorporation of the Surviving Corporation shall be amended and restated in its entirety to read identically to the certificate of incorporation of Merger Sub as in effect immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and such certificate of incorporation;

(b) the certificate of incorporation of Parent shall be identical to the certificate of incorporation of Parent immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and such certificate of incorporation *provided*, *however*, that at the Effective Time, Parent shall file one or more amendments to its Certificate of Incorporation (but only to the extent that the Required Parent Stockholder Reverse Split Vote or other required approval of the holders of Parent Common Stock has been obtained) to (i) effect the Reverse Split, (ii) to change the name of Parent to PDS Biotechnology Corporation and (iii) make such other changes as are mutually agreeable to Parent and the Company;

(c) the bylaws of the Surviving Corporation shall be amended and restated in their entirety to read identically to the bylaws of Merger Sub as in effect immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and such bylaws;

(d) the directors and officers of Parent, each to hold office in accordance with the certificate of incorporation and bylaws of Parent, shall be as set forth in Section 5.14; and

(e) the directors and officers of the Surviving Corporation, each to hold office in accordance with the certificate of incorporation and bylaws of the Surviving Corporation, shall be the directors and officers of Parent as set forth in Section 5.14, after giving effect to the provisions of Section 5.14, or such other persons as shall be mutually agreed upon by Parent and the Company.

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1.5. **Conversion of Shares.**

(a) At the Effective Time, by virtue of the Merger and without any further action on the part of Parent, Merger Sub, the Company or any stockholder of the Company or Parent:

(i) any shares of Company Capital Stock held as treasury stock or held or owned by the Company or Merger Sub immediately prior to the Effective Time shall be canceled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor; and

(ii) subject to Section 1.5(c), each share of Company Capital Stock outstanding immediately prior to the Effective Time (excluding shares to be canceled pursuant to Section 1.5(a)(i) and excluding Dissenting Shares) shall be automatically converted solely into the right to receive a number of shares of Parent Common Stock equal to the Exchange Ratio (the ***Merger Consideration***).

(b) If any shares of Company Capital Stock outstanding immediately prior to the Effective Time are unvested or are subject to a repurchase option or a risk of forfeiture under any applicable restricted stock purchase agreement or other similar agreement with the Company, then the shares of Parent Common Stock issued in exchange for such shares of Company Capital Stock will to the same extent be unvested and subject to the same repurchase option or risk of forfeiture, and such shares of Parent Common Stock shall accordingly be marked with appropriate legends. The Company shall take all actions that may be necessary to ensure that, from and after the Effective Time, Parent is entitled to exercise any such repurchase option or other right set forth in any such restricted stock purchase agreement or other agreement in accordance with its terms.

(c) No fractional shares of Parent Common Stock shall be issued in connection with the Merger, and no certificates or scrip for any such fractional shares shall be issued. Any holder of Company Capital Stock who would otherwise be entitled to receive a fraction of a share of Parent Common Stock (after aggregating all fractional shares of Parent Common Stock issuable to such holder) shall, in lieu of such fraction of a share and upon surrender by such holder of a letter of transmittal in accordance with Section 1.7 and any accompanying documents as required therein, be paid in cash the dollar amount (rounded to the nearest whole cent), without interest, determined by multiplying such fraction by the Parent Closing Price.

(d) All Company Options outstanding immediately prior to the Effective Time shall be treated in accordance with Section 5.5.

(e) All Company Warrants outstanding immediately prior to the Effective Time that are not exercised prior to the Effective Time shall be assumed by Parent; *provided*, *however*, that from and after the Effective Time, (i) such Company Warrants shall be exercisable into that number of shares of Parent Common Stock equal to (A) the Exchange Ratio multiplied by (B) the number of shares of Company Common Stock into which such Company Warrant is exercisable as of immediately prior to the Effective Time, (ii) the per share exercise price for the Parent Common Stock issuable upon exercise of each Company Warrant assumed by Parent shall be determined by dividing (A) the per share exercise price of Company Common Stock subject to such Company Warrant, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio and rounding the resulting exercise price up to the nearest whole cent and (iii) except as otherwise provided in such Company Warrant, the term, exercisability, vesting schedule and other provisions of such Company Warrant shall otherwise remain unchanged.

(f) Each share of common stock, $0.0001 par value per share, of Merger Sub issued and outstanding immediately prior to the Effective Time shall be converted into and exchanged for one validly issued, fully paid and nonassessable share of common stock, $0.0001 par value per share, of the Surviving Corporation. Each stock certificate of Merger Sub evidencing ownership of any such shares shall, as of the Effective Time, evidence ownership of such shares of

common stock of the Surviving Corporation.

(g) If, between the date of this Agreement and the Effective Time, the outstanding shares of Company Capital Stock or Parent Common Stock shall have been changed into, or exchanged for, a different number of shares or a different class, by reason of any stock dividend, subdivision, reclassification, recapitalization, split (including the Reverse Split), combination or exchange of shares or other like change, the Exchange Ratio shall, to the extent necessary, be equitably adjusted to reflect such change to the extent necessary to provide the holders of Company Capital Stock and Parent Common Stock with the same economic effect as contemplated by this Agreement prior to such stock dividend, subdivision, reclassification, recapitalization,

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split, combination or exchange of shares or other like change; *provided, however*, that nothing herein will be construed to permit the Company or Parent to take any action with respect to Company Capital Stock or Parent Common Stock, respectively, that is prohibited or not expressly permitted by the terms of this Agreement.

1.6. **Closing of the Company s Transfer Books.** At the Effective Time: (a) all shares of Company Capital Stock outstanding immediately prior to the Effective Time shall be treated in accordance with Section 1.5(a), and all holders of certificates representing shares of Company Capital Stock that were outstanding immediately prior to the Effective Time shall cease to have any rights as stockholders of the Company; and (b) the stock transfer books of the Company shall be closed with respect to all shares of Company Capital Stock outstanding immediately prior to the Effective Time. No further transfer of any such shares of Company Capital Stock shall be made on such stock transfer books after the Effective Time. If, after the Effective Time, a valid certificate previously representing any shares of Company Capital Stock outstanding immediately prior to the Effective Time (a ***Company Stock Certificate***) is presented to the Exchange Agent or to the Surviving Corporation, such Company Stock Certificate shall be canceled and shall be exchanged as provided in Sections 1.5 and 1.7.

1.7. **Surrender of Certificates.**

(a) On or prior to the Closing Date, Parent and the Company shall agree upon and select a reputable bank, transfer agent or trust company to act as exchange agent in the Merger (the ***Exchange Agent***). At the Effective Time, Parent shall deposit with the Exchange Agent: (i) certificates or evidence of book-entry shares representing the Parent Common Stock issuable pursuant to Section 1.5(a) and (ii) cash sufficient to make payments in lieu of fractional shares in accordance with Section 1.5(c). The Parent Common Stock and cash amounts so deposited with the Exchange Agent, together with any dividends or distributions received by the Exchange Agent with respect to such shares, are referred to collectively as the ***Exchange Fund***.

(b) Promptly after the Effective Time, the Parties shall cause the Exchange Agent to mail to the Persons who were record holders of shares of Company Capital Stock that were converted into the right to receive the Merger Consideration: (i) a letter of transmittal in customary form and containing such provisions as Parent may reasonably specify (including a provision confirming that delivery of Company Stock Certificates shall be effected, and risk of loss and title to Company Stock Certificates shall pass, only upon proper delivery of such Company Stock Certificates to the Exchange Agent); and (ii) instructions for effecting the surrender of Company Stock Certificates in exchange for shares of Parent Common Stock. Upon surrender of a Company Stock Certificate to the Exchange Agent for exchange, together with a duly executed letter of transmittal and such other documents as may be reasonably required by the Exchange Agent or Parent: (A) the holder of such Company Stock Certificate shall be entitled to receive in exchange therefor a certificate or certificates or book-entry shares representing the Merger Consideration (in a number of whole shares of Parent Common Stock) that such holder has the right to receive pursuant to the provisions of Section 1.5(a) (and cash in lieu of any fractional share of Parent Common Stock pursuant to the provisions of Section 1.5(c)); and (B) the Company Stock Certificate so surrendered shall be canceled. Until surrendered as contemplated by this Section 1.7(b), each Company Stock Certificate shall be deemed, from and after the Effective Time, to represent only the right to receive a certificate or certificates or book-entry shares of Parent Common Stock representing the Merger Consideration (and cash in lieu of any fractional share of Parent Common Stock). If any Company Stock Certificate shall have been lost, stolen or destroyed, Parent may, in its discretion and as a condition precedent to the delivery of any shares of Parent Common Stock, require the owner of such lost, stolen or destroyed Company Stock Certificate to provide an applicable affidavit with respect to such Company Stock Certificate and agree to indemnify Parent against any claim suffered by Parent related to the lost, stolen or destroyed Company Stock Certificate or any Parent Common Stock issued in exchange therefor as Parent may reasonably request. In the event of a transfer of ownership of a Company Stock Certificate that is not registered in the transfer records of the Company, payment of the Merger Consideration may be made to a Person other than the Person in whose name such Company Stock Certificate so surrendered is registered if such Company Stock Certificate shall be properly endorsed or otherwise be

in proper form for transfer and the Person requesting such payment shall pay any transfer or other Taxes required by reason of the transfer or establish to the reasonable

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satisfaction of Parent that such Taxes have been paid or are not applicable. The Merger Consideration and any dividends or other distributions as are payable pursuant to Section 1.7(c) shall be deemed to have been in full satisfaction of all rights pertaining to Company Capital Stock formerly represented by such Company Stock Certificates.

(c) No dividends or other distributions declared or made with respect to Parent Common Stock with a record date on or after the Effective Time shall be paid to the holder of any unsurrendered Company Stock Certificate with respect to the shares of Parent Common Stock that such holder has the right to receive in the Merger until such holder surrenders such Company Stock Certificate or provides an affidavit of loss or destruction in lieu thereof in accordance with this Section 1.7 (at which time (or, if later, on the applicable payment date) such holder shall be entitled, subject to the effect of applicable abandoned property, escheat or similar Laws, to receive all such dividends and distributions, without interest).

(d) Any portion of the Exchange Fund that remains undistributed to holders of Company Stock Certificates as of the date that is one year after the Closing Date shall be delivered to Parent upon demand, and any holders of Company Stock Certificates who have not theretofore surrendered their Company Stock Certificates in accordance with this Section 1.7 shall thereafter look only to Parent for satisfaction of their claims for Parent Common Stock, cash in lieu of fractional shares of Parent Common Stock and any dividends or distributions with respect to shares of Parent Common Stock.

(e) Each of the Exchange Agent, Parent and the Surviving Corporation shall be entitled to deduct and withhold from any consideration deliverable pursuant to this Agreement to any holder of any Company Stock Certificate such amounts as are required to be deducted or withheld from such consideration under the Code or under any other applicable Law. To the extent such amounts are so deducted or withheld, and remitted to the appropriate taxing authority, such amounts shall be treated for all purposes under this Agreement as having been paid to the Person to whom such amounts would otherwise have been paid.

(f) No party to this Agreement shall be liable to any holder of any Company Stock Certificate or to any other Person with respect to any shares of Parent Common Stock (or dividends or distributions with respect thereto) or for any cash amounts delivered to any public official pursuant to any applicable abandoned property Law, escheat Law or similar Law.

1.8. **Appraisal Rights.**

(a) Notwithstanding any provision of this Agreement to the contrary, shares of Company Capital Stock that are outstanding immediately prior to the Effective Time and which are held by stockholders who have exercised and perfected appraisal rights for such shares of Company Capital Stock in accordance with the DGCL (collectively, the ***Dissenting Shares***) shall not be converted into or represent the right to receive the Merger Consideration described in Section 1.5 attributable to such Dissenting Shares. Such stockholders shall be entitled to receive payment of the appraised value of such shares of Company Capital Stock held by them in accordance with the DGCL, unless and until such stockholders fail to perfect or effectively withdraw or otherwise lose their appraisal rights under the DGCL. All Dissenting Shares held by stockholders who shall have failed to perfect or shall have effectively withdrawn or lost their right to appraisal of such shares of Company Capital Stock under the DGCL (whether occurring before, at or after the Effective Time) shall thereupon be deemed to be converted into and to have become exchangeable for, as of the Effective Time, the right to receive the Merger Consideration, without interest, attributable to such Dissenting Shares upon their surrender in the manner provided in Sections 1.5 and 1.7.

(b) The Company shall give Parent prompt written notice of any demands by dissenting stockholders received by the Company, withdrawals of such demands and any other instruments served on the Company and any material

correspondence received by the Company in connection with such demands, and Parent shall have the right to direct all negotiations and proceedings with respect to such demands; *provided* that the Company shall have the right to participate in such negotiations and proceedings. The Company shall not, except with Parent s prior written consent, voluntarily make any payment with respect to, or settle or offer to settle, any such demands, or approve any withdrawal of any such demands or agree to do any of the foregoing.

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1.9. **Pro-Forma Capitalization.** The anticipated pro-forma capitalization of the Company immediately prior to the Effective Time (assuming the Effective Time occurs on February 28, 2019 and excluding any Permitted Bridge Financing) is set forth in Section 1.9 of the Company Disclosure Schedule. The pro-forma capitalization of Parent immediately following the Effective Time (assuming the Effective Time occurs on February 28, 2019) is set forth in Section 1.9 of the Parent Disclosure Schedule.

1.10. **Further Action.** If, at any time after the Effective Time, any further action is determined by the Surviving Corporation to be necessary or desirable to carry out the purposes of this Agreement or to vest the Surviving Corporation with full right, title and possession of and to all rights and property of the Company, then the officers and directors of the Surviving Corporation shall be fully authorized, and shall use their and its commercially reasonable efforts (in the name of the Company, in the name of Merger Sub, in the name of the Surviving Corporation and otherwise) to take such action.

Section 2. REPRESENTATIONS AND WARRANTIES OF THE COMPANY

Subject to Section 10.13(i), except as set forth in the written disclosure schedule delivered by the Company to Parent (the ***Company Disclosure Schedule***), the Company represents and warrants to Parent and Merger Sub as follows:

2.1. **Due Organization; Subsidiaries.**

(a) The Company is a corporation or duly incorporated or otherwise organized, validly existing and in good standing under the Laws of the jurisdiction of its incorporation or organization and has all necessary power and authority: (i) to conduct its business in the manner in which its business is currently being conducted; and (ii) to own or lease and use its property and assets in the manner in which its property and assets are currently owned or leased and used, except in the case of the foregoing (i) and (ii), where the failure to have such power or authority would not reasonably be expected to be material to the Company, or prevent or materially delay the ability of the Company to consummate the Contemplated Transactions.

(b) The Company is duly licensed and qualified to do business, and is in good standing (to the extent applicable in such jurisdiction), under the Laws of all jurisdictions where the nature of its business requires such licensing or qualification other than in jurisdictions where the failure to be so qualified individually or in the aggregate would not be reasonably expected to have a Company Material Adverse Effect.

(c) The Company has no Subsidiaries, nor does the Company own any capital stock of, or any equity, ownership or profit sharing interest of any nature in, or controls directly or indirectly, any other Entity. The Company is not, nor has it otherwise been, directly or indirectly, a party to, member of or participant in any partnership, joint venture or similar business entity. The Company has not agreed, nor is it obligated to make, nor is it bound by any Contract under which it may become obligated to make, any future investment in or capital contribution to any other Entity. The Company has not, at any time, been a general partner of, or has otherwise been liable for any of the debts or other obligations of, any general partnership, limited partnership or other Entity.

2.2. **Organizational Documents.** The Company has delivered to Parent accurate and complete copies of the Organizational Documents of the Company. The Company is not in material breach or violation of its Organizational Documents.

2.3. **Authority; Binding Nature of Agreement.** The Company has all necessary corporate power and authority to enter into and to perform its obligations under this Agreement and to consummate the Contemplated Transactions. The Company Board has (i) determined that the Contemplated Transactions are fair to, advisable and in the best interests of the Company and its stockholders, (ii) approved and declared advisable this Agreement and the Contemplated Transactions and (iii) determined to recommend, upon the terms and subject to the conditions set forth

in this Agreement, that the stockholders of the Company vote to adopt this Agreement and thereby approve the Contemplated Transactions. This Agreement has been duly executed and delivered by the Company and assuming the due authorization, execution and delivery by Parent and Merger Sub, constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, subject to the Enforceability Exceptions. Prior to the execution of the Company Stockholder Support Agreements, the Company Board approved the Company Stockholder Support Agreements and the transactions contemplated thereby.

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2.4. **Vote Required.** The affirmative vote (or written consent) of the holders of a majority of the shares of Company Common Stock outstanding on the record date for the Company Stockholder Written Consent and entitled to vote thereon (the Required Company Stockholder Vote), is the only vote (or written consent) of the holders of any class or series of Company Capital Stock necessary to adopt and approve this Agreement and approve the Contemplated Transactions.

2.5. **Non-Contravention; Consents.** Subject to obtaining the Required Company Stockholder Vote, the filing of the Certificate of Merger required by the DGCL and obtaining the Consents set forth on Section 2.5 of the Company Disclosure Schedule, neither (x) the execution, delivery or performance of this Agreement by the Company, nor (y) the consummation of the Contemplated Transactions, will directly or indirectly (with or without notice or lapse of time):

(a) contravene, conflict with or result in a violation of any of the provisions of the Company s Organizational Documents;

(b) contravene, conflict with or result in a violation of, or give any Governmental Body or, to the Knowledge of the Company, other Person the right to challenge the Contemplated Transactions or to exercise any remedy or obtain any relief under, any Law or any order, writ, injunction, judgment or decree to which the Company, or any of the assets owned or used by the Company, is subject, except as would not reasonably be expected to be material to the Company or its business;

(c) contravene, conflict with or result in a violation of any of the terms or requirements of, or give any Governmental Body the right to revoke, withdraw, suspend, cancel, terminate or modify, any Governmental Authorization that is held by the Company, or require any notice to or Consent by any Governmental Body, except as would not reasonably be expected to be material to the Company or its business;

(d) contravene, conflict with or result in a violation or breach of, or result in a default or require any notice or Consent under, any provision of any Company Material Contract, or give any Person the right to: (i) declare a default or exercise any remedy under any Company Material Contract; (ii) any material payment, rebate, chargeback, penalty or change in delivery schedule under any Company Material Contract; (iii) accelerate the maturity or performance of any Company Material Contract; or (iv) cancel, terminate or modify any term of any Company Material Contract, except in each case as would not reasonably be expected to be material to the Company or its business; or

(e) result in the imposition or creation of any Encumbrance upon or with respect to any asset owned or used by the Company (except for Permitted Encumbrances).

The Company Board has taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL are, and will be, inapplicable to the execution, delivery and performance of this Agreement and the Company Stockholder Support Agreements and to the consummation of the Contemplated Transactions. No other state takeover statute or similar Law applies or purports to apply to the Merger, this Agreement, the Company Stockholder Support Agreements or any of the Contemplated Transactions. The Company is not included within a person (as defined in 16 C.F.R. §801.1(a)(1)) that has one hundred and sixty eight million, eight hundred thousand dollars ($168,800,000) or more of total assets or annual net sales, in each case as determined in accordance with 16 C.F.R. §801.11.

2.6. **Capitalization.**

(a) The authorized Company Capital Stock as of the date of this Agreement consists of (i) 100,000,000 shares of Company Common Stock, par value $0.00001 per share, of which 10,518,521 shares have been issued and are

outstanding as of the date of this Agreement, and (ii) 25,000,000 shares of preferred stock, par value $0.00001 per share (the ***Company Preferred Stock***), none of which are issued or outstanding as of the date of this Agreement. The Company does not hold any shares of its capital stock in its treasury.

(b) All of the outstanding shares of Company Common Stock have been duly authorized and validly issued, and are fully paid and nonassessable. Except as set forth in the Investor Agreements, none of the outstanding shares of Company Common Stock is entitled or subject to any preemptive right, right of

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participation, right of maintenance or any similar right and none of the outstanding shares of Company Common Stock is subject to any right of first refusal in favor of the Company. Except as contemplated herein and in the Investor Agreements, there is no Company Contract relating to the voting or registration of, or restricting any Person from purchasing, selling, pledging or otherwise disposing of (or granting any option or similar right with respect to), any shares of Company Common Stock or Company Preferred Stock. The Company is not under any obligation, nor is it bound by any Contract pursuant to which it may become obligated, to repurchase, redeem or otherwise acquire any outstanding shares of Company Common Stock or other securities. Section 2.6(b) of the Company Disclosure Schedule accurately and completely lists all repurchase rights held by the Company with respect to shares of Company Common Stock (including shares issued pursuant to the exercise of stock options) and specifies which of those repurchase rights are currently exercisable.

(c) Except for the Company Stock Plans, the Company does not have any stock option plan or any other plan, program, agreement or arrangement providing for any equity-based compensation for any Person. As of the date of this Agreement, the Company has reserved 3,421,650 shares of Company Common Stock for issuance under the Company Stock Plans, of which 5,313 shares have been issued and are currently outstanding, 1,259,066 shares have been reserved for issuance upon exercise of Company Options granted under the Company Stock Plans, and, after giving effect to the expiration of the Company 2009 Stock Option Plan, 1,710,825 shares of Company Common Stock remain available for future issuance pursuant to the Company Stock Plans.

(d) Section 2.6(d) of the Company Disclosure Schedule sets forth the following information with respect to each Company Option outstanding as of the date of this Agreement: (i) the name of the optionee; (ii) the number of shares of Company Common Stock subject to such Company Option at the time of grant; (iii) the number of shares of Company Common Stock subject to such Company Option as of the date of this Agreement; (iv) the exercise price of such Company Option; (v) the date on which such Company Option was granted; (vi) the applicable vesting schedule, including the number of vested and unvested shares as of the date of this Agreement and any acceleration provisions; (vii) the date on which such Company Option expires; and (viii) whether such Company Option is intended to constitute an incentive stock option (as defined in the Code) or a non-qualified stock option. The Company has made available to Parent an accurate and complete copy of the Company Stock Plans and all stock option agreements evidencing outstanding options granted thereunder.

(e) Except for the Company Options or as set forth on Section 2.6(e) of the Company Disclosure Schedule, there is no: (i) outstanding subscription, option, call, warrant or right (whether or not currently exercisable) to acquire any shares of the capital stock or other securities of the Company; or (ii) outstanding security, instrument or obligation that is or may become convertible into or exchangeable for any shares of the capital stock or other securities of the Company. There are no outstanding or authorized stock appreciation, phantom stock, profit participation or other similar rights with respect to the Company.

(f) All outstanding shares of Company Common Stock, Company Options, Company Warrants and other securities of the Company have been issued and granted in material compliance with (i) all applicable securities Laws and other applicable Law, and (ii) all requirements set forth in applicable Contracts.

2.7. **Financial Statements.**

(a) Concurrently with the execution hereof, the Company has provided to Parent true and complete copies of (i) the Company s audited balance sheets at December 31, 2017 and 2016, together with related audited statements of income, stockholders equity and cash flows, and notes thereto, of the Company for the fiscal years then ended and (ii) the Company Unaudited Interim Balance Sheet, together with the unaudited statements of income, stockholders equity and cash flows of the Company for the period reflected in the Company Unaudited Interim Balance Sheet (collectively, the ***Company Financials***). The Company Financials were prepared in accordance with GAAP (except as

may be indicated in the notes to such financial statements and except that the unaudited financial statements may not contain footnotes and are subject to normal and recurring year-end adjustments, none of which are material) and fairly present, in all material respects, the financial position and operating results of the Company as of the dates and for the periods indicated therein.

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(b) The Company maintains accurate books and records reflecting their assets and liabilities and maintains a system of internal accounting controls designed to provide reasonable assurance that: (i) transactions are executed in accordance with management s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of the financial statements of the Company and to maintain accountability of the Company s assets; (iii) access to the Company s assets is permitted only in accordance with management s general or specific authorization; (iv) the recorded accountability for the Company s assets is compared with the existing assets at regular intervals and appropriate action is taken with respect to any differences; and (v) accounts, notes and other receivables and inventory are recorded accurately, and proper and adequate procedures are implemented to effect the collection thereof on a current and timely basis. The Company maintains internal control over financial reporting that provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes.

(c) Section 2.7(c) of the Company Disclosure Schedule lists, and the Company has delivered to Parent accurate and complete copies of the documentation creating or governing, all securitization transactions and off-balance sheet arrangements (as defined in Item 303(c) of Regulation S-K under the Exchange Act) effected by the Company since January 1, 2016.

(d) Since January 1, 2016, there have been no formal internal investigations regarding financial reporting or accounting policies and practices discussed with, reviewed by or initiated at the direction of the chief executive officer, chief financial officer or general counsel of the Company, the Company Board or any committee thereof. Since January 1, 2016, neither the Company nor its independent auditors have identified (i) any significant deficiency or material weakness in the design or operation of the system of internal accounting controls utilized by the Company, (ii) any fraud, whether or not material, that involves the Company, the Company s management or other employees who have a role in the preparation of financial statements or the internal accounting controls utilized by the Company or (iii) any claim or allegation regarding any of the foregoing.

2.8. **Absence of Changes.** Except as set forth on Section 2.8 of the Company Disclosure Schedule, between the date of the Company Unaudited Interim Balance Sheet and the date of this Agreement, the Company has conducted its business only in the Ordinary Course of Business (except for the execution and performance of this Agreement and the discussions, negotiations and transactions related thereto) and there has not been any (a) Company Material Adverse Effect or (b) action, event or occurrence that would have required the consent of Parent pursuant to Section 4.2(b) had such action, event or occurrence taken place after the execution and delivery of this Agreement.

2.9. **Absence of Undisclosed Liabilities.** As of the date of this Agreement, the Company does not have any liability, indebtedness, obligation or expense of any kind, whether accrued, absolute, contingent, matured or unmatured (each a ***Liability***), individually or in the aggregate, of a type required to be recorded or reflected on a balance sheet or disclosed in the footnotes thereto under GAAP except for: (a) Liabilities disclosed, reflected or reserved against in the Company Unaudited Interim Balance Sheet; (b) Liabilities that have been incurred by the Company since the date of the Company Unaudited Interim Balance Sheet in the Ordinary Course of Business; (c) Liabilities incurred in connection with the Contemplated Transactions; (d) Liabilities which would not, individually or in the aggregate, reasonably be expected to be material to the Company, and (e) Liabilities listed in Section 2.9 of the Company Disclosure Schedule.

2.10. **Title to Assets.** The Company owns, and has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or tangible assets and equipment used or held for use in its business or operations or purported to be owned by it, including: (a) all tangible assets reflected on the Company Unaudited Interim Balance Sheet; and (b) all other tangible assets reflected in the books and records of the Company as being owned by the Company. All of such assets are owned or, in the case of leased assets, leased by the Company free and clear of any Encumbrances, other than Permitted Encumbrances.

2.11. **Real Property; Leasehold.** The Company does not own nor has it ever owned any real property. The Company has made available to Parent (a) an accurate and complete list of all real properties with respect to which the Company directly or indirectly holds a valid leasehold interest as well as any other real estate that is in the possession of or leased by the Company, and (b) copies of all leases under which any such real property is

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possessed (the ***Company Real Estate Leases***), each of which is in full force and effect (assuming the due execution by the counterparty thereto), with no existing material default thereunder. The Company s use and operation of each such leased property conforms to all applicable Laws in all material respects, and the Company has exclusive possession of each such leased property and has not granted any occupancy rights to tenants or licensees with respect to such leased property. In addition, each such leased property is free and clear of all Encumbrances other than Permitted Encumbrances. The Company has not received written notice from its landlords or any Governmental Body that: (i) relates to violations of building, zoning, safety or fire ordinances or regulations; (ii) claims any defect or deficiency with respect to any of such properties; or (iii) requests the performance of any repairs, alterations or other work to such properties.

2.12. **Intellectual Property.**

(a) The Company owns, or has the legal and valid right to use, as currently being used by the Company, all Company Owned IP Rights and Company Licensed IP Rights, and with respect to Company Owned IP Rights, has the right to bring actions for the infringement (including actions for both damages and injunctive relief) of such Company Owned IP Rights, in each case except for any failure to own, have such rights to use, or have such rights to bring actions for infringement that would not reasonably be expected to be material to the Company or its business.

(b) Section 2.12(b) of the Company Disclosure Schedule sets forth an accurate, true and complete listing of all (i) Company Registered IP, and, specifying as to each such item, as applicable, the owner(s) of record (and, in the case of domain names, the registrar), the beneficial owner(s) (if different from the owner(s) of record), jurisdiction of application and/or registration, the application and/or registration number, the date of application and/or registration, and the status of application and/or registration, and (ii) material unregistered Trademarks included in the Company Owned IP Rights. Each item of Company Registered IP is and at all times has been filed and maintained in compliance in all material respects with all applicable Law and all filings, payments, and other actions required to be made or taken to maintain such item of Company Registered IP in full force and effect have been made by the applicable deadline, except for any failure to perform any of the foregoing, individually or collectively, that would not reasonably be expected to be material to the Company or its business.

(c) Section 2.12(c) of the Company Disclosure Schedule accurately identifies (i) all Company Contracts pursuant to which Company Licensed IP Rights are licensed to the Company (other than (A) any non-customized software that (1) is so licensed solely in executable or object code form pursuant to a non-exclusive, internal use software license and other Intellectual Property non-exclusively licensed with such software and (2) is not incorporated into, or material to the development, manufacturing, or distribution of, any of the Company s products or services, (B) any Intellectual Property licensed ancillary to the purchase or use of services, equipment, reagents or other materials and (C) any immaterial confidential information provided under confidentiality agreements), and (ii) whether the license or licenses granted to the Company are exclusive or non-exclusive. For purposes of greater certainty, the term license in this Section 2.12(c) and in Section 2.12(d) includes any license, sublicense, covenant, non-assert, consent, release or waiver. Except as set forth in Section 2.12(c) of the Company Disclosure Schedule, there are no royalties, honoraria, fees or other payments payable by the Company or any Person for the purchase, license, sublicense or use of any Company Licensed IP Rights.

(d) Section 2.12(d) of the Company Disclosure Schedule accurately identifies all Company Contracts pursuant to which the Company has granted any license under, or any right (whether or not currently exercisable) or interest in, any Company Owned IP Rights or Company Exclusively Licensed IP Rights to any Person (other than any Company Owned IP Rights or Company Exclusively Licensed IP Rights non-exclusively licensed to suppliers or service providers for the sole purpose of enabling such suppliers or service providers to provide products and services for the Company s benefit).

(e) Except as set forth in Section 2.12(e) of the Company Disclosure Schedule, (i) the Company is not bound by, and no Company Owned IP Rights are subject to, any Company Contract containing any covenant or other provision, or any judicial, administrative or arbitral order, judgment, award, order, decree, injunction, settlement or stipulation, that affects the validity or enforceability of such Company Owned IP Rights or limits or restricts the ability of the Company to use, exploit, assert, enforce, sell, transfer or dispose of any such Company Owned IP Rights anywhere in the world, in each case, in a manner that

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would materially limit the business of the Company as currently conducted or planned to be conducted; and (ii) no Company Exclusively Licensed IP Rights are subject to any Company Contract containing any covenant or other provision, or, to the Actual Knowledge of the Company, any judicial, administrative or arbitral order, judgment, award, order, decree, injunction, settlement or stipulation that affects the validity or enforceability of such Company Exclusively Licensed IP Rights or limits or restricts the ability of the Company to use, exploit, assert, enforce, sell, transfer or dispose of any such Company Exclusively Licensed IP Rights anywhere in the world, in each case, in a manner that would materially limit the business of the Company as currently conducted or planned to be conducted.

(f) Except as identified in Section 2.12(f) of the Company Disclosure Schedule, the Company is the sole and unrestricted legal and beneficial owner of all right, title, and interest to and in Company Owned IP Rights, in each case, free and clear of any Encumbrances (other than Permitted Encumbrances).

(g) Each Person who is or was an employee or contractor of the Company and who is or was involved in the creation or development of any material Company Owned IP Rights has signed a valid, enforceable agreement containing a present-tense assignment of such Intellectual Property to the Company and confidentiality provisions protecting Proprietary Information and other confidential information of the Company.

(h) No current or former stockholder, officer, director, or employee of the Company has any claim, right (whether or not currently exercisable), or interest to or in any Company Owned IP Rights. To the Knowledge of the Company, no employee of the Company is (A) bound by or otherwise subject to any Contract restricting him or her from performing his or her duties for the Company or (B) in breach of any Contract with any former employer or other Person concerning Company Owned IP Rights or confidentiality provisions protecting Proprietary Information and other confidential information comprising Company Owned IP Rights.

(i) Except as identified in Section 2.12(i) of the Company Disclosure Schedule, no material Company Owned IP Rights or, to the Actual Knowledge of the Company, Company Exclusively Licensed IP Rights were developed, in whole or in part (A) pursuant to or in connection with the development of any professional, technical or industry standard, (B) under contract with or using the resources of any Governmental Body, academic institution or other entity that would subject any Company Owned IP Rights or, to the Actual Knowledge of the Company, Company Exclusively Licensed IP Rights to the rights of any Governmental Body, academic institution or other entity or (C) under any grants or other funding arrangements with third parties. To the extent that any Company Owned IP Rights or Company Exclusively Licensed IP Rights are disclosed in Section 2.12(i) of the Company Disclosure Schedule, Section 2.12(i) of the Company Disclosure Schedule identifies each Company Contract that relates to such Company Owned IP Rights or Company Exclusively Licensed IP Rights.

(j) The Company has taken all commercially reasonable and appropriate steps to protect and maintain the Company Owned IP Rights, including to preserve the confidentiality of all Proprietary Information that the Company holds, or purports to hold, as a material trade secret.

(k) Except as set forth in Section 2.12(k) of the Company Disclosure Schedule, the Company has not assigned, sold or otherwise transferred (other than standard licenses or rights to use granted to customers, suppliers or service providers in the Ordinary Course of Business) any of the Company Owned IP Rights to any third party, and there exists no obligation by the Company to assign, sell or otherwise transfer any of the Company Owned IP Rights to any third party.

(l) To the Knowledge of the Company, the Company Owned IP Rights are valid and enforceable and, to the Actual Knowledge of the Company, the Company Exclusively Licensed IP Rights are valid and enforceable.

(m) The manufacture, marketing, license, sale or intended use of any product or technology currently licensed or sold, in each case, to a third party or actively under development by the Company does not violate any license or agreement between the Company and any third party, and to the Company s Knowledge, the Company does not infringe, misappropriate, violate or conflict, nor, to the Company s Knowledge, has the Company in the last two (2) years infringed, misappropriated, violated, or conflicted with any Intellectual Property right of any third party, which infringement, misappropriation, violation or

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conflict would reasonably be expected to be material to the Company or its business. To the Knowledge of the Company with respect to Company Owned IP Rights, and to the Actual Knowledge of the Company in the case of the Company Exclusively Licensed IP Rights, no third party is infringing upon any Company Owned IP Rights or Company Exclusively Licensed IP Rights or violating any license or agreement between the Company and any third party. The Company has not sent any written communication to or asserted or threatened in writing any action or claim against any Person involving or relating to any Company IP Rights.

(n) There is no current or pending Legal Proceeding (including, opposition, interference, inter partes review, or other proceeding in any patent or other government office) contesting the validity, ownership or right to use, sell, license or disposal of any Company Owned IP Rights or, to the Actual Knowledge of the Company, Company Exclusively Licensed IP Rights, or any of the Company s products or technologies, nor has the Company received any written notice asserting that (i) any Company IP Rights, or the Company s right to use, sell, license or dispose of any Company IP Rights or products or technologies conflicts with, violates, infringes or misappropriates or will conflict with, violate, infringe or misappropriate the rights of any other Person or (ii) that a license under any other Person s Intellectual Property is or may be required.

(o) Except as set forth in the Contracts listed on Section 2.12(o) of the Company Disclosure Schedule and except for Company Contracts entered into in the Ordinary Course of Business, (i) the Company is not bound by any Contract to indemnify, defend, hold harmless, or reimburse any other Person with respect to any Intellectual Property infringement, misappropriation, or similar claim, in each case, that would reasonably be expected to be material to the Company or its business, and (ii) the Company has not assumed, or agreed to discharge or otherwise take responsibility for, any existing or potential liability of another Person for infringement, misappropriation, or violation of any Intellectual Property right, which assumption, agreement or responsibility is material and remains in force as of the date of this Agreement.

(p) There are no Contracts pursuant to which Company or any existing or future Affiliate of Company granted or is required to grant to any Person any rights under the Company IP Rights other than Company Owned IP Rights or Company Exclusively Licensed IP Rights as of the Closing Date.

2.13. **Agreements, Contracts and Commitments.**

(a) Section 2.13(a) of the Company Disclosure Schedule lists the following Company Contracts in effect as of the date of this Agreement other than any Company Benefit Plans (each, a ***Company Material Contract*** and collectively, the ***Company Material Contracts***):

(i) each Company Contract relating to any agreement of indemnification or guaranty not entered into in the Ordinary Course of Business;

(ii) each Company Contract containing (A) any covenant limiting the freedom of the Company or the Surviving Corporation to engage in any line of business or compete with any Person, (B) any most-favored pricing arrangement, (C) any exclusivity provision, or (D) any non-solicitation provision;

(iii) each Company Contract relating to capital expenditures and requiring payments after the date of this Agreement in excess of $100,000 pursuant to its express terms and not cancelable without penalty;

(iv) each Company Contract relating to the disposition or acquisition of material assets or any ownership interest in any Entity;

(v) each Company Contract relating to any mortgages, indentures, loans, notes or credit agreements, security agreements or other agreements or instruments relating to the borrowing of money or extension of credit or creating any material Encumbrances with respect to any assets of the Company or any loans or debt obligations with officers or directors of the Company;

(vi) each Company Contract requiring payment by or to the Company after the date of this Agreement in excess of $100,000 per twelve (12) month period pursuant to its express terms relating to: (A) any distribution agreement (identifying any that contain exclusivity provisions); (B) any agreement involving provision of services or products with respect to any pre-clinical or clinical development activities of the Company; (C) any dealer, distributor, joint marketing, alliance, joint venture, cooperation, development or other agreement currently in force under which the Company has

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continuing obligations to develop or market any product, technology or service, or any agreement pursuant to which the Company has continuing obligations to develop any Intellectual Property that will not be owned, in whole or in part, by the Company; or (D) any Contract to license any third party to manufacture or produce any product, service or technology of the Company or any Contract to sell, distribute or commercialize any products or service of the Company, in each case, except for Company Contracts entered into in the Ordinary Course of Business;

(vii) each Company Contract with any Person, including any financial advisor, broker, finder, investment banker or other Person, providing advisory services to the Company in connection with the Contemplated Transactions;

(viii) each Company Contract with a labor union, labor organization, or similar Person;

(ix) each Company Real Estate Lease;

(x) each Company Contract with any Governmental Body;

(xi) each Company Contract required to be listed on Section 2.12 of the Company Disclosure Schedule;

(xii) each Company Contract containing any royalty, dividend or similar arrangement based on the revenues or profits of the Company; or

(xiii) any other Company Contract that is not terminable at will (with no penalty or payment) by the Company and (A) which involves payment or receipt by the Company after the date of this Agreement under any such agreement, contract or commitment of more than $25,000 in the aggregate for any twelve (12) month period, or obligations after the date of this Agreement in excess of $25,000 in the aggregate for any twelve (12) month period, or (B) that is material to the business or operations of the Company, taken as a whole.

(b) The Company has delivered or made available to Parent accurate and complete copies of all Company Material Contracts, including all amendments thereto. Except as set forth in Section 2.13(b) of the Company Disclosure Schedule, there are no Company Material Contracts that are not in written form. Neither the Company nor to the Knowledge of the Company as of the date of this Agreement has any other party to a Company Material Contract, breached, violated or defaulted under, or received written notice that it breached, violated or defaulted under, any of the terms or conditions of any Company Material Contract in such manner as would permit any other party to cancel or terminate any such Company Material Contract, or would permit any other party to seek damages which would reasonably be expected to be material to the Company or its business. As to the Company, as of the date of this Agreement, each Company Material Contract is valid, binding, enforceable and in full force and effect, subject to the Enforceability Exceptions.

2.14. **Compliance; Permits; Restrictions.**

(a) The Company is, and since January 1, 2016 has been, in compliance in all material respects with all applicable Laws, including the Federal Food, Drug, and Cosmetic Act (***FDCA***), the Food and Drug Administration (***FDA***) regulations adopted thereunder, the Controlled Substance Act and any other similar Law administered or promulgated by the FDA, the European Medicines Evaluation Agency (***EMEA***) or other comparable Governmental Body responsible for regulation of the development, clinical testing, manufacturing, sale, marketing, distribution and importation or exportation of drug products (the FDA, EMEA and each such other comparable Governmental Body, a ***Drug Regulatory Agency***), except for any noncompliance, either individually or in the aggregate, which would not be material to the Company. No investigation, claim, suit, proceeding, audit or other action by any Governmental Body is pending or, to the Knowledge of the Company, threatened in writing against the Company. There is no agreement, judgment, injunction, order or decree binding upon the Company which (i) has or would reasonably be expected to

have the effect of prohibiting or materially impairing any business practice of the Company, any acquisition of material property by the Company or the conduct of business by the Company as currently conducted, (ii) is reasonably likely to have an adverse effect on the Company s ability to comply with or perform any covenant or obligation under this Agreement, or (iii) is reasonably likely to have the effect of preventing, delaying, making illegal or otherwise interfering with the Contemplated Transactions.

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(b) The Company holds all required Governmental Authorizations which are material to the operation of the business of the Company as currently conducted (the ***Company Permits***). Section 2.14(b) of the Company Disclosure Schedule identifies each Company Permit. The Company is in material compliance with the terms of the Company Permits. No Legal Proceeding is pending or, to the Knowledge of the Company, threatened, which seeks to revoke, limit, suspend, or materially modify any Company Permit. The rights and benefits of each Company Permit will be available to the Surviving Corporation immediately after the Effective Time on terms substantially similar to those enjoyed by the Company as of the date of this Agreement and immediately prior to the Effective Time.

(c) There are no proceedings pending or, to the Knowledge of the Company, threatened with respect to an alleged material violation by the Company of the FDCA, FDA regulations adopted thereunder, the Controlled Substance Act or any other similar Law administered or promulgated by any Drug Regulatory Agency.

(d) The Company holds all required Governmental Authorizations issuable by any Drug Regulatory Agency necessary or material to the conduct of the business of the Company as currently conducted, and, as applicable, the development, clinical testing, manufacturing, marketing, distribution and importation or exportation, as currently conducted, of any of its products or product candidates (collectively, the ***Company Products***) (collectively, the ***Company Regulatory Permits***) and no such Company Regulatory Permit has been (i) revoked, withdrawn, suspended, cancelled or terminated or (ii) modified in any adverse manner, other than immaterial adverse modifications. The Company is in compliance in all material respects with the Company Regulatory Permits and has not received any written notice or other written communication, or to the Knowledge of the Company, any other communication from any Drug Regulatory Agency regarding (A) any material violation of or failure to comply materially with any term or requirement of any Company Regulatory Permit or (B) any revocation, withdrawal, suspension, cancellation, termination or material modification of any Company Regulatory Permit. Except as set forth on Section 2.14(d) of the Company Disclosure Schedule, the Company has made available to Parent complete copies of the following (to the extent there are any): (x) copies of all investigational new drug applications (INDs) submitted to the FDA, and all supplements to and amendments of such INDs; new drug applications; adverse event reports; clinical study reports and material study data; inspection reports, notices of adverse findings, warning letters, filings and letters and other material written correspondence to and from any Drug Regulatory Agency; and (y) similar notices, letters, filings, correspondence and meeting minutes with any other Governmental Body. The Company has complied in all material respects with the ICH E9 Guidance for Industry: Statistical Principles for Clinical Trials in the management of the clinical data that have been presented by the Company. To the Company s Knowledge, there are no studies, tests or trials the results of which the Company believes reasonably call into question (i) the study, test or trial results of any Company Products, (ii) the efficacy or safety of any Company Products or (iii) any of the Company s filings with any Governmental Body.

(e) All clinical, pre-clinical and other studies and tests conducted by or on behalf of, or sponsored by, the Company, or in which the Company or its current products or product candidates, including the Company Products, have participated, were and, if still pending, are being conducted in all material respects in accordance with standard medical and scientific research procedures and in compliance in all material respects with the applicable regulations of any applicable Drug Regulatory Agency and other applicable Law, including 21 C.F.R. Parts 50, 54, 56, 58 and 312. No preclinical or clinical trial conducted by or on behalf of the Company has been terminated or suspended prior to completion for safety or non-compliance reasons. Since January 1, 2016, the Company has not received any notices, correspondence, or other communications from any Drug Regulatory Agency requiring, or to the Knowledge of the Company threatening to initiate, the termination or suspension of any clinical studies conducted by or on behalf of, or sponsored by, the Company or in which the Company or its current products or product candidates, including the Company Products, have participated.

(f) The Company is not the subject of any pending or, to the Knowledge of the Company, threatened investigation in respect of its business or products by the FDA pursuant to its Fraud, Untrue Statements of Material Facts, Bribery, and

Illegal Gratuities Final Policy set forth in 56 Fed. Reg. 46191 (September 10, 1991) and any amendments thereto. To the Knowledge of the Company, the Company has not committed any acts, made any statement, or failed to make any statement, in each case in respect of its

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business or products that would violate the FDA s Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities Final Policy, and any amendments thereto or any comparable applicable Law of any other Drug Regulatory Agency. Neither the Company nor, to the Knowledge of the Company, any of its officers, employees or agents has been convicted of any crime or engaged in any conduct that would result in a debarment or exclusion (i) under 21 U.S.C. Section 335a or (ii) any similar applicable Law. No debarment or exclusionary claims, actions, proceedings or investigations in respect of the Company s business or products are pending or, to the Knowledge of the Company, threatened against the Company or, to the Knowledge of the Company any of its officers, employees or agents.

(g) The Company has complied in all material respects with all Laws relating to patient, medical or individual health information, including the Health Insurance Portability and Accountability Act of 1996 and its implementing regulations promulgated thereunder, all as amended from time to time (collectively ***HIPAA***), including the standards for the privacy of Individually Identifiable Health Information at 45 C.F.R. Parts 160 and 164, Subparts A and E, the standards for the protection of Electronic Protected Health Information set forth at 45 C.F.R. Part 160 and 45 C.F.R. Part 164, Subpart A and Subpart C, the standards for transactions and code sets used in electronic transactions at 45 C.F.R. Part 160, Subpart A and Part 162, and the standards for Breach Notification for Unsecured Protected Health Information at 45 C.F.R. Part 164, Subpart D, all as amended from time to time. The Company has entered into, where required, and are in compliance in all material respects with the terms of all Business Associate (as defined in HIPAA) agreements to which the Company is a party or otherwise bound. The Company has not received written notice from the Office for Civil Rights for the U.S. Department of Health and Human Services or any other Governmental Body of any allegation regarding its failure to comply with HIPAA or any other state law or regulation applicable to the protection of individually identifiable health information or personally identifiable information. To the Company s Knowledge, no successful Security Incident, Breach of Unsecured Protected Health Information or breach of personally identifiable information under applicable state or federal laws has occurred with respect to information maintained or transmitted to the Company or an agent or third party subject to a Business Associate Agreement with the Company. The Company is currently submitting, receiving and handling or is capable of submitting receiving and handling transactions in accordance in all material respects with the Standard Transaction Rule. All capitalized terms in this Section 2.14(g) not otherwise defined in this Agreement shall have the meanings set forth under HIPAA.

2.15. **Legal Proceedings; Orders.**

(a) As of the date of this Agreement, there is no pending Legal Proceeding and, to the Knowledge of the Company, no Person has threatened in writing to commence any Legal Proceeding: (i) that involves (A) the Company, (B) to the Company s Knowledge, any Company Associate (in his or her capacity as such) or (C) any of the material assets owned or used by the Company; or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Contemplated Transactions.

(b) Except as set forth in Section 2.15(b) of the Company Disclosure Schedule, since January 1, 2016, no Legal Proceeding has been pending against the Company that resulted in material liability to the Company.

(c) There is no order, writ, injunction, judgment or decree to which the Company or any of the material assets owned or used by the Company is subject. To the Knowledge of the Company, no officer or other Key Employee of the Company is subject to any order, writ, injunction, judgment or decree that prohibits such officer or employee from engaging in or continuing any conduct, activity or practice relating to the business of the Company or to any material assets owned or used by the Company.

2.16. **Tax Matters.**

(a) The Company has timely filed all income Tax Returns and other material Tax Returns that they were required to file under applicable Law. All such Tax Returns are correct and complete in all material respects and have been

prepared in compliance with all applicable Law. No claim has ever been made by any Governmental Body in any jurisdiction where the Company does not file a particular Tax Return or pay a particular Tax that the Company is subject to taxation by that jurisdiction.

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(b) All income and other material Taxes due and owing by the Company on or before the date hereof (whether or not shown on any Tax Return) have been fully paid. Since the date of the Company Unaudited Interim Balance Sheet, the Company has not incurred any material Liability for Taxes outside the Ordinary Course of Business.

(c) All Taxes that the Company is or was required by Law to withhold or collect have been duly and timely withheld or collected in all material respects on behalf of its respective employees, independent contractors, stockholders, or other third parties and, have been timely paid to the proper Governmental Body or other Person or properly set aside in accounts for this purpose.

(d) There are no Encumbrances for material Taxes (other than Taxes not yet due and payable) upon any of the assets of the Company.

(e) No deficiencies for income or other material Taxes with respect to the Company have been claimed, proposed or assessed by any Governmental Body in writing. There are no pending or ongoing, and to the Knowledge of the Company, threatened audits, assessments or other actions for or relating to any liability in respect of a material amount of Taxes of the Company. Neither the Company nor any of its predecessors has waived any statute of limitations in respect of any income or other material Taxes or agreed to any extension of time with respect to any income or other material Tax assessment or deficiency.

(f) The Company has not been a United States real property holding corporation within the meaning of Section 897(c)(2) of the Code during the applicable period specified in Section 897(c)(1)(A)(ii) of the Code.

(g) The Company is not party to any Tax allocation agreement, Tax sharing agreement, Tax indemnity agreement, or similar agreement or arrangement, other than customary commercial contracts entered into in the Ordinary Course of Business the principal subject matter of which is not Taxes.

(h) The Company will not be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any Tax period (or portion thereof) ending after the Closing Date as a result of any: (i) change in method of accounting for Tax purposes; (ii) use of an improper method of accounting for a Tax period ending on or prior to the Closing Date; (iii) closing agreement as described in Section 7121 of the Code (or any similar provision of state, local or foreign Law) executed on or prior to the Closing Date; (iv) intercompany transaction or excess loss account described in Treasury Regulations under Section 1502 of the Code (or any similar provision of state, local or foreign Law); (v) installment sale or open transaction disposition made on or prior to the Closing Date; (vi) prepaid amount received or deferred revenue accrued on or prior to the Closing Date; or (vii) election under Section 108(i) of the Code (or any similar provision of state, local or foreign Law).

(i) The Company has never been a member of a consolidated, combined or unitary Tax group (other than such a group the common parent of which is the Company). The Company has no Liability for any material Taxes of any Person (other than the Company) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local, or foreign Law), or as a transferee or successor.

(j) The Company has not distributed stock of another Person, or has had its stock distributed by another Person, in a transaction that was purported or intended to be governed in whole or in part by Section 355 of the Code or Section 361 of the Code (or any similar provisions of state, local or foreign Law).

(k) The Company has never had a permanent establishment (within the meaning of an applicable Tax treaty) or otherwise has an office or fixed place of business in a jurisdiction outside of the United States.

(l) The Company has not participated in or been a party to a transaction that, as of the date of this Agreement, constitutes a listed transaction that is required to be reported to the IRS pursuant to Section 6011 of the Code and applicable Treasury Regulations thereunder.

(m) The Company has not taken any action or has Knowledge of any fact that would reasonably be expected to prevent the Merger from qualifying for the Intended Tax Treatment.

For purposes of this Section 2.16, each reference to the Company shall be deemed to include any Person that was liquidated into, merged with, or is otherwise a predecessor to, the Company.

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2.17. **Employee and Labor Matters; Benefit Plans.**

(a) Section 2.17(a) of the Company Disclosure Schedule is a list of all material Company Benefit Plans, including, without limitation, each Company Benefit Plan that provides for retirement, change in control, non-qualified deferred compensation, incentive compensation, severance or retiree medical or retiree life insurance benefits. ***Company Benefit Plan*** means each (i) employee benefit plan as defined in Section 3(3) of ERISA and (ii) other pension, retirement, deferred compensation, profit sharing, bonus, incentive, equity or equity-based, phantom equity, employment, consulting, severance, change-of-control, retention, health, life, disability, time off, holiday, welfare and fringe benefit plan, program, contract, or arrangement (whether written or unwritten), in any case, maintained, contributed to, or required to be contributed to, by the Company or any Company ERISA Affiliate for the benefit of any current or former employee, director, officer or consultant (that is a natural person) of the Company or under which the Company has any actual or contingent liability (including, without limitation, as to the result of it being treated as a single employer under Code Section 414 with any other person).

(b) As applicable with respect to each material Company Benefit Plan, the Company has made available to Parent, true and complete copies of (i) each material Company Benefit Plan, including all amendments thereto, and in the case of an unwritten material Company Benefit Plan, a written description thereof, (ii) all current trust documents, administrative services agreements and insurance and annuity contracts relating thereto, (iii) the current summary plan description and each summary of material modifications thereto, (iv) the most recently filed annual reports with any Governmental Body (*e.g.*, Form 5500 and all schedules thereto), (v) the most recent IRS determination, opinion or advisory letter, (vi) the most recent summary annual reports, nondiscrimination testing reports, actuarial reports, financial statements and trustee reports, (vii) all records, notices and filings concerning IRS or Department of Labor or other Governmental Body audits or investigations or prohibited transactions within the meaning of Section 406 of ERISA or Section 4975 of the Code, in any case under this clause (vii), within the last three (3) years and (viii) all policies and procedures established to comply with the privacy and security rules of HIPAA.

(c) Each Company Benefit Plan has been maintained, operated and administered in compliance in all material respects with its terms and any related documents or agreements and the applicable provisions of ERISA, the Code and all other Laws.

(d) The Company Benefit Plans which are employee pension benefit plans within the meaning of Section 3(2) of ERISA and which are intended to meet the qualification requirements of Section 401(a) of the Code have each received a favorable determination, opinion or advisory letter from the IRS to the effect that such Company Benefit Plan is qualified under Section 401(a) of the Code, and nothing has occurred that would reasonably be expected to result in the loss of such qualification of such Company Benefit Plan.

(e) Neither the Company nor any Company ERISA Affiliate maintains, contributes to, is required to contribute to, or has any actual or contingent liability with respect to, (i) any employee pension benefit plan (within the meaning of Section 3(2) of ERISA) that is subject to Title IV or Section 302 of ERISA or Section 412 of the Code, (ii) any multiemployer plan (within the meaning of Section 3(37) of ERISA), (iii) any multiple employer plan (within the meaning of Section 413 of the Code) or (iv) any multiple employer welfare arrangement (within the meaning of Section 3(40) of ERISA).

(f) There are no pending audits or investigations by any Governmental Body involving any Company Benefit Plan, and no pending nor, to the Knowledge of the Company, threatened claims (except for individual claims for benefits payable in the normal operation of the Company Benefit Plans), suits or proceedings involving any Company Benefit Plan, in any case, except as would not be reasonably expected to result in material liability to the Company.

(g) No Company Benefit Plan provides death, medical, dental, vision or life insurance benefits beyond termination of service or retirement other than coverage mandated by Law and neither the Company nor any Company ERISA Affiliate has made a written or oral representation promising the same.

(h) Neither the execution of, nor the performance of the transactions contemplated by, this Agreement will either alone or in connection with any other event(s) (i) result in any payment becoming due to any current or former employee, director, officer, or consultant (who is a natural person) of the Company,

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(ii) increase any amount of compensation or benefits otherwise payable under any Company Benefit Plan, (iii) result in the acceleration of the time of payment, funding or vesting of any benefits under any Company Benefit Plan or (iv) require any contribution or payment to fund any obligation under any Company Benefit Plan.

(i) The exercise price of each Company Option was not less than the fair market value of one share of Company Common Stock as of the grant date of such Company Option.

(j) No current or former employee, officer, director or independent contractor of the Company has any gross up agreements or other assurance of reimbursement for any Taxes imposed under Code Section 409A or Code Section 4999.

(k) The Company does not maintain any Company Benefit Plan outside of the United States.

(l) The Company is not a party to, bound by, nor has a duty to bargain under any collective bargaining agreement or other Contract with a labor union, labor organization, or similar Person representing any of its employees, and there is no labor union, labor organization, or similar Person representing or, to the Knowledge of the Company, purporting to represent or seeking to represent any employees of the Company, including through the filing of a petition for representation election.

(m) The Company is, and since January 1, 2016 has been, in compliance in all material respects with all applicable Laws respecting labor, employment, employment practices, and terms and conditions of employment, including worker classification, tax withholding, prohibited discrimination and retaliation, equal employment opportunities, harassment, fair employment practices, meal and rest periods, immigration, employee safety and health, wages (including overtime wages), unemployment and workers compensation, leaves of absence, and hours of work. Except as would not be reasonably likely to result in a material liability to the Company, with respect to employees of the Company, the Company since January 1, 2016: (i) has withheld and reported all amounts required by Law or by agreement to be withheld and reported with respect to wages, salaries and other payments, benefits, or compensation to employees, (ii) is not liable for any arrears of wages (including overtime wages), severance pay or any Taxes or any penalty for failure to comply with any of the foregoing, and (iii) is not liable for any payment to any trust or other fund governed by or maintained by or on behalf of any Governmental Body, with respect to unemployment compensation benefits, disability, social security or other benefits or obligations for employees (other than routine payments to be made in the Ordinary Course of Business). There are no Legal Proceedings pending or, to the Knowledge of the Company, threatened or reasonably anticipated against the Company with respect to, by, or on behalf of any employee, applicant for employment, consultant, employment agreement or Company Benefit Plan (other than routine claims for benefits).

(n) Except as would not be reasonably likely to result in a material liability to the Company, with respect to each individual who currently renders services to the Company, the Company has accurately classified each such individual as an employee, independent contractor, or otherwise under all applicable Laws and, for each individual classified as an employee, the Company has accurately classified him or her as overtime eligible or overtime ineligible under all applicable Laws. The Company does not have any material liability with respect to any misclassification of: (i) any Person as an independent contractor rather than as an employee, (ii) any employee leased from another employer, or (iii) any employee currently or formerly classified as exempt from overtime wages.

(o) There is not and has not been in the past three (3) years, nor is there or has there been in the past three (3) years any threat of, any strike, slowdown, work stoppage, lockout, union election petition, demand for recognition, or any similar activity or dispute, or, to the Knowledge of the Company, any union organizing activity, against the Company. No event has occurred, and no condition or circumstance exists, that might directly or indirectly be likely to give rise to or provide a basis for the commencement of any such strike, slowdown, work stoppage, lockout or any similar

activity or dispute.

(p) There is no Legal Proceeding, including any claim, unfair labor practice charge or complaint, labor dispute or grievance, pending or, to the Knowledge of the Company, threatened against the Company relating to labor, employment, employment practices, or terms and conditions of employment.

(q) As of the date hereof, no Key Employee of the Company has submitted his or her resignation or, to the Knowledge of the Company, intends to resign.

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2.18. **Environmental Matters.** The Company is and since January 1, 2016 has complied with all applicable Environmental Laws, which compliance includes the possession by the Company of all permits and other Governmental Authorizations required under applicable Environmental Laws and compliance with the terms and conditions thereof, except for any failure to be in such compliance that, either individually or in the aggregate, would not reasonably be expected to be material to the Company or its business. The Company has not received since January 1, 2016 (or prior to that time, which is pending and unresolved), any written notice or other communication (in writing or otherwise), whether from a Governmental Body or other Person, that alleges that the Company is not in compliance with or has liability pursuant to any Environmental Law. No current or (during the time a prior property was leased by the Company) prior property leased by the Company has had a release of or exposure to Hazardous Substances in material violation of or as would reasonably be expected to result in any material liability of the Company pursuant to Environmental Law. No consent, approval or Governmental Authorization of or registration or filing with any Governmental Body is required by Environmental Laws in connection with the execution and delivery of this Agreement or the Contemplated Transactions. Prior to the date hereof, the Company has provided or otherwise made available to Parent true and correct copies of all material environmental reports, assessments, studies and audits in the possession or control of the Company with respect to any property leased by the Company.

2.19. **Insurance.** The Company has delivered or made available to Parent accurate and complete copies of all material insurance policies and all material self-insurance programs and arrangements relating to the business, assets, liabilities and operations of the Company. Each of such insurance policies is in full force and effect and the Company is in compliance in all material respects with the terms thereof. Other than customary end of policy notifications from insurance carriers, since January 1, 2016, the Company has not received any notice or other communication regarding any actual or possible: (i) cancellation or invalidation of any insurance policy; or (ii) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy. The Company has provided timely written notice to the appropriate insurance carrier(s) of each Legal Proceeding that is currently pending against the Company for which the Company has insurance coverage, and no such carrier has issued a denial of coverage or a reservation of rights with respect to any such Legal Proceeding, or informed the Company of its intent to do so. This Section 2.19 does not apply to insurance under any Company Benefit Plan.

2.20. **No Brokers Fees.** Except as set forth on Section 2.20 of the Company Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder s fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Contemplated Transactions based upon arrangements made by or on behalf of the Company.

2.21. **Disclosure.** The information supplied by the Company for inclusion in the Proxy Statement (including any of the Company Financials) will not, as of each of the date of the Proxy Statement and the date such information is prepared or presented, (i) contain any statement that is inaccurate or misleading with respect to any material facts, or (ii) omit to state any material fact necessary in order to make such information, in light of the circumstances under which such information will be provided, not false or misleading.

2.22. **Transactions with Affiliates.**

(a) Section 2.22(a) of the Company Disclosure Schedule describes any material transactions or relationships, since January 1, 2016, between, on one hand, the Company and, on the other hand, any (i) executive officer or director of the Company or any of such executive officer s or director s immediate family members, (ii) owner of more than five percent (5%) of the voting power of the outstanding Company Capital Stock or (iii) to the Knowledge of the Company, any related person (within the meaning of Item 404 of Regulation S-K under the Securities Act) of any such officer, director or owner (other than the Company) in the case of each of (i), (ii) or (iii) that is of the type that would be required to be disclosed under Item 404 of Regulation S-K under the Securities Act.

(b) Section 2.22(b) of the Company Disclosure Schedule lists each stockholders agreement, voting agreement, registration rights agreement, co-sale agreement or other similar Contract between the Company and any holders of Company Capital Stock, including any such Contract granting any Person investor rights, rights of first refusal, rights of first offer, registration rights, director designation rights or similar rights (collectively, the ***Investor Agreements***).

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2.23. **Anti-Bribery.** Neither the Company nor any of its directors, officers, employees or, to the Company s Knowledge, agents or any other Person acting on their behalf has directly or indirectly made any bribes, rebates, payoffs, influence payments, kickbacks, illegal payments, illegal political contributions, or other payments, in the form of cash, gifts, or otherwise, or taken any other action, in violation of the Foreign Corrupt Practices Act of 1977, the UK Bribery Act of 2010 or any other anti-bribery or anti-corruption Law (collectively, the ***Anti-Bribery Laws***). To the Company s Knowledge, the Company is not and has not been the subject of any investigation or inquiry by any Governmental Body with respect to potential violations of Anti-Bribery Laws.

2.24. **Information Technology; Data Privacy.**

(a) The Company has taken commercially reasonable steps to ensure the continued operation of the material software and databases included in the Company Owned IP Rights, and all of its material computers and other information technology infrastructure and assets used in the business (collectively, the ***IT Assets***), and to protect the security and confidentiality of its IT Assets and the material information and records stored on or accessed or transmitted using the IT Assets. The IT Assets of the Company operate and perform in all material respects as is necessary and sufficient for the conduct of the business of the Company as currently conducted by them. To the Company s Knowledge, the IT Assets are free from malicious code and do not contain any bugs, errors, vulnerabilities or problems that, in each case, would be expected to materially adversely affect the operation or use of any such IT Assets in the business of the Company. To the Company s Knowledge, there has not been in the past three (3) years any material (i) unauthorized intrusions or breach of the security of the IT Assets, (ii) malfunction of the IT Assets or (iii) accidental or unauthorized access to, loss or misuse of Personal Data maintained by the Company. The Company has implemented commercially reasonable backups and security measures to duplicate, store and protect its material information that is stored in electronic form or media.

(b) The Company and, to the Knowledge of the Company, each of the Company s Data Processors, is in compliance in all material respects with all applicable Data Privacy Requirements. To the Company s Knowledge, the Company is not under investigation by any Governmental Body for a material violation of applicable Laws relating to data privacy or security, nor has the Company received any written complaint or inquiry related to its data privacy or security practices. The Company and, to the Knowledge of the Company, each of the Company s Data Processors, has implemented and maintains commercially reasonable organizational, physical, administrative and technical measures substantially consistent with industry standards to protect the operation, confidentiality, integrity and security of all Personal Data or other sensitive business data against loss, theft, or unauthorized access, disclosure or use. To the Company s Knowledge, the Company has not experienced any security incident in which an unauthorized party accessed or acquired Personal Data or sensitive business data maintained by or on behalf of the Company.

2.25. **Disclaimer of Other Representations or Warranties.** Except as previously set forth in this Section 2 or in any certificate delivered by the Company to Parent and/or Merger Sub pursuant to this Agreement, the Company makes no representation or warranty, express or implied, at law or in equity, with respect to it or any of its assets, liabilities or operations, and any such other representations or warranties are hereby expressly disclaimed.

Section 3. REPRESENTATIONS AND WARRANTIES OF PARENT AND MERGER SUB

Subject to Section 10.13(i), except (i) as set forth in the written disclosure schedule delivered by Parent to the Company (the ***Parent Disclosure Schedule***) or (ii) with respect to each of the representations and warranties set forth in this Section 3 other than those set forth in Section 3.6, Section 3.8, Section 3.10, Section 3.11, Section 3.17, Section 3.26 and the Parent Fundamental Representations, as disclosed in the Parent SEC Documents filed with the SEC prior to the date hereof and publicly available on the SEC s Electronic Data Gathering Analysis and Retrieval system (but (A) without giving effect to any amendment thereof filed with, or furnished to the SEC on or after the date hereof and (B) excluding any disclosures contained under the heading ***Risk Factors*** and any disclosure of risks included in any forward-looking statements disclaimer or in any other section to the extent they are forward-looking statements or

cautionary, predictive or forward-looking in nature), Parent and Merger Sub represent and warrant to the Company as follows:

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3.1. **Due Organization; Subsidiaries.**

(a) Each of Parent and Merger Sub is a corporation duly incorporated, validly existing and in good standing under the Laws of the State of Delaware and has all necessary corporate power and authority (i) to conduct its business in the manner in which its business is currently being conducted and (ii) to own or lease and use its property and assets in the manner in which its property and assets are currently owned or leased and used, except in the case of the foregoing (i) and (ii), where the failure to have such power or authority would not reasonably be expected to be material to Parent, or prevent or materially delay the ability of Parent and Merger Sub to consummate the Contemplated Transactions. Since the date of its incorporation, Merger Sub has not engaged in any activities other than activities incident to its formation or in connection with or as contemplated by this Agreement.

(b) Parent is duly licensed and qualified to do business, and is in good standing (to the extent applicable in such jurisdiction), under the Laws of all jurisdictions where the nature of its business requires such licensing or qualification other than in jurisdictions where the failure to be so qualified individually or in the aggregate would not be reasonably expected to have a Parent Material Adverse Effect.

(c) Except for Merger Sub, Parent has no Subsidiaries, nor does Parent own any capital stock of, or any equity, ownership or profit sharing interest of any nature in, or controls directly or indirectly, any other Entity. Parent is not, nor has it otherwise been, directly or indirectly, a party to, member of or participant in any partnership, joint venture or similar business entity. Parent has not agreed, nor is it obligated to make, nor is it bound by any Contract under which it may become obligated to make, any future investment in or capital contribution to any other Entity. Parent has not, at any time, been a general partner of, or has otherwise been liable for any of the debts or other obligations of, any general partnership, limited partnership or other Entity.

3.2. **Organizational Documents.** Parent has made available to the Company accurate and complete copies of Parent s and Merger Sub s Organizational Documents. Neither Parent nor Merger Sub is in material breach or violation of its respective Organizational Documents.

3.3. **Authority; Binding Nature of Agreement.** Each of Parent and Merger Sub has all necessary corporate power and authority to enter into and to perform its obligations under this Agreement and to consummate the Contemplated Transactions. The Parent Board (at meetings duly called and held) has (other than Brian Leuthner, who recused himself) (a) determined that the Contemplated Transactions are fair to, advisable and in the best interests of Parent and its stockholders; (b) approved and declared advisable this Agreement and the Contemplated Transactions, including the issuance of shares of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement and the treatment of the Company Options pursuant to this Agreement; and (c) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of Parent vote to approve this Agreement and the Contemplated Transactions, including the issuance of shares of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement. The Merger Sub Board (by unanimous written consent) has: (x) determined that the Contemplated Transactions are fair to, advisable, and in the best interests of Merger Sub and its sole stockholder; (y) deemed advisable and approved this Agreement and the Contemplated Transactions; and (z) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholder of Merger Sub vote to adopt this Agreement and thereby approve the Contemplated Transactions. This Agreement has been duly executed and delivered by Parent and Merger Sub and, assuming the due authorization, execution and delivery by the Company, constitutes the legal, valid and binding obligation of Parent and Merger Sub, enforceable against each of Parent and Merger Sub in accordance with its terms, subject to the Enforceability Exceptions.

3.4. **Vote Required.** The affirmative vote of (i) a majority of the votes cast at the Parent Stockholders Meeting is the only vote of the holders of any class or series of Parent s capital stock necessary to approve the issuance of the shares

of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement (the ***Required Parent Stockholder Merger Vote***) and (ii) a majority of the outstanding shares of Parent Common Stock is the only vote of the holders of any class or series of Parent s capital stock necessary to approve the Reverse Split (the ***Required Parent Stockholder Reverse Split Vote***, such vote, together with the Required Parent Stockholder Merger Vote, the ***Required Parent Stockholder Vote***).

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3.5. **Non-Contravention; Consents.** Subject to obtaining the Required Parent Stockholder Vote, the filing of the Certificate of Merger required by the DGCL, obtaining the Consents set forth on Section 3.5 of the Parent Disclosure Schedule, neither (x) the execution, delivery or performance of this Agreement by Parent or Merger Sub, nor (y) the consummation of the Contemplated Transactions, will directly or indirectly (with or without notice or lapse of time):

(a) contravene, conflict with or result in a violation of any of the provisions of the Organizational Documents of Parent or Merger Sub;

(b) contravene, conflict with or result in a violation of, or give any Governmental Body or other Person the right to challenge the Contemplated Transactions or to exercise any remedy or obtain any relief under, any Law or any order, writ, injunction, judgment or decree to which Parent or Merger Sub, or any of the assets owned or used by Parent or Merger Sub, is subject, except as would not reasonably be expected to be material to Parent or its business;

(c) contravene, conflict with or result in a violation of any of the terms or requirements of, or give any Governmental Body the right to revoke, withdraw, suspend, cancel, terminate or modify, any Governmental Authorization that is held by Parent, or require any notice to or Consent by any Governmental Body, except as would not reasonably be expected to be material to Parent or its business;

(d) contravene, conflict with or result in a violation or breach of, or result in a default or require any notice or Consent under, any provision of any Parent Material Contract, or give any Person the right to: (i) declare a default or exercise any remedy under any Parent Material Contract; (ii) any material payment, rebate, chargeback, penalty or change in delivery schedule under any Parent Material Contract; (iii) accelerate the maturity or performance of any Parent Material Contract; or (iv) cancel, terminate or modify any term of any Parent Material Contract, except in each case as would not reasonably be expected to be material to Parent or its business; or

(e) result in the imposition or creation of any Encumbrance upon or with respect to any asset owned or used by Parent (except for Permitted Encumbrances).

The Parent Board and the Merger Sub Board have taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL are, and will be, inapplicable to the execution, delivery and performance of this Agreement and to the consummation of the Contemplated Transactions. No other state takeover statute or similar Law applies or purports to apply to the Merger, this Agreement or any of the other Contemplated Transactions. Parent is not included within a person (as defined in 16 C.F.R. § 801.1(a)(1)) that has one hundred and sixty eight million, eight hundred thousand dollars ($168,800,000) or more of total assets or annual net sales, in each case as determined in accordance with 16 C.F.R. § 801.11.

3.6. **Capitalization.**

(a) The authorized capital stock of Parent consists of (i) 75,000,000 shares of Parent Common Stock, par value $0.00033 per share, of which 31,328,128 shares have been issued and are outstanding as of October 25, 2018 (the ***Capitalization Date***) and (ii) 5,000,000 shares of Preferred Stock, par value $0.00033 per share, of which no shares have been issued and are outstanding as of the Capitalization Date. Parent does not hold any shares of its capital stock in its treasury.

(b) All of the outstanding shares of Parent Common Stock have been duly authorized and validly issued, and are fully paid and nonassessable. None of the outstanding shares of Parent Common Stock is entitled or subject to any preemptive right, right of participation, right of maintenance or any similar right and none of the outstanding shares of Parent Common Stock is subject to any right of first refusal in favor of Parent. Except as contemplated herein or as set forth on Section 3.6(b) of the Parent Disclosure Schedule, there is no Parent Contract relating to the voting or

registration of, or restricting any Person from purchasing, selling, pledging or otherwise disposing of (or granting any option or similar right with respect to), any shares of Parent Common Stock. Except as set forth on Section 3.6(b) of the Parent Disclosure Schedule or any Parent Benefit Plan (excluding any Parent Benefit Plan or amendment or Board resolution with respect thereto adopted, approved or executed on or after October 1, 2018), Parent is not under any obligation, nor is it bound by any Contract pursuant to which it may become obligated, to repurchase, redeem or otherwise acquire any outstanding shares of Parent Common Stock or other securities.

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(c) Except for the Parent Stock Plans, and except as set forth on Section 3.6(c) of the Parent Disclosure Schedule, Parent does not have any stock option plan or any other plan, program, agreement or arrangement providing for any equity-based compensation for any Person. As of the date of this Agreement, 7,481,106 shares have been reserved for issuance upon exercise of Parent Options granted under the Parent Stock Plans that are outstanding as of the date of this Agreement, 601,394 shares have been reserved for issuance upon settlement of Parent RSUs granted under the Parent Stock Plans that are outstanding as of the date of this Agreement, and 333,190 shares remain available for future issuance pursuant to the Parent Stock Plans. Based on the assumptions set forth on Section 3.6(c) of the Parent Disclosure Schedule, not more than 13,824 shares (subject to equitable adjustment for stock splits and similar events) would be issued after the date of this Agreement under the Parent 401(k) Plan as matching contributions for the 2018 plan year.

(d) Section 3.6(d) of the Parent Disclosure Schedule sets forth the following information with respect to each Parent Option and Parent RSU outstanding as of the date of this Agreement: (i) the name of the holder; (ii) the number of shares of Parent Common Stock subject to such Parent Option as of the date of this Agreement; (iii) the exercise price of such Parent Option; (iv) the date on which such Parent Option or Parent RSU was granted; (v) the date on which such Parent Option or Parent RSU expires; and (vi) whether such Parent Option is intended to constitute an incentive stock option (as defined in the Code) or a non-qualified stock option.

(e) Except for the Parent Stock Plans, including the Parent Options and the Parent RSUs, and as otherwise set forth on Section 3.6(e) of the Parent Disclosure Schedule, there is no: (i) outstanding subscription, option, call, warrant or right (whether or not currently exercisable) to acquire any shares of the capital stock or other securities of Parent or any of its Subsidiaries; (ii) outstanding security, instrument or obligation that is or may become convertible into or exchangeable for any shares of the capital stock or other securities of Parent or any of its Subsidiaries; or (iii) condition or circumstance that is reasonably likely to give rise to or provide a basis for the assertion of a claim by any Person to the effect that such Person is entitled to acquire or receive any shares of capital stock or other securities of Parent or any of its Subsidiaries. There are no outstanding or authorized stock appreciation, phantom stock, or other similar rights with respect to Parent or any of its Subsidiaries.

(f) All outstanding shares of Parent Common Stock, Parent Options, Parent RSUs and other securities of Parent have been issued and granted in material compliance with (i) all applicable securities Laws and other applicable Law, and (ii) all requirements set forth in applicable Contracts.

3.7. **SEC Filings; Financial Statements.**

(a) Parent has delivered or made available to the Company accurate and complete copies of all registration statements, proxy statements, Certifications (as defined below) and other statements, reports, schedules, forms and other documents filed by Parent with the SEC since January 1, 2016 (the ***Parent SEC Documents***), other than such documents that can be obtained on the SEC s website at www.sec.gov. All material statements, reports, schedules, forms and other documents required to have been filed by Parent or its officers with the SEC have been so filed on a timely basis. As of the time it was filed with the SEC (or, if amended or superseded by a filing prior to the date of this Agreement, then on the date of such filing), each of the Parent SEC Documents complied in all material respects with the applicable requirements of the Securities Act or the Exchange Act (as the case may be) and, as of the time they were filed, none of the Parent SEC Documents contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The certifications and statements required by (i) Rule 13a-14 under the Exchange Act and (ii) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the Parent SEC Documents (collectively, the ***Certifications***) are accurate and complete and comply as to form and content with all applicable Laws. As used in this Section 3.7, the term file and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the

SEC.

(b) The financial statements (including any related notes) contained or incorporated by reference in the Parent SEC Documents: (i) complied as to form in all material respects with the published rules and regulations of the SEC applicable thereto; (ii) were prepared in accordance with GAAP (except as may be indicated in the notes to such financial statements or, in the case of unaudited financial statements, except as

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permitted by Form 10-Q of the SEC, and except that the unaudited financial statements may not contain footnotes and are subject to normal and recurring year-end adjustments) applied on a consistent basis unless otherwise noted therein throughout the periods indicated; and (iii) fairly present, in all material respects, the financial position of Parent as of the respective dates thereof and the results of operations and cash flows of Parent for the periods covered thereby. Other than as expressly disclosed in the Parent SEC Documents filed prior to the date hereof, there has been no material change in Parent s accounting methods or principles that would be required to be disclosed in Parent s financial statements in accordance with GAAP. The books of account and other financial records of Parent are true and complete in all material respects.

(c) Except as set forth on Section 3.7(c) of the Parent Disclosure Schedule, Parent is in compliance in all material respects with the applicable current listing and governance rules and regulations of NASDAQ.

(d) Parent maintains a system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP and to provide reasonable assurance (i) that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, (ii) that receipts and expenditures are made only in accordance with authorizations of management and the Parent Board and (iii) regarding prevention or timely detection of the unauthorized acquisition, use or disposition of Parent s assets that could have a material effect on Parent s financial statements. Parent has evaluated the effectiveness of Parent s internal control over financial reporting as of December 31, 2017, and, to the extent required by applicable Law, presented in any applicable Parent SEC Document that is a report on Form 10-K or Form 10-Q (or any amendment thereto) its conclusions about the effectiveness of the internal control over financial reporting as of the end of the period covered by such report or amendment based on such evaluation. Parent has disclosed, based on its most recent evaluation of internal control over financial reporting, to Parent s auditors and audit committee (and made available to the Company a summary of the significant aspects of such disclosure) (A) all significant deficiencies, if any, in the design or operation of internal control over financial reporting that are reasonably likely to adversely affect Parent s ability to record, process, summarize and report financial information and (B) any known fraud that involves management or other employees who have a significant role in Parent s internal control over financial reporting. Parent has not identified, based on its most recent evaluation of internal control over financial reporting, any material weaknesses in the design or operation of Parent s internal control over financial reporting.

(e) Parent maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) that are reasonably designed to ensure that information required to be disclosed by Parent in the periodic reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the required time periods, and that all such information is accumulated and communicated to Parent s management as appropriate to allow timely decisions regarding required disclosure and to make the Certifications.

3.8. **Absence of Undisclosed Liabilities.** As of the date hereof, Parent does not have any Liability, individually or in the aggregate, of a type required to be recorded or reflected on a balance sheet or disclosed in the footnotes thereto under GAAP except for: (a) Liabilities disclosed, reflected or reserved against in the Parent Balance Sheet; (b) Liabilities that have been incurred by Parent since the date of the Parent Balance Sheet in the Ordinary Course of Business; (c) Liabilities incurred in connection with the Contemplated Transactions; (d) Liabilities which would not, individually or in the aggregate, reasonably be expected to be material to the Parent; and (e) Liabilities described in Section 3.8 of the Parent Disclosure Schedule.

3.9. **Real Property; Leasehold.** Parent does not own, nor has it ever owned, any real property. Parent has made available to the Company (a) an accurate and complete list of all real properties with respect to which Parent directly or indirectly holds a valid leasehold interest as well as any other real estate that is in the possession of or leased by Parent, and (b) copies of all leases under which any such real property is possessed (the ***Parent Real Estate Leases***),

each of which is in full force and effect, with no existing material default thereunder. Parent s use and operation of each such leased property conforms to all applicable Laws in all material respects, and Parent has exclusive possession of each such leased property and has not granted any occupancy rights to tenants or licensees with respect to such leased property. In addition, each such leased property is free and clear of all Encumbrances other than Permitted Encumbrances. Parent has not received

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written notice from its landlords or any Governmental Body that: (i) relates to violations of building, zoning, safety or fire ordinances or regulations; (ii) claims any defect or deficiency with respect to any of such properties; or (iii) requests the performance of any repairs, alterations or other work to such properties.

3.10. **Intellectual Property.**

(a) Section 3.10(a) of the Parent Disclosure Schedule accurately identifies each Parent Contract pursuant to which Parent has granted any license to any material Parent Owned IP Rights or Parent Exclusively Licensed IP Rights (other than any Parent Owned IP Rights or Parent Exclusively Licensed IP Rights that have been non-exclusively licensed to suppliers or service providers for the purpose of enabling such suppliers or service providers to provide services for Parent s benefit) (the ***Parent IP Agreements***). To the Knowledge of Parent, (i) the manufacture, marketing, license, sale or intended use of any product or technology currently licensed to a third party pursuant to the Parent IP Agreements, and (ii) the conduct of Parent s business as currently conducted and as has in the last two (2) years been conducted does not and has not infringed or misappropriated any Intellectual Property right of any third party, in each of case (i) and (ii) above, which infringement or misappropriation would reasonably be expected to be material to Parent or its business, and Parent has not, since January 1, 2016, received any written notice of any such infringement, misappropriation or similar claim.

(b) Section 3.10(b) of the Parent Disclosure Schedule accurately identifies (i) all Parent Contracts pursuant to which Parent Licensed IP Rights are licensed to Parent (other than (A) any non-customized software that (1) is so licensed solely in executable or object code form pursuant to a non-exclusive, internal use software license and other Intellectual Property nonexclusively licensed with such software and (2) is not incorporated into, or material to the development, manufacturing, or distribution of, any of Parent s products or services, (B) any Intellectual Property licensed ancillary to the purchase or use of services, equipment, reagents or other materials and (C) any immaterial confidential information provided under confidentiality agreements), and (ii) whether the license or licenses granted to Parent are exclusive or nonexclusive. For purposes of greater certainty, the term license in this Section 3.10(b) and in Section 3.10(a) includes any license, sublicense, covenant, non-assert, consent, release or waiver. Except as set forth in Section 3.10(b) of the Parent Disclosure Schedule, there are no royalties, honoraria, fees or other payments payable by Parent or any Person for the purchase, license, sublicense or use of any Parent IP Rights.

(c) To the Knowledge of Parent, with respect to Parent Owned IP Rights and to the Actual Knowledge of Parent with respect to Parent Exclusively Licensed IP Rights, no employee of Parent who is or was involved in the development of material Parent Owned IP Rights or Parent Exclusively Licensed IP Rights is or was (at the time of development) (i) bound by or otherwise subject to any Contract restricting him or her from performing his or her duties for Parent or (ii) in breach of any Contract with any former employer or other Person concerning Parent IP Rights purported to be owned by Parent or confidentiality provisions protecting Proprietary Information and other confidential information comprising Parent Owned IP Rights or Parent Exclusively Licensed IP Rights.

(d) Except as identified in Section 3.10(d) of the Parent Disclosure Schedule, no material Parent Owned IP Rights or, to the Actual Knowledge of Parent, Parent Exclusively Licensed IP Rights were developed, in whole or in part (i) pursuant to or in connection with the development of any professional, technical or industry standard, (ii) under contract with or using the resources of any Governmental Body, academic institution or other entity that would subject any Parent Owned IP Rights or Parent Exclusively Licensed IP Rights to the rights of any Governmental Body, academic institution or other entity or (iii) under any grants or other funding arrangements with third parties. To the extent that any Parent Owned IP Rights or Parent Exclusively Licensed IP Rights are disclosed in Section 3.10(d) of the Parent Disclosure Schedule, Section 3.10(d) of the Parent Disclosure Schedule identifies each Parent Contract that relates to such Parent Owned IP Rights or Parent Exclusively Licensed IP Rights.

(e) Except as set forth in the Contracts listed on Section 3.10(e) of the Parent Disclosure Schedule and except for Parent Contracts entered into in the Ordinary Course of Business, (i) Parent is not bound by any Contract to indemnify, defend, hold harmless, or reimburse any other Person with respect to any Intellectual Property infringement, misappropriation, or similar claim, in each case, that would reasonably be expected to be material to Parent or its business, and (ii) Parent has not assumed, or agreed to discharge or

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otherwise take responsibility for, any existing or potential liability of another Person for infringement, misappropriation, or violation of any Intellectual Property right, which assumption, agreement or responsibility is material and remains in force as of the date of this Agreement.

(f) There are no Contracts pursuant to which Parent or any existing or future Affiliate of Parent granted or is required to grant to any Person any rights under the Intellectual Property of Parent other than Intellectual Property owned or controlled by Parent as of the Closing Date.

(g) Section 3.10(g) of the Parent Disclosure Schedule sets forth, as of the date specified thereon, an accurate, true and complete listing of all Patents included in the Parent Registered IP, and, specifying as to each such item, as applicable, jurisdiction of application and/or registration, the application and/or registration number, the date of application and/or registration, and the status of application and/or registration. Except as otherwise indicated on Section 3.10(g) of the Parent Disclosure Schedule, Parent is the owner of record and beneficial owner of all Parent Registered IP. Each item of Parent Registered IP required to be listed on Section 3.10(g) of the Parent Disclosure Schedule is and at all times has been filed and maintained in compliance in all material respects with all applicable Law and all filings, payments, and other actions required to be made or taken to maintain such item of Parent Registered IP in full force and effect have been made by the applicable deadline, except for any failure to perform any of the foregoing, individually or collectively, that would not reasonably be expected to be material to Parent or its business. There are no (and as of the Closing there will be no) ongoing payment or other financial obligations to any third party with respect to any Parent Registered IP required to be listed on Section 3.10(g) of the Parent Disclosure Schedule that is jointly owned by Parent and any third party.

3.11. **Agreements, Contracts and Commitments.** Section 3.11 of the Parent Disclosure Schedule identifies each Parent Contract that is in effect as of the date of this Agreement (other than any Parent Benefit Plan) and is:

(a) a material contract as defined in Item 601(b)(10) of Regulation S-K as promulgated under the Securities Act;

(b) a Contract relating to any agreement of indemnification or guaranty not entered into in the Ordinary Course of Business;

(c) a Contract containing (A) any covenant limiting the freedom of Parent to engage in any line of business or compete with any Person, (B) any most-favored pricing arrangement, (C) any exclusivity provision, or (D) any non-solicitation provision;

(d) a Contract relating to capital expenditures and requiring payments after the date of this Agreement in excess of $100,000 pursuant to its express terms and not cancelable without penalty;

(e) a Contract relating to the disposition or acquisition of material assets or any ownership interest in any Entity;

(f) a Contract relating to any mortgages, indentures, loans, notes or credit agreements, security agreements or other agreements or instruments relating to the borrowing of money or extension of credit or creating any material Encumbrances with respect to any assets of Parent or any loans or debt obligations with officers or directors of Parent;

(g) a Contract requiring payment by or to Parent after the date of this Agreement in excess of $100,000 pursuant to its express terms relating to: (A) any distribution agreement (identifying any that contain exclusivity provisions); (B) any agreement involving provision of services or products with respect to any pre-clinical or clinical development activities of Parent; (C) any dealer, distributor, joint marketing, alliance, joint venture, cooperation, development or other agreement currently in force under which Parent has continuing obligations to develop or market any product, technology or service, or any agreement pursuant to which Parent has continuing obligations to develop any

Intellectual Property that will not be owned, in whole or in part, by Parent; or (D) any Contract to license any third party to manufacture or produce any product, service or technology of Parent or any Contract to sell, distribute or commercialize any products or service of Parent, in each case, except for Contracts entered into in the Ordinary Course of Business;

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(h) a Contract with any Person, including any financial advisor, broker, finder, investment banker or other Person, providing advisory services to Parent in connection with the Contemplated Transactions;

(i) a Contract with a labor union, labor organization, or similar Person;

(j) a Parent Real Estate Lease;

(k) a Contract with any Governmental Body;

(l) a Parent IP Agreement or other Contract required to be disclosed on Section 3.10 of the Parent Disclosure Schedule;

(m) a Contract containing any royalty, dividend or similar arrangement based on the revenues or profits of Parent; or

(n) any other Contract that is not terminable at will (with no penalty or payment) by Parent and (A) which involves payment or receipt by Parent after the date of this Agreement under any such agreement, contract or commitment of more than $100,000 in the aggregate, or obligations after the date of this Agreement in excess of $100,000 in the aggregate, or (B) that is material to the business or operations of Parent.

Parent has delivered or made available to the Company accurate and complete copies of all Contracts to which Parent is a party or by which it is bound of the type described in the foregoing clauses (a)-(m) (any such Contract, a ***Parent Material Contract***). There are no Parent Material Contracts that are not in written form. Parent has not nor, to Parent s Knowledge, as of the date of this Agreement, has any other party to a Parent Material Contract, breached, violated or defaulted under, or received written notice that it breached, violated or defaulted under, any of the terms or conditions of any Parent Material Contract in such manner as would permit any other party to cancel or terminate any such Parent Material Contract, or would permit any other party to seek damages which would reasonably be expected to be material to Parent or its business. As to Parent, as of the date of this Agreement, each Parent Material Contract is valid, binding, enforceable and in full force and effect, subject to the Enforceability Exceptions. No Person is renegotiating, or has a right pursuant to the terms of any Parent Material Contract to change, any material amount paid or payable to Parent under any Parent Material Contract or any other material term or provision of any Parent Material Contract.

3.12. **Compliance; Permits.**

(a) Parent is, and since January 1, 2016 has been, in compliance in all material respects with all applicable Laws, including the FDCA, the FDA regulations adopted thereunder, the Controlled Substance Act and any other similar Law administered or promulgated by any Drug Regulatory Agency, except for any noncompliance, either individually or in the aggregate, which would not be material to Parent. No investigation, claim, suit, proceeding, audit or other action by any Governmental Body is pending or, to the Knowledge of Parent, threatened in writing against Parent. There is no agreement, judgment, injunction, order or decree binding upon Parent which (i) has or would reasonably be expected to have the effect of prohibiting or materially impairing any business practice of Parent, any acquisition of material property by Parent or the conduct of business by Parent as currently conducted, (ii) is reasonably likely to have an adverse effect on Parent s ability to comply with or perform any covenant or obligation under this Agreement, or (iii) is reasonably likely to have the effect of preventing, delaying, making illegal or otherwise interfering with the Contemplated Transactions.

(b) Parent holds all required Governmental Authorizations which are material to the operation of the business of Parent as currently conducted (the ***Parent Permits***). Section 3.12(b) of the Parent Disclosure Schedule identifies each Parent Permit. Parent is in material compliance with the terms of the Parent Permits. No Legal Proceeding is pending

or, to the Knowledge of Parent, threatened, which seeks to revoke, limit, suspend, or materially modify any Parent Permit.

(c) There are no proceedings pending or, to the Knowledge of Parent, threatened with respect to an alleged material violation by Parent of the FDCA, FDA regulations adopted thereunder, the Controlled Substance Act or any other similar Law administered or promulgated by any Drug Regulatory Agency.

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(d) Parent is not the subject of any pending or, to the Knowledge of Parent, threatened investigation in respect of its business or products by the FDA pursuant to its Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities Final Policy set forth in 56 Fed. Reg. 46191 (September 10, 1991) and any amendments thereto. To the Knowledge of Parent, Parent has not committed any acts, made any statement, or failed to make any statement, in each case in respect of its business or products that would violate the FDA s Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities Final Policy, and any amendments thereto or any comparable applicable Law of any other Drug Regulatory Agency. Neither Parent nor, to the Knowledge of Parent, any of its officers, employees or agents has been convicted of any crime or engaged in any conduct that would result in a debarment or exclusion (i) under 21 U.S.C. Section 335a or (ii) any similar applicable Law. No debarment or exclusionary claims, actions, proceedings or investigations in respect of Parent s business or products are pending or, to the Knowledge of Parent, threatened against Parent or, to the Knowledge of Parent any of its officers, employees or agents.

(e) Parent has complied in all material respects with all Laws relating to patient, medical or individual health information, including HIPAA, including the standards for the privacy of Individually Identifiable Health Information at 45 C.F.R. Parts 160 and 164, Subparts A and E, the standards for the protection of Electronic Protected Health Information set forth at 45 C.F.R. Part 160 and 45 C.F.R. Part 164, Subpart A and Subpart C, the standards for transactions and code sets used in electronic transactions at 45 C.F.R. Part 160, Subpart A and Part 162, and the standards for Breach Notification for Unsecured Protected Health Information at 45 C.F.R. Part 164, Subpart D, all as amended from time to time. Parent has entered into, where required, and are in compliance in all material respects with the terms of all Business Associate (as defined in HIPAA) agreements to which Parent is a party or otherwise bound. Parent has created and maintained written policies and procedures to protect the privacy of all protected health information, provide training to all employees and agents as required under HIPAA, and has implemented security procedures, including physical, technical and administrative safeguards, to protect all personal information and Protected Health Information stored or transmitted in electronic form. Parent has not received written notice from the Office for Civil Rights for the U.S. Department of Health and Human Services or any other Governmental Body of any allegation regarding its failure to comply with HIPAA or any other state law or regulation applicable to the protection of individually identifiable health information or personally identifiable information. To Parent s Knowledge, no successful Security Incident, Breach of Unsecured Protected Health Information or breach of personally identifiable information under applicable state or federal laws has occurred with respect to information maintained or transmitted to Parent or an agent or third party subject to a Business Associate Agreement with Parent. Parent is currently submitting, receiving and handling or is capable of submitting receiving and handling transactions in accordance in all material respects with the Standard Transaction Rule. All capitalized terms in this Section 3.12(e) not otherwise defined in this Agreement shall have the meanings set forth under HIPAA.

3.13. **Legal Proceedings; Orders.**

(a) Except as set forth in Section 3.13(a) of the Parent Disclosure Schedule, as of the date of this Agreement, there is no material pending Legal Proceeding and, to the Knowledge of Parent, no Person has threatened in writing to commence any Legal Proceeding: (i) that involves (A) Parent, (B) to Parent s Knowledge, any current or former employee, independent contractor, officer or director of Parent (in his or her capacity as such) or (C) any of the material assets owned or used by Parent; or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Contemplated Transactions.

(b) Except as set forth in Section 3.13(b) of the Parent Disclosure Schedule, since January 1, 2016, no Legal Proceeding has been pending against Parent that resulted in material liability to Parent.

(c) There is no order, writ, injunction, judgment or decree to which Parent, or any of the material assets owned or used by Parent, is subject. To the Knowledge of Parent, no officer or other Key Employee of Parent is subject to any order, writ, injunction, judgment or decree that prohibits such officer or employee from engaging in or continuing any

conduct, activity or practice relating to the business of Parent or to any material assets owned or used by Parent.

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3.14. **Tax Matters.**

(a) Parent has timely filed all income Tax Returns and other material Tax Returns that they were required to file under applicable Law. All such Tax Returns are correct and complete in all material respects and have been prepared in compliance with all applicable Law. No claim has ever been made by any Governmental Body in any jurisdiction where Parent does not file a particular Tax Return or pay a particular Tax that Parent is subject to taxation by that jurisdiction.

(b) All income and other material Taxes due and owing by Parent on or before the date hereof (whether or not shown on any Tax Return) have been fully paid. Since the Parent Balance Sheet Date, Parent has not incurred any material Liability for Taxes outside the Ordinary Course of Business.

(c) All Taxes that Parent is or was required by Law to withhold or collect have been duly and timely withheld or collected in all material respects on behalf of its respective employees, independent contractors, stockholders, or other third parties and, have been timely paid to the proper Governmental Body or other Person or properly set aside in accounts for this purpose.

(d) There are no Encumbrances for material Taxes (other than Taxes not yet due and payable) upon any of the assets of Parent.

(e) No deficiencies for income or other material Taxes with respect to Parent have been claimed, proposed or assessed by any Governmental Body in writing. There are no pending or ongoing, and to the Knowledge of Parent, threatened audits, assessments or other actions for or relating to any liability in respect of a material amount of Taxes of Parent. Neither Parent nor any of its predecessors has waived any statute of limitations in respect of any income or other material Taxes or agreed to any extension of time with respect to any income or other material Tax assessment or deficiency.

(f) Parent has not been a United States real property holding corporation within the meaning of Section 897(c)(2) of the Code during the applicable period specified in Section 897(c)(1)(A)(ii) of the Code.

(g) Parent is not a party to any Tax allocation agreement, Tax sharing agreement, Tax indemnity agreement, or similar agreement or arrangement, other than customary commercial contracts entered into in the Ordinary Course of Business the principal subject matter of which is not Taxes.

(h) Parent will not be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any Tax period (or portion thereof) ending after the Closing Date as a result of any: (i) change in method of accounting for Tax purposes; (ii) use of an improper method of accounting for a Tax period ending on or prior to the Closing Date; (iii) closing agreement as described in Section 7121 of the Code (or any similar provision of state, local or foreign Law) executed on or prior to the Closing Date; (iv) intercompany transaction or excess loss account described in Treasury Regulations under Section 1502 of the Code (or any similar provision of state, local or foreign Law); (v) installment sale or open transaction disposition made on or prior to the Closing Date; (vi) prepaid amount received or deferred revenue accrued on or prior to the Closing Date; or (vii) election under Section 108(i) (or any similar provision of state, local or foreign Law).

(i) Parent has never been a member of a consolidated, combined or unitary Tax group (other than such a group the common parent of which is Parent). Parent has no Liability for any material Taxes of any Person (other than Parent) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local, or foreign Law), or as a transferee or successor.

(j) Parent has not distributed stock of another Person, or had its stock distributed by another Person, in a transaction that was purported or intended to be governed in whole or in part by Section 355 of the Code or Section 361 of the Code (or any similar provisions of state, local or foreign Law).

(k) Parent has never had a permanent establishment (within the meaning of an applicable Tax treaty) or otherwise has an office or fixed place of business in a jurisdiction outside of the United States.

(l) Parent has not participated in or been a party to a transaction that, as of the date of this Agreement, constitutes a listed transaction that is required to be reported to the IRS pursuant to Section 6011 of the Code and applicable Treasury Regulations thereunder.

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(m) Parent has not taken any action or knows of any fact that would reasonably be expected to prevent the Merger from qualifying for the Intended Tax Treatment.

For purposes of this Section 3.14, each reference to Parent shall be deemed to include any Person that was liquidated into, merged with, or is otherwise a predecessor to, Parent.

3.15. **Employee and Labor Matters; Benefit Plans.**

(a) Section 3.15(a) of the Parent Disclosure Schedule is a list of all material Parent Benefit Plans, including, without limitation, each Parent Benefit Plan that provides for retirement, change in control, non-qualified deferred compensation, incentive compensation, severance or retiree medical or retiree life insurance benefits. ***Parent Benefit Plan*** means each (i) employee benefit plan as defined in Section 3(3) of ERISA and (ii) other pension, retirement, deferred compensation, profit sharing, bonus, incentive, equity or equity-based, phantom equity, employment, consulting, severance, change-of-control, retention, health, life, disability, time off, holiday, welfare and fringe benefit plan, program, contract, or arrangement (whether written or unwritten), in any case, maintained, contributed to, or required to be contributed to, by Parent or any Parent ERISA Affiliate for the benefit of any current or former employee, director, officer or consultant (that is a natural person) of Parent or under which Parent has any actual or contingent liability (including, without limitation, as to the result of it being treated as a single employer under Code Section 414 with any other person).

(b) As applicable with respect to each material Parent Benefit Plan, Parent has made available to the Company, true and complete copies of (i) each material Parent Benefit Plan, including all amendments thereto, and in the case of an unwritten material Parent Benefit Plan, a written description thereof, (ii) all current trust documents, administrative services agreements and insurance and annuity contracts relating thereto, (iii) the current summary plan description and each summary of material modifications thereto, (iv) the most recently filed annual reports with any Governmental Body (*e.g.*, Form 5500 and all schedules thereto), (v) the most recent IRS determination, opinion or advisory letter, (vi) the most recent summary annual reports, nondiscrimination testing reports, actuarial reports, financial statements and trustee reports, (vii) all records, notices and filings concerning IRS or Department of Labor or other Governmental Body audits or investigations or prohibited transactions within the meaning of Section 406 of ERISA or Section 4975 of the Code, in any case under this clause (vii), within the last three years and (viii) all policies and procedures established to comply with the privacy and security rules of HIPAA.

(c) Each Parent Benefit Plan has been maintained, operated and administered in compliance in all material respects with its terms and any related documents or agreements and the applicable provisions of ERISA, the Code and all other Laws.

(d) The Parent Benefit Plans which are employee pension benefit plans within the meaning of Section 3(2) of ERISA and which are intended to meet the qualification requirements of Section 401(a) of the Code have each received a favorable determination, opinion or advisory letter from the IRS to the effect that such Parent Benefit Plan is qualified under Section 401(a) of the Code, and nothing has occurred that would reasonably be expected to result in the loss of the qualification of such Parent Benefit Plan.

(e) Neither Parent nor any Parent ERISA Affiliate maintains, contributes to, is required to contribute to, or has any actual or contingent liability with respect to, (i) any employee pension benefit plan (within the meaning of Section 3(2) of ERISA) that is subject to Title IV or Section 302 of ERISA or Section 412 of the Code, (ii) any multiemployer plan (within the meaning of Section 3(37) of ERISA), (iii) any multiple employer plan (within the meaning of Section 413 of the Code) or (iv) any multiple employer welfare arrangement (within the meaning of Section 3(40) of ERISA).

(f) There are no pending audits or investigations by any Governmental Body involving any Parent Benefit Plan, and no pending nor, to the Knowledge of Parent, threatened claims (except for individual claims for benefits payable in the normal operation of the Parent Benefit Plans), suits or proceedings involving any Parent Benefit Plan, in any case, except as would not be reasonably expected to result in material liability to Parent.

(g) No Parent Benefit Plan provides death, medical, dental, vision or life insurance benefits beyond termination of service or retirement other than coverage mandated by Law and neither Parent nor any Parent ERISA Affiliate has made a written or oral representation promising the same.

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(h) Neither the execution of, nor the performance of the transactions contemplated by, this Agreement will either alone or in connection with any other event(s) (i) result in any payment becoming due to any current or former employee, director, officer, or consultant (who is a natural person) of Parent, (ii) increase any amount of compensation or benefits otherwise payable under any Parent Benefit Plan, (iii) result in the acceleration of the time of payment, funding or vesting of any benefits under any Parent Benefit Plan or (iv) require any contribution or payment to fund any obligation under any Parent Benefit Plan.

(i) The exercise price of each Parent Option is not, never has been and can never be less than the fair market value of one share of Parent Common Stock as of the grant date of such Parent Option.

(j) No current or former employee, officer, director or independent contractor of Parent has any gross up agreements or other assurance of reimbursement for any Taxes imposed under Code Section 409A or Code Section 4999.

(k) Parent does not maintain any Parent Benefit Plan outside of the United States.

(l) Parent is not a party to, bound by, nor has a duty to bargain under any collective bargaining agreement or other Contract with a labor union, labor organization, or similar Person representing any of its employees, and there is no labor union, labor organization, or similar Person representing or, to the Knowledge of Parent, purporting to represent or seeking to represent any employees of Parent, including through the filing of a petition for representation election.

(m) Parent is, and since January 1, 2016 has been, in compliance in all material respects with all applicable Laws respecting labor, employment, employment practices, and terms and conditions of employment, including worker classification, tax withholding, prohibited discrimination and retaliation, equal employment opportunities, harassment, fair employment practices, meal and rest periods, immigration, employee safety and health, wages (including overtime wages), unemployment and workers compensation, leaves of absence, and hours of work. Except as would not be reasonably likely to result in a material liability to Parent, with respect to employees of Parent, Parent, since January 1, 2016: (i) has withheld and reported all amounts required by Law or by agreement to be withheld and reported with respect to wages, salaries and other payments, benefits, or compensation to employees, (ii) is not liable for any arrears of wages (including overtime wages), severance pay or any Taxes or any penalty for failure to comply with any of the foregoing, and (iii) is not liable for any payment to any trust or other fund governed by or maintained by or on behalf of any Governmental Body, with respect to unemployment compensation benefits, disability, social security or other benefits or obligations for employees (other than routine payments to be made in the Ordinary Course of Business). There are no Legal Proceedings pending or, to the Knowledge of Parent, threatened or reasonably anticipated against Parent with respect to, by, or on behalf of any employee, applicant for employment, consultant, employment agreement or Parent Benefit Plan (other than routine claims for benefits).

(n) Except as would not be reasonably likely to result in a material liability to Parent, with respect to each individual who currently renders services to Parent, Parent has accurately classified each such individual as an employee, independent contractor, or otherwise under all applicable Laws and, for each individual classified as an employee, Parent has accurately classified him or her as overtime eligible or overtime ineligible under all applicable Laws. Parent has no material liability with respect to any misclassification of: (i) any Person as an independent contractor rather than as an employee, (ii) any employee leased from another employer, or (iii) any employee currently or formerly classified as exempt from overtime wages.

(o) There is not and has not been in the past three (3) years, nor is there or has there been in the past three (3) years any threat of, any strike, slowdown, work stoppage, lockout, union election petition, demand for recognition, or any similar activity or dispute, or, to the Knowledge of Parent, any union organizing activity, against Parent. No event has occurred, and no condition or circumstance exists, that might directly or indirectly be likely to give rise to or provide a basis for the commencement of any such strike, slowdown, work stoppage, lockout, or any similar activity or dispute.

(p) There is no Legal Proceeding, including any claim, unfair labor practice charge or complaint, labor dispute or grievance, pending or, to the Knowledge of Parent, threatened against Parent relating to labor, employment, employment practices, or terms and conditions of employment.

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(q) As of the date hereof, no Key Employee of Parent has submitted his or her resignation or, to the Knowledge of Parent, intends to resign.

3.16. **Environmental Matters.** Parent is and since January 1, 2016 has complied with all applicable Environmental Laws, which compliance includes the possession by Parent of all permits and other Governmental Authorizations required under applicable Environmental Laws and compliance with the terms and conditions thereof, except for any failure to be in such compliance that, either individually or in the aggregate, would not reasonably be expected to be material to Parent or its business. Parent has not received since January 1, 2016 (or prior to that time, which is pending and unresolved), any written notice or other communication (in writing or otherwise), whether from a Governmental Body or other Person, that alleges that Parent is not in compliance with or has liability pursuant to any Environmental Law. No current or (during the time a prior property was leased by Parent) prior property leased by Parent has had a release of or exposure to Hazardous Substances in material violation of or as would reasonably be expected to result in any material liability of Parent pursuant to Environmental Law. No consent, approval or Governmental Authorization of or registration or filing with any Governmental Body is required by Environmental Laws in connection with the execution and delivery of this Agreement or the consummation of Contemplated Transactions. Prior to the date hereof, Parent has provided or otherwise made available to the Company true and correct copies of all material environmental reports, assessments, studies and audits in the possession or control of Parent with respect to any property leased by Parent.

3.17. **Insurance.**

(a) Parent has delivered or made available to the Company accurate and complete copies of all material insurance policies and all material self-insurance programs and arrangements relating to the business, assets, liabilities and operations of Parent. Each of such insurance policies is in full force and effect and Parent is in compliance in all material respects with the terms thereof. Other than customary end of policy notifications from insurance carriers, since January 1, 2016, Parent has not received any notice or other communication regarding any actual or possible: (i) cancellation or invalidation of any insurance policy; or (ii) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy. Parent has provided timely written notice to the appropriate insurance carrier(s) of each Legal Proceeding that is currently pending against Parent for which Parent has insurance coverage, and no such carrier has issued a denial of coverage or a reservation of rights with respect to any such Legal Proceeding, or informed Parent of its intent to do so. This Section 3.17 does not apply to insurance under any Parent Benefit Plan.

(b) Section 3.17(b) of the Parent Disclosure Schedule accurately sets forth (i) the insurance policies providing coverage with respect to any Liabilities arising under the matters disclosed on Section 3.13 of the Parent Disclosure Schedule (the **Identified Claim**) and identifies the order of recovery against such policies, and (ii) the coverage amount, deductible and claim limits applicable to the Identified Claim. All material Liabilities of Parent arising with respect to or in connection with the Identified Claim are covered by such insurance policies, subject to the deductible set forth on Section 3.17(b) of the Parent Disclosure Schedule.

3.18. **Transactions with Affiliates.** Except as set forth in the Parent SEC Documents filed prior to the date of this Agreement, since January 1, 2016, no event has occurred that would be required to be reported by Parent pursuant to Item 404 of Regulation S-K.

3.19. **No Brokers Fees.** Except as set forth on Section 3.19 of the Parent Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder s fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Contemplated Transactions based upon arrangements made by or on behalf of Parent.

3.20. **Valid Issuance.** The Parent Common Stock to be issued in the Merger will, when issued in accordance with the provisions of this Agreement, be validly issued, fully paid and nonassessable.

3.21. **Opinion of Financial Advisor.** The Parent Board has received an opinion of Piper Jaffray & Co. to the effect that, as of the date of such opinion and subject to the assumptions, qualifications, limitations and other matters set forth therein, the Merger Consideration to be paid by Parent is fair, from a financial point of view, to Parent.

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3.22. **Title to Assets.** Parent owns, and has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or tangible assets and equipment used or held for use in its business or operations or purported to be owned by it, including: (a) all assets reflected on the Parent Balance Sheet; and (b) all other assets reflected in the books and records of Parent as being owned Parent. All of such assets are owned or, in the case of leased assets, leased by Parent free and clear of any Encumbrances, other than Permitted Encumbrances.

3.23. **Absence of Changes.** Except as set forth on Section 3.22 of the Parent Disclosure Schedule or as disclosed in the Parent SEC Documents, between the date of the Parent Balance Sheet and the date of this Agreement, Parent has conducted its business only in the Ordinary Course of Business (except for the execution and performance of this Agreement and the discussions, negotiations and transactions related thereto) and there has not been any (a) Parent Material Adverse Effect or (b) action, event or occurrence that would have required the consent of the Company pursuant to Section 4.1(b) had such action, event or occurrence taken place after the execution and delivery of this Agreement.

3.24. **Anti-Bribery.** Neither Parent nor any of its directors, officers, employees or, to Parent s Knowledge, agents or any other Person acting on their behalf has directly or indirectly made any bribes, rebates, payoffs, influence payments, kickbacks, illegal payments, illegal political contributions, or other payments, in the form of cash, gifts, or otherwise, or taken any other action, in violation of any Ant-Bribery Laws. To Parent s Knowledge, Parent is not and has not been the subject of any investigation or inquiry by any Governmental Body with respect to potential violations of Anti-Bribery Laws.

3.25. **Information Technology; Data Privacy.**

(a) Parent has taken commercially reasonable steps to ensure the continued operation of the material software and databases included in the Parent Owned IP Rights, and all of its material computers and other information technology infrastructure and assets used in the business (collectively, the ***Parent IT Assets***), and to protect the security and confidentiality of the Parent IT Assets and the material information and records stored on or accessed or transmitted using the Parent IT Assets. The Parent IT Assets operate and perform in all material respects as is necessary and sufficient for the conduct of the business of Parent as currently conducted by it. To Parent s Knowledge, the Parent IT Assets are free from malicious code and do not contain any bugs, errors, vulnerabilities or problems that, in each case, would be expected to materially adversely affect the operation or use of any such Parent IT Assets in the business of Parent. To Parent s Knowledge, there has not been in the past three (3) years any material (i) unauthorized intrusions or breach of the security of the Parent IT Assets, (ii) malfunction of the Parent IT Assets or (iii) accidental or unauthorized access to, loss or misuse of Personal Data maintained by Parent. Parent has implemented commercially reasonable backups and security measures to duplicate, store and protect its material information that is stored in electronic form or media.

(b) Parent and, to the Knowledge of Parent, each of Parent s Data Processors, is in compliance in all material respects with all applicable Data Privacy Requirements. To Parent s Knowledge, Parent is not under investigation by any Governmental Body for a material violation of applicable Laws relating to data privacy or security, nor has Parent received any written complaint or inquiry related to its data privacy or security practices. Parent and, to the Knowledge of Parent, each of Parent s Data Processors, has implemented and maintains commercially reasonable organizational, physical, administrative and technical measures substantially consistent with industry standards to protect the operation, confidentiality, integrity and security of all Personal Data or other sensitive business data against loss, theft, or unauthorized access, disclosure or use. To Parent s Knowledge, Parent has not experienced any security incident in which an unauthorized party accessed or acquired Personal Data or sensitive business data maintained by or on behalf of Parent.

3.26. **Contract Termination Fees; Severance.** Section 3.26 of the Parent Disclosure Schedule accurately sets forth (i) all fees, expenses or other amounts payable upon termination of any Parent Material Contract (the **Parent Contract Termination Payments**) and (ii) the dollar amount of all severance obligations payable to current and former employees of Parent (including the dollar amount of any ongoing benefits paid to or on behalf of such employees, but excluding any acceleration of any equity awards) (the **Parent Severance Payments**). Except as set forth on Sections 3.26(i) and (ii) of the Parent Disclosure Schedule, all Parent

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Material Contracts are terminable by Parent upon less than sixty (60) days notice with no payment due thereunder except for amounts accrued for services provided in the Ordinary Course of Business under such Parent Material Contract and, with respect to amounts accrued as of the Closing, included in the Parent Net Cash calculation.

3.27. **Disclaimer of Other Representations or Warranties.** Except as previously set forth in this Section 3 or in any certificate delivered by Parent or Merger Sub to the Company pursuant to this Agreement, neither Parent nor Merger Sub makes any representation or warranty, express or implied, at law or in equity, with respect to it or any of its assets, liabilities or operations, and any such other representations or warranties are hereby expressly disclaimed.

Section 4. CERTAIN COVENANTS OF THE PARTIES

4.1. **Operation of Parent s Business.**

(a) Except as set forth on Section 4.1(a) of the Parent Disclosure Schedule, as expressly permitted by this Agreement, as required by applicable Law or unless the Company shall otherwise consent in writing(which consent shall not be unreasonably withheld, delayed or conditioned), during the period commencing on the date of this Agreement and continuing until the earlier to occur of the termination of this Agreement pursuant to Section 9 and the Effective Time (the ***Pre-Closing Period***): Parent shall conduct its business and operations in the Ordinary Course of Business and in compliance with all applicable Laws and the requirements of all Contracts that constitute Parent Material Contracts.

(b) Except (i) as expressly permitted by this Agreement, (ii) as set forth in Section 4.1(b) of the Parent Disclosure Schedule, (iii) as required by applicable Law or (iv) with the prior written consent of the Company (which consent shall not be unreasonably withheld, delayed or conditioned), at all times during the Pre-Closing Period, Parent shall not:

(i) declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of its capital stock or repurchase, redeem or otherwise reacquire any shares of its capital stock or other securities (except in connection with the payment of the exercise price (but not for withholding Taxes except in respect of obligations that existed prior to October 1, 2018 or are set forth on Section 3.6(b) of the Parent Disclosure Schedule) incurred upon the exercise, settlement or vesting of any award granted under any Parent Stock Plans);

(ii) sell, issue, grant, pledge or otherwise dispose of or encumber or authorize any of the foregoing with respect to: (A) any capital stock or other security of Parent (except for Parent Common Stock issued upon the valid exercise or settlement of outstanding Parent Options or Parent RSUs); (B) any option, warrant or right to acquire any capital stock or any other security; or (C) any instrument convertible into or exchangeable for any capital stock or other security of Parent;

(iii) except to the extent required to give effect to anything in contemplation of the Closing, amend any of its Organizational Documents, or effect any stock split or reverse stock split;

(iv) effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares or similar transaction except, for the avoidance of doubt, the Contemplated Transactions;

(v) form any Subsidiary or acquire any equity interest or other interest in any other Entity or enter into a joint venture with any other Entity;

(vi) (A) lend money to any Person (except for advancement of expenses to employees, directors or consultants in the Ordinary Course of Business), (B) incur or guarantee any indebtedness for borrowed money, (C) guarantee any debt securities of others, or (D) make any capital expenditure or commitment in excess of the budgeted capital expenditure and commitment amounts set forth in the Parent operating budget delivered to the Company concurrently with the

execution of this Agreement set forth on Section 4.1(b)(vi) of the Parent Disclosure Schedule (the ***Parent Budget***);

(vii) (A) except to the extent required by applicable Law, adopt, terminate, establish or enter into any Parent Benefit Plan; (B) except to the extent required by applicable Law, cause or permit any Parent Benefit Plan to be amended; (C) increase the amount of the wages, salary, commissions, benefits

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or other compensation or remuneration payable to, any of its directors, officers or employees; (D) increase the severance or change of control benefits offered to any current or new employees, directors or consultants or (E) hire, terminate (other than for cause) or give notice of termination (other than for cause) to any (x) officer or (y) employee whose annual base salary is or is expected to be more than $25,000 per year;

(viii) recognize any labor union, labor organization, or similar Person;

(ix) enter into any material transaction other than in the Ordinary Course of Business;

(x) acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its assets or properties, or grant any Encumbrance with respect to such assets or properties, except in the Ordinary Course of Business;

(xi) make, change or revoke any Tax election, fail to pay any income or other material Tax as such Tax becomes due and payable, file any amendment making any material change to any Tax Return, settle or compromise any income or other material Tax liability, enter into any Tax allocation, sharing, indemnification or other similar agreement or arrangement, request or consent to any extension or waiver of any limitation period with respect to any claim or assessment for any income or other material Taxes (other than in connection with any extension of time to file any Tax Return), or adopt or change any accounting method in respect of Taxes;

(xii) except as contemplated by this Agreement, enter into, materially amend or terminate any Parent Material Contract, or any Contract that would be a Parent Material Contract if executed on or prior to the date hereof;

(xiii) except as otherwise set forth in the Parent Budget, make any expenditures, incur any Liabilities or discharge or satisfy any Liabilities, in each case, in amounts that exceed the aggregate amount of the Parent Budget by $300,000;

(xiv) other than as required by Law or GAAP, take any action to change accounting policies or procedures;

(xv) initiate any Legal Proceeding other than (A) for the routine collection of bills, (B) in such cases where Parent in good faith determines that failure to commence suit would result in the material impairment of a valuable aspect of Parent s business, provided that Parent consults with the Company prior to the initiation of such Legal Proceeding or (C) for any claim related to or arising out of, or in respect of any breach of this Agreement;

(xvi) settle any Legal Proceeding; or

(xvii) agree, resolve or commit to do any of the foregoing.

Nothing contained in this Agreement shall give the Company, directly or indirectly, the right to control or direct the operations of Parent prior to the Effective Time. Prior to the Effective Time, Parent shall exercise, consistent with the terms and conditions of this Agreement, complete unilateral control and supervision over its business operations.

4.2. **Operation of the Company s Business.**

(a) Except as set forth on Section 4.2(a) of the Company Disclosure Schedule, as expressly permitted by this Agreement, as required by applicable Law or unless Parent shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned), during the Pre-Closing Period: the Company shall conduct its business and operations in the Ordinary Course of Business and in compliance with all applicable Laws and the requirements of all Contracts that constitute Company Material Contracts.

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(b) Except (i) as expressly permitted by this Agreement, (ii) as set forth in Section 4.2(b) of the Company Disclosure Schedule, (iii) as required by applicable Law or (iv) with the prior written consent of Parent (which consent shall not be unreasonably withheld, delayed or conditioned), at all times during the Pre-Closing Period, the Company shall not do any of the following:

(i) declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of its capital stock or other securities (except for shares of Company Common Stock from terminated employees, directors or consultants of the Company);

(ii) other than as contemplated by a Permitted Bridge Financing or Permitted Post-Measurement Date Financing, sell, issue, grant, pledge or otherwise dispose of or encumber or authorize any of the foregoing with respect to: (A) any capital stock or other security of the Company (except for shares of outstanding Company Common Stock issued upon the valid exercise of outstanding Company Options or Company Warrants); (B) any option, warrant or right to acquire any capital stock or any other security; or (C) any instrument convertible into or exchangeable for any capital stock or other security of the Company;

(iii) except as required to give effect to anything in contemplation of the Closing, amend any of its Organizational Documents, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except, for the avoidance of doubt, the Contemplated Transactions;

(iv) form any Subsidiary or acquire any equity interest or other interest in any other Entity or enter into a joint venture with any other Entity;

(v) (A) lend money to any Person (except for advancement of expenses to employees, directors or consultants in the Ordinary Course of Business), (B) incur or guarantee any indebtedness for borrowed money (other than a Permitted Bridge Financing or Permitted Post-Measurement Date Financing), (C) guarantee any debt securities of others, or (D) make any capital expenditure or commitment in excess of $100,000;

(vi) (A) except to the extent required by applicable Law, adopt, terminate, establish or enter into any Company Benefit Plan; (B) except to the extent required by applicable Law, cause or permit any Company Benefit Plan to be amended in any material respect; (C) increase the amount of the wages, salary, commissions, benefits or other compensation or remuneration payable to, any of its directors, officers or employees, other than increases in base salary and annual cash bonus opportunities and payments made in the Ordinary Course of Business; (D) increase the severance or change of control benefits offered to any current or new employees, directors or consultants or (E) hire, terminate (other than for cause) or give notice of termination (other than for cause) to any (x) officer or (y) employee whose annual base salary is or is expected to be more than $125,000 per year;

(vii) recognize any labor union, labor organization, or similar Person;

(viii) enter into any material transaction other than in the Ordinary Course of Business or as contemplated by a Permitted Bridge Financing or Permitted Post-Measurement Date Financing;

(ix) acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its assets or properties, or grant any Encumbrance with respect to such assets or properties, except in the Ordinary Course of Business;

(x) sell, assign, transfer, license, sublicense or otherwise dispose of any material Company Owned IP Rights (other than pursuant to non-exclusive licenses in the Ordinary Course of Business);

(xi) make, change or revoke any material Tax election, fail to pay any income or other material Tax as such Tax becomes due and payable, file any amendment making any material change to any Tax Return, settle or compromise any income or other material Tax liability, enter into any Tax allocation, sharing, indemnification or other similar agreement or arrangement (other than customary commercial Contracts entered into in the Ordinary Course of Business the principal subject of which is not Taxes),

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request or consent to any extension or waiver of any limitation period with respect to any claim or assessment for any income or other material Taxes (other than in connection with any extension of time to file any Tax Return), or adopt or change any material accounting method in respect of Taxes;

(xii) other than as contemplated by a Permitted Bridge Financing or Permitted Post-Measurement Date Financing, or as otherwise contemplated by this Agreement, enter into, materially amend or terminate any Company Material Contract, or any Contract that would be a Company Material Contract if executed on or prior to the date hereof, except in the Ordinary Course of Business;

(xiii) other than as required by Law or GAAP, take any action to change accounting policies or procedures;

(xiv) initiate any Legal Proceeding other than (A) for the routine collection of bills, (B) in such cases where the Company in good faith determines that failure to commence suit would result in the material impairment of a valuable aspect of the Company s business, provided that the Company consults with Parent prior to the initiation of such Legal Proceeding or (C) for any claim related to or arising out of, or in respect of any breach of this Agreement;

(xv) settle any Legal Proceeding; or

(xvi) agree, resolve or commit to do any of the foregoing.

(c) Nothing contained in this Agreement shall give Parent, directly or indirectly, the right to control or direct the operations of the Company prior to the Effective Time. Prior to the Effective Time, the Company shall exercise, consistent with the terms and conditions of this Agreement, complete unilateral control and supervision over its business operations.

4.3. **Access and Investigation.** Subject to the terms of the Confidentiality Agreement, which the Parties agree will continue in full force following the date of this Agreement, during the Pre-Closing Period, upon reasonable notice, Parent, on the one hand, and the Company, on the other hand, shall and shall use commercially reasonable efforts to cause such Party s Representatives to: (a) provide the other Party and such other Party s Representatives with reasonable access during normal business hours to such Party s Representatives, personnel, property and assets and to all existing books, records, Tax Returns, work papers and other documents and information relating to such Party and its Subsidiaries; (b) provide the other Party and such other Party s Representatives with such copies of the existing books, records, Tax Returns, work papers, product data, and other documents and information relating to such Party and its Subsidiaries, and with such additional financial, operating and other data and information regarding such Party and its Subsidiaries as the other Party may reasonably request; (c) permit the other Party s officers and other employees to meet, upon reasonable notice and during normal business hours, with the chief financial officer and other officers and managers of such Party responsible for such Party s financial statements and the internal controls of such Party to discuss such matters as the other Party may deem necessary or appropriate and; (d) make available to the other Party copies of unaudited financial statements, material operating and financial reports prepared for senior management or the board of directors of such Party, and any material notice, report or other document filed with or sent to or received from any Governmental Body in connection with the Contemplated Transactions. Any investigation conducted by either Parent or the Company pursuant to this Section 4.3 shall be conducted in such manner as not to interfere unreasonably with the conduct of the business of the other Party. Each of the Company and Parent shall provide the other Party with unaudited cash balances and a statement of accounts payable of such Party (on a consolidated basis) as of the end of each calendar month, or such longer period as each of the providing Party and receiving Party may agree to in writing.

Notwithstanding the foregoing, any Party may restrict the foregoing access to the extent that any Law applicable to such Party requires such Party to restrict or prohibit access to any such properties or information or as may be

necessary to preserve the attorney-client privilege under any circumstances in which such privilege may be jeopardized by such disclosure or access.

4.4. **Parent Non-Solicitation.**

(a) Parent agrees that, during the Pre-Closing Period, neither it nor any of its Subsidiaries shall, nor shall it or any of its Subsidiaries authorize any of its Representatives to, directly or indirectly: (i) solicit, initiate or knowingly encourage, induce or facilitate the communication, making, submission or

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announcement of any Acquisition Proposal or Acquisition Inquiry or take any action that could reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry; (ii) furnish any non-public information regarding Parent or any of its Subsidiaries to any Person in connection with or in response to an Acquisition Proposal or Acquisition Inquiry; (iii) engage in discussions or negotiations with any Person with respect to any Acquisition Proposal or Acquisition Inquiry; (iv) approve, endorse or recommend any Acquisition Proposal (subject to Section 5.3); (v) execute or enter into any letter of intent or any Contract contemplating or otherwise relating to any Acquisition Transaction; or (vi) publicly propose to do any of the foregoing; *provided*, *however*, that, notwithstanding anything contained in this Section 4.4 and subject to compliance with this Section 4.4, prior to obtaining the Required Parent Stockholder Vote, Parent may furnish non-public information regarding Parent and its Subsidiaries to, and enter into discussions or negotiations with, any Person in response to a bona fide written Acquisition Proposal by such Person which the Parent Board determines in good faith, after consultation with Parent s outside financial advisors and outside legal counsel, constitutes, or is reasonably likely to result in, a Superior Offer (and is not withdrawn) if: (A) neither Parent nor any of its Representatives shall have breached this Section 4.4 in any material respect, (B) the Parent Board concludes in good faith based on the advice of outside legal counsel, that the failure to take such action is reasonably likely to be inconsistent with the fiduciary duties of the Parent Board under applicable Law; (C) Parent receives from such Person an executed confidentiality agreement containing provisions (including nondisclosure provisions, use restrictions, non-solicitation provisions and no hire provisions) at least as favorable to Parent as those contained in the Confidentiality Agreement; and (D) substantially contemporaneously with furnishing any such nonpublic information to such Person, Parent furnishes such nonpublic information to the Company (to the extent such information has not been previously furnished by Parent to the Company). Without limiting the generality of the foregoing, Parent acknowledges and agrees that, in the event any Representative of Parent (whether or not such Representative is purporting to act on behalf of Parent) takes any action that, if taken by Parent, would constitute a breach of this Section 4.4, the taking of such action by such Representative shall be deemed to constitute a breach of this Section 4.4 by Parent for purposes of this Agreement.

(b) If Parent or any Representative of Parent receives an Acquisition Proposal or Acquisition Inquiry at any time during the Pre-Closing Period, then Parent shall promptly (and in no event later than one Business Day after Parent becomes aware of such Acquisition Proposal or Acquisition Inquiry) advise the Company orally and in writing of such Acquisition Proposal or Acquisition Inquiry (including the identity of the Person making or submitting such Acquisition Proposal or Acquisition Inquiry, and the material terms thereof). Parent shall keep the Company reasonably informed with respect to the status and material terms of any such Acquisition Proposal or Acquisition Inquiry and any material modification or proposed material modification thereto.

(c) Parent shall immediately cease and cause to be terminated any existing discussions, negotiations and communications with any Person that relate to any Acquisition Proposal or Acquisition Inquiry as of the date of this Agreement and request the destruction or return of any nonpublic information of Parent or any of its Subsidiaries provided to such Person.

4.5. **Company Non-Solicitation.**

(a) The Company agrees that, during the Pre-Closing Period, the Company shall not, nor shall it authorize any of its Representatives to, directly or indirectly: (i) solicit, initiate or knowingly encourage, induce or facilitate the communication, making, submission or announcement of any Acquisition Proposal or Acquisition Inquiry or take any action that could reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry; (ii) furnish any non-public information regarding the Company to any Person in connection with or in response to an Acquisition Proposal or Acquisition Inquiry; (iii) engage in discussions or negotiations with any Person with respect to any Acquisition Proposal or Acquisition Inquiry; (iv) approve, endorse or recommend any Acquisition Proposal; (v) execute or enter into any letter of intent or any Contract contemplating or otherwise relating to any Acquisition Transaction; or (vi) publicly propose to do any of the foregoing. Without limiting the generality of the foregoing, the

Company acknowledges and agrees that, in the event any Representative of the Company (whether or not such Representative is purporting to act on behalf of the Company) takes any action that, if taken by the Company, would constitute a breach of this Section 4.5, the taking of such action by such Representative shall be deemed to constitute a breach of this Section 4.5 by the Company for purposes of this Agreement.

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(b) If the Company or any Representative of the Company receives an Acquisition Proposal or Acquisition Inquiry at any time during the Pre-Closing Period, then the Company shall promptly (and in no event later than one Business Day after the Company becomes aware of such Acquisition Proposal or Acquisition Inquiry) advise Parent orally and in writing of such Acquisition Proposal or Acquisition Inquiry (including the identity of the Person making or submitting such Acquisition Proposal or Acquisition Inquiry, and the material terms thereof). The Company shall keep Parent reasonably informed with respect to the status and material terms of any such Acquisition Proposal or Acquisition Inquiry and any material modification or proposed material modification thereto.

(c) The Company shall immediately cease and cause to be terminated any existing discussions, negotiations and communications with any Person that relate to any Acquisition Proposal or Acquisition Inquiry as of the date of this Agreement and request the destruction or return of any nonpublic information of the Company or any of its Subsidiaries provided to such Person.

4.6. **Notification of Certain Matters.**

(a) During the Pre-Closing Period, the Company shall promptly notify Parent (and, if in writing, furnish copies of) if any of the following occurs: (i) any written notice or other written communication is received from any Person alleging that the Consent of such Person is or may be required in connection with any of the Contemplated Transactions; (ii) any Legal Proceeding against or involving or otherwise affecting the Company is commenced, or, to the Knowledge of the Company, threatened in writing against the Company or, to the Knowledge of the Company, any director, officer or Key Employee of the Company in such individual s capacity as such; (iii) the Company becomes aware of any inaccuracy in any representation or warranty made by it in this Agreement; or (iv) the failure of the Company to comply with any covenant or obligation of the Company; in the case of (iii) and (iv) that would reasonably be expected to make the timely satisfaction of any of the conditions set forth in Sections 6 and 7, as applicable, impossible or materially less likely. No notification given to Parent pursuant to this Section 4.6 shall change, limit or otherwise affect any of the representations, warranties, covenants or obligations of the Company contained in this Agreement or the Company Disclosure Schedule for purposes of Sections 6 and 7, as applicable.

(b) During the Pre-Closing Period, Parent shall promptly notify the Company (and, if in writing, furnish copies of) if any of the following occurs: (i) any written notice or other written communication is received from any Person alleging that the Consent of such Person is or may be required in connection with any of the Contemplated Transactions; (ii) any Legal Proceeding against or involving or otherwise affecting Parent or its Subsidiaries is commenced, or, to the Knowledge of Parent, threatened in writing against Parent or its Subsidiaries or, to the Knowledge of Parent, any director, officer or Key Employee of Parent or its Subsidiaries in such individual s capacity as such; (iii) Parent becomes aware of any inaccuracy in any representation or warranty made by it or Merger Sub in this Agreement; or (iv) the failure of Parent or Merger Sub to comply with any covenant or obligation of Parent or Merger Sub; in the case of (iii) and (iv) that would reasonably be expected to make the timely satisfaction of any of the conditions set forth in Sections 6 and 8, as applicable, impossible or materially less likely. No notification given to the Company pursuant to this Section 4.6 shall change, limit or otherwise affect any of the representations, warranties, covenants or obligations of Parent or any of its Subsidiaries contained in this Agreement or the Parent Disclosure Schedule for purposes of Sections 6 and 8, as applicable.

Section 5. ADDITIONAL AGREEMENTS OF THE PARTIES

5.1. **Registration Statement; Proxy Statement.**

(a) As promptly as practicable after the date of this Agreement, the Parties shall prepare, and Parent shall cause to be filed with the SEC, the Registration Statement, in which the Proxy Statement will be included as a prospectus. Parent covenants and agrees that the information provided by Parent for inclusion in the Proxy Statement, including any pro forma financial statements included therein (and the letter to stockholders, notice of meeting and form of proxy

included therewith) will, at the time that the Proxy Statement or any amendment or supplement thereto is filed with the SEC or is first mailed to the Stockholders, not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. Prior to the Registration Statement being declared effective,

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(1) Parent shall use its commercially reasonable efforts to execute and deliver to DLA Piper LLP (US) (***DLA***) and to Dechert LLP (***Dechert***) the applicable Tax Representation Letter referenced in Section 5.12(c); and (2) the Company shall use its commercially reasonable efforts to execute and deliver to DLA and to Dechert the applicable ***Tax Representation Letter*** referenced in Section 5.12(c). Following the delivery of the Tax Representation Letters pursuant to the preceding sentence, (x) Parent shall use its commercially reasonable efforts to cause Dechert to deliver to it a tax opinion satisfying the requirements of Item 601 of Regulation S-K under the Securities Act; and (y) the Company shall use its commercially reasonable efforts to cause DLA to deliver to it a tax opinion satisfying the requirements of Item 601 of Regulation S-K under the Securities Act. In rendering such opinions, each of such counsel shall be entitled to rely on the Tax Representation Letters referred to in this Section 5.1(a). The Company covenants and agrees that the information provided by the Company to Parent for inclusion in the Proxy Statement (including the Company Financials) will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make such information not misleading. Notwithstanding the foregoing, Parent makes no covenant, representation or warranty with respect to statements made in the Proxy Statement (and the letter to stockholders, notice of meeting and form of proxy included therewith), if any, based on information provided by the Company or any of their Representatives specifically for inclusion therein. The Company and its legal counsel shall be given reasonable opportunity to review and comment on the Proxy Statement, including all amendments and supplements thereto, prior to the filing thereof with the SEC, and on the response to any comments of the SEC on the Proxy Statement, prior to the filing thereof with the SEC. Parent shall use commercially reasonable efforts to cause the Registration Statement and the Proxy Statement to comply with the applicable rules and regulations promulgated by the SEC, to respond promptly to any comments of the SEC or its staff and to have the Registration Statement declared effective under the Securities Act as promptly as practicable after it is filed with the SEC. Each of the Parties shall use commercially reasonable efforts to cause the Proxy Statement to be mailed to Parent s stockholders as promptly as practicable after the Registration Statement is declared effective under the Securities Act. Each Party shall promptly furnish to the other Party all information concerning such Party and such Party s Affiliates and such Party s stockholders that may be required or reasonably requested in connection with any action contemplated by this Section 5.1. If Parent, Merger Sub or the Company become aware of any event or information that, pursuant to the Securities Act or the Exchange Act, should be disclosed in an amendment or supplement to the Registration Statement or Proxy Statement, as the case may be, then such Party, as the case may be, shall promptly inform the other Parties thereof and shall cooperate with such other Parties in filing such amendment or supplement with the SEC and, if appropriate, in mailing such amendment or supplement to the Parent stockholders.

(b) The Company shall reasonably cooperate with Parent and provide, and require its Representatives to provide, Parent and its Representatives, with all true, correct and complete information regarding the Company that is required by Law to be included in the Registration Statement or reasonably requested by Parent to be included in the Registration Statement. Without limiting the foregoing, the Company will use commercially reasonable efforts to cause to be delivered to Parent a consent letter of the Company s independent accounting firm, dated no more than two Business Days before the date on which the Registration Statement becomes effective (and reasonably satisfactory in form and substance to Parent), that is customary in scope and substance for consent letters delivered by independent public accountants in connection with registration statements similar to the Registration Statement.

5.2. **Company Information Statement; Stockholder Written Consent.**

(a) Promptly after the Registration Statement shall have been declared effective under the Securities Act, and in any event no later than three Business Days thereafter, the Company shall prepare, with the reasonable cooperation of Parent, and cause to be mailed to its stockholders an information statement to solicit the approval by written consent from Company stockholders sufficient for the Required Company Stockholder Vote in lieu of a meeting pursuant to Section 228 of the DGCL, for purposes of (i) adopting and approving this Agreement and the Contemplated Transactions, (ii) acknowledging that the approval given thereby is irrevocable and that such stockholder is aware of its rights to demand appraisal for its shares pursuant to Section 262 of the DGCL, a true and correct copy of which

will be attached thereto, and that such stockholder has received and read a copy of Section 262 of the DGCL, and (iii) acknowledging that by its approval of the Merger it is not entitled to appraisal rights with respect to its shares in connection

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with the Merger and thereby waives any rights to receive payment of the fair value of its capital stock under the DGCL. Under no circumstances shall the Company assert that any other approval or consent is necessary by its stockholders to approve this Agreement.

(b) Reasonably promptly following receipt of the Required Company Stockholder Vote, the Company shall prepare and mail a notice (the ***Stockholder Notice***) to every stockholder of the Company that did not execute the Company Stockholder Written Consent. The Stockholder Notice shall (i) be a statement to the effect that the Company Board determined that the Merger is advisable in accordance with Section 251(b) of the DGCL and in the best interests of the stockholders of the Company and approved and adopted this Agreement, the Merger and the other Contemplated Transactions, (ii) provide the stockholders of the Company to whom it is sent with notice of the actions taken in the Company Stockholder Written Consent, including the adoption and approval of this Agreement, the Merger and the other Contemplated Transactions in accordance with Section 228(e) of the DGCL and the certificate of incorporation and bylaws of the Company and (iii) include a description of the appraisal rights of the Company s stockholders available under the DGCL, along with such other information as is required thereunder and pursuant to applicable Law. All materials (including any amendments thereto) submitted to the stockholders of the Company in accordance with this Section 5.2(b) shall be subject to Parent s advance review and reasonable approval.

(c) The Company agrees that: (i) the Company Board shall recommend that the Company s stockholders vote to adopt and approve this Agreement and the Contemplated Transactions and shall use commercially reasonable efforts to solicit such approval within the time set forth in Section 5.2(a) (the recommendation of the Company Board that the Company s stockholders vote to adopt and approve this Agreement being referred to as the ***Company Board Recommendation***); and (ii) the Company Board Recommendation shall not be withdrawn or modified (and the Company Board shall not publicly propose to withdraw or modify the Company Board Recommendation) in a manner adverse to Parent, and no resolution by the Company Board or any committee thereof to withdraw or modify the Company Board Recommendation in a manner adverse to Parent or to adopt, approve or recommend (or publicly propose to adopt, approve or recommend) any Acquisition Proposal shall be adopted or proposed.

(d) The Company s obligation to solicit the consent of its stockholders to sign the Company Stockholder Written Consent in accordance with Section 5.2(a) shall not be limited or otherwise affected by the commencement, disclosure, announcement or submission of any Superior Offer or other Acquisition Proposal.

5.3. **Parent Stockholders Meeting.**

(a) Promptly after the Registration Statement has been declared effective by the SEC under the Securities Act, Parent shall take all action necessary under applicable Law to call, give notice of and hold a meeting of the holders of Parent Common Stock to consider and vote to approve (i) the issuance of the shares of Parent Common Stock to the stockholders of the Company pursuant to the terms of this Agreement and (ii) the Reverse Split (the ***Parent Stockholder Matters*** and such meeting, the ***Parent Stockholders Meeting***). The Parent Stockholders Meeting shall be held as promptly as practicable after the Registration Statement is declared effective under the Securities Act. Parent shall take reasonable measures to ensure that all proxies solicited in connection with the Parent Stockholders Meeting are solicited in compliance with all applicable Law. Notwithstanding anything to the contrary contained herein, if on the date of the Parent Stockholders Meeting, or a date preceding the date on which the Parent Stockholders Meeting is scheduled, Parent reasonably believes that (i) it will not receive proxies sufficient to obtain the Required Parent Stockholder Vote, whether or not a quorum would be present or (ii) it will not have sufficient shares of Parent Common Stock represented (whether in person or by proxy) to constitute a quorum necessary to conduct the business of the Parent Stockholders Meeting, Parent may postpone or adjourn, or make one or more successive postponements or adjournments of, the Parent Stockholders Meeting as long as the date of the Parent Stockholders Meeting is not postponed or adjourned more than an aggregate of 60 calendar days in connection with any postponements or adjournments.

(b) Parent agrees that, subject to Section 5.3(c): (i) the Parent Board shall recommend that the holders of Parent Common Stock vote to approve the Parent Stockholder Matters, (ii) the Proxy Statement shall include a statement to the effect that the Parent Board recommends that Parent s stockholders vote to

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approve the Parent Stockholder Matters (the recommendation of the Parent Board being referred to as the ***Parent Board Recommendation***); and (iii) the Parent Board Recommendation shall not be withheld, amended, withdrawn or modified (and the Parent Board shall not publicly propose to withhold, amend, withdraw or modify the Parent Board Recommendation) in a manner adverse to the Company (the actions set forth in the foregoing clause (iii), collectively, a ***Parent Board Adverse Recommendation Change***).

(c) Notwithstanding anything to the contrary contained in Section 5.3(b), and subject to compliance with Section 4.4 and Section 5.3, if at any time prior to the approval of Parent Stockholder Matters by the Required Parent Stockholder Vote, Parent receives a bona fide written Superior Offer from any Person that has not been withdrawn, the Parent Board may make a Parent Board Adverse Recommendation Change if, but only if, following the receipt of and on account of such Superior Offer, (i) the Parent Board determines in good faith, based on the advice of its outside legal counsel, that the failure to make a Parent Board Adverse Recommendation Change would be reasonably likely to be inconsistent with its fiduciary duties under applicable Law, (ii) Parent has, and has caused its financial advisors and outside legal counsel to, during the Parent Notice Period (as defined below), negotiate with the Company in good faith (if the Company so desires) to make such adjustments to the terms and conditions of this Agreement so that such Acquisition Proposal ceases to constitute a Superior Offer, and (iii) if after the Company shall have delivered to Parent a written offer to alter the terms or conditions of this Agreement during the Parent Notice Period, the Parent Board shall have determined in good faith, based on the advice of its outside legal counsel, that the failure to withhold, amend, withdraw or modify the Parent Board Recommendation would be reasonably likely to be inconsistent with its fiduciary duties under applicable Law (after taking into account such alterations of the terms and conditions of this Agreement); *provided* that the Company receives written notice from Parent confirming that the Parent Board has determined to change its recommendation at least four Business Days in advance of such Parent Board Adverse Recommendation Change, (the ***Parent Notice Period***), which notice shall include written copies of any relevant proposed transaction agreements with any party making a potential Superior Offer. In the event of any material amendment to any Superior Offer, Parent shall be required to provide the Company with notice of such material amendment and the Parent Notice Period shall be extended, if applicable, to ensure that at least two Business Days remain in the Parent Notice Period following such notification during which the parties shall comply again with the requirements of this Section 5.3(c) and the Parent Board shall not make a Parent Board Adverse Recommendation Change prior to the end of such Parent Notice Period as so extended.

(d) Other than in connection with a bona fide written Superior Offer (which shall be subject to Section 5.3(c)), the Parent Board may make a Parent Board Adverse Recommendation Change in response to a Parent Change in Circumstance, if and only if: (A) the Parent Board determines in good faith, after consultation with the Company s outside legal counsel, that the failure to do so is reasonably likely to be inconsistent with its fiduciary duties under applicable Law; (B) the Company receives written notice from Parent confirming that the Parent Board has determined to change its recommendation at least four Business Days in advance of the Parent Board Adverse Recommendation Change (the ***Parent Change in Circumstance Notice***); and (C) (1) Parent shall have specified the Parent Change in Circumstance in reasonable detail, (2) Parent shall have given the Company four Business Days after the Parent Change in Circumstance Notice to propose revisions to the terms of this Agreement or make another proposal so that such Parent Change in Circumstance would no longer necessitate a Parent Board Adverse Recommendation Change, and shall have negotiated in good faith with the Company (if the Company so desires) with respect to such proposed revisions or other proposal, if any, and (3) after considering the results of such negotiations and giving effect to the proposals made by the Company, if any, after consultation with outside legal counsel, the Parent Board shall have determined, in good faith, that the failure to make the Parent Board Adverse Recommendation Change in response to such Parent Change in Circumstance is reasonably likely to be inconsistent with its fiduciary duties under applicable Law.

(e) Nothing contained in this Agreement shall prohibit Parent or the Parent Board from (i) complying with Rules 14d-9 and 14e-2(a) promulgated under the Exchange Act, (ii) issuing a stop, look and listen communication or similar

communication of the type contemplated by Section 14d-9(f) under the Exchange Act or (iii) otherwise making any disclosure to the Parent stockholders; *provided however*, that in the case of the foregoing clause (iii) the Parent Board determines in good faith, after consultation with its outside legal counsel, that failure to make such disclosure would be reasonably likely to be inconsistent with applicable Law, including its fiduciary duties under applicable Law; *provided, further*, that any such

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disclosures (other than a stop, look and listen communication or similar communication of the type contemplated by Section 14d-9(f) under the Exchange Act) shall be deemed to be a change of the Parent Board Recommendation unless the Parent Board expressly publicly reaffirms the Parent Board Recommendation (i) in such communication or (ii) within three Business Days after being requested in writing to do so by the Company.

5.4. **Regulatory Approvals.** Each Party shall use reasonable best efforts to file or otherwise submit, as soon as practicable after the date of this Agreement, all applications, notices, reports and other documents reasonably required to be filed by such Party with or otherwise submitted by such Party to any Governmental Body with respect to the Contemplated Transactions, and to submit promptly any additional information requested by any such Governmental Body.

5.5. **Company Options.**

(a) At the Effective Time, each Company Option that is outstanding and unexercised immediately prior to the Effective Time under the Company Stock Plans shall be fully vested and converted into and become an option to purchase Parent Common Stock, and Parent shall assume the Company Stock Plans and each such Company Option in accordance with the terms (as in effect as of the date of this Agreement) of the Company Stock Plans and the terms of the stock option agreement by which each such Company Option is evidenced (but with changes to such documents as Parent in good faith determines are appropriate to reflect the substitution of the Company Options by Parent to purchase shares of Parent Common Stock). All rights with respect to Company Common Stock under Company Options assumed by Parent shall thereupon be converted into rights with respect to Parent Common Stock in accordance with this Section 5.5(a). Accordingly, from and after the Effective Time: (i) each Company Option assumed by Parent may be exercised solely for shares of Parent Common Stock; (ii) the number of shares of Parent Common Stock (as of immediately after the Effective Time) subject to each Company Option assumed by Parent shall be determined by multiplying (A) the number of shares of Company Common Stock that were subject to such Company Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio, and rounding the resulting number down to the nearest whole number of shares of Parent Common Stock; (iii) the per share exercise price (as of immediately after the Effective Time) for the Parent Common Stock issuable upon exercise of each Company Option assumed by Parent shall be determined by dividing (A) the per share exercise price of Company Common Stock subject to such Company Option, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio and rounding the resulting exercise price up to the nearest whole cent; and (iv) any restriction on the exercise of any Company Option assumed by Parent shall continue in full force and effect and the term, exercisability, vesting schedule and other provisions of such Company Option shall otherwise remain unchanged; *provided, however*, that: (A) Parent may amend the terms of the Company Options and the Company Stock Plans to reflect Parent s substitution of the Company Options with options to purchase Parent Common Stock (such as by making any change in control or similar definition relate to Parent and having any provision that provides for the adjustment of Company Options upon the occurrence of certain corporate events relate to corporate events that relate to Parent and/or Parent Common Stock); and (B) the Parent Board or a committee thereof shall succeed to the authority and responsibility of the Company Board or any committee thereof with respect to each Company Option assumed by Parent.

(b) Parent shall file with the SEC, promptly after the Effective Time, a registration statement on Form S-8 (or any successor form), if available for use by Parent, relating to the shares of Parent Common Stock issuable with respect to Company Options assumed by Parent in accordance with Section 5.5(a).

(c) Prior to the Effective Time, the Company shall take all actions that may be necessary (under the Company Stock Plans and otherwise) to effectuate the provisions of this Section 5.5 and to ensure that, from and after the Effective Time, holders of Company Options have no rights with respect thereto other than those specifically provided in this Section 5.5.

5.6. **Parent Options and Parent RSUs.** Prior to the Closing, the Parent Board shall have adopted appropriate resolutions and taken all other actions necessary and appropriate to provide that each outstanding and unexercised Parent Option, whether vested or unvested, and each outstanding and unvested Parent RSU, shall be accelerated in full effective as of immediately prior to the Effective Time, with each (i) unexercised Parent

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Option remaining outstanding immediately after the Effective Time in accordance with its terms and (ii) Parent RSU to be settled within five days after the Effective Time (with settlement to be one share of Parent Common Stock for each share of Parent Common Stock underlying such Parent RSU).

5.7. **Employee Benefits.**

(a) For purposes of vesting, eligibility to participate, and level of benefits under the benefit plans, programs, contracts or arrangements of Parent or any of its Subsidiaries (including, following the Closing, the Company) providing benefits to any Continuing Employee after the Closing (the ***Post-Closing Plans***), each employee who continues to be employed by Parent, the Company or any of their respective Subsidiaries immediately following the Closing (***Continuing Employees***) shall be credited with his or her years of service with the Parent, the Company or any of their respective Subsidiaries and their respective predecessors; *provided* that the foregoing shall not apply to the extent that its application would result in a duplication of benefits. In addition, and without limiting the generality of the foregoing, for purposes of each Post-Closing Plan providing medical, dental, pharmaceutical and/or vision benefits to a Continuing Employee, Parent shall use commercially reasonable efforts to cause all pre-existing condition exclusions and actively-at-work requirements of such Post-Closing Plan to be waived for such Continuing Employee and his or her covered dependents to the extent such conditions would have been waived or satisfied under the employee benefit plan whose coverage is being replaced under the Post-Closing Plan, and Parent shall use commercially reasonable efforts to cause any eligible expenses incurred by a Continuing Employee and his or her covered dependents during the portion of such plan year in which coverage is replaced with coverage under such a Post-Closing Plan to be taken into account under such Post-Closing Plan with respect to the plan year in which participation in such Post-Closing Plan begins for purposes of satisfying all deductible, coinsurance and maximum out-of-pocket requirements applicable to such Continuing Employee and his or her covered dependents for such plan year as if such amounts had been paid in accordance with such Post-Closing Plan.

(b) Parent and the Company acknowledge and agree that all provisions contained in this Section 5.7 are included for the sole benefit of the respective parties to this Agreement and shall not create any right in any other Person, including any right to continued employment or service with Parent, the Company or any of their respective Affiliates. Without limiting the generality of the foregoing, nothing in this Section 5.7 shall be deemed to (i) establish or amend any Company Benefit Plan, Parent Benefit Plan or any other employee benefit plan, program or arrangement of any kind or (ii) limit the right of the Parent, the Company or any of their respective Affiliates to amend, merge or terminate any Company Benefit Plan or Parent Benefit Plan.

5.8. **Indemnification of Officers and Directors.**

(a) From the Effective Time through the sixth anniversary of the date on which the Effective Time occurs, each of Parent and the Surviving Corporation shall indemnify and hold harmless each person who is now, or has been at any time prior to the date hereof, or who becomes prior to the Effective Time, a director, officer, fiduciary or agent of Parent or the Company, respectively (the ***D&O Indemnified Parties***), against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys fees and disbursements (collectively, ***Costs***), incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that the D&O Indemnified Party is or was a director, officer, fiduciary or agent of Parent or of the Company, whether asserted or claimed prior to, at or after the Effective Time, in each case, to the fullest extent permitted under applicable Law. Each D&O Indemnified Party will be entitled to advancement of expenses incurred in the defense of any such claim, action, suit, proceeding or investigation from each of Parent and the Surviving Corporation, jointly and severally, upon receipt by Parent or the Surviving Corporation from the D&O Indemnified Party of a request therefor; *provided* that any such person to whom expenses are advanced provides an undertaking to Parent, to the extent then required by the DGCL, to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

(b) The provisions of the certificate of incorporation and bylaws of Parent with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of Parent that are presently set forth in the certificate of incorporation and bylaws of Parent shall not be

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amended, modified or repealed for a period of six years from the Effective Time in a manner that would adversely affect the rights thereunder of individuals who, at or prior to the Effective Time, were officers or directors of Parent. The certificate of incorporation and bylaws of the Surviving Corporation shall contain, and Parent shall cause the certificate of incorporation and bylaws of the Surviving Corporation to so contain, provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers as those presently set forth in the certificate of incorporation and bylaws of Parent.

(c) From and after the Effective Time, (i) the Surviving Corporation shall fulfill and honor in all respects the obligations of the Company to its D&O Indemnified Parties as of immediately prior to the Closing pursuant to any indemnification provisions under the Company s Organizational Documents and pursuant to any indemnification agreements between the Company and such D&O Indemnified Parties, with respect to claims arising out of matters occurring at or prior to the Effective Time and (ii) Parent shall fulfill and honor in all respects the obligations of Parent to its D&O Indemnified Parties as of immediately prior to the Closing pursuant to any indemnification provisions under Parent s Organizational Documents and pursuant to any indemnification agreements between Parent and such D&O Indemnified Parties, with respect to claims arising out of matters occurring at or prior to the Effective Time.

(d) From and after the Effective Time, Parent shall maintain directors and officers liability insurance policies, with an effective date as of the Closing Date, on commercially available terms and conditions and with coverage limits customary for U.S. public companies similarly situated to Parent. In addition, each of Parent and the Company shall purchase, prior to the Effective Time, a six-year prepaid tail policy for the non-cancellable extension of the directors and officers liability coverage of Parent s or the Company s, as applicable, existing directors and officers insurance policies for a claims reporting or discovery period of at least six years from and after the Effective Time with respect to any claim related to any period of time at or prior to the Effective Time.

(e) From and after the Effective Time, Parent shall pay all expenses, including reasonable attorneys fees, that are incurred by the persons referred to in this Section 5.8 in connection with their successful enforcement of the rights provided to such persons in this Section 5.8.

(f) The provisions of this Section 5.8 are intended to be in addition to the rights otherwise available to the current and former officers and directors of Parent and the Company by Law, charter, statute, bylaw or agreement, and shall operate for the benefit of, and shall be enforceable by, each of the D&O Indemnified Parties, their heirs and their representatives.

(g) In the event Parent or the Surviving Corporation or any of their respective successors or assigns (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger, or (ii) transfers all or substantially all of its properties and assets to any Person, then, and in each such case, proper provision shall be made so that the successors and assigns of Parent or the Surviving Corporation, as the case may be, shall succeed to the obligations set forth in this Section 5.8. Parent shall cause the Surviving Corporation to perform all of the obligations of the Surviving Corporation under this Section 5.8.

5.9. **Additional Agreements.** The Parties shall use commercially reasonable efforts to cause to be taken all actions necessary to consummate the Contemplated Transactions. Without limiting the generality of the foregoing, each Party to this Agreement: (a) shall make all filings and other submissions (if any) and give all notices (if any) required to be made and given by such Party in connection with the Contemplated Transactions; (b) shall use commercially reasonable efforts to obtain each Consent (if any) reasonably required to be obtained (pursuant to any applicable Law or Contract, or otherwise) by such Party in connection with the Contemplated Transactions or for such Contract to remain in full force and effect; (c) shall use commercially reasonable efforts to lift any injunction prohibiting, or any other legal bar to, the Contemplated Transactions; and (d) shall use commercially reasonable efforts to satisfy the

conditions precedent to the consummation of this Agreement.

5.10. **Disclosure.** Without limiting any Party s obligations under the Confidentiality Agreement, no Party shall, and no Party shall permit any of its Subsidiaries or any Representative of such Party to, issue any press release or make any disclosure (to any customers of such Party, to the public or otherwise) regarding the Contemplated Transactions unless: (a) the other Party shall have approved such press release or disclosure in writing, such approval not to be unreasonably conditioned, withheld or delayed; or (b) such disclosure is

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requested by a Governmental Body or such Party shall have determined in good faith that such disclosure is required by applicable Law or by obligations pursuant to any listing agreement with or rules of any national securities exchange or interdealer quotation service and, to the extent practicable, before such press release or disclosure is issued or made, such Party shall have used commercially reasonable efforts to advise the other Party of, and consult with the other Party regarding, the text of such press release or disclosure; *provided*, *however*, that Parent may make any public statement in response to specific questions by the press, analysts, investors or those attending industry conferences or financial analyst conference calls, so long as any such statements are consistent with previous press releases, public disclosures or public statements made by the Company or Parent in compliance with this Section 5.10. Notwithstanding the foregoing, the initial press release regarding the Contemplated Transactions may be issued by Parent and such press release and the Current Report on Form 8-K to be filed by Parent in connection with the initial announcement of this Agreement and the Contemplated Transactions shall not be subject to this Section 5.10.

5.11. **Listing.** (a) Parent shall use its commercially reasonable efforts, to the extent required by the rules and regulations of NASDAQ, to prepare and submit to NASDAQ a notification form for the listing of the shares of Parent Common Stock to be issued in connection with the Contemplated Transactions, and to cause such shares to be approved for listing (subject to official notice of issuance); and (b) the Company shall use its commercially reasonable efforts, to the extent required by Nasdaq Marketplace Rule 5110, to file an initial listing application for the Parent Common Stock on NASDAQ (the ***NASDAQ Listing Application***) and to cause such NASDAQ Listing Application to be conditionally approved prior to the Effective Time. The Parties will use commercially reasonable efforts to coordinate with respect to compliance with NASDAQ rules and regulations. The Company agrees to pay all NASDAQ fees associated with the NASDAQ Listing Application (the cost of which shall be a Company Transaction Expense). The Parties will cooperate with the other as reasonably requested by the other with respect to the NASDAQ Listing Application and promptly furnish all information concerning itself and its stockholders that may be required or reasonably requested in connection with any action contemplated by this Section 5.11.

5.12. **Tax Matters.**

(a) For United States federal income Tax purposes, (i) the Parties intend that the Merger qualify as a reorganization within the meaning of Section 368(a) of the Code (the ***Intended Tax Treatment***), and (ii) this Agreement is intended to be, and is hereby adopted as, a plan of reorganization for purposes of Section 354 and 361 of the Code and Treasury Regulations Section 1.368-2(g) and 1.368-3(a), to which the Parent, Merger Sub and the Company are parties under Section 368(b) of the Code. The Parties shall treat and shall not take any tax reporting position inconsistent with the treatment of the Merger as a reorganization within the meaning of Section 368(a) of the Code for U.S. federal, state and other relevant Tax purposes, unless otherwise required pursuant to a determination within the meaning of Section 1313(a) of the Code.

(b) The Parties shall use their respective reasonable best efforts to cause the Merger to qualify, and will not take any action or cause any action to be taken which action would reasonably be expected to prevent the Merger from qualifying, for the Intended Tax Treatment.

(c) Parent shall use commercially reasonable efforts to deliver to Dechert and DLA a ***Tax Representation Letter***, dated as of the Closing Date and signed by an officer of Parent, containing representations of Parent, and Merger Sub, and the Company shall use commercially reasonable efforts to deliver to Dechert and DLA a ***Tax Representation Letter***, dated as of the Closing Date and signed by an officer of the Company, containing representations of the Company, in each case as shall be necessary or appropriate to enable DLA to render the opinion described in Section 5.12(e) of this Agreement and Dechert to render the opinion described in Section 5.12(d) of this Agreement.

(d) Parent shall use reasonable efforts to obtain an opinion of Dechert, to the effect that the Merger shall qualify for the Intended Tax Treatment, dated as of the Closing and also dated as of any earlier date as may be required by the

SEC in connection with the effectiveness of the Registration Statement. In rendering such opinion, Dechert may require and rely upon (and may incorporate by reference) reasonable and customary representations and covenants, including those contained in the Tax Representation Letters described in Section 5.12(c) of this Agreement.

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(e) The Company shall use commercially reasonable efforts to obtain an opinion of DLA to the effect that the Merger shall qualify for the Intended Tax Treatment dated as of the Closing and also dated as of any earlier date as may be required by the SEC in connection with the effectiveness of the Registration Statement. In rendering such opinion, DLA may require and rely upon (and may incorporate by reference) reasonable and customary representations and covenants, including the Tax Representation Letters described in Section 5.12(c) of this Agreement.

5.13. **Legends.** Parent shall be entitled to place appropriate legends on the book entries and/or certificates evidencing any shares of Parent Common Stock to be received in the Merger by equity holders of the Company who may be considered affiliates of Parent for purposes of Rules 144 and 145 under the Securities Act reflecting the restrictions set forth in Rules 144 and 145 and to issue appropriate stop transfer instructions to the transfer agent for Parent Common Stock.

5.14. **Directors and Officers.** The Parties shall use reasonable best efforts and take all necessary action so that immediately after the Effective Time, (a) the Parent Board is comprised of seven (7) members, with three (3) of such members designated by Parent and four (4) of such members designated by the Company, and (b) the Persons listed in **Exhibit C** under the heading Officers are elected or appointed, as applicable, to the positions of officers of Parent and the Surviving Corporation, as set forth therein, to serve in such positions effective as of the Effective Time until successors are duly appointed and qualified in accordance with applicable Law. If any Person listed in **Exhibit C** is unable or unwilling to serve as an officer of Parent or the Surviving Corporation, as set forth therein, as of the Effective Time, the Parties shall mutually agree upon a successor. The Persons listed in **Exhibit C** under the heading Board Designees – Parent shall be Parent s designees pursuant to clause (a) of this Section 5.14 (which list may be changed by Parent at any time prior to the Closing by written notice to the Company to include different board designees who are reasonably acceptable to the Company) (the ***Parent Designees***). The Persons listed in **Exhibit C** under the heading Board Designees – Company shall be the Company s designees pursuant to clause (a) of this Section 5.14 (which list may be changed by the Company at any time prior to the Closing by written notice to Parent to include different board designees who are reasonably acceptable to Parent).

5.15. **Termination of Certain Agreements and Rights.** The Company shall cause any Investor Agreements to be terminated immediately prior to the Effective Time, without any liability being imposed on the part of Parent or the Surviving Corporation.

5.16. **Section 16 Matters.** Prior to the Effective Time, Parent and the Company shall take all such steps as may be required (to the extent permitted under applicable Laws) to cause any acquisitions of Parent Common Stock and any options to purchase Parent Common Stock in connection with the Contemplated Transactions, by each individual who is reasonably expected to become subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Parent, to be exempt under Rule 16b-3 promulgated under the Exchange Act. At least thirty (30) days prior to the Closing Date, the Company shall furnish the following information to Parent for each individual who, immediately after the Effective Time, will become subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Parent: (a) the number of shares of Company Capital Stock owned by such individual and expected to be exchanged for shares of Parent Common Stock pursuant to the Merger, and (b) the number of other derivative securities (if any) with respect to Company Capital Stock owned by such individual and expected to be converted into shares of Parent Common Stock or derivative securities with respect to Parent Common Stock in connection with the Merger.

5.17. **Cooperation.** Each Party shall cooperate reasonably with the other Party and shall provide the other Party with such assistance as may be reasonably requested for the purpose of facilitating the performance by each Party of its respective obligations under this Agreement and to enable the combined entity to continue to meet its obligations following the Effective Time.

5.18. **Allocation Certificate.**

(a) The Company will prepare and deliver to Parent at least ten Business Days prior to the Closing Date a certificate signed by the Chief Financial Officer of the Company in a form reasonably acceptable to Parent setting forth (as of immediately prior to the Effective Time) (a) each holder of Company Capital Stock, Company Options or Company Warrants, (b) such holder s name and address; (c) the number and type of Company Capital Stock held and/or underlying the Company Options or Company Warrants as of the Closing Date for each such holder, and (d) the number of shares of Parent Common Stock to be issued

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to such holder, or to underlie any Parent Option or Parent Warrant to be issued to such holder, pursuant to this Agreement in respect of the Company Capital Stock, Company Options or Company Warrants held by such holder as of immediately prior to the Effective Time (the ***Allocation Certificate***); *provided* that the Company may update the Allocation Certificate by written notice to Parent at least two days prior to the Closing in the event that any holder of Company Options or Company Warrants exercises such Company Options or Company Warrants prior to the Effective Time.

(b) Parent will prepare and deliver to the Parent at least ten Business Days prior to the Closing Date a certificate signed by the Chief Financial Officer of Parent in a form reasonably acceptable to the Company setting forth (as of immediately prior to the Effective Time) (a) the number of outstanding shares of Parent Common Stock, and (b) each holder of Parent Options and such holder s name, address and number of shares of Parent Common Stock underlying the Parent Options for each such holder (the ***Parent Outstanding Equity Certificate***); *provided* that Parent may update the Parent Outstanding Equity Certificate by written notice to the Company at least two days prior to the Closing in the event that any holder of Parent Options exercises such Parent Options prior to the Effective Time.

5.19. **Company Financial Statements.** To the extent not already provided to Parent as of the date of this Agreement, as promptly as reasonably practicable following the date hereof, the Company will furnish to Parent (i) audited financial statements for the fiscal years ended 2016 and 2017, for inclusion in the Proxy Statement and the Registration Statement (the ***Company Audited Financial Statements***) and (ii) unaudited interim financial statements for each interim period completed prior to Closing that would be required to be included in the Registration Statement or any periodic report due prior to the Closing if the Company were subject to the periodic reporting requirements under the Securities Act or the Exchange Act (the ***Company Interim Financial Statements***). Each of the Company Audited Financial Statements and the Company Interim Financial Statements will be suitable for inclusion in the Proxy Statement and the Registration Statement and prepared in accordance with GAAP as applied on a consistent basis during the periods involved (except in each case as described in the notes thereto) and on that basis will present fairly, in all material respects, the financial position and the results of operations, changes in stockholders equity, and cash flows of the Company as of the dates of and for the periods referred to in the Company Audited Financial Statements or the Company Interim Financial Statements, as the case may be.

5.20. **Takeover Statutes.** If any Takeover Statute is or may become applicable to the Contemplated Transactions, each of the Company, the Company Board, Parent and the Parent Board, as applicable, shall grant such approvals and take such actions as are necessary so that the Contemplated Transactions may be consummated as promptly as practicable on the terms contemplated by this Agreement and otherwise act to eliminate or minimize the effects of such statute or regulation on the Contemplated Transactions.

5.21. **Stockholder Litigation.**

(a) Parent shall conduct and control the settlement and defense of any stockholder litigation against Parent or any of its directors relating to this Agreement or the Contemplated Transactions; *provided* that any settlement or other resolution of any such stockholder litigation agreed to by Parent after the Closing shall be approved in advance by a majority of the Parent Designees for so long as any Parent Designees are still members of the Parent Board. Without limiting the foregoing, prior to the Closing, Parent shall give the Company the opportunity to consult with Parent in connection with the defense and settlement of any such stockholder litigation, and Parent shall keep the Company reasonably apprised of any material developments in connection with any such stockholder litigation.

(b) The Company shall conduct and control the settlement and defense of any stockholder litigation against the Company or any of its directors relating to this Agreement or the Contemplated Transaction. Without limiting the foregoing, prior to the Closing, the Company shall give Parent the opportunity to consult with the Company in connection with the defense and settlement of any such stockholder litigation, and the Company shall keep Parent

reasonably apprised of any material developments in connection with any such stockholder litigation.

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5.22. **Calculation of Net Cash; Adjustment to Company and Parent Allocation Percentage.**

(a) Section 5.22(a) of the Company Disclosure Schedule sets forth the Company s good faith estimate of Company Net Cash and the components thereof, calculated as if the Closing had occurred on February 28, 2019. The Parties agree that Company Net Cash, including for purposes of the Company Net Cash Schedule, will be calculated based on the same assumptions and methodologies used in preparing Section 5.22(a) of the Company Disclosure Schedule.

(b) On or prior to the Determination Date, the Company shall deliver the Company Net Cash Schedule to Parent. Upon the reasonable request of Parent, the Company shall make the work papers and back-up materials used or useful in preparing the Company Net Cash Schedule available to Parent. Within three calendar days after the Company delivers the Company Net Cash Schedule to Parent (the ***Company Net Cash Response Date***), subject to the terms and definitions of this Agreement, Parent will have the right to dispute any part of such Company Net Cash Schedule by delivering a written notice to that effect to the Company (a ***Parent Dispute Notice***). Any Parent Dispute Notice shall identify in reasonable detail the nature of any proposed revisions to the calculation of Company Net Cash set forth in the Company Net Cash Schedule. If on or prior to the Company Net Cash Response Date, (i) Parent notifies the Company in writing that it has no objections to the Company Net Cash Schedule or (ii) Parent fails to deliver a Parent Dispute Notice, then Company Net Cash as set forth in the Company Net Cash Schedule shall be deemed to have been finally determined for purposes of this Agreement and to represent the Company Net Cash at the Company Net Cash Measurement Date for purposes of this Agreement. If Parent delivers a Parent Dispute Notice on or prior to the Company Net Cash Response Date, then members of senior management of Parent and the Company shall promptly meet in person or telephonically at mutually agreed upon times and attempt in good faith to resolve the disputed item(s) and negotiate an agreed-upon determination of Company Net Cash, which agreed upon Company Net Cash amount shall be deemed to have been finally determined for purposes of this Agreement and to represent the Company Net Cash at the Company Net Cash Measurement Date for purposes of this Agreement.

(c) Section 5.22(c) of the Parent Disclosure Schedule sets forth Parent s good faith estimate of Parent Net Cash and the components thereof, calculated as if the Closing had occurred on February 28, 2019. The Parties agree that Parent Net Cash, including for purposes of the Parent Net Cash Schedule, will be calculated based on the same assumptions and methodologies used in preparing Section 5.22(c) of the Parent Disclosure Schedule.

(d) On or prior to the Determination Date, Parent shall deliver the Parent Net Cash Schedule to the Company. Upon the reasonable request of the Company, Parent shall make the work papers and back-up materials used or useful in preparing the Parent Net Cash Schedule available to the Company. Within three calendar days after Parent delivers the Parent Net Cash Schedule to the Company (the ***Parent Net Cash Response Date***), subject to the terms and definitions of this Agreement, the Company will have the right to dispute any part of such Parent Net Cash Schedule by delivering a written notice to that effect to Parent (a ***Company Dispute Notice***). Any Company Dispute Notice shall identify in reasonable detail the nature of any proposed revisions to the calculation of Parent Net Cash set forth in the Parent Net Cash Schedule. If on or prior to the Parent Net Cash Response Date, (i) the Company notifies Parent in writing that it has no objections to the Parent Net Cash Schedule or (ii) the Company fails to deliver a Company Dispute Notice, then Parent Net Cash as set forth in the Parent Net Cash Schedule shall be deemed to have been finally determined for purposes of this Agreement and to represent the Parent Net Cash at the Anticipated Closing Date for purposes of this Agreement. If the Company delivers a Company Dispute Notice on or prior to the Parent Net Cash Response Date, then members of senior management of Parent and the Company shall promptly meet in person or telephonically at mutually agreed upon times and attempt in good faith to resolve the disputed item(s) and negotiate an agreed-upon determination of Parent Net Cash, which agreed upon Parent Net Cash amount shall be deemed to have been finally determined for purposes of this Agreement and to represent the Parent Net Cash at the Anticipated Closing Date for purposes of this Agreement.

(e) If (i) Parent delivers a Parent Dispute Notice on or prior to the Company Net Cash Response Date and Parent and the Company are unable to negotiate an agreed-upon determination of Company Net Cash as of the Company Net Cash Measurement Date pursuant to Section 5.22(b) within three calendar days after delivery of the Parent Dispute Notice and/or (ii) the Company delivers a Company Dispute Notice on or

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prior to the Parent Net Cash Response Date and Parent and the Company are unable to negotiate an agreed-upon determination of Parent Net Cash as of the Anticipated Closing Date pursuant to Section 5.22(d) within three calendar days after delivery of the Company Dispute Notice, then, in either case, Ernst & Young LLP or another independent accounting firm of national standing mutually agreed upon by Parent and the Company (the ***Accounting Firm***) shall be engaged to resolve any remaining disagreements as to the determination of Company Net Cash at the Company Net Cash Measurement Date and/or Parent Net Cash at the Anticipated Closing Date, as the case may be. Parent and the Company shall use commercially reasonable efforts to cause the Accounting Firm to make its determination within ten calendar days of accepting its engagement. Each of Parent and the Company shall be afforded the opportunity to present to the Accounting Firm any material related to the unresolved disputes and to discuss the issues with the Accounting Firm; *provided* that the other Party is provided with the opportunity to attend any such presentations or discussions. The Accounting Firm shall be bound by the assumptions and methodologies used in preparing Section 5.22(a) of the Company Disclosure Schedule (in the case of determining Company Net Cash) and/or Section 5.22(c) of the Parent Disclosure Schedule (in the case of determining Parent Net Cash), and the determination of the Accounting Firm shall be limited to the disagreements submitted to the Accounting Firm and shall be based solely on the Company Net Cash Schedule or the Parent Net Cash Schedule, as applicable, and the documentation and other papers submitted by Parent and the Company in support of its respective determination of Company Net Cash or Parent Net Cash, as applicable, and shall not be based on any independent review by the Accounting Firm. In determining the amount of Company Net Cash at the Company Net Cash Measurement Date and/or the Parent Net Cash at the Anticipated Closing Date, as applicable, the Accounting Firm shall be required to select either Parent s or the Company s determination of Company Net Cash at the Company Net Cash Measurement Date and/or the Parent Net Cash at the Anticipated Closing Date, as applicable, based on the Accounting Firm s determination of whichever such determination the Accounting Firm believes to be closer to the actual amount. Such determination by the Accounting Firm shall be final and binding for purposes of this Agreement on the Parties. The Parties shall delay the Closing until two Business Days after the resolution of the matters described in this Section 5.22(e). The fees and expenses of the Accounting Firm shall be borne by the Party whose determination of Company Net Cash or Parent Net Cash, as applicable, was not selected by the Accounting Firm; *provided* that if the Accounting Firm is engaged to make a final determination of both Company Net Cash and Parent Net Cash and each Party s determination is selected for one of the foregoing, the fees and expenses of the Accounting Firm shall be borne equally by Parent and the Company (it being understood and agreed that in all cases, the fees and expenses of the Accounting Firm shall reduce Company Net Cash and/or Parent Net Cash at the Company Net Cash Measurement Date or the Anticipated Closing Date, as applicable). If this Section 5.22(e) applies, upon resolution of the determination of Company Net Cash and/or Parent Net Cash, as applicable, in accordance with this Section 5.22(e), the Parties shall not be required to re-new such determination again even though the Closing Date may occur later than the Anticipated Closing Date, except that either Party may request a re-determination if the Closing Date is more than fifteen Business Days after the Anticipated Closing Date.

(f) Following the final determination of Company Net Cash in accordance with this Section 5.22, the Company Valuation shall be adjusted as follows: (x) if Company Net Cash is within the Company Collar Range, no adjustment to the Company Valuation shall be made; (y) if there is a Company Excess Amount, the Company Valuation shall be increased dollar-for-dollar by the Company Excess Amount; and (z) if there is a Company Deficiency Amount, the Company Valuation shall be decreased dollar-for-dollar by the Company Deficiency Amount.

(g) Following the final determination of Parent Net Cash in accordance with this Section 5.22, the Parent Valuation shall be adjusted as follows: (x) if Parent Net Cash is within the Parent Collar Range, no adjustment to the Parent Valuation shall be made; (y) if there is a Parent Excess Amount, the Parent Valuation shall be increased dollar-for-dollar by the Parent Excess Amount; and (z) if there is a Parent Deficiency Amount, the Parent Valuation shall be decreased dollar-for-dollar by the Parent Deficiency Amount.

5.23. **Reverse Split.** Parent shall submit to the holders of Parent Common Stock at the Parent Stockholders Meeting a proposal to approve and adopt an amendment to the Parent Certificate of Incorporation to authorize the Board of Directors of Parent to effect a reverse stock split of all outstanding shares of Parent

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Common Stock at a reverse stock split ratio of between 5 and 10 for 1 as mutually agreed to by Parent and the Company (the ***Reverse Split***). Parent shall use commercially reasonable efforts, including engaging a proxy solicitor to solicit from its stockholders proxies in favor of the Reverse Split.

5.24. **Contract Confirmations.** To the extent requested by the Company, Parent shall use its commercially reasonable efforts to obtain written confirmations of any remaining amounts due and payable on or prior to the Anticipated Closing Date under the Contracts set forth on Section 5.24 of the Parent Disclosure Schedule if such Contracts were terminated by Parent and shall deliver such written confirmations to the Company.

Section 6. CONDITIONS PRECEDENT TO OBLIGATIONS OF EACH PARTY

The obligations of each Party to effect the Merger and otherwise consummate the Contemplated Transactions to be consummated at the Closing are subject to the satisfaction or, to the extent permitted by applicable Law, the written waiver by each of the Parties, at or prior to the Closing, of each of the following conditions:

6.1. **Effectiveness of Registration Statement.** The Registration Statement shall have become effective in accordance with the provisions of the Securities Act, and shall not be subject to any stop order or proceeding (or threatened proceeding by the SEC) seeking a stop order with respect to the Registration Statement that has not been withdrawn.

6.2. **No Restraints.** No temporary restraining order, preliminary or permanent injunction or other order preventing the consummation of the Contemplated Transactions shall have been issued by any court of competent jurisdiction or other Governmental Body of competent jurisdiction and remain in effect and there shall not be any Law which has the effect of making the consummation of the Contemplated Transactions illegal.

6.3. **Stockholder Approval.** (a) Parent shall have obtained the Required Parent Stockholder Vote and (b) the Company shall have obtained the Required Company Stockholder Vote.

Section 7. ADDITIONAL CONDITIONS PRECEDENT TO OBLIGATIONS OF PARENT AND MERGER SUB

The obligations of Parent and Merger Sub to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by Parent, at or prior to the Closing, of each of the following conditions:

7.1. **Accuracy of Representations.** The Company Fundamental Representations shall have been true and correct in all material respects as of the date of this Agreement and shall be true and correct in all material respects on and as of the Closing Date with the same force and effect as if made on and as of such date (except to the extent such representations and warranties are specifically made as of a particular date, in which case such representations and warranties shall be true and correct as of such date, and without giving effect to any references therein to any Company Material Adverse Effect or other materiality qualifications). The Company Capitalization Representations shall have been true and correct in all respects as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on and as of such date, except, in each case, (x) for such inaccuracies representing less than 0.50% of the Company Outstanding Shares in the aggregate or (y) for those representations and warranties which address matters only as of a particular date (which representations and warranties shall have been true and correct, subject to the qualifications as set forth in the preceding clause (x), as of such particular date). The representations and warranties of the Company contained in this Agreement (other than the Company Fundamental Representations and the Company Capitalization Representations) shall have been true and correct as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date except (a) in each case, or in the aggregate, where the failure to be true and correct would not reasonably be expected to have a Company Material Adverse Effect (without giving effect to any

references therein to any Company Material Adverse Effect or other materiality qualifications), or (b) for those representations and warranties which address matters only as of a particular date (which representations shall have been true and correct, subject to the qualifications as set forth in the preceding clause (a), as of such particular date) (it being understood that, for purposes of determining the accuracy of such representations and warranties, any update of or modification to the Company Disclosure Schedule made or purported to have been made after the date of this Agreement shall be disregarded).

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7.2. **Performance of Covenants.** The Company shall have performed or complied with in all material respects all agreements and covenants required to be performed or complied with by it under this Agreement at or prior to the Effective Time.

7.3. **Documents.** Parent shall have received the following documents, each of which shall be in full force and effect:

(a) a certificate executed by the Chief Executive Officer or Chief Financial Officer of the Company certifying (i) that the conditions set forth in Sections 7.1, 7.2, 7.5 and 7.6 have been duly satisfied and (ii) that the information set forth in the Allocation Certificate delivered by the Company in accordance with Section 5.18(a) is true and accurate in all respects as of the Closing Date;

(b) a written resignation, in a form reasonably satisfactory to Parent, dated as of the Closing Date and effective as of the Closing, executed by each of the officers and directors of the Company listed in Section 7.3(b) of the Company Disclosure Schedule; and

(c) Company Representative Confirmation Letters from all attorneys, accountants, investment bankers and other professional advisors of the Company.

7.4. **FIRPTA Certificate.** Parent shall have received from the Company an executed notice to the IRS in accordance with the requirements of Treasury Regulation Section 1.897-2(h), dated as of the Closing Date, and in form and substance reasonably acceptable to Parent.

7.5. **No Company Material Adverse Effect.** Since the date of this Agreement, there shall not have occurred any Company Material Adverse Effect.

7.6. **Termination of Investor Agreements.** The Investor Agreements shall have been terminated, effective as of the Closing.

7.7. **Lock-Up Agreements.** Parent shall have received a copy of a lock-up agreement in substantially the form attached hereto as **Exhibit D-1** (the ***Lock-Up Agreement***) duly executed by each of the Company Lock-Up Signatories and each executive officer and director of the Company who is elected or appointed, as applicable, as an executive officer and director of Parent as of immediately following the Closing, each of which shall be in full force and effect as of the Closing.

Section 8. ADDITIONAL CONDITIONS PRECEDENT TO OBLIGATION OF THE COMPANY

The obligations of the Company to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by the Company, at or prior to the Closing, of each of the following conditions:

8.1. **Accuracy of Representations.** Each of the Parent Fundamental Representations shall have been true and correct in all material respects as of the date of this Agreement and shall be true and correct in all material respects on and as of the Closing Date with the same force and effect as if made on and as of such date (except to the extent such representations and warranties are specifically made as of a particular date, in which case such representations and warranties shall be true and correct as of such date, and without giving effect to any reference therein to Parent Material Adverse Effect or other materiality qualifications). The Parent Capitalization Representations shall have been true and correct in all respects as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on and as of such date, except, in each case, (x) for such inaccuracies representing less than 0.50% of the Parent Outstanding Shares in the aggregate or (y) for those representations and warranties which address matters only as of a particular date (which representations and warranties shall have been

true and correct, subject to the qualifications as set forth in the preceding clause (x), as of such particular date). The representations and warranties of Parent and Merger Sub contained in this Agreement (other than the Parent Fundamental Representations and the Parent Capitalization Representations) shall have been true and correct as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date except (a) in each case, or in the aggregate, where the failure to be true and correct would not reasonably be expected to have a Parent Material Adverse Effect (without giving effect to any references therein to any Parent Material Adverse Effect or other materiality qualifications), or (b) for those representations and warranties which address matters only as of a particular date (which representations shall have been true and correct, subject to the qualifications as set forth in the preceding clause (a), as of such particular date) (it being understood that, for

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purposes of determining the accuracy of such representations and warranties, any update of or modification to the Parent Disclosure Schedule made or purported to have been made after the date of this Agreement shall be disregarded).

8.2. **Performance of Covenants.** Parent and Merger Sub shall have performed or complied with in all material respects all of their agreements and covenants required to be performed or complied with by each of them under this Agreement at or prior to the Effective Time.

8.3. **Documents.** The Company shall have received the following documents, each of which shall be in full force and effect:

(a) a certificate executed by the Chief Executive Officer or Chief Financial Officer of Parent confirming (i) that the conditions set forth in Sections 8.1, 8.2, and 8.4 have been duly satisfied; and (ii) that the information set forth in the Parent Outstanding Equity Certificate delivered by Parent in accordance with Section 5.18(b) is true and accurate in all respects as of the Closing Date;

(b) a written resignation, in a form reasonably satisfactory to the Company, dated as of the Closing Date and effective as of the Closing, executed by each of the non-executive directors of Parent who are not to continue as directors of Parent after the Closing pursuant to Section 5.14 hereof;

(c) evidence in a form reasonably acceptable to the Company, that the Parent Board has terminated, effective as of the Closing, each of the officers of Parent who are not to continue as officers of Parent after the Closing pursuant to Section 5.14 hereof from all positions held with Parent; and

(d) evidence in form and substance reasonably acceptable to the Company that Parent s assets shall have been released from all security interest thereon that are listed on Section 8.3(d) of the Parent Disclosure Schedule, and Parent shall have taken all steps necessary to terminate any UCC financing statements which have been filed with respect to such security interests; and

(e) Parent Representative Confirmation Letters from all attorneys, accountants, investment bankers and other professional advisors of Parent.

8.4. **No Parent Material Adverse Effect.** Since the date of this Agreement, there shall not have occurred any Parent Material Adverse Effect.

8.5. **Lock-Up Agreements.** The Company shall have received a copy of a lock-up agreement in substantially the form attached hereto as **Exhibit D-2** (the ***Parent Lock-Up Agreement***) duly executed by each Person set forth on Section A of the Parent Disclosure Schedule and each executive officer and director of Parent who is elected or appointed, as applicable, as an executive officer and director of Parent as of immediately following the Closing, each of which shall be in full force and effect as of the Closing.

Section 9. TERMINATION

9.1. **Termination.** This Agreement may be terminated prior to the Effective Time (whether before or after adoption of this Agreement by the Company s stockholders and whether before or after approval of the Parent Stockholder Matters by Parent s stockholders, unless otherwise specified below):

(a) by mutual written consent of Parent and the Company;

(b) by either Parent or the Company if the Contemplated Transactions shall not have been consummated by June 23, 2019 (subject to possible extension as provided in this Section 9.1(b), the ***End Date***); *provided*, *however*, that (i) the right to terminate this Agreement under this Section 9.1(b) shall not be available to the Company, on the one hand, or to Parent, on the other hand, if such Party s action or failure to act has been a principal cause of the failure of the Contemplated Transactions to occur on or before the End Date and such action or failure to act constitutes a breach of this Agreement and (ii) in the event that a request for additional information has been made by any Governmental Body, or in the event that the SEC has not declared effective under the Securities Act the Registration Statement by the date which is sixty (60) days prior to the End Date, then either the Company or Parent shall be entitled to extend the End Date for an additional sixty (60) days by written notice to the other the Party;

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(c) by either Parent or the Company if a court of competent jurisdiction or other Governmental Body shall have issued a final and nonappealable order, decree or ruling, or shall have taken any other action, having the effect of permanently restraining, enjoining or otherwise prohibiting the Contemplated Transactions;

(d) by Parent if the Required Company Stockholder Vote shall not have been obtained within three Business Days of the Registration Statement becoming effective in accordance with the provisions of the Securities Act; *provided*, *however*, that once the Required Company Stockholder Vote has been obtained, Parent may not terminate this Agreement pursuant to this Section 9.1(d);

(e) by either Parent or the Company if (i) the Parent Stockholders Meeting (including any adjournments and postponements thereof) shall have been held and (ii) the Parent Stockholder Matters shall not have been approved at the Parent Stockholders Meeting (or at any adjournment or postponement thereof) by the Required Parent Stockholder Vote; *provided*, *however*, that (i) the right to terminate this Agreement under this Section 9.1(e) shall not be available to the Company, on the one hand, or to Parent, on the other hand, if such Party s action or failure to act has been a principal cause of the failure of the Required Parent Stockholder Vote to be obtained at such meeting and such action or failure to act constitutes a breach of this Agreement, and (ii) Parent may not terminate this Agreement pursuant to this Section 9.1(e) until the date that is sixty-one (61) days after the date that the initial Parent Stockholders Meeting is held;

(f) by the Company (at any time prior to the approval of the Parent Stockholder Matters by the Required Parent Stockholder Vote) if a Parent Triggering Event shall have occurred;

(g) by the Company, upon a breach of any representation, warranty, covenant or agreement set forth in this Agreement by Parent or Merger Sub or if any representation or warranty of Parent or Merger Sub shall have become inaccurate, in either case, such that the conditions set forth in Section 8.1 or Section 8.2 would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate; *provided* that the Company is not then in material breach of any representation, warranty, covenant or agreement under this Agreement; *provided*, *further*, that if such inaccuracy in Parent s or Merger Sub s representations and warranties or breach by Parent or Merger Sub is curable by the End Date by Parent or Merger Sub, then this Agreement shall not terminate pursuant to this Section 9.1(g) as a result of such particular breach or inaccuracy until the expiration of a 30-day period commencing upon delivery of written notice from the Company to Parent or Merger Sub of such breach or inaccuracy and its intention to terminate pursuant to this Section 9.1(g) (it being understood that this Agreement shall not terminate pursuant to this Section 9.1(g) as a result of such particular breach or inaccuracy if such breach by Parent or Merger Sub is cured prior to such termination becoming effective);

(h) by Parent, upon a breach of any representation, warranty, covenant or agreement set forth in this Agreement by the Company or if any representation or warranty of the Company shall have become inaccurate, in either case, such that the conditions set forth in Section 7.1 or Section 7.2 would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate; *provided* that Parent is not then in material breach of any representation, warranty, covenant or agreement under this Agreement; *provided*, *further*, that if such inaccuracy in the Company s representations and warranties or breach by the Company is curable by the End Date by the Company then this Agreement shall not terminate pursuant to this Section 9.1(h) as a result of such particular breach or inaccuracy until the expiration of a 30-day period commencing upon delivery of written notice from Parent to the Company of such breach or inaccuracy and its intention to terminate pursuant to this Section 9.1(h) (it being understood that this Agreement shall not terminate pursuant to this Section 9.1(h) as a result of such particular breach or inaccuracy if such breach by the Company is cured prior to such termination becoming effective);

(i) by the Company, at any time, in the event that a Parent Material Adverse Effect shall have occurred;

(j) by Parent, at any time, in the event that a Company Material Adverse Effect shall have occurred; or

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(k) by Parent, at any time, if (i) Parent has received a Superior Offer, (ii) Parent has complied with its obligations under Section 5.3(c) in order to accept such Superior Offer, (iii) Parent concurrently terminates this Agreement and enters into a Permitted Alternative Agreement with respect to such Superior Offer and (iv) within two Business Days of such termination, Parent pays to the Company the amount contemplated by Section 9.3(c).

9.2. **Effect of Termination.** In the event of the termination of this Agreement as provided in Section 9.1, this Agreement shall be of no further force or effect; *provided*, *however*, that (a) this Section 9.2, Section 5.10, Section 9.3, Section 10 and the definitions of the defined terms in such Sections shall survive the termination of this Agreement and shall remain in full force and effect, and (b) the termination of this Agreement and the provisions of Section 9.3 shall not relieve any Party of any liability for fraud or for any willful or intentional breach of any representation, warranty, covenant, obligation or other provision contained in this Agreement.

9.3. **Expenses; Termination Fees.**

(a) Except as set forth in this Section 9.3, Section 5.8(d), and Section 5.11, all fees and expenses incurred in connection with this Agreement and the Contemplated Transactions shall be paid by the Party incurring such expenses, whether or not the Merger is consummated; *provided*, *however*, that Parent and the Company shall share equally all fees and expenses incurred in relation to the printing and filing with the SEC of the Registration Statement (including any financial statements and exhibits) and any amendments or supplements thereto and paid to a financial printer or the SEC (it being agreed that the cost of which is allocated to the Company pursuant to the foregoing shall be a Company Transaction Expense). It is understood and agreed that (i) all fees and expenses incurred or to be incurred by the Company in connection with the Contemplated Transactions and preparing, negotiating and entering into this Agreement and the performance of its obligations under this Agreement shall be paid by the Company in cash at or prior to the Closing (and shall be Company Transaction Expenses); and (ii) all fees and expenses incurred or to be incurred by Parent in connection with the Contemplated Transactions and preparing, negotiating and entering into this Agreement and the performance of its obligations under this Agreement shall be paid by Parent in cash at or prior to the Closing (and shall be Parent Transaction Expenses).

(b) If (i) this Agreement is terminated by the Company pursuant to Section 9.1(f), or (ii) (A) this Agreement is terminated by the Company or Parent pursuant to Section 9.1(e) or Section 9.1(g), (B) an Acquisition Proposal with respect to Parent shall have been publicly announced or disclosed or otherwise communicated to Parent or the Parent Board after the date of this Agreement but prior to the termination of this Agreement and (C) within twelve months after the date of such termination, Parent consummates a Subsequent Transaction, then Parent shall pay to the Company an amount equal to $1,750,000 (the ***Company Termination Fee***) (I) in the case of a payment required by clause (i) above, within two Business Days of the date of termination of this Agreement, and (II) in the case of a payment required by clause (ii) above, on the date of consummation of such Subsequent Transaction.

(c) If this Agreement is terminated by Parent pursuant to Section 9.1(k), Parent shall pay to the Company within two Business Days of such termination the Company Termination Fee.

(d) Any Company Termination Fee due under this Section 9.3 shall be paid by wire transfer of same day funds. If Parent fails to pay when due any amount payable by it under this Section 9.3, then Parent shall (i) reimburse the Company for reasonable costs and expenses (including reasonable fees and disbursements of counsel) incurred by it in connection with the collection of such overdue amount and the enforcement by the Company of its rights under this Section 9.3, and (ii) pay to the Company interest on such overdue amount (for the period commencing as of the date such overdue amount was originally required to be paid and ending on the date such overdue amount is actually paid to the Company in full) at a rate per annum equal to the prime rate (as published in *The Wall Street Journal* or any successor thereto) in effect on the date such overdue amount was originally required to be paid.

(e) The Parties agree that, subject to Section 9.2, payment of the Company Termination Fee shall, in the circumstances in which it is owed in accordance with the terms of this Agreement, constitute the sole and exclusive remedy of the Company following the termination of this Agreement, it being understood that in no event shall Parent be required to pay the amounts payable pursuant to this Section 9.3 on more than one occasion and (ii) following payment of the Company Termination Fee (x) Parent shall have no further liability to the Company in connection with or arising out of this Agreement or the termination thereof, any

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breach of this Agreement by Parent giving rise to such termination, or the failure of the Contemplated Transactions to be consummated, (y) neither the Company nor any of its Affiliates shall be entitled to bring or maintain any other claim, action or proceeding against Parent or Merger Sub or seek to obtain any recovery, judgment or damages of any kind against such Parties (or any partner, member, stockholder, director, officer, employee, Subsidiary, Affiliate, agent or other Representative of such Parties) in connection with or arising out of this Agreement or the termination thereof, any breach by any such Parties giving rise to such termination or the failure of the Contemplated Transactions to be consummated and (z) the Company and its Affiliates shall be precluded from any other remedy against Parent, Merger Sub and their respective Affiliates, at law or in equity or otherwise, in connection with or arising out of this Agreement or the termination thereof, any breach by such Party giving rise to such termination or the failure of the Contemplated Transactions to be consummated. Each of the Parties acknowledges that (i) the agreements contained in this Section 9.3 are an integral part of the Contemplated Transactions, (ii) without these agreements, the Parties would not enter into this Agreement and (iii) any amount payable pursuant to this Section 9.3 is not a penalty, but rather is liquidated damages in a reasonable amount that will compensate the Company in the circumstances in which such amount is payable.

Section 10. MISCELLANEOUS PROVISIONS

10.1. **Non-Survival of Representations and Warranties.** The representations and warranties of the Company, Parent and Merger Sub contained in this Agreement or any certificate or instrument delivered pursuant to this Agreement shall terminate at the Effective Time, and only the covenants that by their terms survive the Effective Time and this Section 10 shall survive the Effective Time.

10.2. **Amendment.** This Agreement may be amended with the approval of the respective Boards of Directors of the Company, Merger Sub and Parent at any time (whether before or after the adoption and approval of this Agreement by the Company s stockholders or before or after obtaining the Required Parent Stockholder Vote); *provided*, *however*, that after any such approval of this Agreement by a Party s stockholders, no amendment shall be made which by Law requires further approval of such stockholders without the further approval of such stockholders. This Agreement may not be amended except by an instrument in writing signed on behalf of each of the Company, Merger Sub and Parent.

10.3. **Waiver.**

(a) No failure on the part of any Party to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of any Party in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver of such power, right, privilege or remedy; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

(b) No Party shall be deemed to have waived any claim arising out of this Agreement, or any power, right, privilege or remedy under this Agreement, unless the waiver of such claim, power, right, privilege or remedy is expressly set forth in a written instrument duly executed and delivered on behalf of such Party and any such waiver shall not be applicable or have any effect except in the specific instance in which it is given.

10.4. **Entire Agreement; Counterparts; Exchanges by Electronic Transmission.** This Agreement and the other agreements referred to in this Agreement constitute the entire agreement and supersede all prior agreements and understandings, both written and oral, among or between any of the Parties with respect to the subject matter hereof and thereof; *provided*, *however*, that the Confidentiality Agreement shall not be superseded and shall remain in full force and effect in accordance with its terms. This Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Agreement (in counterparts or otherwise) by all Parties by electronic transmission in .PDF format shall be sufficient to bind the Parties to the terms and conditions of this Agreement.

10.5. **Applicable Law; Jurisdiction.** This Agreement shall be governed by, and construed in accordance with, the Laws of the State of Delaware, regardless of the Laws that might otherwise govern under applicable principles of conflicts of laws. In any action or proceeding between any of the Parties arising out of or relating to this Agreement or any of the Contemplated Transactions, each of the Parties: (a) irrevocably and

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unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware or, to the extent such court does not have subject matter jurisdiction, the United States District Court for the District of Delaware or, to the extent that neither of the foregoing courts has jurisdiction, the Superior Court of the State of Delaware; (b) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with clause (a) of this Section 10.5; (c) waives any objection to laying venue in any such action or proceeding in such courts; (d) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any Party; (e) agrees that service of process upon such Party in any such action or proceeding shall be effective if notice is given in accordance with Section 10.8 of this Agreement; and (f) irrevocably and unconditionally waives the right to trial by jury.

10.6. **Attorneys Fees.** In any action at law or suit in equity to enforce this Agreement or the rights of any of the Parties, the prevailing Party in such action or suit (as determined by a court of competent jurisdiction) shall be entitled to recover its reasonable out-of-pocket attorneys fees and all other reasonable costs and expenses incurred in such action or suit.

10.7. **Assignability.** This Agreement shall be binding upon, and shall be enforceable by and inure solely to the benefit of, the Parties and their respective successors and permitted assigns; *provided*, *however*, that neither this Agreement nor any of a Party s rights or obligations hereunder may be assigned or delegated by such Party without the prior written consent of the other Party, and any attempted assignment or delegation of this Agreement or any of such rights or obligations by such Party without the other Party s prior written consent shall be void and of no effect.

10.8. **Notices.** All notices and other communications hereunder shall be in writing and shall be deemed to have been duly delivered and received hereunder (a) one Business Day after being sent for next Business Day delivery, fees prepaid, via a reputable international overnight courier service, (b) upon delivery in the case of delivery by hand, or (c) on the date delivered in the place of delivery if sent by email or facsimile (with a written or electronic confirmation of delivery) prior to 6:00 p.m. New York City time, otherwise on the next succeeding Business Day, in each case to the intended recipient as set forth below:

if to Parent or Merger Sub:

Edge Therapeutics, Inc.
300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922
Attention: Brian Leuthner
Email: baleuthner@edgetherapeutics.com

with a copy to (which shall not constitute notice):

Dechert LLP
1095 Avenue of the Americas
New York, NY 10036
Attention: David S. Rosenthal, Esq.
Facsimile: (212) 698-3599
Email: david.rosenthal@dechert.com

if to the Company:

PDS Biotechnology Corporation
675 US Highway One
North Brunswick, NJ 08902
Attention: Frank Bedu-Addo
Email: fbeduaddo@pdsbiotech.com

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with a copy to (which shall not constitute notice):

DLA Piper LLP (US)
One Liberty Place
1650 Market Street, Suite 4900
Attention: Fahd Riaz
Facsimile: (215) 606-2069
Email: fahd.riaz@dlapiper.com

10.9. **Cooperation.** Each Party agrees to cooperate fully with the other Party and to execute and deliver such further documents, certificates, agreements and instruments and to take such other actions as may be reasonably requested by the other Party to evidence or reflect the Contemplated Transactions and to carry out the intent and purposes of this Agreement.

10.10. **Severability.** Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Agreement or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If a final judgment of a court of competent jurisdiction declares that any term or provision of this Agreement is invalid or unenforceable, the Parties agree that the court making such determination shall have the power to limit such term or provision, to delete specific words or phrases or to replace such term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be valid and enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the Parties agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term or provision.

10.11. **Other Remedies; Specific Performance.** Except as otherwise provided herein, any and all remedies herein expressly conferred upon a Party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such Party, and the exercise by a Party of any one remedy will not preclude the exercise of any other remedy. The Parties agree that irreparable damage for which monetary damages, even if available, would not be an adequate remedy, would occur in the event that any Party does not perform the provisions of this Agreement (including failing to take such actions as are required of it hereunder to consummate this Agreement) in accordance with its specified terms or otherwise breaches such provisions. Accordingly, the Parties acknowledge and agree that the Parties shall be entitled to an injunction, specific performance and other equitable relief to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof, in addition to any other remedy to which they are entitled at law or in equity. Each of the Parties agrees that it will not oppose the granting of an injunction, specific performance or other equitable relief on the basis that any other Party has an adequate remedy at law or that any award of specific performance is not an appropriate remedy for any reason at law or in equity. Any Party seeking an injunction or injunctions to prevent breaches of this Agreement shall not be required to provide any bond or other security in connection with any such order or injunction.

10.12. **No Third Party Beneficiaries.** Nothing in this Agreement, express or implied, is intended to or shall confer upon any Person (other than the Parties and the D&O Indemnified Parties to the extent of their respective rights pursuant to Section 5.8) any right, benefit or remedy of any nature whatsoever under or by reason of this Agreement.

10.13. **Construction.**

(a) References to cash, dollars or $ are to U.S. dollars.

(b) For purposes of this Agreement, whenever the context requires: the singular number shall include the plural, and vice versa; the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders; and the neuter gender shall include masculine and feminine genders.

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(c) The Parties have participated jointly in the negotiating and drafting of this Agreement and agree that any rule of construction to the effect that ambiguities are to be resolved against the drafting Party shall not be applied in the construction or interpretation of this Agreement, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any provision of this Agreement.

(d) As used in this Agreement, the words include and including, and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words without limitation.

(e) The use of the word or shall not be exclusive.

(f) Except as otherwise indicated, all references in this Agreement to Sections, Exhibits and Schedules are intended to refer to Sections of this Agreement and Exhibits and Schedules to this Agreement, respectively.

(g) Any reference to legislation or to any provision of any legislation shall include any modification, amendment, re-enactment thereof, any legislative provision substituted therefore and all rules, regulations, and statutory instruments issued or related to such legislations.

(h) The bold-faced headings and table of contents contained in this Agreement are for convenience of reference only, shall not be deemed to be a part of this Agreement and shall not be referred to in connection with the construction or interpretation of this Agreement.

(i) The Parties agree that each of the Company Disclosure Schedule and the Parent Disclosure Schedule shall be arranged in sections and subsections corresponding to the numbered and lettered sections and subsections contained in this Agreement. The disclosures in any section or subsection of the Company Disclosure Schedule or the Parent Disclosure Schedule shall qualify other sections and subsections in this Agreement to the extent it is reasonably apparent on its face from a reading of the disclosure that such disclosure is applicable to such other sections and subsections.

(j) delivered or made available means, with respect to any documentation, that prior to 11:59 p.m. (New York City time) on the date that is two calendar days prior to the date of this Agreement (i) a copy of such material has been posted to and made available by a Party to the other Party and its Representatives in the electronic data room maintained by such disclosing Party or (ii) such material is disclosed in the Parent SEC Documents filed with the SEC and publicly made available on the SEC s Electronic Data Gathering Analysis and Retrieval system at least two days prior to the date of this Agreement.

(k) Whenever the last day for the exercise of any privilege or the discharge of any duty hereunder shall fall upon a Saturday, Sunday, or any date on which banks in New York, New York are authorized or obligated by Law to be closed, the Party having such privilege or duty may exercise such privilege or discharge such duty on the next succeeding day which is a regular Business Day.

(Remainder of page intentionally left blank)

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

EDGE THERAPEUTICS, INC.

By: /s/ Brian A. Leuthner
Name: Brian A. Leuthner
Title: President and Chief Executive Officer

ECHOS MERGER SUB, INC.

By: /s/ Brian A. Leuthner
Name: Brian A. Leuthner
Title: President and Chief Executive Officer

[Signature Page to Agreement and Plan of Merger]

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

PDS BIOTECHNOLOGY CORPORATION

By: /s/ Frank Bedu-Addo
Name: Frank Bedu-Addo
Title: Chief Executive Officer

[Signature Page to Agreement and Plan of Merger]

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EXHIBIT A

CERTAIN DEFINITIONS

(a) For purposes of this Agreement (including this Exhibit A):

Acquisition Inquiry means, with respect to a Party, an inquiry, indication of interest or request for information (other than an inquiry, indication of interest or request for information made or submitted by the Company, on the one hand, or Parent, on the other hand, to the other Party) that would reasonably be expected to lead to an Acquisition Proposal.

Acquisition Proposal means, with respect to a Party, any offer or proposal, whether written or oral (other than an offer or proposal made or submitted by or on behalf of the Company or any of its Affiliates, on the one hand, or by or on behalf of Parent or any of its Affiliates, on the other hand, to the other Party) contemplating or otherwise relating to any Acquisition Transaction with such Party.

Acquisition Transaction means any transaction or series of related transactions involving:

(i) any merger, consolidation, amalgamation, share exchange, business combination, issuance of securities, acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction: (i) in which a Party is a constituent entity; (ii) in which a Person or group (as defined in the Exchange Act and the rules promulgated thereunder) of Persons directly or indirectly acquires beneficial or record ownership of securities representing more than 20% of the outstanding securities of any class of voting securities of a Party or any of its Subsidiaries; or (iii) in which a Party or any of its Subsidiaries issues securities representing more than 20% of the outstanding securities of any class of voting securities of such Party or any of its Subsidiaries; *provided* that in the case of the Company, a Permitted Bridge Financing or Permitted Post-Measurement Date Financing shall not be an Acquisition Transaction ; or

(ii) any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets that constitute or account for 20% or more of the consolidated book value or the fair market value of the assets of a Party and its Subsidiaries, taken as a whole.

Actual Knowledge of the Company means the actual knowledge of the individuals set forth on Schedule II (without any duty of inquiry).

Actual Knowledge of Parent means the actual knowledge of the individuals set forth on Schedule III (without any duty of inquiry).

Affiliate of a Person means any other Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such Person. The term control (including the terms controlled by and under common control with) means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

Agreement means the Agreement and Plan of Merger and Reorganization to which this Exhibit A is attached, as it may be amended from time to time.

Anticipated Closing Date means the anticipated Closing Date (as mutually agreed in good faith by Parent and the Company).

Business Day means any day other than a Saturday, Sunday or other day on which banks in New York, New York are authorized or obligated by Law to be closed.

Cash and Cash Equivalents means all (a) cash and cash equivalents (excluding restricted cash, but including security deposits held by third parties), (b) marketable securities, and (c) receivables (to the extent determined to be collectible), in each case, determined in accordance with GAAP, consistently applied.

Code means the Internal Revenue Code of 1986, as amended.

Company Associate means any current or former employee, independent contractor, officer or director of the Company.

Company Board means the board of directors of the Company.

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Company Capital Stock means the Company Common Stock and the Company Preferred Stock.

Company Capitalization Representations means the representations and warranties of the Company set forth in Sections 2.6(a) and (c).

Company Collar Range means a range between (and inclusive of) negative $1,400,000 and negative $600,000.

Company Common Stock means the Common Stock, par value $0.00001 per share, of the Company.

Company Contract means any Contract: (a) to which the Company is a party; (b) by which the Company or any Company Owned IP Rights or any other asset of the Company is or may become bound or under which the Company has, or may become subject to, any obligation; or (c) under which the Company has or may acquire any right or interest.

Company Deficiency Amount means the amount equal to the minimum amount of the Company Collar Range *minus* the absolute value of final Company Net Cash, as determined in accordance with Section 5.22, but only to the extent such final Company Net Cash is less than the minimum amount of the Company Collar Range. For the avoidance of doubt, Company Deficiency Amount may be a positive or negative number.

Company ERISA Affiliate means any corporation or trade or business (whether or not incorporated) which is treated with the Company or any of its Subsidiaries as a single employer within the meaning of Section 414 of the Code.

Company Excess Amount means the amount equal to the final Company Net Cash, as determined in accordance with Section 5.22, *minus* the maximum amount of the Company Collar Range, but only to the extent such final Company Net Cash is more than the maximum amount of the Company Collar Range.

Company Exclusively Licensed IP Rights means all Intellectual Property exclusively licensed to the Company that is used in the business of the Company as presently conducted.

Company Fundamental Representations means the representations and warranties of the Company set forth in (i) Sections 2.1(a) (Due Organization; Subsidiaries), 2.3 (Authority; Binding Nature of Agreement), 2.4 (Vote Required), and 2.20 (No Brokers Fees).

Company IP Rights means Company Licensed IP Rights and Company Owned IP Rights.

Company Licensed IP Rights means all Intellectual Property licensed to the Company that is used in the business of the Company as presently conducted.

Company Lock-Up Signatories means those Persons set forth on Section A of the Company Disclosure Schedule.

Company Material Adverse Effect means any Effect that, considered together with all other Effects that have occurred prior to the date of determination of the occurrence of a Company Material Adverse Effect, has or would reasonably be expected to have a material adverse effect on the business, condition (financial or otherwise), assets, liabilities or results of operations of the Company; *provided*, *however*, that Effects arising or resulting from the following shall not be taken into account in determining whether there has been a Company Material Adverse Effect: (a) general business or economic conditions affecting the industry in which the Company operates, (b) acts of war, armed hostilities or terrorism, (c) changes in financial, banking or securities markets; (d) the taking of any action required to be taken by this Agreement; (e) any change in, or any compliance with or action taken for the purpose of complying with, any Law or GAAP (or interpretations of any Law or GAAP), or (f) resulting from the announcement

of this Agreement or the pendency of the Contemplated Transactions; except in each case with respect to clauses (a) through (c), to the extent disproportionately affecting the Company relative to other similarly situated companies in the industries in which the Company operates.

Company Net Cash means (a) the sum of (without duplication) and as of the Company Net Cash Measurement Date, (i) the Company s Cash and Cash Equivalents and (ii) the Company s prepaid expenses referenced on Schedule 5.22(a), in each case, determined in a manner substantially consistent with the manner in which such items were determined for the Company Financials, *minus* (b) the sum of (without

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duplication) (i) the Company s accounts payable and accrued expenses (including accrued tax liabilities, but excluding accrued expenses which are Company Transaction Expenses) and the Company s other current liabilities payable in cash, in each case as of the Company Net Cash Measurement Date and determined in a manner substantially consistent with the manner in which such items were determined for the Company Financials, (ii) any Company Transaction Expenses, and (iii) any indebtedness for borrowed money of the Company as of the Company Net Cash Measurement Date, but excluding any indebtedness arising under a Permitted Bridge Financing that is converted into Company Capital Stock or Parent Common Stock in connection with the Closing; and (iii) to the extent not otherwise included as a Company Transaction Expenses or under clause (i), the amounts referenced in all Company Representative Confirmation Letters. For the avoidance of doubt, (A) Company Net Cash may be a positive or negative number and (B) neither cash proceeds received nor indebtedness incurred in a Permitted Post-Measurement Date Financing shall be included in the calculation of Company Net Cash.

Company Net Cash Measurement Date means the Anticipated Closing Date; provided that if (i) the Closing has not occurred on or prior to February 28, 2019, and (ii) as of February 28, 2019, the Company has received the Required Company Stockholder Vote and the conditions to Closing set forth in Section 7 have been satisfied as of such date (or would be satisfied if the Closing occurred on such date and other than those conditions to Closing that by their nature are to be satisfied at Closing), then the Company Net Cash Measurement Date shall be February 28, 2019.

Company Net Cash Schedule means a written schedule prepared in accordance with Section 5.22(a) and certified by the Chief Financial Officer of the Company, on behalf of the Company and not in his or her personal capacity, setting forth, in reasonable detail, the Company s good faith estimate of Company Net Cash as of the Company Net Cash Measurement Date.

Company Options means options or other rights to purchase shares of Company Common Stock issued by the Company (excluding, for clarity, the Company Warrants).

Company Owned IP Rights means all Intellectual Property owned or purported to be owned by the Company that is used in the business of the Company as presently conducted.

Company Registered IP means all Company Owned IP Rights that are registered, filed or issued under the authority of, with or by any Governmental Body, including all Patents, registered Copyrights, and registered Trademarks (including domain names) and all applications for any of the foregoing.

Company Representative Confirmation Letters means written confirmations, in a form reasonably satisfactory to Parent, from the attorneys, accountants, investment bankers and other professional advisors of the Company as to all amounts estimated in good faith owed by the Company with respect to services performed by them through the Closing (with respect to amounts constituting Company Transaction Expenses) and through the Company Net Cash Measurement Date with respect to any other amounts.

Company Stock Plans means collectively, the Company 2009 Stock Option Plan and the Company 2018 Stock Incentive Plan, in each case as amended.

Company Transaction Expenses means Transaction Expenses of the Company.

Company Unaudited Interim Balance Sheet means the unaudited balance sheet of the Company as of September 30, 2018 provided to Parent prior to the date of this Agreement.

Company Warrants means all warrants to purchase Company Common Stock.

Confidentiality Agreement means the Mutual Confidentiality Agreement, dated as of May 16, 2018, between the Company and Parent.

Consent means any approval, consent, ratification, permission, waiver or authorization (including any Governmental Authorization).

Contemplated Transactions means the Merger, the Reverse Split and the other transactions contemplated by this Agreement.

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Contract means, with respect to any Person, any agreement, contract, subcontract, lease (whether for real or personal property), mortgage, license, sublicense or other legally binding commitment or undertaking of any nature to which such Person is a party or by which such Person or any of its assets are bound or affected under applicable Law.

Data Privacy Requirement means all (a) Laws applicable to the protection or processing of Personal Data, including Laws relating to the collection, use, disclosure or retention of Personal Data and (b) contractual obligations relating to the collection, use, disclosure, retention, protection or processing of Personal Data. For the avoidance of doubt, the term Data Privacy Requirements include pronouncements or guidance by the Federal Trade Commission regarding data privacy requirements emanating from Section 5 of the Federal Trade Commission Act.

Data Processors means any third party service providers, software developers, outsourcers or other Persons which the applicable Person or its Subsidiary engages and allows access to Personal Data or information systems of such Person or its Subsidiaries (including all information and transactions stored or contained therein or transmitted thereby).

Determination Date means the date that is ten calendar days prior to the Anticipated Closing Date.

DGCL means the General Corporation Law of the State of Delaware.

Effect means any effect, change, event, circumstance, or development.

Encumbrance means any lien, pledge, hypothecation, charge, mortgage, security interest, lease, license, option, easement, reservation, servitude, adverse title, claim, infringement, interference, option, right of first refusal, preemptive right, community property interest or restriction or encumbrance of any nature (including any restriction on the voting of any security, any restriction on the transfer of any security or other asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset).

Enforceability Exceptions means the (a) Laws of general application relating to bankruptcy, insolvency and the relief of debtors; and (b) rules of law governing specific performance, injunctive relief and other equitable remedies.

Entity means any corporation (including any non-profit corporation), partnership (including any general partnership, limited partnership or limited liability partnership), joint venture, estate, trust, company (including any company limited by shares, limited liability company or joint stock company), firm, society or other enterprise, association, organization or entity, and each of its successors.

Environmental Law means any federal, state, local or foreign Law relating to pollution or protection of human health or the environment (including ambient air, surface water, ground water, land surface or subsurface strata), including any Law or regulation relating to emissions, discharges, releases or threatened releases of Hazardous Materials, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials.

ERISA means the Employee Retirement Income Security Act of 1974, as amended.

Exchange Act means the Securities Exchange Act of 1934, as amended.

Exchange Ratio means, subject to Section 1.5(f), the following ratio (rounded to four decimal places): the quotient obtained by dividing (a) the Company Merger Shares by (b) the Company Outstanding Shares, in which:

- ***Aggregate Valuation*** means the sum of (a) the Company Valuation, plus (b) the Parent Valuation.

- ***Company Valuation*** means, subject to any adjustments pursuant to Section 5.22(f), $70,000,000, a component of which is Company Net Cash.
- ***Company Allocation Percentage*** the quotient (rounded to two decimal places) determined by dividing (i) the Company Valuation *by* (ii) the Aggregate Valuation (it being understood and

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agreed that to the extent any adjustment to the Company Valuation is made pursuant to Section 5.22(f), the Company Allocation Percentage shall thereafter be adjusted accordingly to reflect such adjustment to the Company Valuation).

- ***Company Merger Shares*** means (a) the product determined by multiplying (i) the Post-Closing Parent Shares *by* (ii) the Company Allocation Percentage, minus (b) the number of shares of Parent Common Stock issuable upon the conversion of any convertible notes issued by the Company under a Permitted Bridge Financing.
- ***Company Outstanding Shares*** means the total number of shares of Company Capital Stock outstanding immediately prior to the Effective Time expressed on a fully-diluted and as-converted to Company Common Stock basis and assuming, without limitation or duplication, (i) the cashless exercise of all Company Options and Company Warrants outstanding as of immediately prior to the Effective Time with an exercise price less than the Parent Closing Price (on a converted to Company Common Stock basis) and (ii) the issuance of shares of Company Capital Stock in respect of all other outstanding options, warrants or rights to receive such shares, (assuming cashless exercise using the Parent Closing Price (on a converted to Company Common Stock basis) in the case of options, warrants and other similar rights), whether conditional or unconditional and including any outstanding options, warrants or rights, including any convertible notes and accrued interest in connection therewith and any accrued dividends on Company Capital Stock (but excluding any shares of Company Common Stock reserved for issuance). For the avoidance of doubt, no out-of-the-money Company Options or Company Warrants shall be included in the total number of shares of Company Capital Stock outstanding for purposes of determining the Company Outstanding Shares.
- ***Parent Allocation Percentage*** means the quotient (rounded to two decimal places) determined by dividing (i) the Parent Valuation *by* (ii) the Aggregate Valuation (it being understood and agreed that to the extent any adjustment to the Parent Valuation is made pursuant to Section 5.22(g), the Parent Allocation Percentage shall thereafter be adjusted accordingly to reflect such adjustment to the Parent Valuation).
- ***Parent Outstanding Shares*** means the total number of shares of Parent Common Stock outstanding immediately prior to the Effective Time expressed on a fully-diluted basis, but assuming, without limitation or duplication, (i) with respect to Parent Options and Parent Warrants, the cashless exercise solely of those Parent Options and Parent Warrants outstanding as of immediately prior to the Effective Time with an exercise price less than the Parent Closing Price (and otherwise disregarding any other Parent Options and Parent Warrants), (ii) the settlement of each Parent RSU that is outstanding immediately prior to the Effective Time for an equivalent number of shares of Parent Common Stock and (ii) the issuance of shares of Parent Common Stock in respect of all other outstanding options, warrants or rights to receive such shares (assuming cashless exercise using the Parent Closing Price in the case of options, warrants and other similar rights), whether conditional or unconditional and including any outstanding options, warrants or rights triggered by or associated with the consummation of the Merger (but excluding any shares of Parent Common Stock reserved for issuance). For the avoidance of doubt, no out-of-the-money Parent Options or Parent Warrants shall be included in the total number of shares of Parent Common Stock outstanding for purposes of determining the Parent Outstanding Shares.
- ***Parent Valuation*** means, subject to any adjustments pursuant to Section 5.22(g), $30,000,000, a component of which is Parent Net Cash.
- ***Post-Closing Parent Shares*** means the quotient determined by dividing (i) the Parent Outstanding Shares *by* (ii) the Parent Allocation Percentage.

GAAP means generally accepted accounting principles and practices in effect from time to time within the United States applied consistently throughout the period involved.

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Governmental Authorization means any: (a) permit, license, certificate, franchise, permission, variance, exception, order, clearance, registration, qualification or authorization issued, granted, given or otherwise made available by or under the authority of any Governmental Body or pursuant to any Law; or (b) right under any Contract with any Governmental Body.

Governmental Body means any: (a) nation, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any governmental division, department, agency, commission, bureau, instrumentality, official, ministry, fund, foundation, center, organization, unit, body or Entity and any court or other tribunal, and for the avoidance of doubt, any Taxing authority); or (d) self-regulatory organization (including NASDAQ).

Hazardous Materials means any pollutant, chemical, substance and any toxic, infectious, carcinogenic, reactive, corrosive, ignitable or flammable chemical, or chemical compound, or hazardous substance, material or waste, whether solid, liquid or gas, that is subject to regulation, control or remediation under any Environmental Law, including without limitation, crude oil or any fraction thereof, and petroleum products or by-products.

Inducement Grants means those stock options set forth on Section A of the Parent Disclosure Schedule.

Intellectual Property means any and all intellectual and industrial property rights and other similar proprietary rights, in any jurisdiction throughout the world, whether registered or unregistered, including all rights pertaining to or deriving from: (a) patents and patent applications, (including any and all provisionals, continuations, continuations-in-part, continued prosecution, divisionals and patents of addition; requests for, and grants of, continued examination, extensions, supplemental protection certificates, re-examinations, post-grant confirmations or amendments, counterparts claiming priority from, or reissues of, any of the foregoing; and any patents or patent applications that claim priority to or from any of the foregoing) and all rights to claim priority arising from or related to any of the foregoing (collectively, ***Patents***); (b) inventions, invention disclosures, discoveries and improvements, whether or not patentable; (c) copyrights and works of authorship, whether or not copyrightable (***Copyrights***); (d) computer software and firmware, including data files, source code, object code and software-related specifications and documentation; (e) trademarks, trade names, service marks, certification marks, service names, brands, trade dress and logos, applications therefore, and the goodwill associated therewith (collectively, ***Trademarks***); (f) trade secrets (including those trade secrets defined in the Uniform Trade Secrets Act, the Defend Trade Secrets Act of 2016 and under corresponding foreign statutory Law and common law), non-public information, and confidential information, know-how, business and technical information, and rights to limit the use or disclosure thereof by any Person (collectively ***Proprietary Information***); (g) mask works; (h) domain names; (i) proprietary databases and data compilations and all documentation relating to the foregoing; and, including in each case any and all (1) rights under which an employee, inventor, author or other person is obligated to assign or has assigned ownership any of the foregoing; (2) registrations of, applications to register, and renewals of, any of the foregoing with or by any Governmental Body in any jurisdiction throughout the world, (3) rights of action arising from the foregoing, including all claims for damages by reason of present, past and future infringement, misappropriation, violation misuse or breach of contract in respect of the foregoing, and present, past and future rights to sue and collect damages or seek injunctive relief for any such infringement, misappropriation, violation, misuse or breach; and (4) income, royalties and any other payments now and hereafter due and/or payable in respect of the foregoing.

IRS means the United States Internal Revenue Service.

Key Employee means an executive officer of the identified Party or any employee of such Party that reports directly to the board of directors of such Party or to the Chief Executive Officer or Chief Operating Officer of such Party.

Knowledge of the Company, ***Company s Knowledge*** or similar terms means the actual knowledge of the individuals set forth on Schedule II; *provided* that each such individual shall be deemed to have actual knowledge of any fact or matter if such individual would reasonably be expected to know such fact or matter in the ordinary course of the performance of such individual s employment responsibilities.

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Knowledge of Parent, ***Parent s Knowledge*** or similar terms means the actual knowledge of the individuals set forth on Schedule III; *provided* that each such individual shall be deemed to have actual knowledge of any fact or matter if such individual would reasonably be expected to know such fact or matter in the ordinary course of the performance of such individual s employment responsibilities.

Law means any federal, state, national, foreign, material local or municipal or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Body (including under the authority of NASDAQ or the Financial Industry Regulatory Authority).

Legal Proceeding means any action, suit, claim, litigation, arbitration, charge, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), hearing, inquiry, audit, examination or investigation commenced, brought, conducted or heard by or before, or otherwise involving, any court or other Governmental Body or any arbitrator or arbitration panel.

Merger Sub Board means the board of directors of Merger Sub.

NASDAQ means the Nasdaq Stock Market, including the Nasdaq Global Select Market or such other Nasdaq market on which shares of Parent Common Stock are then listed.

Ordinary Course of Business means, in the case of each of the Company and Parent, such actions taken in the ordinary course of its normal operations and consistent with its past practices.

Organizational Documents means, with respect to any Person (other than an individual), (a) the certificate or articles of association or incorporation or organization or limited partnership or limited liability company, and any joint venture, limited liability company, operating or partnership agreement and other similar documents adopted or filed in connection with the creation, formation or organization of such Person and (b) all bylaws and similar documents or agreements relating to the organization or governance of such Person, in each case, as amended or supplemented.

Parent 401(k) Plan means the Parent 401(k) Profit Sharing Plan.

Parent Balance Sheet means the unaudited balance sheet of Parent as of September 30, 2018 (the ***Parent Balance Sheet Date***), included in Parent s Report on Form 10-Q for the quarterly period ended September 30, 2018, as filed with the SEC.

Parent Board means the board of directors of Parent.

Parent Capitalization Representations means the representations and warranties of Parent set forth in Sections 3.6(a) and (c).

Parent Change in Circumstance means any event, development or change in circumstances that materially affects the business, assets or operations of Parent that occurs or arises after the date of this Agreement and to Parent that was neither known to Parent or the Parent Board nor reasonably foreseeable, as of the date of this Agreement (or the consequences of which were not known to the Parent Board, in their reasonable estimation, or reasonably foreseeable based on facts known to the Parent Board as of the date of this Agreement); *provided*, that Parent Change in Circumstance shall not include any such event, development or change to the extent related to any Acquisition Proposal, Acquisition Inquiry or the consequences thereof.

Parent Closing Price means the volume weighted average closing trading price of a share of Parent Common Stock on NASDAQ for the five consecutive trading days ending five trading days immediately prior to the date upon which the Merger becomes effective.

Parent Collar Range means a range between (and inclusive of) $25,000,000 and $25,800,000.

Parent Common Stock means the Common Stock, $0.00033 par value per share, of Parent.

Parent Contract means any Contract: (a) to which Parent is a party; (b) by which Parent or any Parent IP Rights or any other asset of Parent is or may become bound or under which Parent has, or may become subject to, any obligation; or (c) under which Parent has or may acquire any right or interest.

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Parent Deficiency Amount means the amount equal to the minimum amount of the Parent Collar Range *minus* the final Parent Net Cash, as determined in accordance with Section 5.22, but only to the extent such final Parent Net Cash is less than the minimum amount of the Parent Collar Range.

Parent ERISA Affiliate means any corporation or trade or business (whether or not incorporated) which is treated with the Parent or any of its Subsidiaries as a single employer within the meaning of Section 414 of the Code.

Parent Excess Amount means the amount equal to the final Parent Net Cash, as determined in accordance with Section 5.22, *minus* the maximum amount of the Parent Collar Range, but only to the extent such final Parent Net Cash is more than the maximum amount of the Parent Collar Range.

Parent Exclusively Licensed IP Rights means all Intellectual Property exclusively licensed to Parent that is used in the business of Parent as presently conducted.

Parent Fundamental Representations means the representations and warranties of Parent and Merger Sub set forth in Sections 3.1(a) (Due Organization; Subsidiaries), 3.3 (Authority; Binding Nature of Agreement), 3.4 (Vote Required) and 3.19 (No Brokers Fees).

Parent IP Rights means Parent Licensed IP Rights and Parent Owned IP Rights.

Parent Licensed IP Rights means all Intellectual Property licensed to Parent that is used in the business of the Parent as presently conducted.

Parent Material Adverse Effect means any Effect that, considered together with all other Effects that have occurred prior to the date of determination of the occurrence of a Parent Material Adverse Effect, has or would reasonably be expected to have a material adverse effect on the business, condition (financial or otherwise), assets, liabilities or results of operations of Parent; *provided*, *however*, that Effects arising or resulting from the following shall not be taken into account in determining whether there has been a Parent Material Adverse Effect: (a) general business or economic conditions affecting the industry in which Parent operates, (b) acts of war, armed hostilities or terrorism, (c) changes in financial, banking or securities markets, (d) the taking of any action required to be taken by this Agreement, (e) any change in the stock price or trading volume of Parent Common Stock (it being understood, however, that any Effect causing or contributing to any change in stock price or trading volume of Parent Common Stock may be taken into account in determining whether a Parent Material Adverse Effect has occurred, unless such Effects are otherwise excepted from this definition), (f) any clinical trial programs or studies, including any adverse data, event or outcome arising out of or related to any such programs or studies or (g) the announcement of this Agreement or the pendency of the Contemplated Transactions except in each case with respect to clauses (a) through (c), to the extent disproportionately affecting Parent relative to other similarly situated companies in the industries in which Parent operates.

Parent Net Cash means (a) the sum of (without duplication) and as of the Anticipated Closing Date (i) Parent s Cash and Cash Equivalents and (ii) the prepaid expenses of Parent referenced on Schedule 5.22(c), determined in a manner substantially consistent with the manner in which such items were determined in the Parent SEC Documents, *minus* (b) the sum of (without duplication) (i) Parent s accounts payable and accrued expenses (including accrued tax liabilities, but excluding accrued expenses which are Parent Transaction Expenses) and Parent s other current liabilities payable in cash, in each case as of the Anticipated Closing Date and determined in a manner substantially consistent with the manner in which such items were determined in the Parent SEC Documents, (ii) any Parent Transaction Expenses, (iii) any indebtedness for borrowed money of Parent as of the Anticipated Closing Date and (iv) to the extent the Identified Claim is still outstanding, $1,000,000 less any amounts previously paid by Parent that would be applicable to the deductible under the insurance policy referenced on Section 3.17(b) of the Parent Disclosure

Schedule, and (v) to the extent not otherwise included as a Parent Transaction Expense or under clause (i), the amounts referenced in all Parent Representative Confirmation Letters. For the avoidance of doubt, Parent Net Cash may be a positive or negative number.

Parent Net Cash Schedule means a written schedule prepared in accordance with Section 5.22(c) and certified by the Chief Financial Officer of Parent, on behalf of Parent and not in his or her personal capacity, setting forth, in reasonable detail, Parent s good faith estimate of Parent Net Cash as of the Anticipated Closing Date.

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Parent Options means options or other rights to purchase shares of Parent Common Stock issued by Parent (excluding, for clarity, the Parent Warrants).

Parent Owned IP Rights means all Intellectual Property owned or purported to be owned by Parent that is used in the business of Parent as presently conducted.

Parent Representative Confirmation Letters means written confirmations, in a form reasonably satisfactory to the Company, from the attorneys, accountants, investment bankers and other professional advisors of Parent as to all amounts estimated in good faith owed by Parent with respect to services performed by them through the Closing (or following the Closing at the pre-Closing direction of Parent).

Parent Registered IP means all Parent Owned IP Rights that are registered, filed or issued under the authority of, with or by any Governmental Body, including all Patents, registered Copyrights, and registered Trademarks (including domain names) and all applications for any of the foregoing.

Parent RSUs means restricted stock units issued by Parent.

Parent Stock Plans means the Parent 2010 Equity Incentive Plan, the Parent 2012 Equity Incentive Plan and the Parent 2014 Equity Incentive Plan, each as amended from time to time, and the Inducement Grants.

Parent Transaction Expenses means Transaction Expenses of Parent or any of its Subsidiaries.

Parent Triggering Event shall be deemed to have occurred if: (a) Parent shall have failed to include in the Proxy Statement the Parent Board Recommendation or shall have made a Parent Board Adverse Recommendation Change; (b) the Parent Board or any committee thereof shall have publicly approved, endorsed or recommended any Acquisition Proposal; or (c) Parent shall have entered into any letter of intent or similar document or any Contract relating to any Acquisition Proposal (other than a confidentiality agreement permitted pursuant to Section 4.4).

Parent Warrants means all warrants to purchase Parent Common Stock.

Party or ***Parties*** means the Company, Merger Sub and Parent.

Permitted Alternative Agreement means a definitive agreement that contemplates or otherwise relates to an Acquisition Transaction that constitutes a Superior Offer.

Permitted Bridge Financing means the Company s issuance, in a single transaction or series of transactions, of (a) shares of Company Common Stock, in which event such shares shall be included in the calculation of Company Outstanding Shares, (b) Company Warrants, in which event such Company Warrants shall be included in the calculation of Company Outstanding Shares to the extent provided in such definition, and/or (c) convertible promissory notes, which promissory notes shall convert into either shares of (i) Company Common Stock prior to the Closing, in which event such shares of Company Common Stock shall be included in the calculation of Company Outstanding Shares, or (ii) Parent Common Stock immediately after the Closing, in which event such shares shall be deducted from the calculation of Company Merger Shares, as provided in the definition thereof. In no event shall the aggregate proceeds of the Permitted Bridge Financing exceed $3,000,000 without the prior written consent of Parent (which consent shall not be unreasonably withheld, conditioned or delayed).

Permitted Post-Measurement Date Financing means the Company s issuance in a single transaction or series of transactions, in each case after the Company Net Cash Measurement Date of (a) shares of Company Common Stock, (b) Company Warrants, and/or (c) convertible promissory notes, which promissory notes shall convert into either

shares of (i) Company Common Stock prior to the Closing, or (ii) Parent Common Stock immediately after the Closing. No securities issued in a Permitted Post-Measurement Date Financing shall be included in the calculation of Company Outstanding Shares or deducted from the calculation of Company Merger Shares such that, for the avoidance of doubt, any Permitted Post-Measurement Date Financing shall dilute the equityholders of Parent and the Company pro rata based on the Parent Allocation Percentage and Company Allocation Percentage, respectively. The terms

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of any Permitted Post-Measurement Date Financing shall be subject to the prior written consent of Parent (which consent shall not be unreasonably withheld, conditioned or delayed), and the aggregate proceeds thereof shall not exceed $3,000,000 without the prior written consent of Parent (which consent shall not be unreasonably withheld, conditioned or delayed).

Permitted Encumbrance means: (a) any liens for current Taxes not yet due and payable or for Taxes that are being contested in good faith and for which adequate reserves have been made on the Company Unaudited Interim Balance Sheet or the Parent Balance Sheet, as applicable; (b) minor liens that have arisen in the Ordinary Course of Business and that do not (in any case or in the aggregate) materially detract from the value of the assets or properties subject thereto or materially impair the operations of the Company or Parent, as applicable; (c) statutory liens to secure obligations to landlords, lessors or renters under leases or rental agreements; (d) deposits or pledges made in connection with, or to secure payment of, workers compensation, unemployment insurance or similar programs mandated by Law; (e) non-exclusive licenses of Intellectual Property granted by the Company or Parent, as applicable, in the Ordinary Course of Business and that do not (in any case or in the aggregate) materially detract from the value of the Intellectual Property subject thereto; and (f) statutory liens in favor of carriers, warehousemen, mechanics and materialmen, to secure claims for labor, materials or supplies.

Person means any individual, Entity or Governmental Body.

Personal Data means any information that relates to an identifiable natural person or that is otherwise considered personally identifiable information or personal data under applicable Law.

Proxy Statement means the proxy statement to be sent to Parent s stockholders in connection with the Parent Stockholders Meeting.

Registration Statement means the registration statement on Form S-4 (or any other applicable form under the Securities Act to register Parent Common Stock) to be filed with the SEC by Parent registering the public offering and sale of Parent Common Stock to some or all holders of Company Common Stock in the Merger, including all shares of Parent Common Stock to be issued in exchange for all other shares of Company Common Stock in the Merger, as said registration statement may be amended prior to the time it is declared effective by the SEC.

Representatives means directors, officers, employees, agents, attorneys, accountants, investment bankers, advisors and representatives.

Sarbanes-Oxley Act means the Sarbanes-Oxley Act of 2002.

SEC means the United States Securities and Exchange Commission.

Securities Act means the Securities Act of 1933, as amended.

Subsequent Transaction means any Acquisition Transaction (with all references to 20% in the definition of Acquisition Transaction being treated as references to 50% for these purposes).

An entity shall be deemed to be a ***Subsidiary*** of a Person if such Person directly or indirectly owns or purports to own, beneficially or of record, (a) an amount of voting securities or other interests in such entity that is sufficient to enable such Person to elect at least a majority of the members of such entity s board of directors or other governing body, or (b) at least 50% of the outstanding equity, voting, beneficial or financial interests in such Entity.

Superior Offer means an unsolicited bona fide written Acquisition Proposal (with all references to 20% in the definition of Acquisition Transaction being treated as references to greater than 50% for these purposes) that: (a) was not obtained or made as a direct or indirect result of a breach of (or in violation of) this Agreement; and (b) is on terms and conditions that the Parent Board or the Company Board, as applicable, determines in good faith, based on such matters that it deems relevant (including the likelihood of consummation thereof), as well as any written offer by the other Party to this Agreement to amend the terms of this Agreement, and following consultation with its outside legal counsel and outside financial advisors, if any, are more favorable, from a financial point of view, to Parent s stockholders or the Company s stockholders, as applicable, than the terms of the Contemplated Transactions.

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Takeover Statute means any fair price, moratorium, control share acquisition or other similar anti-takeover Law.

Tax means any federal, state, local, foreign or other tax, including any income, capital gain, gross receipts, capital stock, profits, transfer, estimated, registration, stamp, premium, escheat, unclaimed property, customs duty, ad valorem, occupancy, occupation, alternative, add-on, windfall profits, value added, severance, property, business, production, sales, use, license, excise, franchise, employment, payroll, social security, disability, unemployment, workers compensation, national health insurance, withholding or other taxes, duties, fees, assessments or governmental charges, surtaxes or deficiencies thereof of any kind whatsoever, however denominated, and including any fine, penalty, addition to tax or interest imposed by a Governmental Body with respect thereto.

Tax Return means any return (including any information return), report, statement, declaration, estimate, schedule, notice, notification, form, election, certificate or other document, and any amendment or supplement to any of the foregoing, filed with or submitted to, or required to be filed with or submitted to, any Governmental Body in connection with the determination, assessment, collection or payment of any Tax or in connection with the administration, implementation or enforcement of or compliance with any Law relating to any Tax.

Transaction Expenses means, with respect to any Person, the sum of (a) the cash cost of any change of control payments, retention payments, severance payments, transaction payments or similar payments that are or become due to any current or former employee, officer, director or independent contractor of such Person or any of its Subsidiaries in connection with the consummation of the Contemplated Transactions and that are unpaid as of the Closing (plus the employer portion of all employment, unemployment, payroll and similar Taxes payable thereon), but excluding for the avoidance of doubt, the vesting, exercise and settlement, as applicable of Company Options, Parent Options and Parent RSUs, (b) any costs, fees and expenses incurred by such Person or its Subsidiaries, or for which such Person or its Subsidiaries is liable, in connection with the negotiation, preparation and execution of this Agreement and the consummation of the Contemplated Transactions and that are unpaid as of the Closing, including brokerage fees and commissions, finders fees or financial advisory fees, or any fees and expenses of counsel, accountants or other advisors payable by such Person or its Subsidiaries, (c) any payments to third parties under any Contract to which such Person or its Subsidiaries are a party triggered by the consummation of the Contemplated Transactions, or any payment or consideration arising under or in relation to obtaining any consents, waivers or approvals of any third party under any Contract to which such Person or its Subsidiaries are a party required to be obtained in connection with the consummation of the Contemplated Transactions in order for any such Contract to remain in full force and effect following the Closing or resulting from agreed-upon modification or early termination of any such Contract; *provided*,

(i) with respect to Parent, Transaction Expenses will include (A) the out of pocket costs of any insurance tail policies that may be purchased by Parent relating to insurance policies held by it prior to the Closing (including all premiums payable in connection therewith) and, for clarity, shall not include the cost of any insurance tail policies of the Company or the costs of Parent after the Effective Time for coverage of Parent's then-serving directors or other insurance policies of Parent on or after the Effective Time, (B) the amount of any unpaid Parent Contract Termination Payments (regardless as to whether the underlying Parent Contract has been terminated prior to the Closing), and (C) the amount of any Parent Severance Payments (regardless as to the whether the applicable employee has been terminated or will be terminated in connection with the Contemplated Transactions);

(ii) with respect to the Company, Transaction Expenses will include the out of pocket costs of any insurance tail policies that may be purchased by the Company relating to insurance policies held by it prior to the Closing (including all premiums payable in connection therewith) and, for clarity, shall not include the cost of any insurance tail policies of Parent or the costs of Parent after the Effective Time for coverage of Parent's then-serving directors or other insurance policies of Parent

on or after the Effective Time;

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(iii) Parent and the Company shall share equally all out of pocket costs and expenses, other than attorneys', accountants' and other similar service provider's fees and expenses, incurred in relation to (A) the filing with the SEC of the Form S-4 Registration Statement (including any financial statements and exhibits) and any amendments or supplements thereto and any related registration fees and the printing and delivery of such documents to the Parties' stockholders; and (B) any fees incurred in connection with obtaining Nasdaq approval for the merger, the name and ticker symbol changes, and the listing of the shares of Parent Common Stock to be issued, to the extent contemplated by this Agreement; and

(iv) in the case of the Company, Transaction Expenses shall include any Transaction Expenses for which the Company is liable pursuant to the terms of this Agreement and which were paid by Parent at or prior to Closing on behalf of the Company and not reimbursed by the Company at or prior to Closing.

Treasury Regulations means the United States Treasury regulations promulgated under the Code.

(b) Each of the following terms is defined in the Section set forth opposite such term:

Term	**Section**
Accounting Firm	5.22(e)
Agreement	Preamble
Allocation Certificate	5.18(a)
Anti-Bribery Laws	2.23
Capitalization Date	3.6(a)
Certificate of Merger	1.3
Certifications	3.7(a)
Closing	1.3
Closing Date	1.3
Company	Preamble
Company Audited Financial Statements	5.18(b)
Company Benefit Plan	2.17(a)
Company Board Recommendation	5.2(c)
Company Disclosure Schedule	Section 2
Company Dispute Notice	5.22(d)
Company Financials	2.7(a)
Company Interim Financial Statements	5.18(b)
Company Material Contract	2.13(a)
Company Material Contracts	2.13(a)
Company Net Cash Response Date	5.22(b)
Company Permits	2.14(b)
Company Preferred Stock	2.6(a)
Company Products	2.14(d)
Company Real Estate Leases	2.11
Company Regulatory Permits	2.14(d)

Company Stock Certificate	1.6
Company Stockholder Support Agreement	Recitals
Company Stockholder Written Consent	Recitals
Company Termination Fee	9.3(b)
Continuing Employees	5.7(a)
Costs	5.8(a)
D&O Indemnified Parties	5.8(a)
Dechert	5.1(a)
Dissenting Shares	1.8(a)
DLA	5.1(a)

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Term	Section
Drug Regulatory Agency	2.14(a)
Effective Time	1.3
EMEA	2.14(a)
End Date	9.1(b)
Exchange Agent	1.7(a)
Exchange Fund	1.7(a)
FDA	2.14(a)
FDCA	2.14(a)
HIPAA	2.14(g)
Intended Tax Treatment	5.12
Investor Agreements	2.22(b)
IT Assets	2.24(a)
Liability	2.9
Lock-Up Agreement	7.7
Merger	Recitals
Merger Consideration	1.5(a)(ii)
Merger Sub	Preamble
NASDAQ Listing Application	5.11
Parent	Preamble
Parent Benefit Plan	3.15(a)
Parent Board Adverse Recommendation Change	5.3(b)
Parent Board Recommendation	5.3(b)
Parent Budget	4.1(b)(vi)
Parent Change in Circumstance Notice	5.3(d)
Parent Designees	5.14
Parent Disclosure Schedule	Section 3
Parent Dispute Notice	5.22(b)
Parent IP Agreements	3.10(a)
Parent IT Assets	3.25(a)
Parent Lock-Up Agreement	8.5
Parent Material Contract	3.11(n)
Parent Net Cash Response Date	5.22(d)
Parent Notice Period	5.3(c)
Parent Permits	3.12(b)
Parent Real Estate Leases	3.9
Parent SEC Documents	3.7(a)
Parent Stockholder Matters	5.3(a)
Parent Stockholder Support Agreement	Recitals

Parent Stockholders' Meeting	5.3(a)
Post-Closing Plans	5.7(a)
Pre-Closing Period	4.1(a)
Required Company Stockholder Vote	2.4
Required Parent Stockholder Merger Vote	3.4
Required Parent Stockholder Reverse Split Vote	3.4
Required Parent Stockholder Vote	3.4
Reverse Split	5.23
Risk Factors	Section 3
Stockholder Notice	5.2(b)
Surviving Corporation	1.1
Tax Representation Letter	5.1(a)

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Annex B

FORM OF CERTIFICATE OF AMENDMENT OF RESTATED CERTIFICATE OF INCORPORATION OF EDGE THERAPEUTICS, INC.

Edge Therapeutics, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation"),

DOES HEREBY CERTIFY:

FIRST: The name of Corporation is Edge Therapeutics, Inc.

SECOND: The Board of Directors of the Corporation, acting in accordance with the provisions of Sections 141 and 242 of the General Corporation Law of the State of Delaware, adopted resolutions amending its Restated Certificate of Incorporation as follows:

Subsection (a) of ARTICLE IV – CAPITALIZATION shall be deleted and the following paragraph shall be inserted in lieu thereof:[1]

(a) Authorized Shares. The total number of shares of stock which the Corporation shall have authority to issue is Eighty Million (80,000,000), consisting of Seventy Five Million (75,000,000) shares of Common Stock, par value $0.00033 per share ("Common Stock"), and Five Million (5,000,000) shares of Preferred Stock, par value $0.00033 per share ("Preferred Stock"). Such stock may be issued from time to time by the Corporation for such consideration as may be fixed by the board of directors of the Corporation (the "Board of Directors"). Except as otherwise provided by law, the shares of stock of the Corporation, regardless of class, may be issued by the Corporation from time to time in such amounts, for such consideration and for such corporate purposes as the Board of Directors may from time to time determine.

Contingent and effective upon the filing of this Certificate of Amendment to the Restated Certificate of Incorporation (the "Certificate of Amendment") with the Secretary of State of the State of Delaware (the "Effective Time"), each [ ] ([ ]) shares of the Corporation's Common Stock, par value $0.00033 per share, issued and outstanding prior to the Effective Time shall, automatically and without any action on the part of the respective holders thereof, be combined and converted into one (1) share of Common Stock, par value $0.00033 per share, of the Corporation (the "Reverse Split"). No fractional share shall be issued in connection with the foregoing combination of the shares pursuant to the Reverse Split. The Corporation will pay in cash the fair value of such fractional shares, without interest and as determined in good faith by the Board of Directors of the Corporation when those entitled to receive such fractional shares are determined.

[1] This amendment approves the reverse stock split of the Corporation's common stock, at a ratio in the range of 5-for-1 and 10-for-1. By approving this amendment, the stockholders of the Corporation would be deemed to approve any ratios within the range referred to above, as mutually agreed by the Corporation and PDS Biotechnology Company. If the stock issuance proposal is not approved by the Corporation's stockholders, the Corporation's board of directors may solely determine the reverse stock split ratio, within the range of 5-for-1 and 10-for-1, following the special meeting.

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Annex C

AMENDED AND RESTATED

EDGE THERAPEUTICS, INC.

2014 EQUITY INCENTIVE PLAN

To be filed by amendment.

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Annex D

345 Park Ave, New York, NY 10154
Tel: (212) 284-9300
Piper Jaffray & Co. Since 1895. Member SIPC and NYSE.

November 23, 2018

Board of Directors
Edge Therapeutics, Inc.
300 Connell Drive, Suite 4000
Berkeley Heights, NJ 07922

Members of the Board:

You have requested our opinion as to the fairness, from a financial point of view, to Edge Therapeutics, Inc. (the Company) of the Exchange Ratio (as defined below) provided for under the terms of the proposed Agreement and Plan of Merger and Reorganization, dated as of November 23, 2018 (the Agreement), to be entered into among the Company, Echos Merger Sub, Inc. (Merger Sub), a newly formed wholly-owned subsidiary of the Company, and PDS Biotechnology Corporation (PDS). The Agreement provides for, among other things, the merger (the Merger) of the Merger Sub with and into PDS, pursuant to which each share of common stock of PDS Biotechnology Corporation (PDS), par value $0.00001 per share (PDS Common Stock), outstanding immediately prior to the Effective Time (as defined in the Agreement), other than shares of PDS Common Stock held in treasury or owned by the Company or Merger Sub and shares of PDS Common Stock held by stockholders who have exercised and perfected appraisal rights for such shares, shall be automatically converted solely into the right to receive a to be determined number of shares of common stock of the Company, par value $0.00033 per share (Company Common Stock), determined upon consummation of the Merger, based upon the Exchange Ratio (as such term is defined in the Agreement), subject to adjustment on the terms set forth in the Agreement, including adjustment for any potential dilution related to shares of Company Common Stock issuable upon conversion or exercise of any convertible promissory notes that might be issued by PDS prior to the consummation of the Merger pursuant to any bridge financing permitted pursuant to the Agreement (as to which adjustments we express no opinion), but excluding adjustment for any potential dilution related to shares of Company Common Stock issuable upon conversion or exercise of any securities that might be issued by PDS prior to the consummation of the Merger pursuant to a permitted financing occurring after February 28, 2019. The terms and conditions of the Merger are more fully set forth in the Agreement.

In connection with our review of the Merger, and in arriving at our opinion, we have: (i) reviewed and analyzed the financial terms of a draft of the Agreement dated November 23, 2018; (ii) reviewed and analyzed certain financial and other data with respect to the Company and PDS which was publicly available; (iii) reviewed and analyzed certain information, including financial forecasts, relating to the estimated cash usage of each of the Company and PDS, on stand-alone bases, that were furnished to us by the Company and PDS; (iv) conducted discussions with members of senior management and representatives of each of the Company and PDS concerning the matters described in clauses (ii) and (iii) above, as well as the business and prospects of the Company before and after giving effect to the Merger; (v) reviewed the current and historical reported prices and trading activity of the Company; (vi) compared the business profile of PDS with that of certain publicly traded companies that we deemed relevant; and (vii) reviewed the valuations of certain companies implied by the pricing of such companies initial public offerings that we deemed relevant. In addition, we have conducted such other analyses, examinations and inquiries and considered such other financial, economic and market criteria as we have deemed necessary in arriving at our opinion.

We have relied upon and assumed, without assuming liability or responsibility for independent verification, the accuracy and completeness of all information that was publicly available or was furnished, or otherwise made available, to us or discussed with or reviewed by us. We have further relied upon the assurances of the management of the Company that the financial information provided has been prepared on a reasonable basis in accordance with industry practice, and that they are not aware of any information or facts that would make any information provided to us incomplete or misleading. Without limiting the generality of the foregoing, for the purpose of this opinion, we have assumed that with respect to financial forecasts reviewed by us, that such forecasts have been reasonably prepared based on assumptions reflecting the best currently available estimates and judgments of the managements of each of the Company and PDS as to the expected future cash usages of

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each of the Company and PDS. We express no opinion as to any such financial forecasts, estimates or forward-looking information or the assumptions on which they were based. In particular, our opinion and the underlying analyses relating thereto are based upon the estimated respective amounts of Parent Net Cash and Company Net Cash (in each case, as defined in the Agreement) as of the consummation of the Merger, as provided to us by the respective managements of the Company and PDS. We have relied, with your consent, on advice of the outside counsel and the independent accountants to the Company, and on the assumptions of the management of the Company as to all accounting, legal, tax and financial reporting matters with respect to the Company, PDS and the Agreement.

In arriving at our opinion, we have assumed that the executed Agreement will be in all material respects identical to the last draft reviewed by us. We have relied upon and assumed, without independent verification, that (i) the representations and warranties of all parties to the Agreement and all other related documents and instruments that are referred to therein are true and correct, consistent with any standards set forth therein; (ii) each party to such agreements will fully and timely perform all of the covenants and agreements required to be performed by such party; (iii) the Merger will be consummated pursuant to the terms of the Agreement without amendments thereto; and (iv) all conditions to the consummation of the Merger will be satisfied without waiver by any party of any conditions or obligations thereunder. Additionally, we have assumed that all the necessary regulatory approvals and consents required for the Merger will be obtained in a manner that will not adversely affect the Company, PDS or the contemplated benefits of the Merger.

In arriving at our opinion, we have not performed any appraisals or valuations of any specific assets or liabilities (fixed, contingent or other) of the Company or PDS, and have not been furnished or provided with any such appraisals or valuations, nor have we evaluated the solvency of the Company or PDS under any state or federal law relating to bankruptcy, insolvency or similar matters. The analyses performed by us with respect to PDS in connection with this opinion were going concern analyses. We express no opinion regarding the liquidation value of the Company, PDS or any other entity. Without limiting the generality of the foregoing, we have undertaken no independent analysis of any pending or threatened litigation, regulatory action, possible unasserted claims or other contingent liabilities, to which the Company, PDS or any of their affiliates is a party or may be subject, and at the direction of the Company and with its consent, our opinion makes no assumption concerning, and therefore does not consider, the possible assertion of claims, outcomes or damages arising out of any such matters. We have also assumed that neither the Company nor PDS is party to (or contemplates becoming party to) any material pending transaction, including without limitation any financing, recapitalization, acquisition or merger, divestiture or spin-off, other than (i) the Merger; (ii) the reverse stock split of Company Common Stock contemplated by the Agreement; and (iii) a possible permitted financing contemplated by the Agreement.

No company or transaction used in any analysis for purposes of comparison is identical to the Company or PDS. Accordingly, an analysis of the results of the comparisons is not mathematical; rather, it involves complex considerations and judgments about differences in the companies and transactions to which PDS was compared and other factors that could affect the public trading value or transaction value of the companies.

This opinion is necessarily based upon the information available to us and facts and circumstances as they exist and are subject to evaluation on the date hereof; events occurring after the date hereof could materially affect the assumptions used in preparing this opinion. We are not expressing any opinion herein as to the price at which shares of Company Common Stock may trade following announcement of the Merger or at any future time. We have not undertaken to reaffirm or revise this opinion or otherwise comment upon any events occurring after the date hereof and do not have any obligation to update, revise or reaffirm this opinion.

In connection with our review of the Merger, and in arriving at our opinion, we have solicited expressions of interest from other parties with respect to a business combination with the Company or any other alternative transactions.

We have been engaged by the Board of Directors of the Company (the Board) to act as the Board s financial advisor in connection with the Merger and we will receive a fee from the Company for providing our services, a significant portion of which is contingent upon the consummation of the Merger. We will also receive a fee for rendering this opinion, which will be credited against the fee for financial advisory services. Our opinion fee is not contingent upon the consummation of the Merger or the conclusions reached in our opinion. The Company has also agreed to indemnify us against certain liabilities and reimburse us for certain expenses in

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connection with our services. We have, in the past, acted as one of several underwriters of equity offerings completed by portfolio companies of New Leaf Venture Partners, a significant shareholder of the Company and an entity in which a member of the Company s Board is a partner, for which we received fees. In addition, in the ordinary course of our business, we and our affiliates may actively trade securities of the Company for our own account or the account of our customers and, accordingly, may at any time hold a long or short position in such securities. We may also, in the future, provide investment banking and financial advisory services to the Company, PDS or entities that are affiliated with the Company or PDS, for which we would expect to receive compensation.

This opinion is provided to the Board in connection with its consideration of the Merger and is not intended to be and does not constitute a recommendation to any stockholder of the Company as to how such stockholder should act or vote with respect to the Merger or any other matter. Except with respect to the use of this opinion in connection with the proxy statement relating to the Merger in accordance with our engagement letter with the Company, this opinion shall not be disclosed, referred to, published or otherwise used (in whole or in part), nor shall any public references to us be made, without our prior written approval. This opinion has been approved for issuance by the Piper Jaffray Opinion Committee.

This opinion addresses solely the fairness, from a financial point of view, to the Company of the proposed Exchange Ratio and does not address any other terms or agreement relating to the Merger or any other terms of the Agreement. We were not requested to opine as to, and this opinion does not address: (i) the basic business decision to proceed with or effect the Merger; (ii) the merits of the Merger relative to any alternative transaction or business strategy that may be available to the Company; (iii) any other terms contemplated by the Agreement; or (iv) the solvency or financial viability of the Company or PDS at the date hereof, upon consummation of the Merger, or at any other future time. Furthermore, we express no opinion with respect to the amount or nature of compensation to be paid in the Merger to any officer, director or employee of any party to the Merger, or any class of such persons, relative to the Exchange Ratio or with respect to the fairness of any such compensation.

Based upon and subject to the foregoing and based upon such other factors as we consider relevant, it is our opinion that the Exchange Ratio is fair, from a financial point of view, to the Company as of the date hereof.

Sincerely,

PIPER JAFFRAY & CO.

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Annex E

SECTION 262 OF THE DELAWARE GENERAL CORPORATION LAW

§ 262 Appraisal rights.

(a) Any stockholder of a corporation of this State who holds shares of stock on the date of the making of a demand pursuant to subsection (d) of this section with respect to such shares, who continuously holds such shares through the effective date of the merger or consolidation, who has otherwise complied with subsection (d) of this section and who has neither voted in favor of the merger or consolidation nor consented thereto in writing pursuant to §228 of this title shall be entitled to an appraisal by the Court of Chancery of the fair value of the stockholder's shares of stock under the circumstances described in subsections (b) and (c) of this section. As used in this section, the word stockholder means a holder of record of stock in a corporation; the words stock and share mean and include what is ordinarily meant by those words; and the words depository receipt mean a receipt or other instrument issued by a depository representing an interest in 1 or more shares, or fractions thereof, solely of stock of a corporation, which stock is deposited with the depository.

(b) Appraisal rights shall be available for the shares of any class or series of stock of a constituent corporation in a merger or consolidation to be effected pursuant to §251 (other than a merger effected pursuant to §251(g) of this title[1] and, subject to paragraph (b)(3) of this section, § 251(h) of this title), §252, §254, §255, §256, §257, §258, §263 or §264 of this title:

(1) Provided, however, that, except as expressly provided in §363(b) of this title, no appraisal rights under this section shall be available for the shares of any class or series of stock, which stock, or depository receipts in respect thereof, at the record date fixed to determine the stockholders entitled to receive notice of the meeting of stockholders to act upon the agreement of merger or consolidation *(or, in the case of a merger pursuant to § 251(h), as of immediately prior to the execution of the agreement of merger)*, were either: (i) listed on a national securities exchange or (ii) held of record by more than 2,000 holders; and further provided that no appraisal rights shall be available for any shares of stock of the constituent corporation surviving a merger if the merger did not require for its approval the vote of the stockholders of the surviving corporation as provided in §251(f) of this title.

(2) Notwithstanding paragraph (b)(1) of this section, appraisal rights under this section shall be available for the shares of any class or series of stock of a constituent corporation if the holders thereof are required by the terms of an agreement of merger or consolidation pursuant to §§251, 252, 254, 255, 256, 257, 258, 263 and 264 of this title to accept for such stock anything except:

a. Shares of stock of the corporation surviving or resulting from such merger or consolidation, or depository receipts in respect thereof;

b. Shares of stock of any other corporation, or depository receipts in respect thereof, which shares of stock (or depository receipts in respect thereof) or depository receipts at the effective date of the merger or consolidation will be either listed on a national securities exchange or held of record by more than 2,000 holders;

c. Cash in lieu of fractional shares or fractional depository receipts described in the foregoing paragraphs (b)(2)a. and b. of this section; or

d. Any combination of the shares of stock, depository receipts and cash in lieu of fractional shares or fractional depository receipts described in the foregoing paragraphs (b)(2)a., b. and c. of this section.

(3) In the event all of the stock of a subsidiary Delaware corporation party to a merger effected under[2] §251(h), §253 or §267 of this title is not owned by the parent immediately prior to the merger, appraisal rights shall be available for the shares of the subsidiary Delaware corporation.

(4) In the event of an amendment to a corporation's certificate of incorporation contemplated by §363(a) of this title, appraisal rights shall be available as contemplated by §363(b) of this title, and the procedures

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of this section, including those set forth in subsections (d) and (e) of this section, shall apply as nearly as practicable, with the word amendment substituted for the words merger or consolidation, and the word corporation substituted for the words constituent corporation and/or surviving or resulting corporation.

(c) Any corporation may provide in its certificate of incorporation that appraisal rights under this section shall be available for the shares of any class or series of its stock as a result of an amendment to its certificate of incorporation, any merger or consolidation in which the corporation is a constituent corporation or the sale of all or substantially all of the assets of the corporation. If the certificate of incorporation contains such a provision, the provisions of this section, including those set forth in subsections (d), (e), and (g) of this section, shall apply as nearly as is practicable.

(d) Appraisal rights shall be perfected as follows:

If a proposed merger or consolidation for which appraisal rights are provided under this section is to be submitted for approval at a meeting of stockholders, the corporation, not less than 20 days prior to the meeting, shall notify each of its stockholders who was such on the record date for notice of such meeting (or such members who received notice in accordance with §255(c) of this title) with respect to shares for which appraisal rights are available pursuant to subsection (b) or (c) of this section that appraisal rights are available for any or all of the shares of the constituent corporations, and shall include in such notice a copy of this section and, if 1 of the constituent corporations is a nonstock corporation, a copy of §114 of this title. Each stockholder electing to demand the appraisal of such stockholder's shares shall deliver to the corporation,

(1) before the taking of the vote on the merger or consolidation, a written demand for appraisal of such stockholder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such stockholder's shares. A proxy or vote against the merger or consolidation shall not constitute such a demand. A stockholder electing to take such action must do so by a separate written demand as herein provided. Within 10 days after the effective date of such merger or consolidation, the surviving or resulting corporation shall notify each stockholder of each constituent corporation who has complied with this subsection and has not voted in favor of or consented to the merger or consolidation of the date that the merger or consolidation has become effective; or

(2) If the merger or consolidation was approved pursuant to §228, §251(h), §253, or §267 of this title, then either a constituent corporation before the effective date of the merger or consolidation or the surviving or resulting corporation within 10 days thereafter shall notify each of the holders of any class or series of stock of such constituent corporation who are entitled to appraisal rights of the approval of the merger or consolidation and that appraisal rights are available for any or all shares of such class or series of stock of such constituent corporation, and shall include in such notice a copy of this section and, if 1 of the constituent corporations is a nonstock corporation, a copy of §114 of this title. Such notice may, and, if given on or after the effective date of the merger or consolidation, shall, also notify such stockholders of the effective date of the merger or consolidation. Any stockholder entitled to appraisal rights may, within 20 days after the date of mailing of such notice or, in the case of a merger approved pursuant to §251(h) of this title, within the later of the consummation of the offer contemplated by §251(h) of this title and 20 days after the date of mailing of such notice, demand in writing from the surviving or resulting corporation the appraisal of such holder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such holder's shares. If such notice did not notify stockholders of the effective date of the merger or consolidation, either (i) each such constituent corporation shall send a second notice before the effective date of the merger or consolidation notifying each of the holders of any class or series of stock of such constituent corporation that are entitled to appraisal rights of the effective date of the merger or consolidation or (ii) the surviving or resulting corporation shall send such a second notice to all such holders on or within 10 days after such effective date; provided, however, that if such second notice is sent more than 20 days following the sending of the first notice or, in the case of a merger approved pursuant to §251(h) of this title, later than the later of the consummation of the

offer contemplated by §251(h) of this title and 20 days following the sending of the first notice, such second notice need only be sent to each stockholder who is entitled to

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appraisal rights and who has demanded appraisal of such holder s shares in accordance with this subsection. An affidavit of the secretary or assistant secretary or of the transfer agent of the corporation that is required to give either notice that such notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein. For purposes of determining the stockholders entitled to receive either notice, each constituent corporation may fix, in advance, a record date that shall be not more than 10 days prior to the date the notice is given, provided, that if the notice is given on or after the effective date of the merger or consolidation, the record date shall be such effective date. If no record date is fixed and the notice is given prior to the effective date, the record date shall be the close of business on the day next preceding the day on which the notice is given.

(e) Within 120 days after the effective date of the merger or consolidation, the surviving or resulting corporation or any stockholder who has complied with subsections (a) and (d) of this section hereof and who is otherwise entitled to appraisal rights, may commence an appraisal proceeding by filing a petition in the Court of Chancery demanding a determination of the value of the stock of all such stockholders. Notwithstanding the foregoing, at any time within 60 days after the effective date of the merger or consolidation, any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party shall have the right to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation. Within 120 days after the effective date of the merger or consolidation, any stockholder who has complied with the requirements of subsections (a) and (d) of this section hereof, upon written request, shall be entitled to receive from the corporation surviving the merger or resulting from the consolidation a statement setting forth the aggregate number of shares not voted in favor of the merger or consolidation [3] and *(or, in the case of a merger approved pursuant to § 251(h) of this title, the aggregate number of shares (other than any excluded stock (as defined in §251(h)(6)d. of this title)) that were the subject of, and were not tendered into, and accepted for purchase or exchange in, the offer referred to in §251(h)(2)), and, in either case,* with respect to which demands for appraisal have been received and the aggregate number of holders of such shares. Such written statement shall be mailed to the stockholder within 10 days after such stockholder's written request for such a statement is received by the surviving or resulting corporation or within 10 days after expiration of the period for delivery of demands for appraisal under subsection (d) of this section hereof, whichever is later. Notwithstanding subsection (a) of this section, a person who is the beneficial owner of shares of such stock held either in a voting trust or by a nominee on behalf of such person may, in such person's own name, file a petition or request from the corporation the statement described in this subsection.

(f) Upon the filing of any such petition by a stockholder, service of a copy thereof shall be made upon the surviving or resulting corporation, which shall within 20 days after such service file in the office of the Register in Chancery in which the petition was filed a duly verified list containing the names and addresses of all stockholders who have demanded payment for their shares and with whom agreements as to the value of their shares have not been reached by the surviving or resulting corporation. If the petition shall be filed by the surviving or resulting corporation, the petition shall be accompanied by such a duly verified list. The Register in Chancery, if so ordered by the Court, shall give notice of the time and place fixed for the hearing of such petition by registered or certified mail to the surviving or resulting corporation and to the stockholders shown on the list at the addresses therein stated. Such notice shall also be given by 1 or more publications at least 1 week before the day of the hearing, in a newspaper of general circulation published in the City of Wilmington, Delaware or such publication as the Court deems advisable. The forms of the notices by mail and by publication shall be approved by the Court, and the costs thereof shall be borne by the surviving or resulting corporation.

(g) At the hearing on such petition, the Court shall determine the stockholders who have complied with this section and who have become entitled to appraisal rights. The Court may require the stockholders who have demanded an appraisal for their shares and who hold stock represented by certificates to submit their certificates of stock to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with such direction, the Court may dismiss the proceedings as to such stockholder. If immediately

before the merger or consolidation the shares of the class or series of stock of the constituent corporation as to which appraisal rights are available were listed on a national securities exchange, the Court shall dismiss the proceedings as to all holders of such shares who are otherwise entitled to appraisal rights unless (1) the total number of shares entitled to appraisal exceeds 1%

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of the outstanding shares of the class or series eligible for appraisal, (2) the value of the consideration provided in the merger or consolidation for such total number of shares exceeds $1 million, or (3) the merger was approved pursuant to §253 or §267 of this title.

(h) After the Court determines the stockholders entitled to an appraisal, the appraisal proceeding shall be conducted in accordance with the rules of the Court of Chancery, including any rules specifically governing appraisal proceedings. Through such proceeding the Court shall determine the fair value of the shares exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation, together with interest, if any, to be paid upon the amount determined to be the fair value. In determining such fair value, the Court shall take into account all relevant factors. Unless the Court in its discretion determines otherwise for good cause shown, and except as provided in this subsection, interest from the effective date of the merger through the date of payment of the judgment shall be compounded quarterly and shall accrue at 5% over the Federal Reserve discount rate (including any surcharge) as established from time to time during the period between the effective date of the merger and the date of payment of the judgment. At any time before the entry of judgment in the proceedings, the surviving corporation may pay to each stockholder entitled to appraisal an amount in cash, in which case interest shall accrue thereafter as provided herein only upon the sum of (1) the difference, if any, between the amount so paid and the fair value of the shares as determined by the Court, and (2) interest theretofore accrued, unless paid at that time. Upon application by the surviving or resulting corporation or by any stockholder entitled to participate in the appraisal proceeding, the Court may, in its discretion, proceed to trial upon the appraisal prior to the final determination of the stockholders entitled to an appraisal. Any stockholder whose name appears on the list filed by the surviving or resulting corporation pursuant to subsection (f) of this section and who has submitted such stockholder's certificates of stock to the Register in Chancery, if such is required, may participate fully in all proceedings until it is finally determined that such stockholder is not entitled to appraisal rights under this section.

(i) The Court shall direct the payment of the fair value of the shares, together with interest, if any, by the surviving or resulting corporation to the stockholders entitled thereto. Payment shall be so made to each such stockholder, in the case of holders of uncertificated stock forthwith, and the case of holders of shares represented by certificates upon the surrender to the corporation of the certificates representing such stock. The Court's decree may be enforced as other decrees in the Court of Chancery may be enforced, whether such surviving or resulting corporation be a corporation of this State or of any state.

(j) The costs of the proceeding may be determined by the Court and taxed upon the parties as the Court deems equitable in the circumstances. Upon application of a stockholder, the Court may order all or a portion of the expenses incurred by any stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorney's fees and the fees and expenses of experts, to be charged pro rata against the value of all the shares entitled to an appraisal.

(k) From and after the effective date of the merger or consolidation, no stockholder who has demanded appraisal rights as provided in subsection (d) of this section shall be entitled to vote such stock for any purpose or to receive payment of dividends or other distributions on the stock (except dividends or other distributions payable to stockholders of record at a date which is prior to the effective date of the merger or consolidation); provided, however, that if no petition for an appraisal shall be filed within the time provided in subsection (e) of this section, or if such stockholder shall deliver to the surviving or resulting corporation a written withdrawal of such stockholder's demand for an appraisal and an acceptance of the merger or consolidation, either within 60 days after the effective date of the merger or consolidation as provided in subsection (e) of this section or thereafter with the written approval of the corporation, then the right of such stockholder to an appraisal shall cease. Notwithstanding the foregoing, no appraisal proceeding in the Court of Chancery shall be dismissed as to any stockholder without the approval of the Court, and such approval may be conditioned upon such terms as the Court deems just; provided, however that this provision shall not affect the right of any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation within 60 days after the

effective date of the merger or consolidation, as set forth in subsection (e) of this section.

(l) The shares of the surviving or resulting corporation to which the shares of such objecting stockholders would have been converted had they assented to the merger or consolidation shall have the status of authorized and unissued shares of the surviving or resulting corporation.

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PART II

**INFORMATION NOT REQUIRED IN
PROXY STATEMENT/PROSPECTUS/INFORMATION STATEMENT**

Item 20. ***Indemnification of Directors and Officers***

As permitted by the DGCL, Edge s certificate of incorporation eliminates the liability of directors to Edge or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent otherwise required by the DGCL.

The certificate of incorporation further provides that Edge will indemnify any person who is or was made a party to any proceeding by reason of the fact that such person is or was a director or officer of Edge against expenses, judgments, fines, penalties, and amounts paid in settlement incurred in connection therewith to the fullest extent authorized by the DGCL. Edge s bylaws provide for a similar indemnity to directors and officers of Edge to the fullest extent authorized by the DGCL.

Edge s bylaws authorize the Edge Board to enter into indemnification contracts with each of its officers and directors. Edge has entered into indemnification contracts with each of its directors and executive officers. The indemnification contracts provide for the indemnification of directors and officers against all expenses, liability, and loss actually reasonably incurred to the fullest extent permitted by Edge s certificate of incorporation, bylaws, and applicable law.

Edge s bylaws also authorize Edge to maintain insurance to protect any director or officer against any expense, liability, or loss, whether or not Edge would have the power to indemnify such person against such expense, liability, or loss under the DGCL.

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Item 21. ***Exhibits and Financial Statement Schedules***

(a) Exhibit Index

A list of exhibits filed with this registration statement on Form S-4 is set forth on the Exhibit Index and is incorporated herein by reference.

Exhibit Number	Description	Incorporated by Reference			Filed/ Furnished Herewith
		Form	File No.	Filing Date	
2.1++	Agreement and Plan of Merger and Reorganization, dated November 23, 2018, by and among Edge Therapeutics, Inc., PDS Biotechnology Corporation and Echos Merger Sub., Inc. (included as *Annex A* to the proxy statement/prospectus/information statement forming a part of this registration statement).				X
2.2	Form of Support Agreement, by and among, Edge Therapeutics, Inc., PDS Biotechnology Corporation and certain of PDS Biotechnology Corporation's directors, officers and stockholders.	8-K	001-37568 181199943	November 23, 2018	
2.3	Form of Support Agreement, by and among, Edge Therapeutics Inc., PDS Biotechnology Corporation and certain of Edge Therapeutics, Inc.'s directors and officers.	8-K	001-37568 181199943	November 23, 2018	
3.1	Eighth Amended and Restated Certificate of Incorporation of Edge Therapeutics, Inc.	8-K	001-37568 151146360	October 6, 2015	
3.2	Second Amended and Restated Bylaws of Edge Therapeutics.	8-K	001-37568 151146360	October 6, 2015	
4.1	Form of Certificate of Common Stock	S-1	333-206416 151116712	September 21, 2015	
4.4	Warrant Agreement, dated as of August 28, 2014, by and between Parent and Hercules Technology Growth Capital, Inc.	S-1	333-206416 151057040	August 14, 2015	
4.5	Investors' Rights Agreement, dated as of April 6, 2015, by and among the Company and the Investors named therein.	S-1	333-206416 151057040	August 14, 2015	

5.1***	Opinion of Dechert LLP
8.1***	Opinion of Dechert LLP regarding tax matters

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Exhibit Number	Description	Incorporated by Reference			Filed/ Furnished Herewith
		Form	File No.	Filing Date	
8.2***	Opinion of DLA Piper LLP regarding tax matters				
10.1*	Licensing Agreement by and between Evonik Corporation (as successor in interest to SurModics Pharmaceuticals, Inc.) and Edge Therapeutics, Inc., dated as of October 20, 2010.	S-1	333-206416 151057040	August 14, 2015	
10.2*	Amendment No. 1 to the License Agreement, effective as of September 21, 2015, by and between Edge Therapeutics, Inc.and Evonik Corporation	S-1/A	333-206416 151116712	September 21, 2015	
10.3**	Amended and Restated Master Formulation Development Agreement, by and between Edge Therapeutics, Inc. and Oakwood Laboratories LLC, dated as of June 30, 2017.	10-Q	001-37568 17996856	August 1, 2017	
10.4**	Manufacturing and Supply Agreement, by and between Edge Therapeutics, Inc. and Oakwood Laboratories LLC., dated as of June 20, 2017	10-Q	001-37568 17996856	August 1, 2017	
10.5**+	Edge Therapeutics 2010 Equity Incentive Plan, and forms of agreement thereunder.	S-1/A	333-206416 151116712	September 21, 2015	
10.6+	Amendment to the Edge Therapeutics, Inc. 2010 Incentive Plan, dated June 30, 2014	S-1	333-206416 151057040	August 14, 2015	
10.7+	Edge Therapeutics, Inc. 2012 Equity Incentive Plan and forms of agreement thereunder.	S-1/A	333-206416 151116712	September 21, 2015	
10.8+	Edge Therapeutics, Inc. 2014 Equity Incentive Plan and forms of agreement thereunder.	S-1/A	333-206416 151116712	September 21, 2015	
10.9					X

	Form of Amendment to Edge Therapeutics, Inc. 2014 Equity Incentive Plan (included as *Annex C* to the proxy statement/prospectus/information statement forming a part of this registration statement).

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Exhibit Number	Description	Incorporated by Reference			Filed/ Furnished Herewith
		Form	File No.	Filing Date	
10.10+	Second Amended and Restated Executive Employment Agreement by and between Brian A. Leuthner and Edge Therapeutics, Inc., dated as of June 10, 2015.	S-1	333-206416 151057040	August 14, 2015	
10.11+	Amended and Restated Executive Employment Agreement by and between Herbert J. Faleck and Edge Therapeutics, Inc., dated as of August 11, 2015.	S-1	333-206416 151057040	August 14, 2015	
10.12+	Executive Employment Agreement by and between W. Bradford Middlekauff and Edge Therapeutics, Inc., dated as of October 30, 2015.	8-K	001-37568 151200568	November 5, 2015	
10.13+	Employment Agreement by and between Alyssa Wyant and Edge Therapeutics, Inc., dated as of February 21, 2017.	10-K	001-37568 18657280	March 1, 2018	
10.14+	Executive Employment Agreement by and between Andrew Saik and Edge Therapeutics, Inc., dated as of October 31, 2017.	8-K	001-37568 171169135	November 1, 2017	
10.15	Form of Indemnification Agreement for officers and directors.	S-1	333-206416 151057040	August 14, 2015	
10.16	Form of Executive Stock Option Agreement of Edge Therapeutics, Inc.	10-K	001-37568 17658881	March 2, 2017	
10.17	Form of Employee Stock Option Agreement of Edge Therapeutics, Inc.	10-K	001-37568 17658881	March 2, 2017	
10.18	Lease dated February 8, 2016, between The Connell Company and Edge Therapeutics, Inc.	10-Q	001-37568 161615569	May 3, 2016	
10.19	Employment Agreement, dated October 11, 2018, by and between PDS Biotechnology Corporation and Frank K. Bedu-Addo.				X

10.20	Consulting Services Agreement, dated December 15, 2014, by and between PDS Biotechnology Corporation and Gregory Freitag.	X
10.21	Consulting Services Agreement, dated December 15, 2014, by and between PDS Biotechnology Corporation and DeLyle Bloomquist.	X

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Exhibit Number	Description	Incorporated by Reference			Filed/ Furnished Herewith
		Form	File No.	Filing Date	
10.22	Offer Letter, dated September 21, 2018, by and between PDS Biotechnology Corporation and Lauren Wood, MD.				X
10.23	Consulting Services Agreement, dated March 26, 2015, by and between PDS Biotechnology Corporation and Gregory Conn.				X
10.24***	Clinical Trial Collaboration and Supply Agreement, dated May 19, 2017, by and between PDS Biotechnology Corporation and MSD International GmbH.				
10.25***	Patent License Agreement, dated January 5, 2015, by and between PDS Biotechnology Corporation and National Institutes of Health, as amended by First Amendment, dated August 5, 2015.				
10.26***	Cost Reimbursement Agreement, dated November 1, 2015, by and between PDS Biotechnology Corporation and University of Kentucky Research Foundation				
10.27***	Cost Reimbursement Agreement, dated November 1, 2015, by and between PDS Biotechnology Corporation and University of Kentucky Research Foundation				
23.1	Consent of KPMG LLP, independent registered accountant for Edge Therapeutics, Inc.				X
23.2	Consent of Haynie and Company, independent auditor for PDS Biotechnology Corporation				X
23.3	Consent of Dechert LLP (included in Exhibit 5.1 hereto)				

23.4***	Consent of Dechert LLP (included in Exhibit 8.1 hereto)
23.5***	Consent of DLA Piper LLP (included in Exhibit 8.2 hereto)
24.1	Power of Attorney (included on the signature page hereto)

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Exhibit Number	Description	Incorporated by Reference			Filed/ Furnished Herewith
		Form	File No.	Filing Date	
99.1	Form of Edge Therapeutics, Inc. Proxy Card				
99.2	Opinion of Piper Jaffray & Co. (included as *Annex D* to the proxy statement/prospectus/information statement forming a part of this registration statement).				X
99.3	Consent of Piper Jaffray & Co.				X
99.4	Form of Certificate of Amendment to the Eighth Amended and Restated Certificate of Incorporation of Edge Therapeutics, Inc. (included as *Annex B* to the proxy statement/prospectus/information statement forming a part of this registration statement).				X
99.5***	Consent of Sir Richard Sykes to be named as director.				
99.6***	Consent of DeLyle W. Bloomquist to be named as director.				
99.7***	Consent of Gregory Freitag to be named as director.				
99.8***	Consent of Frank Bedu-Addo, Ph.D., to be named as director.				

\+ Indicates management contract or compensatory plan.

++ The schedules and exhibits to the Merger Agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the Securities and Exchange Commission upon request

* Confidential Treatment has been granted with respect to certain portions of this Exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

** Confidential Treatment has been requested with respect to certain portions of this Exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

*** To be filed by amendment.

(b) Financial Statements

The financial statements filed with this registration statement on Form S-4 are set forth on the Financial Statement Index and is incorporated herein by reference.

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Item 22. ***Undertakings***

(a) The undersigned registrant hereby undertakes

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933, to any purchaser: if the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

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(b) The undersigned registrant hereby undertakes as follows:

(1) That, prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.

(2) That, every prospectus (i) that is filed pursuant to paragraph (c)(1) immediately preceding, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(e) The undersigned registrant hereby undertakes to respond to requests for information that is incorporated by reference into this prospectus pursuant to Item 4, 10(b), 11, or 13 of this Form, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

(f) The undersigned registrant hereby undertakes to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Berkeley Heights, State of New Jersey, on December 20, 2018.

EDGE THERAPEUTICS, INC.

By: /s/ Brian A. Leuthner
Brian A. Leuthner
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Brian A. Leuthner, as his or her true and lawful attorney-in-fact and agent, with full powers of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments and any related registration statements filed pursuant to Rule 462 and otherwise), and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent and full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or any substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Brian A. Leuthner Brian A. Leuthner	President, Chief Executive Officer & Director (Principal Executive Officer)	December 20, 2018
/s/ Andrew Saik Andrew Saik	Chief Financial Officer (Principal Financial and Accounting Officer)	December 20, 2018
/s/ Sol Barer Sol Barer	Chairman, Board of Directors	December 20, 2018
/s/ Isaac Blech Isaac Blech	Vice Chairman, Board of Directors	December 20, 2018
/s/ Rosemary Crane Rosemary Crane	Director	December 20, 2018

/s/ James Loughlin James Loughlin	Director	December 20, 2018
/s/ R. Loch Macdonald R. Loch Macdonald	Director	December 20, 2018
Liam Ratcliffe	Director	
/s/ Robert Spiegel Robert Spiegel	Director	December 20, 2018