ADVANCED ENERGY INDUSTRIES INC
Form 10-K
February 26, 2015
Table of Contents

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

FORM 10-K

þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.
For the fiscal year ended December 31, 2014.

or

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.
For the transition period from to .

Commission file number: 000-26966

ADVANCED ENERGY INDUSTRIES, INC.
(Exact name of registrant as specified in its charter)

Delaware	84-0846841
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1625 Sharp Point Drive, Fort Collins, CO	80525
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (970) 221-4670

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.001 par value	NASDAQ Global Select Market

Securities registered pursuant to section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act: Yes o No þ

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act: Yes o No þ

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

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

Large accelerated filer þ	Accelerated filer o	Non-accelerated filer o	Smaller reporting company o

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No þ

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant was $719,369,574 as of June 30, 2014, based upon the price at which such common stock was last sold on such date. For purposes of this disclosure, shares of common stock held by persons who hold more than 5% of the outstanding common stock and common stock held by executive officers and directors of the registrant have been excluded because such persons are deemed to be "affiliates" as that term is defined under the rules and regulations promulgated under the Securities Act of 1933. This determination is not necessarily conclusive for other purposes.

40,687,882

(Number of shares of Common Stock outstanding as of February 2, 2015)

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Annual Report on Form 10-K incorporates information by reference from the registrant's definitive proxy statement for its 2015 Annual Meeting of Stockholders, scheduled to be held on May 7, 2015. Except as expressly incorporated by reference, the registrant's definitive proxy statement shall not be deemed to be a part of this Annual Report on Form 10-K.

ADVANCED ENERGY INDUSTRIES, INC.
FORM 10-K
TABLE OF CONTENTS

Table of Contents

PART I

Unless the context otherwise requires, as used in this Form 10-K, references to “Advanced Energy”, “the Company”, “we”, “us” or “our” refer to Advanced Energy Industries, Inc. and its consolidated subsidiaries.

ITEM 1. BUSINESS

Overview

Advanced Energy provides highly-engineered, mission-critical, precision power conversion, measurement and control solutions to our global customers. We do this by designing, manufacturing, selling and supporting our power conversion products and solutions that transform power into various usable forms in various applications ranging from manufacturing and industrial processes to instrumentation and test and measurement. The market for power conversion solutions is large with hundreds of suppliers and subsystem/component manufacturers. We focus on highly-engineered products that solve our customers’ toughest mission-critical applications.

Our process power products enable manufacturing processes that use thin films for various products, such as semiconductor devices, flat panel displays, thin film renewables, hard and industrial coatings and architectural glass. We also supply power control modules for controlling thermal processes, and thermal instrumentation products for advanced temperature measurement, both of which provide solutions for thin film semiconductor, thin film industrial, and heavy industry. Our remote plasma sources are used in the thin films processing industries and in gas abatement applications. Our high voltage products offer unique power solutions for semiconductor, analytical instrumentation, industrial x-ray, and medical imaging applications. Our solar inverter products support renewable power generation solutions for primarily commercial and utility-scale solar projects and installations. Our network of global service support centers provides revenue as we offer repair services, conversions, upgrades, and refurbishments to companies using our products. We also offer a wide variety of operations and maintenance service plans that can be tailored for individual photovoltaic ("PV") sites of all sizes.

On November 8, 2012, we acquired Solvix SA ("Solvix"), a privately held company based in Villaz-Saint-Pierre, Switzerland. A manufacturer of power supplies for the surface treatment and thin films industry, Solvix brings plasma-based sputtering and cathodic arc deposition applications to Advanced Energy's existing product portfolio. With its arc detection and suppression technology, Solvix's product line will enhance Advanced Energy's offerings in low power and pulsed DC products, allowing it to expand into new applications and serve a broader worldwide customer base. With the addition of Solvix's engineering site in Villaz-Saint-Pierre, we have established a European engineering and development center for its thin film industrial products business, consistent with our strategy to move closer to our customers.

On April 8, 2013, we acquired Refusol Holding GmbH ("Refusol"), a privately-held company based in Metzingen, Germany. Refusol develops three-phase string inverters for commercial customers across Europe, the United States, and Asia. Its three-phase string inverter offerings range in size from 8kW to 24kW broadening the range of solar inverter products offered by the Company.

On January 27, 2014, we acquired the intellectual property related to AEG Power Solutions' Power Control Modules ("PCM"). PCM is comprised of the Thyro-Family of products and accessories and serves numerous power control applications in different industries ranging from materials' thermal processing through chemical processing, glass manufacturing and numerous other general industrial power applications. This acquisition broadens our product offerings and was added to our Precision Power portfolio.

On April 12, 2014, we acquired all outstanding common stock of HiTek Power Group ("HiTek"), a privately-held provider of high voltage power solutions. Based in the United Kingdom, HiTek offers a comprehensive portfolio of high voltage and custom built power conversion products, ranging from 100V to 500kV, designed to meet the demanding requirements of original equipment manufacturers ("OEM") worldwide. These products target applications including semiconductor wafer processing and metrology, scientific instrumentation, mass spectrometry, industrial printing, and analytical x-ray systems for industrial and analytical applications. HiTek's unique product architecture, encapsulation technology and control algorithms, combined with deep knowledge of its customer-specific applications, have made it a leading provider of critical, high-end, high voltage power solutions. We acquired HiTek to expand our product offerings in our Precision Power portfolio.

On August 4, 2014, we acquired all outstanding common stock of UltraVolt, Inc. ("UltraVolt"), a privately-held provider of high voltage power solutions. Based in Ronkonkoma, New York, UltraVolt offers a comprehensive portfolio of high voltage power supplies and modules ranging from benchtop and rack mount systems to microsize printed circuit board mount modules. Its standard DC-to-DC product line consists of over 1,500 models, which can be combined with accessories and options to create thousands of product configurations. Serving over 100 markets, UltraVolt's fixed-frequency, high voltage topology provides

Table of Contents

wide input and output operating ranges while retaining excellent stability and efficiencies. We acquired UltraVolt to expand our high voltage product offerings in our Precision Power portfolio. Note 2 to our Consolidated Financial Statements, Business Acquisition and Disposition, describes the acquisitions of Solvix, Refusol, PCM, HiTek, and UltraVolt.

We incorporated in Colorado in 1981 and reincorporated in Delaware in 1995. Our executive offices are located at 1625 Sharp Point Drive, Fort Collins, Colorado 80525, and our telephone number is 970-407-4670.

Products and Services

Our products are designed to enable new process technologies, improve productivity, and lower the cost of ownership for our customers. We also provide repair and maintenance services for all of our products.

In 2014, we changed our organizational structure from two business units (formerly known as the Thin Films Business Unit and the Solar Energy Business Unit) to a single functional organization with various product lines organized as reportable segments, Precision Power and Inverters. Note 21 to our Consolidated Financial Statements, Segment Information, describes our segments and their related financial information including sales, segment operating income, and total segment assets. Also included in Note 21 is information related to the location of our long-lived assets.

The Precision Power segment principally serves OEMs and end customers in the semiconductor, flat panel display, solar panel, and other industrial capital equipment markets. The Inverters segment focuses mainly on commercial and utility-scale solar projects and installations selling primarily to distributors, Engineering, Procurement, and Construction contractors ("EPC"s), developers, and utility companies.

Our products are used in diverse markets, applications, and processes including the manufacture of capital equipment for semiconductor devices, thin film applications for thin film renewables and architectural glass, and for other thin film applications including flat panel displays, data storage, and industrial coatings, as well as the commercial and utility-scale solar inverter markets. These markets can be cyclical in nature. Therefore, demand for our products and our financial results can change as demand for manufacturing equipment, solar inverters, and repair and maintenance services change in response to consumer demand. Other factors, such as global economic and market conditions and technological advances in fabrication processes and renewable applications can also have an impact on our financial results, both positively and negatively.

PRECISION POWER PRODUCTS

Our thin film deposition power conversion systems include direct current ("DC"), pulsed DC low frequency, high voltage, and radio frequency ("RF") power supplies, matching networks, Remote Plasma Sources ("RPS") for reactive gas applications and RF instrumentation. These power conversion systems refine, modify, and control the raw electrical power from a utility and convert it into power that may be customized and is predictable and repeatable. Our power conversion systems are primarily used by semiconductor, solar panel, and similar thin film manufacturers including flat panel display, data storage, industrial hard coating and ophthalmic optical coating equipment makers, and architectural glass manufacturers.

Our power control modules and thermal instrumentation products are used in the semiconductor industry, including adjacent thin film applications for solar photovoltaic ("PV") and light emitting diode ("LED") industries, and heavy industries, for thermal control and temperature measurement solutions for applications in which time-temperature cycles affect material properties, productivity, and yield. These products are used in rapid thermal processing, chemical vapor deposition, crystal growing, and other semiconductor and solar applications requiring non-contact temperature measurement. They are also used in chemical processing, glass manufacturing and numerous other general industrial power applications.

Our global support services group offers in-warranty and out-of-warranty repair services in the regions in which we operate, providing us with preventive maintenance opportunities. Our customers continue to pursue low cost of ownership of their capital equipment and are increasingly sensitive to the significant costs of system downtime. They expect that suppliers offer comprehensive local repair service and customer support. To meet these market requirements, we maintain a worldwide support organization comprising of both direct and indirect activities through partnership with local distributors primarily in the United States ("U.S."), the People’s Republic of China ("PRC"), Japan, South Korea, Taiwan, Germany, and Great Britain.

INVERTERS

Our solar power inverters offer both a transformer-based and a transformerless advanced grid-tied PV solution for commercial and utility-scale system installations. Our PV inverters are designed to convert renewable solar power, drawn from large and small scale solar arrays, into high-quality, reliable electrical power. We also offer integrated monitoring and performance measurement to minimize the cost of energy and enhance the value and reliability of PV installations.

Table of Contents

Markets

Our products compete in markets for high tech manufacturing capital equipment and renewable energy production. The inverter market has lower volume sales during the winter months due to reduced ability to install products. Our other markets are not subject to seasonality; however, these markets are cyclical due to sudden changes in customers' manufacturing capacity requirements and spending, which depend in part on capacity utilization, demand for customers' products, inventory levels relative to demand, government incentives and subsidies, and access to affordable capital. For more information related to the markets in which we compete and the current environment in those markets, please see Business Environment and Trends in Item 7. Management's Discussion and Analysis.

Precision Power Products

SEMICONDUCTOR CAPITAL EQUIPMENT

Customers in the semiconductor capital equipment market incorporate our products into equipment that make integrated circuits. Our power conversion systems provide the energy to enable thin film processes, such as deposition and etch, and high voltage applications such as ion implant. Our thermal instrumentation products measure the temperature of the processed substrate or the process chamber. Our Remote Plasma Sources deliver ionized gases for reactive chemical processes used in cleaning, surface treatment, and gas abatement. Precise control over the energy delivered to plasma-based processes enables the production of integrated circuits with reduced feature sizes and increased speed and performance.

SOLAR PANEL CAPITAL EQUIPMENT

We sell our products to OEMs and manufacturers of solar cells who use our products to produce thin films using silicon substrates, as well as glass or metal substrates. The majority of solar cell manufacturing currently uses a silicon wafer as the substrate and employs chemical vapor deposition ("CVD") thin film processing. The solar cell industry has developed processes for manufacturing solar cells on non-silicon substrates, such as glass and metal by using thin film processes that employ CVD tools. Our RF and DC power supply products are designed for use in these CVD and physical vapor deposition ("PVD") tools. Our products are used in leading thin film solar cell technologies, including amorphous and microcrystalline silicon, copper, indium, gallium, selenide, and cadmium telluride.

FLAT PANEL DISPLAY CAPITAL EQUIPMENT

Manufacturers of flat panel displays use thin film processes similar to those employed in manufacturing semiconductor integrated circuits. Flat panel display technology produces bright, sharp, large, color-rich images on flat screens for products ranging from hand-held devices to laptop and desktop computer monitors and flat TVs. This technology is used in manufacturing liquid crystal display, LED backlit, and 3-dimensional ("3D") television screens. The transition to larger panel sizes and higher display resolution is driving the need for tighter process controls to reduce manufacturing costs and defects. Increased focus on user experience and interface drives the use for new materials and device architecture such as organic light-emitting diode ("OLED") and active-matrix organic light-emitting diode ("AMOLED") and new technologies for touch screen. The emerging migration to flexible display drives the development of new materials and thin film technologies for encapsulation.

DATA STORAGE CAPITAL EQUIPMENT

Data storage equipment manufacturers use our products in their capital equipment which allows them to produce a variety of products, including optical disks, such as CDs, DVDs and Blu-ray, and magnetic storage, such as computer hard discs, including both magnetic media and thin film heads. These products use a PVD process to produce optical and magnetic thin film layers, as well as a protective-wear layer. In this market, the trend towards higher recording densities requires thinner and more precise films. The use of equipment incorporating optical and magnetic media to store digital data expands with the growth of the laptop, desktop and network server computer markets, and consumer electronics including audio, video, gaming, cell phone, and entertainment markets.

ARCHITECTURAL GLASS CAPITAL EQUIPMENT

Low Emissivity or Low-E architectural glass manufacturers use our power supplies in their production equipment. This glass is used in commercial and residential buildings to reduce energy absorption and loss through the use of thin films coated directly on the glass which reduces the energy absorbed in the building. The thin film deposition process employs PVD tools which use our DC and mid-frequency power products. This market is driven by end market demand for glass related to the residential and commercial construction industry.

5

Table of Contents

INDUSTRIAL PRODUCTS CAPITAL EQUIPMENT

The thin film deposition processes are also used in the manufacturing process of products for a variety of industrial and consumer markets. Our process power solutions allow thin films to be applied to products in plasma-based processes to strengthen and harden surfaces on such diverse products as machine tools, automotive parts, and various other end products. The advanced thin film production processes allow precise control of various optical and physical properties, including color, transparency, and electrical and thermal conductivity. The improved adhesion and specular surfaces resulting from plasma-based processing make it the preferred method of applying thin films. The need for improved films properties for both hard coating and optical coating requires a precision power conversion technology which we achieved through the acquisition of Solvix products and technology.

Inverters

We sell primarily commercial and utility-grade solar inverters to distributors, contractors, developers, and utility companies who integrate our inverter products into solar array installations. Our solar inverters convert DC power, which is produced by the solar panels in the array, into alternating current ("AC") power for consumption on-site or to be sold back through the public utility grid. Our commercial and utility-grade inverters have power outputs from 8 kilowatts ("kW") to two megawatts and can be used in small-scale and utility-scale solar array installations.

Customers

Our products are sold worldwide to approximately 263 OEMs and integrators and directly to more than 1,450 end users. Our ten largest customers accounted for approximately 48.9% of our sales in 2014, 44.2% of our sales in 2013, and 47.7% of our sales in 2012. We expect that the sale of products to our largest customers will continue to account for a significant percentage of our sales for the foreseeable future.

Applied Materials Inc., our largest customer, accounted for 18.7% of our sales in 2014, 17.4% of our sales in 2013, and 14.1% of our sales in 2012. Lam Research accounted for 12.5% of our sales in 2014. Additionally, in June 2012, Lam Research merged with Novellus Systems, Inc. Had the two businesses been a combined entity for the full year, they would have accounted for 10.7% of our sales in 2012. No other customer accounted for greater than 10% of our sales in 2014, 2013, or 2012. The loss of Applied Materials, Inc. or Lam Research as a customer could have a material adverse effect on our results of operations.

Backlog

Our backlog was approximately $87.9 million at December 31, 2014, a 31.5% decrease from $128.3 million at December 31, 2013. This decrease resulted primarily from a decline in the Inverters backlog. Backlog orders are firm orders scheduled to be filled and shipped in the next 12 months and include our just-in-time supply agreements with major OEM’s.

Backlog orders are not necessarily an indicator of future sales levels because of variations in lead times and customer production demand pull systems. Customers may delay delivery of products or cancel orders prior to shipment, subject to possible cancellation penalties. Delays in delivery schedules and/or customer changes to backlog orders during any particular period could cause a decrease in sales and have a material adverse effect on our business and results of operations.

Marketing, Sales and Distribution

We sell our products through direct and indirect sales channels in North America, Europe, and Asia. Our sales operations are primarily located in the United States, Canada, the PRC, Great Britain, Germany, Japan, South Korea, Australia, India, Greece, Italy, Czech Republic, and Taiwan. In addition to a direct sales force, we have independent sales representatives and distributors that support our selling efforts. We maintain customer service offices at many of the locations listed above, as well as other sites near our customers' locations. We believe that customer service and technical support are important competitive factors and are essential to building and maintaining close, long-term relationships with our customers.

6

Table of Contents

The following table presents our net sales by geographic region for the years ended December 31, 2014, 2013, and 2012. Sales are attributed to individual countries based on customer location. A summary of financial information for each reportable segment is found in Note 21 - Segment Information of our Consolidated Financial Statements.

	Years ended December 31,		
Sales to external customers:	2014	2013	2012
	(In thousands)		
United States	$369,886	$328,330	$322,847
Canada	16,880	33,000	30,113
North America	386,766	361,330	352,960
People's Republic of China	17,897	27,420	19,987
Other Asian countries	58,069	62,990	54,825
Asia	75,966	90,410	74,812
Germany	97,407	87,115	18,374
United Kingdom	22,670	5,752	5,292
Other European Countries	289	2,397	493
Europe	120,366	95,264	24,159
Total sales	$583,098	$547,004	$451,931

Total sales to all foreign countries totaled $213.2 million, $218.7 million, and $129.1 million in the years ended December 31, 2014, 2013, and 2012, respectively.

See “Risk Factors” in Item 1A for a discussion of certain risks related to our foreign operations.

Manufacturing

The manufacturing of our Precision Power related products is performed in Shenzhen, PRC; Ronkonkoma, New York; and Littlehampton, United Kingdom. The manufacturing of our US three-string inverters is performed in Shenzhen, PRC. Manufacturing in these three locations, primarily the PRC, exposes us to risks, such as exchange controls and currency restrictions, changes in local economic conditions, changes in PRC laws and regulations, government actions, and unsettled political conditions. The thermal instrumentation product line is manufactured in Vancouver, Washington. Our solar inverters are produced in Fort Collins, Colorado; Ontario, Canada; and Shenzhen, PRC. We use our Shenzhen location as a platform for building commonality of parts in the inverters and then shipping to the US and Canada for final assembly and test and to support local content requirements. The manufacturing of our three-phase string inverters is performed in Shenzhen, PRC and Pune, India and with our contract manufacturing partners in Hungary and Germany.

On October 15, 2010, we sold our gas flow control business to Hitachi Metals Ltd. and exited the gas flow control business. In connection with this transaction, we entered into a Master Services Agreement and a Supplemental Transition Services Agreement pursuant to which we agreed to provide contract manufacturing services of gas flow control products and other transition services. These contract manufacturing services were concluded and completely transferred to Hitachi Metals Ltd. in June 2012.

Manufacturing requires raw materials, including a wide variety of mechanical and electrical components, to be manufactured to our specifications. We use numerous companies, including contract manufacturers, to supply parts for the manufacture and support of our products. Although we make reasonable efforts to assure that parts are available from multiple qualified suppliers.

Some key parts may be obtained from a sole supplier or a limited group of suppliers. We seek to reduce costs and to lower the risks of production and service interruptions, as well as shortages of key parts by:

- selecting and qualifying alternate suppliers for key parts using rigorous technical and commercial evaluation of suppliers products and business processes including testing their components' performance, quality, and reliability on our power conversion product at our customers' and their customer's processes. The qualification process for Precision Power, particularly as it pertains to semiconductor customers, follows semiconductor industry standard practices, such as “copy exact”;

7

Table of Contents

- monitoring the financial condition of key suppliers;
- maintaining appropriate inventories of key parts, including making last time purchases of key parts when notified by suppliers that they are ending the supply of those parts;
- qualifying new parts on a timely basis and in geographies that reduce costs without degradation in quality;
- locating certain manufacturing operations in areas that are closer to suppliers and customers; and
- competitively sourcing parts through electronic bidding tools to ensure the lowest total cost is achieved for the parts needed in our products.

Intellectual Property

We seek patent protection for inventions governing new products or technologies as part of our ongoing research and development. We currently hold 103 United States patents and 87 foreign-issued patents, and have 130 patent applications pending in the United States, Europe, Asia, India, Brazil, South Africa, and Chile. A substantial majority of our patents relate to our Precision Power business. Generally, our efforts to obtain international patents have been concentrated in the industrialized countries within Europe and Asia because there are other manufacturers and developers of power conversion and control systems in those countries, as well as customers for those systems for which our intellectual property applies.

During 2012, we acquired Solvix and all related intellectual property including one United States patent and one patent application pending in the United States. During 2013, we acquired Refusol and all related intellectual property including three patents in Germany. In 2014, we acquired five patents in our acquisition of PCM.

Litigation may, from time to time, be necessary to enforce patents issued to us, to protect trade secrets or know-how owned by us, to defend us against claimed infringement of the rights of others, or to determine the scope and validity of the proprietary rights of others. See "Risk Factors — We are highly dependent on our intellectual property" in Item 1A.

Competition

The markets we serve are highly competitive and characterized by rapid technological development and changing customer requirements. No single company dominates any of our markets. Significant competitive factors in our markets include product performance, compatibility with adjacent products, price, quality, reliability, and level of customer service and support.

We have seen an increase in global competition in the markets in which we compete, especially from Asian and European-based component suppliers. We encounter substantial competition from foreign and domestic companies for each of our product lines. Some of our competitors have greater financial and other resources than we do. In some cases, competitors are smaller than we are, but are well established in specific product niches. MKS Instruments, Inc. ("MKSI"), Comdel, Inc., Daihen Corporation, Kyosan Electric Mfg. Co., Ltd., Hüttinger Elektronik GmbH, Comet Holding AG, New Plasma Products (NPP), Entech, Plasmart (now a division of MKSI), and ADTech compete with our power conversion products for thin film processing. Spellman High Voltage, Crane, and Matsusada Precision offer products that compete with our high voltage products. Lumasense Technologies, CI Systems, BASF, and Laytec GmbH offer products that compete with our thermal products. SMA Solar Technology AG, Power-One, Inc. (now a part of ABB Ltd.), Schneider Electric SA, and Siemens AG offer products that compete with our solar inverters. Additionally, a focus on local content is causing new competitors for both of our segments to emerge around the world, with strong support from local governments, industry leaders, and investors.

Our ability to continue to compete successfully in these markets depends on our ability to make timely introductions of product enhancements and new products, to localize these development and production activities in key world regions, and to produce quality products. We expect our competitors will continue to improve the design and performance of their products, and introduce new products with competitive performance characteristics. We believe that we currently compete effectively with respect to these factors, although we cannot assure that we will be able to compete effectively in the future.

Research and Development

The market for our precision power conversion and thermal measurement products is characterized by ongoing technological changes. We believe that continued and timely development of new highly differentiated products and enhancements to existing products to support OEM requirements is necessary for us to maintain a competitive

position in the markets we serve. Accordingly, we continue to devote a significant portion of our personnel and financial resources to research

Table of Contents

and development projects and seek to maintain close relationships with our customers and other industry leaders in order to remain responsive to their product requirements now and in the future.

Our development focus in inverter equipment continues to address commercial and utility-scale solar projects and installations. Our designs are engineered for reliability, efficiency, and levelized cost of energy ("LCOE") performance in the worldwide markets we serve. We continually invest in research and development projects in order to rapidly deliver better emerging technologies and solutions to the market in support of our customers' demands for maximum performance, reliability, and functionality, combined with the lowest LCOE.

Research and development expenses were $59.0 million in 2014, $58.3 million in 2013, and $58.1 million in 2012, representing 10.1% of our sales in 2014, 10.7% of our sales in 2013, and 12.9% of our sales in 2012.

Employees

As of December 31, 2014, we had a total of 1,656 employees. There is no union representation of our employees, notwithstanding statutory organization rights applicable to our employees in the PRC, and we have never experienced an involuntary work stoppage. We believe that our continued success depends, in part, on our ability to attract and retain qualified personnel. We consider our relations with our employees to be good.

Effect of Environmental Laws

We are subject to federal, state, and local environmental laws and regulations, as well as the environmental laws and regulations of the foreign federal and local jurisdictions in which we have manufacturing facilities. We believe we are in material compliance with all such laws and regulations.

Compliance with federal, state, and local laws and regulations has not had, and is not expected to have, an adverse effect on our capital expenditures, competitive position, financial condition, or results of operations.

Website Access

Our website address is www.advancedenergy.com. We make available, free of charge on our website, our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to these reports as soon as reasonably practicable after filing such reports with, or furnishing them to, the Securities and Exchange Commission ("SEC"). Such reports are also available at www.sec.gov. Information contained on our website is not incorporated by reference in, or otherwise part of, this Annual Report on Form 10-K or any of our other filings with the SEC.

Special Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K includes or incorporates by reference "forward-looking statements" within the meanings of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements contained or incorporated by reference in this Annual Report on Form 10-K, other than statements of historical fact, are "forward-looking statements." For example, statements relating to our beliefs, expectations, plans, projections, forecasts, goals, and estimates are forward-looking statements, as are statements that specified actions, conditions, or circumstances will continue or change. Forward-looking statements involve risks and uncertainties. In some cases, forward-looking statements can be identified by the inclusion of words such as "believe," "expect," "plan," "anticipate," "estimate," "may," "should," "will," "continue," "intend," and similar words.

Some of the forward-looking statements in this Annual Report on Form 10-K are, or reflect, our expectations or projections relating to:

- our future revenues;
- our future sales, including backlog orders;
- our future gross profit;
- reducing our operating breakeven point;
- market acceptance of our products;
- the fair value of our assets and financial instruments;
- research and development expenses;

Table of Contents

- selling, general, and administrative expenses;
- sufficiency and availability of capital resources;
- capital expenditures;
- adequacy of our reserve for excess and obsolete inventory;
- adequacy of our warranty reserves;
- restructuring activities and expenses;
- general global economic conditions; and
- industry trends.

Our actual results could differ materially from those projected or assumed in our forward-looking statements because forward-looking statements by their nature are subject to risks and uncertainties. Factors that could contribute to these differences or prove our forward-looking statements, by hindsight, to be overly optimistic or unachievable include the factors described in “Risk Factors” in Item 1A. Other factors might also contribute to the differences between our forward-looking statements and our actual results. We assume no obligation to update any forward-looking statement or the reasons why our actual results might differ.

Executive Officers of the Registrant

Our executive officers, their positions and their ages as of December 31, 2014 are as follows:

Yuval Wasserman, 60, is our President & Chief Executive Officer and was appointed to the Board of Directors on October 1, 2014. Mr. Wasserman joined us in August 2007 as Senior Vice President, Sales, Marketing and Service. In October 2007, he was promoted to Executive Vice President, Sales, Marketing and Service. In April 2009, he was promoted to Executive Vice President and Chief Operating Officer of the Company and then in August 2011 he was promoted to President of the Thin Films Business Unit. Beginning in May 2002, Mr. Wasserman served as the President, and later as Chief Executive Officer, of Tevet Process Control Technologies, Inc., a semiconductor metrology company, until July 2007. Prior to that, he held senior executive and general management positions at Boxer Cross (a metrology company acquired by Applied Materials, Inc.), Fusion Systems (a plasma strip company that is a division of Axcelis Technologies, Inc.), and AG Associates (a semiconductor capital equipment company focused on rapid thermal processing). Mr. Wasserman started his career at National Semiconductor, Inc., where he held various process engineering and management positions. Mr. Wasserman joined the board of Syncroness, Inc., an outsourced engineering and product development company, in 2010. Mr. Wasserman holds a BsC in chemical engineering from Ben Gurion University in Beer Sheva, Israel.

Danny C. Herron, 60, joined us in September 2010 as Executive Vice President and Chief Financial Officer. It is expected that Mr. Herron will cease serving as an executive officer and Company employee by no later than April 30, 2015. He was Chief Financial Officer of Sundrop Fuels, Inc., a solar gasification-based renewable fuels company, from October 2009 through August 2010. From May 2009 through October 2009, Mr. Herron was a consultant at Tatum LLC, a financial consulting business, providing interim chief financial officer and financial consulting services. Mr. Herron served VeraSun Energy Corporation, a corn based ethanol company, from 2006 through 2008 first as senior vice president and chief financial officer and later as President and Chief Financial Officer. From 2002 through 2006, Mr. Herron was Executive Vice President and Chief Financial Officer at Swift & Company, a beef and pork producer acquired from Conagra Foods, Inc. Prior to that, Mr. Herron served as Division Chief Financial Officer of Conagra Foods, Inc. Beef Division.

Thomas O. McGimpsey, 53, joined us in April 2009 as Vice President and General Counsel and was promoted to Executive Vice President of Corporate Development and General Counsel in August 2011. From February 2008 to April 2009, Mr. McGimpsey held the position of Vice President of Operations at First Data Corporation. During 2007, Mr. McGimpsey was a consultant and legal advisor to various companies. From July 2000 to January 2007, Mr. McGimpsey held various positions with McDATA Corporation such as Executive Vice President of Business Development & Chief Legal Officer, Senior Vice President & General Counsel and Vice President of Corporate Development. From February 1998 to its sale in June 2000, Mr. McGimpsey held the position of Director and Senior Corporate Attorney at US WEST, Inc. From 1991 to 1998, Mr. McGimpsey was in private practice at national law firms. From 1984 to 1988, Mr. McGimpsey was a Senior Engineer for Software Technology, Inc. In August 2014 Mr. McGimpsey was appointed to the board of CPP, Inc., a private company with international operations that provides

wind engineering and air quality consulting services. Mr. McGimpsey received his Masters of Business Administration from Colorado State University (with honors), his Juris Doctor degree from the University of Colorado

Table of Contents

and his Bachelor of Science degree in Computer Science (with a minor in electrical systems) from Embry-Riddle Aeronautical University.

ITEM 1A. RISK FACTORS

An investment in our common stock involves a number of very significant risks. You should carefully consider the risks described below and the other information in this Annual Report before deciding whether to purchase shares of our common stock.

Our business, financial condition, results of operations, and cash flow, could be materially adversely affected by any of these risks. The value of shares of our common stock could decline due to any of these risks, and you may lose all or part of your investment.

This Annual Report also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below.

Risks Related to Our December 22, 2014 Announcement to Explore Strategic Alternatives for the Solar Inverter Business

On December 22, 2014, the Company announced that it has started to explore strategic alternatives for its Solar Inverter business. The company is considering various options including a sale, joint venture, partnership, licensing or other alternatives including additional product line optimization and rationalization, in order to maximize shareholder value. The Company plans to continue offering its inverter products and services, and supporting its customers during this process. However, the announcement could impact our customer confidence in our ability to service existing warranties and could negatively impact future sales to customers. There can be no assurance that the Company will enter into a transaction in the future. The announcement may subject the Solar Inverter business to substantial risks and uncertainties that may result in a material adverse effect on the Company's financial condition and results of operations. Potential risks include, but are not limited to: the Company's ability to identify and execute upon a strategic alternative, current and prospective customer reaction pending a decision on a strategic alternative or once a strategic alternative is selected (if at all), including potential decreases in customer orders and sales of our solar inverters, potential disruption to the company's operations and management that could occur leading up to and after a strategic alternative is chosen (if available), the risk of no strategic alternative being available and the potential need to further reduce costs, shutdown facilities and otherwise downsize the business.

The performance of our solar inverters is highly dependent on the customer meeting product specification, installation and maintenance requirements.

Our commercial and utility-grade solar inverters have product specification, installation and maintenance requirements that if not followed could result in product failure or downtime. For example, if a customer fails to properly design and build the solar site consistent with our product specification and installation requirements (e.g., exceeding input DC voltage, improper grounding, cabling errors, etc.), the inverter's performance could be adversely affected and, in some cases, the inverter may be damaged. Customers are responsible for their solar site design and build. Although we conduct testing on our products, our solar inverters cannot be tested in an environment simulating the various solar site conditions that may exist. We may expend considerable time and resources in diagnosing alleged product issues in the field that are actually attributable to a customer's failure to follow such product specification, installation and maintenance requirements. To the extent we experience such increased costs associated with investigating such claims, we may not be able to recover such costs from the customer, resulting in losses.

Our products may suffer from defects or errors leading to damage or warranty claims.

Our products use complex system designs and components that may contain errors or defects, particularly when we incorporate new technology into our products or release new versions. If any of our products are defective or fail because of their design, we might be required to repair, redesign or recall those products, pay damages (including liquidated damages) or warranty claims, and we could suffer significant harm to our reputation. We accrue a warranty reserve for estimated costs to provide warranty services including the cost of technical support, product repairs, and product replacement for units that cannot be repaired. Our estimate of costs to fulfill our warranty obligations is based on historical experience and expectation of future conditions. To the extent we experience increased warranty claim activity or increased costs associated with servicing those claims, our warranty accrual will increase, resulting in

decreased gross profit. In 2014, we have experienced increased warranty costs for our inverter product lines.

Table of Contents

Raw material, part, component, and subassembly shortages, exacerbated by our dependence on sole and limited source suppliers, could affect our ability to manufacture products and systems and could delay our shipments.

Our business depends on our ability to manufacture products that meet the rapidly changing demands of our customers. Our ability to manufacture our products timely depends in part on the timely delivery of raw materials, parts, components, and subassemblies from suppliers. We rely on sole and limited source suppliers for some of our raw materials, parts, components, and subassemblies that are critical to the manufacturing of our products.

This reliance involves several risks, including the following:

- the inability to obtain an adequate supply of required parts, components, or subassemblies;
- supply shortages, if a sole or limited source provider ceases operations;
- the need to fund the operating losses of a sole or limited source provider;
- reduced control over pricing and timing of delivery of raw materials and parts, components, or subassemblies;
- the need to qualify alternative suppliers;
- suppliers that may provide parts, components or subassemblies that are defective, contain counterfeit goods or are otherwise misrepresented to us in terms of form, fit or function; and
- the inability of our suppliers to develop technologically advanced products to support our growth and development of new products.

Qualifying alternative suppliers could be time consuming and lead to delays in, or prevention of delivery of products to our customers, as well as increased costs. If we are unable to qualify additional suppliers and manage relationships with our existing and future suppliers successfully, if our suppliers experience financial difficulties including bankruptcy, or if our suppliers cannot meet our performance or quality specifications or timing requirements, we may experience shortages, delays, or increased costs of raw materials, parts, components, or subassemblies. This in turn could limit or prevent our ability to manufacture and ship our products, which could materially and adversely affect our relationships with our current and prospective customers and our business, financial condition, and results of operations. From time to time, our sole or limited source suppliers have given us notice that they are ending supply of critical parts, components, and subassemblies that are required for us to deliver product. In those cases, we have been required to make last time purchases of such supplies in advance of product demand from our customers. If we cannot qualify alternative suppliers before these end-of-life supplies are utilized in our products, we may be unable to deliver further product to our customers. To mitigate the risk of not having a supply of critical parts, components, and subassemblies for our products, we proactively make additional purchases which we believe addresses such risk.

Our orders of raw materials, parts, components, and subassemblies are based on demand forecasts.

We place orders with many of our suppliers based on our customers' quarterly forecasts and our annual forecasts. These forecasts are based on our customers' and our expectations as to demand for our products. As the quarter and the year progress, such demand can change rapidly or we may realize that our customers' expectations were overly optimistic or pessimistic, especially when industry or general economic conditions change. Orders with our suppliers cannot always be amended in response. In addition, in order to assure availability of certain components or to obtain priority pricing, we have entered into contracts with some of our suppliers that require us to purchase a specified amount of components and subassemblies each quarter, even if we are not able to use such components or subassemblies. Moreover, we have obligations to some of our customers to hold a minimum amount of finished goods in inventory, in order to fulfill just in time orders, regardless of whether the customers expect to place such orders. We currently have firm purchase commitments and agreements with various suppliers to ensure the availability of components. Our obligation to our suppliers at December 31, 2014 under these purchase commitments and agreements was $58.7 million. If demand for our products does not continue at current levels, we might not be able to use all of the components that we are required to purchase under these commitments and agreements, and our reserves for excess and obsolete inventory may increase, which could have a material adverse effect on our results of operations. If demand for our products exceeds our customers' and our forecasts, we may not be able to timely obtain sufficient raw materials, parts, components, or subassemblies, on favorable terms or at all, to fulfill the excess demand.

We generally have no long-term contracts with our customers requiring them to purchase any specified quantities from us.

Our sales are primarily made on a purchase order basis, and we generally have no long-term purchase commitments from our customers, which is typical in the industries we serve. As a result, we are limited in our ability to predict the level of future sales or commitments from our current customers, which may diminish our ability to allocate labor, materials, and

Table of Contents

equipment in the manufacturing process effectively. In addition, we may accumulate inventory in anticipation of sales that do not materialize, resulting in excess and obsolete inventory write-offs.

We are exposed to risks associated with worldwide financial markets and the global economy.

Our business depends on the expansion of manufacturing capacity in our end markets and the installation base for the products we sell. In the past, severe tightening of credit markets, turmoil in the financial markets, and a weakening global economy have contributed to slowdowns in the industries in which we operate. Some of our key markets depend largely on consumer spending. Economic uncertainty exacerbates negative trends in consumer spending and may cause our customers to push out, cancel, or refrain from placing equipment orders.

Difficulties in obtaining capital and uncertain market conditions may also lead to a reduction of our sales and greater instances of nonpayment. These conditions may similarly affect our key suppliers, which could affect their ability to deliver parts and result in delays for our products. Further, these conditions and uncertainty about future economic conditions could make it challenging for us to forecast our operating results and evaluate the risks that may affect our business, financial condition, and results of operations. As discussed in “Our orders of raw materials, parts, components, and subassemblies are based on demand forecasts,” a significant percentage of our expenses are relatively fixed and based, in part, on expectations of future net sales. If a sudden decrease in demand for our products from one or more customers were to occur, the inability to adjust spending quickly enough to compensate for any shortfall would magnify the adverse impact of a shortfall in net sales on our results of operations. Conversely, if market conditions were to unexpectedly recover and demand for our products were to increase suddenly, we might not be able to respond quickly enough, which could have a negative impact on our results of operations and customer relations.

The industries in which we compete are subject to volatile and unpredictable cycles.

As a supplier to the global semiconductor, flat panel display, solar, and related industries, we are subject to business cycles, the timing, length, and volatility of which can be difficult to predict. These industries historically have been cyclical due to sudden changes in customers’ manufacturing capacity requirements and spending, which depend in part on capacity utilization, demand for customers’ products, inventory levels relative to demand, and access to affordable capital. These changes have affected the timing and amounts of customers’ purchases and investments in technology, and continue to affect our orders, net sales, operating expenses, and net income. In addition, we may not be able to respond adequately or quickly to the declines in demand by reducing our costs. We may be required to record significant reserves for excess and obsolete inventory as demand for our products changes.

To meet rapidly changing demand in each of the industries we serve, we must effectively manage our resources and production capacity. During periods of decreasing demand for our products, we must be able to appropriately align our cost structure with prevailing market conditions, effectively manage our supply chain, and motivate and retain key employees. During periods of increasing demand, we must have sufficient manufacturing capacity and inventory to fulfill customer orders, effectively manage our supply chain, and attract, retain, and motivate a sufficient number of qualified individuals. If we are not able to timely and appropriately adapt to changes in our business environment or to accurately assess where we are positioned within a business cycle, our business, financial condition, or results of operations may be materially and adversely affected.

Cyclicality in the semiconductor equipment industry impacts our results of operations.

Our business is affected by the capital equipment expenditures of semiconductor manufacturers, which in turn is affected by the current and anticipated market demand for integrated circuits and products using integrated circuits. The semiconductor industry is cyclical in nature and has experienced periodic and severe downturns and upturns. Business conditions, therefore, historically have changed rapidly and unpredictably.

Fluctuating levels of investment by semiconductor manufacturers could continue to materially affect our revenues and operating results. Where appropriate, we will attempt to respond to these fluctuations with cost management programs aimed at aligning our expenditures with anticipated revenue streams, which sometimes result in restructuring charges. Even during periods of reduced revenues, we must continue to invest in research and development and maintain extensive ongoing worldwide customer service and support capabilities to remain competitive, which may have a temporary adverse effect on our results of operations. During periods of increased demand, we may have difficulty obtaining sufficient components and subassemblies or increasing production quickly enough to meet our customers’ requirements.

We are exposed to risks as a result of ongoing changes specific to the solar inverter industry.
A significant portion of our business is in the emerging solar inverter market, which, in addition to the general industry changes described above in the risk factor “The industries in which we compete are subject to volatile and unpredictable

Table of Contents

cycles," is also characterized by ongoing changes particular to the solar inverter industry. Our business is subject to changes in technology or demand for solar products arising from, among other things, adoption of our inverter products by our customers, changes in technology trends in the industry, behaviors by our customers resulting from technology trend changes, compatibility of our solar inverter technology with our customers' products or certain solar panel providers, customers' and end-users' access to affordable financial capital, the cost and performance of solar technology compared to other energy sources, the adequacy of or changes in government energy policies, including the availability and amount of government incentives for solar power (such as feed-in tariffs and tax credits), the continuation of renewable portfolio standards, and the extent of investment or participation in solar by utilities or other companies that generate, transmit, or distribute power to end users. The current debt crisis in Europe and the resulting economic uncertainty and instability in the region could result in limited access to capital for our customers or changes to government incentives for renewable energy which could cause the delay or cancellation of current projects in the solar industry. There is also increased market volatility as the size of utility scale solar projects is increasing to hundreds of megawatts of capacity. Sales to large solar projects can cause variations in our revenue from quarter to quarter. Such large-scale solar projects require significant financial resources on our part should we be selected as the supplier for solar inverters. We are beginning to see requirements in the solar industry for performance guarantees related to solar inverters and associated liquidated damages provisions. This could result in financial exposure for our business if our solar inverters do not meet reliability or uptime requirements. Lastly, customers using our solar inverters are beginning to evaluate multi-year service agreements from us for on-site maintenance and support of our inverters and the entire solar site. These agreements, however, are subject to annual renewal and may not be renewed by the customers.

If we do not successfully manage the risks resulting from these ongoing changes occurring in the solar industry, we may miss out on substantial opportunities for revenue and our business, financial condition, and results of operations could be materially and adversely affected.

We may not realize the expected results from the implementation of restructuring plans.

During the second half of 2011 as well as the second quarters of 2013 and 2014, we implemented restructuring plans to align our cost structure with current industry conditions in our Precision Power and Inverter segments. As part of these restructuring plans we reduced staff, exited excess office and warehouse space, relocated engineering and research and development resources closer to our customers, and transferred various operating activities, such as supply chain management, manufacturing, engineering and other activities, to our Shenzhen, China facility. This means we are even more dependent on our China-based operations. As with any restructuring initiative, there could be many unintended results and there are always risks that execution may not meet expectations in the future. If we are unable to effectively execute the initiatives under the plan or our customers' requirements change, we may not realize the expected results or could incur restructuring charges greater than anticipated, which could materially affect our financial condition and results of operations.

Businesses, consumers, and utilities might not adopt alternative energy solutions as a means for providing or obtaining their electricity and power needs.

On-site distributed power generation solutions, such as photovoltaic systems, which utilize our inverter products, provide an alternative means for obtaining electricity and are relatively new methods of obtaining electrical power that businesses, consumers, and utilities may not adopt at levels sufficient to grow this part of our business. Traditional electricity distribution is based on the regulated industry model whereby businesses and consumers obtain their electricity from a government regulated utility. For alternative methods of distributed power to succeed, businesses, consumers and utilities must adopt new purchasing practices and must be willing to rely upon less traditional means of providing and purchasing electricity. As larger solar projects come online, utilities are becoming increasingly concerned with grid stability, power management and the predictable loading of such power onto the grid.

We cannot be certain that businesses, consumers, and utilities will choose to utilize on-site distributed power at levels sufficient to sustain our business in this area. The development of a mass market for our products may be impacted by many factors which are out of our control, including:

- market acceptance of photovoltaic systems that incorporate our solar inverter products;

- the cost competitiveness of these systems;
- regulatory requirements; and
- the emergence of newer, more competitive technologies and products.

Table of Contents

If a mass market fails to develop or develops more slowly than we anticipate, we may be unable to recover the costs we will have incurred to develop these products.

We might make substantial capital expenditures and commitments to meet anticipated demand for our solar inverters.

We have invested and may continue to invest significant human and financial resources in the development, marketing, and sale of our solar inverters, while we continue to investigate alternatives for the future of our involvement in this line of business. To increase our manufacturing capacity for our solar inverters in order to meet anticipated demand, we have purchased equipment, leased new facilities, and made other capital expenditures. These additional expenditures have increased, and may continue to increase, our overhead expenses during a time when our operations are not fully absorbing current overhead expenses. The impact could lower gross margins until such time that revenue related to the sale of our solar inverters can fully absorb overhead expenses. We have experienced a shortage of components for our solar inverters that could affect our ability to manufacture products and systems. We and other participants in the industry have seen shortages of insulated gate bipolar transistors, capacitors, switchgear, and other discrete electrical components. To mitigate the risk of not having such critical parts, we pro-actively make additional purchases which we believe addresses such risk.

Recent unfair trade complaints filed against imports of solar cells from China could have significant negative effects on our business, financial condition or results of operations.

In October 2011, a coalition of several U.S. solar companies filed complaints with the U.S. Department of Commerce ("DOC") and International Trade Commission ("ITC") charging that Chinese solar cell manufacturers have engaged in, and benefited from, various unfair trade practices. A similar trade case may also be filed in Europe. In early 2012, duties were imposed on solar panels imported from China which have resulted in other trade-related conflicts. Since some of our inverters are well-suited for use with crystalline silicon panel modules, the impact of these duties on the cost of solar panels could have a material adverse impact on our business, financial position or results of operations. In June 2014, the DOC imposed additional anti-dumping duties that now include Taiwanese solar cell manufacturing for Chinese solar module manufacturers. As a result of this action, the pricing of solar panels has increased for our customers in a manner that adversely affects solar project financial viability. As a result of this U.S. government action, solar projects are being delayed and could be cancelled. The imposition of these additional and expanded duties will have a material adverse impact on our business, financial position and results of operations.

A significant portion of our sales and accounts receivable are concentrated among a few customers.

Our ten largest customers accounted for 48.9% of our sales in 2014, 44.2% of our sales in 2013, and 47.7% of our sales in 2012. Applied Materials Inc., our largest customer, accounted for 18.7% of our sales in 2014, 17.4% of our sales in 2013, and 14.1% of our sales in 2012. Lam Research accounted for 12.5% of our sales in 2014. Additionally, in June 2012, Lam Research merged with Novellus Systems, Inc. Had the two businesses been a combined entity for the full year, they would have accounted for 10.7% of our sales in 2012. No other single customer accounted for more than 10% of our sales during 2014, 2013 or 2012. At December 31, 2014 and 2013 our accounts receivable from Applied Materials Inc., accounted for 16.1% and 17.4%, respectively, of our total accounts receivable. No other single customer accounted for more than 10% of our accounts receivable as of December 31, 2014, or 2013. If we were to lose any of our significant customers or suffer a material reduction in their purchase orders, revenue could decline and our business, financial condition, and results of operations could be materially and adversely affected.

Market pressures may reduce or eliminate our profitability.

Our customers continually exert pressure on us to reduce our prices and extend payment terms. Given the nature of our customer base and the highly competitive markets in which we compete, we may be required to reduce our prices or extend payment terms to remain competitive. We may not be able to reduce our expenses in an amount sufficient to offset potential margin declines. The decrease in cash flow could materially and adversely impact our financial condition.

If we are unable to adjust our business strategy successfully for some of our product lines to reflect the increasing price sensitivity on the part of our customers, our business and financial condition could be harmed.

Our business strategy for many of our product lines has been focused on product performance and technology innovation to provide enhanced efficiencies and productivity. As a result of recent economic conditions and changes in various markets that we serve, our customers have experienced significant cost pressures. We have observed

increased price sensitivity on the part of our customers. If competition against any of our product lines should come to focus solely on price rather than on product performance and technology innovation, we will need to adjust our business strategy and product offerings accordingly,

Table of Contents

and if we are unable to do so, our business, financial condition, and results of operations could be materially and adversely affected.

The markets in which we operate are highly competitive.

We face substantial competition, primarily from established companies, some of which have greater financial, marketing, and technical resources than we do. We expect our competitors will continue to develop new products in direct competition with ours, improve the design and performance of their products, and introduce new products with enhanced performance characteristics.

To remain competitive, we must improve and expand our products and product offerings. In addition, we may need to maintain a high level of investment in research and development and expand our sales and marketing efforts, particularly outside of the United States. We might not be able to make the technological advances and investments necessary to remain competitive. If we were unable to improve and expand our products and product offerings, our business, financial condition, and results of operations could be materially and adversely affected.

Our competitive position could be weakened if we are unable to convince end users to specify that our products be used in the equipment sold by our customers.

The end users in our markets may direct equipment manufacturers to use a specified supplier's product in their equipment at a particular facility. This occurs with frequency because our products are critical in manufacturing process control for thin-film applications. Our success, therefore, depends in part on our ability to have end users specify that our products be used at their facilities. In addition, we may encounter difficulties in changing established relationships of competitors that already have a large installed base of products within such facilities.

We must achieve design wins to retain our existing customers and to obtain new customers, although design wins achieved do not necessarily result in substantial sales.

The constantly changing nature of technology in the markets we serve causes equipment manufacturers to continually design new systems. We must work with these manufacturers early in their design cycles to modify our equipment or design new equipment to meet the requirements of their new systems. Manufacturers typically choose one or two vendors to provide the components for use with the early system shipments. Selection as one of these vendors is called a design win. It is critical that we achieve these design wins in order to retain existing customers and to obtain new customers.

We believe that equipment manufacturers often select their suppliers based on factors including long-term relationships and end user demand. Accordingly, we may have difficulty achieving design wins from equipment manufacturers who are not currently our customers. In addition, we must compete for design wins for new systems and products of our existing customers, including those with whom we have had long-term relationships. Our efforts to achieve design wins are time consuming, expensive, and may not be successful. If we are not successful in achieving design wins, or if we do achieve design wins but our customers' systems that utilize our products are not successful, our business, financial condition, and results of operations could be materially and adversely impacted. Once a manufacturer chooses a component for use in a particular product, it is likely to retain that component for the life of that product. Our sales and growth could experience material and prolonged adverse effects if we fail to achieve design wins. However, design wins do not always result in substantial sales, as sales of our products are dependent upon our customers' sales of their products.

We are highly dependent on our intellectual property.

Our success depends significantly on our proprietary technology. We attempt to protect our intellectual property rights through patents and non-disclosure agreements; however, we might not be able to protect our technology, and competitors might be able to develop similar technology independently. In addition, the laws of some foreign countries might not afford our intellectual property the same protections as do the laws of the United States. Our intellectual property is not protected by patents in several countries in which we do business, and we have limited patent protection in other countries, including the PRC. The cost of applying for patents in foreign countries and translating the applications into foreign languages requires us to select carefully the inventions for which we apply for patent protection and the countries in which we seek such protection. Generally, our efforts to obtain international patents have been concentrated in the European Union and certain industrialized countries in Asia, including Korea, Japan, and Taiwan. If we are unable to protect our intellectual property successfully, our business, financial condition,

and results of operations could be materially and adversely affected.

Table of Contents

The PRC commercial law is relatively undeveloped compared to the commercial law in the United States. Limited protection of intellectual property is available under PRC law. Consequently, manufacturing our products in the PRC may subject us to an increased risk that unauthorized parties may attempt to copy our products or otherwise obtain or use our intellectual property. We cannot give assurance that we will be able to protect our intellectual property rights effectively or have adequate legal recourse in the event that we encounter infringements of our intellectual property in the PRC.

Activities necessary to integrate acquisitions may result in costs in excess of current expectations or be less successful than anticipated.

In 2012, 2013 and 2014, we acquired Solvix, Refusol, the Power Controls Modules product line of AEG Power Solutions, HiTek, and UltraVolt respectively, and we may acquire other businesses in the future. The success of such transactions will depend on, among other things, our ability to integrate assets and personnel acquired in these transactions and to apply our internal controls process to these acquired businesses. The integration of acquisitions may require significant attention from our management, and the diversion of management's attention and resources could have a material adverse effect on our ability to manage our business. Furthermore, we may not realize the degree or timing of benefits we anticipated when we first entered into the acquisition transaction. If actual integration costs are higher than amounts originally anticipated, if we are unable to integrate the assets and personnel acquired in an acquisition as anticipated, or if we are unable to fully benefit from anticipated synergies, our business, financial condition, results of operations, and cash flows could be materially adversely affected.

Return on investments or interest rate declines on plan investments could result in additional unfunded pension obligations for the HiTek Power pension plan.

We currently have unfunded obligations in the HiTek Power pension plan. The extent of future contributions to the pension plan depends heavily on market factors such as the discount rate and the actual return on plan assets. We estimate future contributions to the plan using assumptions with respect to these and other items. While our management believes that these assumptions are appropriate, changes to those assumptions could have a significant effect on future contributions. Additionally, a material deterioration in the funded status of the plan could increase pension expenses and reduce our profitability. See Note 15 to our Consolidated Financial Statements.

We must continually design and introduce new products into the markets we serve to respond to competition and rapid technological changes.

As we operate in a highly competitive environment where innovation is critical, our future success depends on many factors, including the effective commercialization and customer acceptance of our products and services. The development, introduction and support of a broadening set of products (such as the recent introduction of our high power and three phase string inverters) is critical to our continued success. Our results of operations could be adversely affected if we do not continue to develop new products, improve and develop new applications for existing products, and differentiate our products from those of competitors resulting in their adoption by customers.

We conduct manufacturing at only a few sites and our sites are not generally interchangeable.

Our power products for the semiconductor industry are manufactured in Shenzhen, PRC. Our high voltage products are manufactured in Ronkonkoma, New York and Littlehampton, United Kingdom. Our thermal instrumentation products that are used in the semiconductor industry are manufactured in Vancouver, Washington. Each facility manufactures different products, and therefore, is not interchangeable. Natural or other uncontrollable occurrences at any of our manufacturing facilities could significantly reduce our productivity at such site and could prevent us from meeting our customers' requirements in a timely manner, or at all. Our losses from any such occurrence could significantly affect our operations and results of operations for a prolonged period of time.

Our solar inverters are manufactured in Fort Collins, Colorado, Shenzhen, PRC and Ontario, Canada. While manufacturing could be shifted to a different manufacturing location for the transformer-based and transformerless inverters if a labor disruption, supply difficulty or natural or other uncontrollable occurrence occurred, it may take significant time to transition to another site, and delivery times and costs would likely increase, preventing us from meeting our customers' requirements in a timely manner, or at all. To the extent that local content requirements exist, we may also be limited in such transitions.

Our restructuring and other cost-reduction efforts have included transitioning manufacturing operations to our facility in Shenzhen from other manufacturing facilities, such as Fort Collins, Colorado and Bend, Oregon, which renders us increasingly reliant upon our Shenzhen facility. A disruption in manufacturing at our Shenzhen facility, from whatever cause, could have a

Table of Contents

significantly adverse effect on our ability to fulfill customer orders, our ability to maintain customer relationships, our costs to manufacture our products and, as a result, our results of operations and financial condition.

We are subject to risks inherent in international operations.

Sales to our customers outside the United States were approximately 36.6% of our total sales in 2014, 40.0% in 2013, and 28.6% in 2012. The recent acquisitions of the three phase string inverter, power controls modules, and high voltage product lines have increased our presence in international locations. India is becoming a focus of possible expansion for sales, research and development, and manufacturing. Our success producing goods internationally and competing in international markets is subject to our ability to manage various risks and difficulties, including, but not limited to:

- our ability to effectively manage our employees at remote locations who are operating in different business environments from the United States;
- our ability to develop and maintain relationships with suppliers and other local businesses;
- compliance with product safety requirements and standards that are different from those of the United States;
- variations and changes in laws applicable to our operations in different jurisdictions, including enforceability of intellectual property and contract rights;
- trade restrictions, political instability, disruptions in financial markets, and deterioration of economic conditions;
- customs regulations and the import and export of goods (including, but not limited to, any United States imposition of antidumping or countervailing duty orders, safeguards, remedies, or compensation with respect to our products or subcomponents of our products, particularly those produced in the PRC);
- the ability to provide sufficient levels of technical support in different locations;
- our ability to obtain business licenses that may be needed in international locations to support expanded operations;
- timely collecting accounts receivable from foreign customers including $25.1 million in accounts receivable from foreign customers as of December 31, 2014; and
- changes in tariffs, taxes, and foreign currency exchange rates.

Our profitability and ability to implement our business strategies, maintain market share and compete successfully in international markets will be compromised if we are unable to manage these and other international risks successfully.

Our operations in the People’s Republic of China are subject to significant political and economic uncertainties over which we have little or no control and we may be unable to alter our business practice in time to avoid reductions in revenues.

A significant portion of our operations outside the United States are located in the PRC, which exposes us to risks, such as exchange controls and currency restrictions, changes in local economic conditions, changes in customs regulations, changes in tax policies, changes in PRC laws and regulations, possible expropriation or other PRC government actions, and unsettled political conditions. These factors may have a material adverse effect on our operations, business, results of operations, and financial condition.

The PRC’s economy differs from the economies of most developed countries in many respects, including with respect to the amount of government involvement, level of development, rate of growth, control of foreign exchange and allocation of resources. While the economy of the PRC has experienced significant growth in the past 20 years, growth has been uneven across different regions and amongst various economic sectors of the PRC. The PRC government has implemented various measures to encourage economic development and guide the allocation of resources. Recent strikes by workers and picketing in front of the factory gates of certain companies in Shenzhen have caused unrest among some workers seeking higher wages, which could impact our manufacturing facility in Shenzhen. While some of the government's measures may benefit the overall economy of the PRC, they may have a negative effect on us. For example, our financial condition and results of operations may be materially and adversely affected by government control over capital investments or changes in tax regulations that are applicable to us as well as work stoppages.

We transitioned a significant amount of our supply base to Asian suppliers.

We transitioned the purchasing of a substantial portion of components for our thin film products, and continue to consider transitioning additional purchasing related to our solar inverters to Asian suppliers to lower our materials costs and

18

Table of Contents

shipping expenses. These components might require us to incur higher than anticipated testing or repair costs, which would have an adverse effect on our operating results. Customers who have strict and extensive qualification requirements might not accept our products if these lower-cost components do not meet their requirements. A delay or refusal by our customers to accept such products, as well as an inability of our suppliers to meet our purchasing requirements, might require us to purchase higher-priced components from our existing suppliers or might cause us to lose sales to these customers, either of which could lead to decreased revenue and gross margins and have an adverse effect on our results of operations.

We have entered into contract manufacturing relationships with international suppliers for certain of our inverter products.

We have entered into contract manufacturing relationships with well-established suppliers in Canada and Hungary for the manufacture of certain goods in our inverter product line and Germany (Prettl) for our Power Control Module product line. These relationships will facilitate our compliance with localization requirements in some world regions where incentives and benefits are granted for local manufacturing. These relationships will also afford us a more flexible manufacturing capacity, thereby enabling us to maintain a competitive advantage in the marketplace for our inverter products. These partners, working closely with us, will in turn be developing a common supply chain for the components that are incorporated into our inverters. While we believe that our contract manufacturers are qualified to manufacture these inverters for us, we may need to address short-term quality and delivery scheduling issues as we develop this new supply chain for these inverters. If we were to encounter significant quality or delivery schedule concerns it might materially and adversely affect our relationships with customers for these inverters and our results of operations. As with many contract manufacturing relationships, costs may be incurred if manufacturing capacity is not fully utilized. In particular, our German legal proceeding against an affiliate of Prettl, the contract manufacturer of a significant portion of our three phase string inverters, may adversely affect and impact such contract manufacturing relationship, the delivery of product, the commercial terms related thereto and our financial and operational performance. Please see "Item 3 - Legal Proceedings."

Changes in tax laws, tax rates, or mix of earnings in tax jurisdictions in which we do business, could impact our future tax liabilities and related corporate profitability

We are subject to income taxes in the U.S. (federal and state) and numerous foreign jurisdictions. Tax laws, regulations, and administrative practices in various jurisdictions may be subject to significant change due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating our provision and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. Our effective tax rates could be adversely affected by earnings being lower than anticipated in jurisdictions where we have lower statutory rates and higher than anticipated in jurisdictions where we have higher statutory rates, losses incurred in jurisdictions for which we are not able to realize the related tax benefit, changes in foreign currency exchange rates, entry into new businesses and geographies and changes to our existing businesses, acquisitions (including integrations) and investments, changes in our deferred tax assets and liabilities and their valuation, and changes in the relevant tax, accounting, and other laws, regulations, administrative practices, principles, and interpretations, including fundamental changes to the tax laws applicable to corporate multinationals. The U.S., many countries in the European Union, and a number of other countries are actively considering changes in this regard.

Reductions in government subsidies could impact revenue and results of operations in the renewable energy markets.

Various government subsidies, including feed-in tariffs, have been a significant driver in the growth of the renewable energy industry. Countries throughout the world are providing incentives to spur adoption of renewable energy. While many countries, including Great Britain, certain regions in the United States and Canada, India, and China, are beginning to adopt feed-in tariffs and varying subsidies, others are re-evaluating the level of incentive they wish to provide. A number of countries, including the Czech Republic have proposed reductions to their feed-in tariffs while Italy and Germany reduced their feed-in tariffs. As new political parties take office in countries throughout the world, agendas on renewable energy and governments' desire or ability to provide incentives may shift or change. Proposed feed-in tariff reductions in regions in which we do significant business could negatively affect the results of our operations. Such a reduction in the feed-in tariffs, including any potential further reductions, could result in a

significant decline in demand and price levels for renewable energy products and result in foreign competitors moving into the U.S. solar market, which could have a material adverse effect on our business, financial condition, and results of operations.

Unfavorable currency exchange rate fluctuations may lead to lower operating margins, or may cause us to raise prices, which could result in reduced sales.

Currency exchange rate fluctuations could have an adverse effect on our sales and results of operations and we could experience losses with respect to forward exchange contracts into which we may enter. Unfavorable currency fluctuations could

Table of Contents

require us to increase prices to foreign customers, which could result in lower net sales by us to such customers. Alternatively, if we do not adjust the prices for our products in response to unfavorable currency fluctuations, our results of operations could be materially and adversely affected. In addition, most sales made by our foreign subsidiaries are denominated in the currency of the country in which these products are sold and the currency they receive in payment for such sales could be less valuable at the time of receipt as a result of exchange rate fluctuations. Given recent acquisitions in Europe, our exposure to fluctuations in the value of the Euro is becoming more significant. From time to time, we enter into forward exchange contracts and local currency purchased options to reduce currency exposure arising from intercompany sales of inventory. However, we cannot be certain that our efforts will be adequate to protect us against significant currency fluctuations or that such efforts will not expose us to additional exchange rate risks, which could materially and adversely affect our results of operations.

Changes in the value of the Chinese yuan could impact the cost of our operation in Shenzhen, PRC.

The PRC government is continually pressured by its trading partners to allow its currency to float in a manner similar to other major currencies. Any change in the value of the Chinese yuan may impact our ability to control the cost of our products in the world market. Specifically, the decision by the PRC government to allow the yuan to begin to float against the United States dollar could significantly increase the labor and other costs incurred in the operation of our Shenzhen facility and the cost of raw materials, parts, components, and subassemblies that we source in the PRC, thereby having a material and adverse effect on our financial condition and results of operations.

We have been, and in the future may again be, involved in litigation. Litigation is costly and could result in further restrictions on our ability to conduct business or make use of market relationships we have developed, or an inability to prevent others from using technology.

Litigation may be necessary to enforce our commercial or property rights, to defend ourselves against claimed violations of such rights, or to protect our interests in regulatory, tax, customs, commercial, and other disputes or similar matters. Litigation often requires a substantial amount of our management's time and attention, as well as financial and other resources, including:

- substantial costs in the form of legal fees, fines, and royalty payments;
- restrictions on our ability to sell certain products or in certain markets;
- an inability to prevent others from using technology we have developed; and
- a need to redesign products or seek alternative marketing strategies.

Any of these events could have a significant adverse effect on our business, financial condition, and results of operations.

Funds associated with our marketable securities that we have traditionally held as short-term investments may not be liquid or readily available.

In the past, certain of our investments have been affected by external market conditions that impacted the liquidity of the investment. We do not currently have investments with reduced liquidity, but external market conditions that we cannot anticipate or mitigate may impact the liquidity of our marketable securities. Any changes in the liquidity associated with these investments may require us to borrow funds at terms that are not favorable or repatriate cash from international locations at a significant cost. We cannot be certain that we will be able to borrow funds or continue to repatriate cash on favorable terms, or at all. If we are unable to do so, our available cash may be reduced until those investments can be liquidated. The lack of available cash may prevent us from taking advantage of business opportunities that arise and may prevent us from executing some of our business plans, either of which could cause our business, financial condition or results of operations to be materially and adversely affected.

Our intangible assets may become impaired.

We currently have $203.3 million of goodwill ($43.9 million and $159.5 million in Precision Power and Inverters, respectively) and $47.1 million in intangible assets ($40.3 million and $6.8 million in Precision Power and Inverters, respectively). We periodically review the estimated useful lives of our goodwill and identifiable intangible assets, taking into consideration any events or circumstances that might result in either a diminished fair value, or for intangible assets, a revised useful life. The events and circumstances include significant changes in the business climate, legal factors, operating performance indicators, and competition. Any impairment or revised useful life could have a material and adverse effect on our financial position and results of operations, and could harm the trading price

of our common stock. On December 22, 2014, we announced

Table of Contents

that we are seeking strategic alternatives with regards to our continued involvement in the Inverter segment and the outcome of this process may have a material impact on the carrying value of our recorded goodwill and intangibles.

We are subject to numerous governmental regulations.

We are subject to federal, state, local and foreign regulations, including environmental regulations and regulations relating to the design and operation of our products and control systems and regulations governing the import, export and customs duties related to our products. We might incur significant costs as we seek to ensure that our products meet safety and emissions standards, many of which vary across the states and countries in which our products are used. In the past, we have invested significant resources to redesign our products to comply with these directives. Compliance with future regulations, directives, and standards could require us to modify or redesign some products, make capital expenditures, or incur substantial costs. Also, we may incur significant costs in complying with the myriad of different import, export and customs regulations as we seek to sell our products internationally. If we do not comply with current or future regulations, directives, and standards:

- we could be subject to fines and penalties;
- our production or shipments could be suspended; and
- we could be prohibited from offering particular products in specified markets.

If we were unable to comply with current or future regulations, directives and standards, our business, financial condition and results of operations could be materially and adversely affected.

Recently enacted financial reform legislation will result in new laws and regulations that may increase our costs of operations.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") requires various federal agencies to adopt a broad range of new implementing rules and regulations, and to prepare numerous studies and reports for Congress. On August 22, 2012, under the Dodd-Frank Act, the SEC adopted new requirements for companies that use certain minerals and metals, known as conflict minerals, in their products, whether or not these products are manufactured by third parties. These requirements will require companies to perform due diligence, disclose and report whether or not such minerals originate from the Democratic Republic of Congo and adjoining countries. We will have to perform sufficient due diligence to determine whether such minerals are used in the manufacture of our products. However, the implementation of these new requirements could adversely affect the sourcing, availability and pricing of such minerals if they are found to be used in the manufacture of our products. In addition, we will incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals and metals used in our products. Since our supply chain is complex, we may not be able to sufficiently verify the origins for these minerals and metals used in our products through the due diligence procedures that we implement, which may harm our reputation. In such event, we may also face difficulties in satisfying customers who require that all of the components of our products are certified as conflict mineral free. We filed our first report on conflict minerals on June 2, 2014 for the 2013 calendar year.

The market price of our common stock has fluctuated and may continue to fluctuate for reasons over which we have no control.

The stock market has from time to time experienced, and is likely to continue to experience, extreme price and volume fluctuations. Prices of securities of technology companies have been especially volatile and have often fluctuated for reasons that are unrelated to their operating performance. In the past, companies that have experienced volatility in the market price of their stock have been the subject of securities class action litigation. If we were the subject of securities class action litigation, it could result in substantial costs and a diversion of management’s attention and resources.

Our operating results are subject to fluctuations, and if we fail to meet the expectations of securities analysts or investors, our share price may decrease significantly.

Our annual and quarterly results may vary significantly depending on various factors, many of which are beyond our control. Because our operating expenses are based on anticipated revenue levels, our sales cycle for development work is relatively long, and a high percentage of our expenses are fixed for the short term, a small variation in the timing of recognition of revenue can cause significant variations in operating results from period to period. If our earnings do not meet the expectations of securities analysts or investors, the price of our stock could decline.

The loss of any of our key personnel could significantly harm our results of operations and competitive position. Our success depends to a significant degree upon the continuing contributions of our key management, technical, marketing, and sales employees. There can be no assurance that we will be successful in retaining our key employees or that

Table of Contents

we can attract or retain additional skilled personnel as required. Failure to retain or attract key personnel could significantly harm our results of operations and competitive position.

We maintain significant amounts of cash in international locations.

Given the global nature of our business, we have both domestic and international concentrations of cash and investments. The value of our cash, cash equivalents, and marketable securities can be negatively affected by liquidity, credit deterioration, financial results, economic risk, political risk, sovereign risk or other factors. As a result, we could incur a significant impairment of our cash, cash equivalents, and marketable securities, which could materially adversely affect our financial condition and results of operations.

Historically, acquisitions have been an important element of our strategy. However, we may not find suitable acquisition candidates in the future and we may not be able to successfully integrate and manage acquired businesses. Any acquisitions we make could disrupt our business and harm our financial condition.

We have in the past made strategic acquisitions of other corporations and entities, as well as asset purchases, and we continue to evaluate potential strategic acquisitions of complementary companies, products, and technologies. In the event of any future acquisitions, we could:

- issue stock that would dilute our current stockholders' percentage ownership;
- pay cash that would decrease our working capital;
- incur debt;
- assume liabilities; or
- incur expenses related to impairment of goodwill and amortization.

Acquisitions also involve numerous risks, including:

- problems combining the acquired operations, systems, technologies, or products;
- an inability to realize expected sales forecasts, operating efficiencies or product integration benefits;
- difficulties in coordinating and integrating geographically separated personnel, organizations, systems, and facilities;
- difficulties integrating business cultures;
- unanticipated costs or liabilities, including the costs associated with improving the internal controls of the acquired company;
- diversion of management's attention from our core business;
- adverse effects on existing business relationships with suppliers and customers;
- potential loss of key employees, particularly those of purchased organizations;
- incurring unforeseen obligations or liabilities in connection with acquisitions; and
- the failure to complete acquisitions even after signing definitive agreements which, among other things, would result in the expensing of potentially significant professional fees and other charges in the period in which the acquisition or negotiations are terminated.

We cannot assure you that we will be able to successfully identify appropriate acquisition candidates, to integrate any businesses, products, technologies, or personnel that we might acquire in the future or achieve the anticipated benefits of such transactions, which may harm our business.

Difficulties with our enterprise resource planning (“ERP”) system and other parts of our global information technology system could harm our business and results of operation. If our network security measures are breached and unauthorized access is obtained to a customer's data or our data or our information technology systems, we may incur significant legal and financial exposure and liabilities.

Like many modern multinational corporations, we maintain a global information technology system, including software products licensed from third parties. Any system, network or Internet failures, misuse by system users, the hacking into or disruption caused by the unauthorized access by third parties or loss of license rights could disrupt our ability to timely and

Table of Contents

accurately manufacture and ship products or to report our financial information in compliance with the timelines mandated by the SEC. Any such failure, misuse, hacking, disruptions or loss would likely cause a diversion of management's attention from the underlying business and could harm our operations. In addition, a significant failure of our global information technology system could adversely affect our ability to complete an evaluation of our internal controls and attestation activities pursuant to Section 404 of the Sarbanes-Oxley Act of 2002.

As part of our day-to-day business, we store our data and certain data about our customers in our global information technology system. While our system is designed with access security, if a third party gains unauthorized access to our data, including any regarding our customers, such security breach could expose us to a risk of loss of this information, loss of business, litigation and possible liability. These security measures may be breached as a result of third-party action, including intentional misconduct by computer hackers, employee error, malfeasance or otherwise. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as user names, passwords or other information in order to gain access to our customers' data or our data, including our intellectual property and other confidential business information, or our information technology systems. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Any security breach could result in a loss of confidence by our customers, damage our reputation, disrupt our business, lead to legal liability and negatively impact our future sales.

Our credit facility contains restrictions that may limit our flexibility in operating our business.

In October 2012, we entered into a credit facility with Wells Fargo Bank, N.A. The credit facility contains various financial and negative operating covenants that limit our ability to engage in specified types of transactions. The financial covenant requires that we maintain a minimum fixed charge coverage ratio. The operating covenants limit our ability to, among other things:

- sell, transfer, lease or dispose of our assets;
- create, incur or assume additional indebtedness;
- encumber or permit liens on certain of our assets
- make restricted payments, including paying dividends on, repurchasing or making distributions with respect to our common stock;
- make specified investments (including loans and advances);
- consolidate, merge, sell or otherwise dispose of all or substantially all of our assets; and
- enter into certain transactions with our affiliates.

A breach of any of these covenants or a material adverse change to our business could result in a default under the credit agreement. Upon the occurrence of an event of default under our credit agreement, our lenders could elect to declare all amounts outstanding to be immediately due and payable and terminate all commitments to extend further credit. If we were unable to repay those amounts, the lenders could proceed against the collateral granted to them to secure such indebtedness.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

Table of Contents

ITEM 2. PROPERTIES

Information concerning our principal properties at December 31, 2014 is set forth below:

Location	Principal Activity	Segment	Ownership
Fort Collins, CO	Corporate headquarters, research and development, distribution, sales, and service	Precision Power / Inverters	Leased
Villaz-St-Pierre, Switzerland	Research and development	Precision Power	Leased
San Jose, CA	Distribution, sales, and service, research and development	Precision Power / Inverters	Leased
Vancouver, WA	Research and development, manufacturing, distribution, sales, and service	Precision Power	Leased
Toronto, Canada	Distribution, manufacturing and sales	Inverters	Leased
Shanghai, China	Distribution and sales	Precision Power	Leased
Shenzhen, China	Manufacturing, distribution, service, and research and development	Precision Power / Inverters	Leased
Metzingen, Germany	Distribution, sales, service, and research and development	Precision Power / Inverters	Leased
Warstein-Belecke, Germany	Research, distribution, sales, and service	Precision Power	Leased
Pune, India	Research and development and sales	Precision Power / Inverters	Leased
Chennai, India	Sales	Precision Power	Leased
Tokyo, Japan	Sales	Precision Power / Inverters	Leased
Hwasung Kyunggi-do, South Korea	Distribution, sales, and service	Precision Power	Leased
Sungnam City, South Korea	Distribution, sales, service and research and development	Precision Power	Owned
Singapore	Sales and service	Precision Power	Leased
Taipei, Taiwan	Distribution, sales, and service	Precision Power	Leased
Littlehampton, United Kingdom	Manufacturing, distribution, service, and research and development	Precision Power	Leased
Ronkonkoma, New York	Manufacturing, distribution, service, and research and development	Precision Power	Leased

We consider the properties that we own or lease as adequate to meet our current and future requirements. We regularly assess the size, capability, and location of our global infrastructure and periodically make adjustments based on these assessments.

ITEM 3. LEGAL PROCEEDINGS

We are presently involved in disputes and legal actions arising in the normal course of our business. While we currently believe that the amount of any ultimate loss would not be material to our financial position, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate loss could have a material adverse effect on our financial position or reported results of operations. An unfavorable decision in patent litigation could require material changes in production processes and products or result in our inability to ship products or components found to have violated third-party patent rights. An unfavorable decision in a collection action against a customer we sold products to, or a claim or counterclaim from a customer related to alleged product failures, could also have a material adverse effect on our financial position or reported results of operations. We are engaged presently in such disputes and legal actions with customers for the inverter product line. We accrue loss contingencies in connection with our commitments and contingencies, including litigation, when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated.

German Lawsuit against Jolaos related to Purchase Price Adjustment in Acquisition of Refusol

On April 8, 2013, our subsidiary AEI Holdings GmbH (“AEI Holdings”) acquired all the outstanding shares of Refusol Holding GmbH (“Refusol”) from Jolaos Verwaltungs GmbH ("Jolaos") pursuant to the terms of a Sale and Purchase Agreement (the “SPA”). Jolaos is an affiliate of various Prettl entities which are contract manufacturers of certain Refusol three phase string inverters. Under the SPA, the preliminary base price paid for the shares of Refusol was subject to a post-closing balance sheet adjustment based on confirmation of the financial statements of Refusol effective as of the closing date. AEI Holdings and Jolaos are in disagreement on various accounting adjustments to the closing date financial statements of Refusol. After repeated unsuccessful attempts to have Jolaos submit the dispute to an independent German accounting firm as required under the SPA, in December 2013 AEI Holdings petitioned the designated District Court in Stuttgart (Landgericht Stuttgart), Germany to review

Table of Contents

the dispute. Jolaos claimed that legal interpretations were required before the closing date financial statements could be submitted to an independent German accounting firm. AEI Holdings disagreed with Jolaos' contentions in the case. In January 2015, the court appointed an independent German accounting firm to review the closing-date financial statements as part of the taking of evidence phase of the proceeding. The purchase price adjustment claim made by AEI Holdings was for approximately 5.4 million Euros ($6.5 million) (i.e., an alleged reduction in the purchase price amount paid at closing and potential contingent gain). AEI Holdings further demanded an indemnification payment of 800,000 Euros ($1.0 million) that is due under the SPA resulting from outstanding insurance proceeds. Jolaos has rejected both the claimed purchase price amount and the payment for the insurance proceeds. It is unclear when the court will make a decision on the lawsuit. The litigation is subject to significant risks and uncertainties, including but not limited to, the potential impact on our contract manufacturing relationship with the Prettl entities related to the manufacture of three phase string inverters, the early stage nature of the proceeding, whether the independent German accounting firm will agree or disagree with all or a portion of the claimed amount, the cost and timeframe to complete the litigation under German law (which may be years), the exhaustion of appeal rights Jolaos may have under German law, the collectability of a judgment (if any) against Jolaos and its affiliated guarantor, and other factors. Separate from the lawsuit, AEI Holdings has notified Jolaos of various other alleged breaches of representations made by Jolaos under the SPA and has made indemnification claims against Jolaos for potential amounts owed related to pre-acquisition taxes. Any recovery received by the Company would be recorded as a gain in Other income on our Consolidated Statement of Operations upon receipt.

ITEM 4. MINE SAFETY DISCLOSURES

None.

Table of Contents

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Principal Market and Price Range of Common Stock

Our common stock is listed on the NASDAQ Global Select Market under the symbol "AEIS." At February 2, 2015, the number of common stockholders of record was 410, and the closing sale price of our common stock on the NASDAQ Global Select Market on that day was $24.48 per share.

The table below shows the range of high and low closing sale prices for our common stock as quoted (without retail markup or markdown and without commissions) on the NASDAQ Global Select Market:

	2014		2013	
	High	Low	High	Low
First Quarter	$28.88	$22.88	$19.97	$13.61
Second Quarter	25.86	16.87	18.93	16.82
Third Quarter	19.90	16.60	22.07	17.38
Fourth Quarter	24.19	16.72	25.97	17.29

Dividend Policy

We have not declared or paid any cash dividends on our capital stock in our history as a public company. We currently intend to retain all future earnings to finance our business and do not anticipate paying cash or other dividends on our common stock in the foreseeable future.

Share Repurchases

In October 2012, our Board of Directors authorized a program to repurchase up to $25.0 million of our common stock over a twelve-month period. We did not repurchase any shares under this program, which ended in the fourth quarter of 2013.

In May 2014, our Board of Directors authorized a program to repurchase up to $25.0 million of our stock over a twelve-month period. Under this program, we repurchased and retired 1.4 million shares of our common stock for a total of $25.0 million. As of June 30, 2014 we completed the share repurchase program. All shares repurchased were executed in the open market and no shares were repurchased from related parties. Repurchased shares were retired and assumed the status of authorized and unissued shares.

Table of Contents

Performance Graph

The performance graph below shows the five-year cumulative total stockholder return on our common stock during the period from December 31, 2010 through December 31, 2014. This is compared with the cumulative total return of the NASDAQ Composite Index and the Philadelphia Semiconductor Index (PHLX) over the same period. The comparison assumes $100 was invested on December 31, 2009 in Advanced Energy common stock and in each of the foregoing indices and assumes reinvestment of dividends, if any. Dollar amounts in the graph are rounded to the nearest whole dollar. The performance shown in the graph represents past performance and should not be considered an indication of future performance.

*$100 invested on 12/31/09 in our stock or index, including reinvestment of dividends. Indices and our stock performance calculated on a calendar year-end basis.

	12/09	12/10	12/11	12/12	12/13	12/14
Advanced Energy Industries, Inc.	$100.00	$90.45	$71.15	$91.57	$151.59	$157.16
NASDAQ Composite	100.00	117.61	118.70	139.00	196.83	223.74
PHLX Semiconductor	100.00	115.11	116.95	129.28	169.57	215.25

Table of Contents

ITEM 6. SELECTED FINANCIAL DATA

The selected Consolidated Statements of Operations data and the related Consolidated Balance Sheets data were derived from our audited Consolidated Financial Statements. The information below is not necessarily indicative of results of future operations and should be read in conjunction with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Form 10-K in order to understand more fully the factors that may affect the comparability of the information presented below:

	Years Ended December 31,				
	2014	2013	2012	2011	2010
	(In thousands, except per share data)				
Consolidated Statements of Operations Data:			REVISED*	REVISED*	REVISED*
Sales	$583,098	$547,004	$ 451,931	$ 516,799	$ 459,414
Operating income (loss)	40,423	14,623	27,374	49,251	65,188
Income (loss) from continuing operations before income taxes	39,678	14,284	29,806	50,468	67,409
Income (loss) from continuing operations, net of income taxes	46,982	32,086	20,176	36,854	53,593
Income (loss) from discontinued operations, net of income taxes	—	—	405	(540)	17,599
Net income (loss)	46,982	32,086	20,581	36,314	71,192
Earnings per Share:					
Continuing Operations:					
Basic earnings (loss) per share	$1.16	$0.81	$ 0.52	$ 0.85	$ 1.25
Diluted earnings (loss) per share	$1.14	$0.79	$ 0.51	$ 0.84	$ 1.23
Discontinued Operations:					
Basic earnings (loss) per share	$—	$—	$ 0.01	$ (0.01)	$ 0.41
Diluted earnings (loss) per share	$—	$—	$ 0.01	$ (0.01)	$ 0.41
Net Income (Loss):					
Basic earnings (loss) per share	$1.16	$0.81	$ 0.53	$ 0.84	$ 1.66
Diluted earnings (loss) per share	$1.14	$0.79	$ 0.52	$ 0.83	$ 1.64
Basic weighted-average common shares outstanding	40,420	39,597	38,879	43,465	42,862
Diluted weighted-average common shares outstanding	41,034	40,667	39,447	43,954	43,419
Consolidated Balance Sheets Data:					
Total assets	$684,569	$652,977	$ 537,242	$ 532,460	$ 504,239

*During the quarter ended December 31, 2013, the Company identified an error in the accounting for income taxes. This error accumulated gradually over many years and was caused by an inadequate process to reconcile worldwide tax accounts. The Company assessed the materiality of this item on previously issued financial statements in accordance with the SEC's Staff Accounting Bulletin ("SAB") No. 99 and concluded that the error was not material to any of the individual annual or interim periods.

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Certain statements set forth below under this caption constitute forward-looking statements. See “Business — Special Note Regarding Forward-Looking Statements” in Item 1 of this Annual Report on Form 10-K for additional factors relating to such statements, and see “Risk Factors” in Item 1A for a discussion of certain risks applicable to our business, financial condition and results of operations.

Overview

We design, manufacture, sell, and support power conversion products that transform power into various usable forms. Our products enable manufacturing processes that use thin film for various products, such as semiconductor devices, flat panel displays, thin film renewables, architectural glass, optical coating and consumer products decorative and

functional coating. We also supply thermal instrumentation products for advanced temperature control in the thin film process for these same markets. Our power control modules provide power control solutions for industrial applications where heat treatment and processing are used such as glass manufacturing, metal fabrication and treatment, material and chemical processing. Our high voltage power supplies and modules are used in application such as semiconductor ion implantation, scanning electron microscopy ("SEM"), chemical analysis such as mass spectrometry and various applications using X-ray technology and electron guns for both analytical and processing applications. Our solar inverter products support renewable power generation solutions primarily for commercial, and utility-scale solar projects and installations. Our network of global service support centers provides a recurring revenue opportunity as we offer repair services, conversions, upgrades, and refurbishments and used equipment to companies using our

Table of Contents

products. We also offer a wide variety of operations and maintenance service plans that can be tailored for photovoltaic ("PV") sites of all sizes.

We operate in two reportable segments: Precision Power Products and Inverters. A summary of financial information for each reportable segment is found in Note 21 - Segment Information of our Consolidated Financial Statements. Precision Power Products ("Precision Power") saw increased sales driven by improved conditions across many of the industries we serve. We have continued to grow and evolve the sale of our products and services in this segment by increasing our market share on existing applications as well as expanding into new markets, such as high voltage power supplies. Our Inverter segment saw decreased sales in 2014 driven by several macroeconomic factors in 2014 including a significant demand shift towards Asian markets, changes in currency exchange rates and increased price pressure driven by increased competition in core markets. However, the three-phase string product line continues to grow share in key markets and our 1 Megawatt ("1 MW") central inverter was selected for several major projects. As always, we enter 2015 looking to strengthen our position and grow revenue through new products, design wins, new applications and geographical growth, continuously emphasizing margin expansion, cash generation and cost improvement.

CRITICAL ACCOUNTING ESTIMATES

The preparation of consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America (“U.S. GAAP”) requires management to make judgments, assumptions, and estimates that affect the amounts reported. Note 1— Operations and Summary of Significant Accounting Policies and Estimates of our Consolidated Financial Statements describes the significant accounting policies used in the preparation of our Consolidated Financial Statements. The accounting positions described below are significantly affected by critical accounting estimates. Such accounting positions require significant judgments, assumptions, and estimates to be used in the preparation of the Consolidated Financial Statements, actual results could differ materially from the amounts reported based on variability in factors affecting these statements.

Revenue Recognition

We recognize revenue from product sales upon transfer of title and risk of loss to our customers provided that there is evidence of an arrangement, the sales price is fixed or determinable, and the collection of the related receivable is reasonably assured. In most transactions, we have no obligations to our customers after the date products are shipped, other than pursuant to warranty obligations. For customers purchasing our Inverters products, we provide installation, support, and services after the product has been shipped. For arrangements containing these additional elements, we allocate revenue based on vendor specific objective evidence of the selling price of each individual element of the arrangement. As we also sell these additional elements separately, the evidence is our selling price for those elements when sold separately. We defer the revenue of any undelivered elements until the undelivered element is delivered. Shipping and handling fees billed to customers, if any, are recognized as revenue. The related shipping and handling costs are recognized in cost of sales.

We maintain a credit approval process and we make significant judgments in connection with assessing our customers’ ability to pay at the time of shipment. The customers purchasing our Inverters products require larger credit limits than those purchasing our Precision Power products. Despite this assessment, from time to time, our customers are unable to meet their payment obligations. We continuously monitor our customers’ credit worthiness, and use our judgment in establishing a provision for estimated credit losses based upon our historical experience and any specific customer collection issues that we have identified. While such credit losses have historically been within our expectations and the provisions established, a significant change in the liquidity or financial position of our customers could have a material adverse impact on the collectability of accounts receivable and our future operating results. Additionally, if our credit loss rates prove to be greater than we currently estimate, we could record additional reserves for doubtful accounts.

Inventory

We value our inventory at the lower of cost (first-in, first-out method) or market. We regularly review inventory quantities on hand and record a provision to write-down excess and obsolete inventory to its estimated net realizable value, if less than cost, based primarily on our estimated forecast of product demand. Demand for our products can fluctuate significantly. Our industry is subject to technological change, new product development, and product

technological obsolescence that could result in an increase in the amount of obsolete inventory quantities on hand. Therefore, any significant unanticipated changes in demand or technological developments in excess of our current estimates could have a significant impact on the value of our inventory and our reported operating results. In the fourth quarter of 2014, we recorded an inventory impairment of $13.3 million due to our decision to eliminate certain Inverter product lines.

Table of Contents

Warranty Costs

We provide for the estimated costs to fulfill customer warranty obligations upon the recognition of the related revenue. We offer warranty coverage for a majority of our precision power products for periods typically ranging from 12 to 24 months after shipment. We warrant our inverter products for five to ten years and provide the option to purchase additional warranty coverage up to 20 years. We estimate the anticipated costs of repairing our products under such warranties based on the historical costs of the repairs. The assumptions we use to estimate warranty accruals are reevaluated periodically, in light of actual experience, and when appropriate, the accruals are adjusted. Should product failure rates differ from our estimates, actual costs could vary significantly from our expectations.

Intangible Assets, Goodwill and Other Long-Lived Assets

As a result of our acquisitions, we recorded intangible assets and goodwill. Goodwill and indefinite-lived intangible assets are subject to annual impairment testing, as well as testing upon the occurrence of any event that indicates a potential impairment. The annual impairment test can be performed using an assessment of qualitative factors in determining if it is more likely than not that goodwill is impaired. If this assessment indicates that it is more likely than not that goodwill is impaired, then the next step of impairment testing compares the fair value of a reporting unit to its carrying value. Goodwill would be impaired if the resulting implied fair value of goodwill was less than the recorded carrying value of the goodwill. In 2014, we performed an assessment of qualitative factors for our annual impairment test of the goodwill associated with each of our Inverters business unit and our Precision Power business unit. The factors reviewed included macroeconomic conditions, industry and market conditions, cost factors, and overall financial performance of each business unit. This assessment resulted in the conclusion that there was no impairment of goodwill in either business unit in 2014. For the 2014 annual impairment test of goodwill associated with our Inverters business unit, we also performed a quantitative analysis by comparing the fair value of the Inverters business unit to its carrying value. This analysis used projected future cash flows and market multiples of comparable companies to arrive at the fair value of the Inverters business unit. The analysis of the Inverters business unit resulted in the conclusion that there was no impairment of goodwill in 2014.

Finite-lived intangible assets and other long-lived assets are subject to an impairment test if there is an indicator of impairment. When we determine that the carrying value of intangibles or other long-lived assets may not be recoverable based upon the existence of one or more indicators of impairment, we use the projected undiscounted cash flow method to determine whether an impairment exists, and then measure the impairment using discounted cash flows and other fair value measurements. The carrying value and ultimate realization of these assets is dependent upon our estimates of future earnings and benefits that we expect to generate from their use. If our expectations of future results and cash flows are significantly diminished, intangible assets, long-lived assets, and goodwill may be impaired and the resulting charge to operations may be material. Additionally, the estimation of useful lives and expected cash flows require us to make significant judgments regarding future periods that are subject to some factors outside of our control. Changes in these estimates could result in significant revisions to our carrying value of these assets and may result in material charges to our results of operations

As a result of the acquisition of the three phase string inverter product line, we assessed the overall Inverter product line for product optimization in 2013. Through this assessment, it was determined that the intangible assets related to products acquired from PV Powered were impaired. We performed an analysis using projected future cash flows and determined their carrying value was impaired resulting in an impairment of $31.9 million in 2013.

Income Taxes

We are subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgment is required in determining our provision for income taxes and income tax assets and liabilities, including evaluating uncertainties in the application of accounting principles and complex tax laws. We record a provision for income taxes for the anticipated tax consequences of the reported results of operations using the asset and liability method. Under this method, we recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, as well as for operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. We record a valuation allowance to reduce our deferred tax assets to the net amount that we believe is more likely than not to be

realized. We recognize tax benefits from uncertain tax positions only if we believe that it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. Although we believe that we have adequately reserved for our uncertain tax positions, we can provide no assurance that the final tax outcome of these matters will not be materially different. We make adjustments to these reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made and could have a material impact on our financial condition and operating results. The provision for income taxes includes the effects of any reserves that we believe are appropriate, as well as the related net interest and penalties.

Table of Contents

Business Environment and Trends

SEMICONDUCTORS

Investment in semiconductor capital equipment spending increased overall worldwide by roughly 16% in 2014. After entering into 2014 with a very strong first quarter, there was a pause in investments through the middle of the year. A very strong Q4 resulted in an overall strong year for investments, with the DRAM market driving a significant portion of the growth.

Semiconductor equipment manufacturers are faced with increasing research and development challenges as they develop sub-20 nanometer ("nm") technology node products and processes. The evolution of 3D devices and new materials drive an increase in the use of Plasma processes and with it the need for advanced Power supplies. New semiconductor equipment manufacturers continue to emerge in Asia providing plasma processing tools for film deposition and Etch. We believe that we are well positioned to offer both the depth and breadth of power delivery products required for the leading edge of product development at the larger OEMs and have the localization and customization positioning necessary to take advantage of the emerging Asian-based semiconductor equipment companies.

Looking forward, we believe that semiconductor equipment investment will be up in the range of 5-10%, although strong DRAM market demand, driven by mobile and enterprise DRAM, will see a continued investment in 20 nm capacity. In the NAND market, we believe investment in planar technology will continue and 3D NAND investments will increase in the second half. We anticipate that investment in FinFET technology will occur in 2015, keeping Foundry investments slightly up from the investment levels in 2014. As AE is a leader in advanced RF pulsing technologies and matching networks with enabling tune-while-pulsing capabilities for plasma control, we should be well positioned to continue market penetration in related etch, PECVD, and physical vapor deposition (“PVD”) applications.

FLAT PANEL DISPLAY

Growth in our flat panel display ("FPD") market is driven by both capacity expansion and investment in new technologies, particularly in the development of next-generation high-definition liquid crystal display (“LCD”) and AMOLED displays for TVs, smart phones, tablet computers and wearable devices. Large area LCD demand will be strong in 2015 with an improved outlook for larger and higher definition TVs. In 2014, FPD investment was driven by generation 8 LCD capacity addition in China. Overall, we expect flat panel display sales in 2015 to be up slightly, as customers continue investing in generation 8 LCD capacity in China, with generation 8 AMOLED being pushed into future years.

We believe we are well-positioned to benefit from growth in PVD process technologies where we hold strong technology and market positions. Similar to the semiconductor market, Korean FPD PVD equipment suppliers continue to capture market share in FPD. Our continued investment in expanded localized Korean capabilities brings us closer to the advanced technologies and manufacturing processes our customers implement in their factories, enhancing our responsiveness to their evolving needs.

THIN FILM RENEWABLES

Demand for our crystalline silicon ("c-Si") PV remained challenged through 2014. Declines in PV module prices, along with an oversupply of panel and capital equipment, kept thin-film renewables sales low throughout 2014. PV capacity additions through 2015 are being driven through an increase in efficiencies from improved wafer quality and consolidation of lower tier c-Si manufacturers with distressed capacity, without significant CapEx investment. This scenario will continue to have an adverse impact on our sales in this market for the foreseeable future.

Thin film solar manufacturing process for copper indium gallium selenide ("CIGS") and cadmium telluride ("CdTe") will drive limited capacity and technology buys as the technology matures; therefore, the relative market share of thin film renewables in CIGS and CdTe should remain constant for the foreseeable future. Our power conversion technologies for both AC and DC sputtering are well-positioned in these markets and we will benefit from increased demand as panels with thin film technologies improve efficiencies.

INDUSTRIAL MARKETS

Throughout 2014, demand for our products used in many industrial thin film coating markets increased, particularly in industrial manufacturing areas for products such as automotive parts, machine tools, electro-magnetic interference

("EMI") films, aesthetic, optical and tribological coatings. We expect this demand to continue in 2015. AE will continue to strengthen its position in these markets through internal development and potential acquisition of complimentary product lines. These complimentary products will also allow us to participate in emerging and established precision power conversion applications by delivering customers value through improved process control with more flexibility to address diverse application requirements.

Table of Contents

INVERTER

Beginning in 2013, several factors began to adversely impact the profitability of the inverter markets. Price competition among inverter manufacturers intensified as customers sought to drive down project costs in response to falling government incentives for solar and U.S. and E.U. tariffs placed on solar panels imported from China and Taiwan. Lower average selling prices resulted in less variable margin to absorb fixed overhead and ultimately lower gross profit to cover operating expenses. Every grid connected solar system requires inverters.

Revenue growth will be less than installation growth due to intense price pressure globally as incentives decrease in key markets including Japan, Europe and parts of the US market, while developing markets also contribute to price pressure since there are little to no incentives in these markets and projects compete by delivering unsubsidized low cost energy in most cases. These projects are enabled by rising electricity rates that are coupled with falling solar project costs.

With the expansion of our three-phase string product line to higher output products that serve more markets we are poised to participate in the continuing trend of using three-phase string inverters for a growing set of applications globally while we continue to derive benefits from our core markets with continued growth of the US commercial and utility markets and the nascent recovery of the overall European market.

On December 22, 2014, we announced that we are seeking strategic alternatives with regards to our continued involvement in the Inverter segment and the outcome of this process is uncertain.

Results of Operations

Our analysis presented below is organized to provide the information we believe will facilitate an understanding of our historical performance and relevant trends going forward. Our results of operations include the results of Solvix for the period November 8, 2012 through December 31, 2012 and for the full years ended December 31, 2013 and 2014. Results of operations include the results of Refusol for the period April 8, 2013 through December 31, 2013 and for the full year ended December 31, 2014. Our results of operations include the results of PCM, HiTek, and UltraVolt from January 27, 2014, April 12, 2014, and August 4, 2014, respectively, through December 31, 2014. This discussion should be read in conjunction with our Consolidated Financial Statements, including the notes thereto, in Item 8 of this Annual Report on Form 10-K.

SEGMENT REPORTING IN FISCAL 2014

Advanced Energy is organized into two reportable segments - Precision Power Products ("Precision Power") and Inverters. The Precision Power segment principally serves our OEM and end customers in the semiconductor, flat panel display, solar panel, and other capital equipment markets, while the Inverters segment focuses primarily on commercial and utility-scale solar projects and installations, selling primarily to distributors, Engineering, Procurement, and Construction contractors ("EPC"s), developers, and utility companies. Utilizing these reportable segments enables greater focus on each business' unique needs and requirements, allowing each to expand and accelerate our growth by better serving each of these very different industries.

The following table sets forth, for the periods indicated, certain data derived from our Consolidated Statements of Operations (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Sales	$583,098	$547,004	$451,931
Gross profit	194,029	210,136	167,746
Operating expenses	153,606	195,513	140,372
Operating income	40,423	14,623	27,374
Other income (expense)	(745)	(339)	2,432
Income from continuing operations before income taxes	39,678	14,284	29,806
Provision (benefit) for income taxes	(7,304)	(17,802)	9,630
Income from continuing operations, net of income taxes	$46,982	$32,086	$20,176

32

Table of Contents

The following table sets forth, for the periods indicated, the percentage of sales represented by certain items reflected in our Consolidated Statements of Operations:

	Years Ended December 31,		
	2014	2013	2012
Sales	100.0 %	100.0 %	100.0 %
Gross profit	33.3 %	38.4 %	37.1 %
Operating expenses	26.3 %	35.8 %	31.2 %
Operating income	7.0 %	2.6 %	5.9 %
Other income (expense)	(0.1)%	(0.1)%	0.5 %
Income from continuing operations before income taxes	6.9 %	2.5 %	6.4 %
Provision (benefit) for income taxes	(1.3)%	(3.3)%	2.1 %
Income from continuing operations, net of income taxes	8.2 %	5.8 %	4.3 %

SALES

The following tables summarize annual net sales, and percentages of net sales, by segment for each of the years ended 2014, 2013, and 2012 (in thousands):

	Years Ended December 31,			Increase/ (Decrease)		Percent Change	
	2014	2013	2012	2014 v. 2013	2013 v. 2012	2014 v. 2013	2013 v. 2012
Precision Power Products:							
Semiconductor capital equipment market	$234,223	$176,230	$134,216	$57,993	$42,014	32.9 %	31.3 %
Non-semiconductor capital equipment	78,585	70,575	51,023	8,010	19,552	11.3 %	38.3 %
Global Support	48,961	49,730	50,096	(769)	(366)	(1.5)%	(0.7)%
Total Precision Power Products	361,769	296,535	235,335	65,234	61,200	22.0 %	26.0 %
Inverters	221,329	250,469	216,596	(29,140)	33,873	(11.6)%	15.6 %
Total sales	$583,098	$547,004	$451,931	$36,094	$95,073	6.6 %	21.0 %

	Years Ended December 31,		
	2014	2013	2012
Precision Power Products:			
Semiconductor capital equipment market	40.1 %	32.2 %	29.7 %
Non-semiconductor capital equipment	13.5 %	12.9 %	11.3 %
Global Support	8.4 %	9.1 %	11.1 %
Total Precision Power Products	62.0 %	54.2 %	52.1 %
Inverters	38.0 %	45.8 %	47.9 %
Total sales	100.0 %	100.0 %	100.0 %

Total Sales

Total sales for the twelve months ended December 31, 2014 increased 6.6% to $583.1 million from $547.0 million for the twelve months ended December 31, 2013. The increase in sales was driven by an increase in spending in the semiconductor market, with large capital investments being made for new production capacity. Additionally, the acquisitions of high voltage and power control module product lines drove higher sales in the industrial business.

Total sales increased 21.0% to $547.0 million in 2013 as compared to $451.9 million in 2012. The increase in sales was driven by an increase in spending in the semiconductor market. A majority of this increase was a result of large capital investment for technology changes in the Precision Power flat panel display market made during the early part of 2013 and, to a lesser extent, demand for our products in the semiconductor market. Additionally, the acquisition of the three-phase string inverter product line drove higher sales in our inverter business.

33

Table of Contents

Precision Power Products

Results for Precision Power for the twelve months ended December 31, 2014, 2013, and 2012 are as follows (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Sales	$361,769	$296,535	$235,335
Operating Income	95,214	64,790	22,804

2014 SALES COMPARED TO 2013

Precision Power sales for 2014 increased 22.0% as compared to 2013, reflecting increasing strength in the semiconductor market as well as the industrial market.

In 2014, sales in our thin film semiconductor market increased 32.9% to $234.2 million, or 40.1% of sales, from $176.2 million, or 32.2% of sales in 2013. This increase was driven by a strong increase in capital investments in the second half of 2014 and our increasing presence in etch applications from design wins for our new RF pulsing technology products. Additionally, our high voltage product line acquisitions added to our semiconductor market sales.

Sales to the non-semiconductor capital equipment markets increased 11.3% to $78.6 million, or 13.5% of sales in 2014, from $70.6 million, or 12.9% of sales in 2013. The markets that comprise our non-semiconductor capital equipment markets include flat panel display, thin film renewables, data storage, architectural glass, and other industrial thin-film manufacturing equipment markets such as automotive parts and optical coatings. Our customers in these markets are predominantly large OEMs. Our acquisitions of high voltage and power control module product lines were a primary driver of the increase in the non-semiconductor market.

Sales to customers in the flat panel display market decreased 53.3% to $12.1 million, or 2.1% of total sales in 2014 as compared to $25.8 million, or 4.7% of total sales in 2013. This decrease was the result of a product portfolio decision to exit a lower profit area of the market. Additionally, saturation in the touch panel market reduced our overall flat panel display market sales.

Sales to customers in the thin film renewables market decreased 52.0% at $2.0 million, or 0.3% of total sales in 2014 as compared to $4.2 million, or 0.8% of total sales in 2013. Sales related to architectural glass also decreased slightly in 2014 as economic conditions and Chinese government infrastructure investments slowed.

Global support revenue decreased by 1.6% for 2014 to $49.0 million, or 8.4% of total sales, as compared to $49.8 million, or 9.1% of total sales in 2013. Despite slight market share loss early in the year, the latter half of 2014 saw an increase in sales due to market share gains in break/fix repairs. We expect this growth to continue in 2015, as key end users move back to AE and away from third party repairs. Additionally, our non-break/fix business saw accelerated growth in upgrades and retrofits of older AE Legacy products in the second half of 2014, which we expect to continue in 2015 driven by increased fab utilization, technology node changes, and process tool repurposing to meet higher capacity demands for microelectromechanical systems ("MEMS"). This, combined with the strengthening of our OEM partnerships to expand service offerings, will continue to drive growth in our service revenue.

2013 SALES COMPARED TO 2012

Precision Power sales for 2013 increased 26.0% as compared to 2012 reflecting increasing strength in the semiconductor markets as well as flat panel display.

In 2013, sales in our thin film semiconductor market increased 31.3% to $176.2 million, or 32.2% of sales, from $134.2 million or 29.7% of sales in 2012, driven by a strong increase in capital investment in the second half of 2013 as well as our investment in R&D centers worldwide, which we believe has allowed us to become embedded in our customers' design processes. We believe this has allowed us to increase our customer base in Korea and Japan and led to design wins in etch, PVD, and PECVD applications. Furthermore, we believe our investment in RF pulsing technology and products has allowed us to grow our presence in etch applications.

Sales to the non-semiconductor capital equipment markets increased 38.3% to $70.6 million, or 12.9% of sales in 2013, from $51.0 million, or 11.3% of sales in 2012. The markets that comprise our non-semiconductor capital equipment markets include flat panel display, thin film renewables, data storage, architectural glass, and other industrial thin film manufacturing equipment markets. Our customers in these markets are predominantly large OEMs.

The flat panel display and architectural glass markets are the primary drivers of the increase in the non-semiconductor market in 2013.

Table of Contents

Sales to customers in the flat panel display market increased 199.8% to $25.8 million, or 4.7% of total sales in 2013 as compared to $8.6 million, or 1.9% of total sales in 2012. Investments in active-matrix light-emitting diode ("AMOLED") technology resulted in stronger sales in the flat panel display market.

Sales to customers in the thin film renewables market remained relatively flat at $4.2 million, or 0.8% of total sales in 2013 as compared to $4.8 million, or 1.1% of total sales in 2012. Sales related to architectural glass applications increased in the latter half of the year propelled by sales in China.

Global support revenue for 2013 decreased 0.7% to $49.8 million, or 9.1% of total sales, as compared to $50.1 million, or 11.1% of total sales in 2012. The later half of 2013 saw an increase in sales due to interest in upgrades and refurbishment programs, coupled with our preventative maintenance programs. We are gaining customer share through our 'fab-wide' solutions offerings and we expect these strengthened relationships and offerings to continue.

Applied Materials Inc., our largest customer, accounted for $109.0 million or 18.7% of our sales in 2014; $97.0 million, or 17.4% of our sales in 2013; and $63.9 million, or 14.1%, of our sales in 2012. Our sales to Applied Materials Inc. included sales for the semiconductor capital equipment market, as well as the solar and flat panel display markets.

Inverters

Results for Inverters for the twelve months ended December 31, 2014, 2013, and 2012 are as follows (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Sales	$221,329	$250,469	$216,596
Operating income (loss)	(52,435)	(3,772)	14,003

Inverters sales decreased $29.1 million, or 11.6%, to $221.3 million in 2014, as compared to $250.5 million in 2013. Inverters comprised 38.0% of total sales in 2014 as compared to 45.8% in 2013. Solar inverter sales were negatively impacted by a several macroeconomic factors in 2014 including a significant demand shift towards Asian markets, changes in currency exchange rates and increased price pressure driven by increased competition in core markets. However, our three-phase string product line continues to grow share in key markets and our 1MW central inverter was selected for several major projects.

Inverters sales increased $33.9 million, or 15.6%, to $250.5 million in 2013, as compared to $216.6 million in 2012. Inverters comprised 45.8% of total sales in 2013 as compared to 47.9% in 2012. The addition of our three-phase string inverter product line in April as well as fourth quarter shipments of our new product offering, the 1 MW, have contributed to this increase in sales. These increases were partially offset by our product rationalization strategy in which we have started to phase out a portion of our transformer-based inverter line.

GROSS PROFIT

Our gross profit was $194.0 million or 33.3% of revenue in 2014 compared to $210.1 million or 38.4% of revenue in 2013. The decrease was primarily driven by an industry decline in sales price, the $13.3 million inventory impairment in 2014, and an increase in warranty expenses related to the launch of new products to the market.

Gross profit was $210.1 million, or 38.4% of revenue in 2013 and $167.7 million, or 37.1% of revenue in 2012. The increase in terms of absolute dollars was a result of higher sales in the Precision Power segment as demand increased in all of the markets we serve, as well as the addition of the string inverter product line acquired by the Inverter business in April 2013. The slight increase in gross margin as a percentage of sales for the year is due the overall revenue mix shift between our Precision Power business, which yields a higher gross margin, and lower-margin Inverter sales. In the fourth quarter of 2014, we recorded an inventory impairment of $13.3 million due to our decision to eliminate certain historical Inverter product lines.

Operating income of each segment does not include restructuring charges as these are considered a corporate expense.

35

Table of Contents

OPERATING EXPENSE

The following table summarizes our operating expenses as a percentage of sales for the years ended 2014, 2013 and 2012 (in thousands):

	Years Ended December 31,								
	2014			2013			2012		
Research and development	$59,032	10.1	%	$58,314	10.7	%	$58,076	12.9	%
Selling, general, and administrative	83,852	14.4	%	84,662	15.5	%	69,127	15.3	%
Amortization of intangible assets	8,366	1.4	%	6,142	1.1	%	5,696	1.3	%
Restructuring charges	2,356	0.4	%	46,395	8.5	%	7,473	1.7	%
Total operating expenses	$153,606	26.3	%	$195,513	35.8	%	$140,372	31.2	%

As a result of declines in certain markets that we serve, we initiated a plan in September 2011 to re-align our manufacturing and research and development activities to be closer to our customers and reduce production costs. These initiatives included headcount reductions, facilities closures, and asset impairments and were completed in the fourth quarter of 2012.

In April 2013, in connection with our acquisition of Refusol Holdings GmbH ("Refusol") described in Note 2. Business Acquisition and Disposition in Part II Item 8 of this Form 10-K, we committed to a restructuring plan to take advantage of additional cost saving opportunities. These initiatives also included reductions in headcount, facility closures, and intangible asset impairments. This plan was completed as of December 31, 2013.

In April 2014, we committed to a restructuring plan to take advantage of additional cost savings opportunities in connection with our acquisitions and realignment to a single organizational structure based on product line. The plan calls for consolidating certain facilities and rebranding of products which will allow us to use our resources more efficiently. This plan was completed as of December 31, 2014.

Research and Development

The markets we serve constantly present opportunities to develop products for new or emerging applications and require technological changes driving for higher performance, lower cost, and other attributes that will advance our customers' products. We believe that continued and timely development of new and differentiated products, as well as enhancements to existing products to support customer requirements, are critical for us to compete in the markets we serve. Accordingly, we devote significant personnel and financial resources to the development of new products and the enhancement of existing products, and we expect these investments to continue. All of our research and development costs have been expensed as incurred.

Research and development expenses for the twelve months ended December 31, 2014 increased $0.7 million from the same period in 2013. The increase is mainly due to the addition of PCM, HiTek, and UltraVolt, as well as a full year of Refusol expense.

The increase in research and development expenses of $0.2 million in the twelve months ended December 31, 2013 as compared to the same period in 2012 was primarily due to the addition of our three-phase string inverter product line and was significantly offset by the cost savings experienced from restructuring efforts under the 2011 restructuring plan.

Selling, General and Administrative

Our selling expenses support domestic and international sales and marketing activities that include personnel, trade shows, advertising, third-party sales representative commissions, and other selling and marketing activities. Our general and administrative expenses support our worldwide corporate, legal, tax, financial, governance, administrative, information systems, and human resource functions in addition to our general management.

Selling general and administrative ("SG&A") expenses decreased $0.8 million in the twelve months ended December 31, 2014 as compared to the same period in 2013 primarily due to management of operational costs year over year.

SG&A expenses increased $15.5 million in the twelve months ended December 31, 2013 as compared to the same period in 2012. The increase is primarily due to the acquisition of the three-phase string inverter product line coupled with higher incentive compensation accruals as a result of overall company performance.

Amortization Expense

Amortization expense was $8.4 million for the twelve months ended December 31, 2014, compared to $6.1 million for the same period ending December 31, 2013 and $5.7 million for the same period ending December 31, 2012. The increase of $2.2 million in 2014 is due primarily to the acquisitions of PCM, HiTek, and UltraVolt, which added $15.0 million, $12.6 million, and

Table of Contents

$10.9 million, respectively, of amortizable intangible assets acquired. The increase of $0.4 million between 2012 and 2013 is due primarily to the acquisitions of Refusol and Solvix, which added $10.5 million and $8.2 million, respectively of amortizable intangible assets acquired which was partially offset by the impairment of intangible assets recorded in the second and third quarters of 2013. Our initial estimate of the impairment was recorded in the second quarter with the final value determined during the third quarter. As a result of the acquisition of the three-phase string inverter product line, we assessed the overall Inverters product line for product optimization, resulting in an impairment to the technology purchased from PV Powered. See Note 11 — Intangible Assets to our Consolidated Financial Statements for additional information on intangible assets and related future amortization.

Restructuring Charges

As a result of declines in certain markets that we serve, we initiated a plan in September 2011 to re-align our manufacturing and research and development activities to be closer to our customers and reduce production costs. These initiatives included headcount reductions, facilities closures, and asset impairments and were completed in the fourth quarter of 2012.

In April 2013, in connection with our acquisition of Refusol Holdings GmbH ("Refusol") described in Note 2. Business Acquisition and Disposition in Part II Item 8 of this Form 10-K, we committed to a restructuring plan to take advantage of additional cost saving opportunities. These initiatives also included reductions in headcount, facility closures, and intangible asset impairments. This plan was substantially completed as of December 31, 2013.

In April 2014, we committed to a restructuring plan to take advantage of additional cost savings opportunities in connection with our acquisitions and realignment to a single organizational structure based on product line. The plan calls for consolidating certain facilities and rebranding of products which will allow us to use our resources more efficiently. This plan was completed as of December 31, 2014.

Other Income

Other income consists primarily of interest income and expense, foreign exchange gains and losses, and other miscellaneous items.

Interest income (expense) for the twelve month periods ending December 31, 2014, 2013, and 2012 was $(0.2) million, $(0.3) million, and $0.6 million, respectively. The change between 2014 and 2013 was driven by reductions in interest income due to lower marketable securities held during the year. In 2013, interest rates remained very low which resulted in interest income remaining flat vs. 2012.

Other income (expense), net was $(0.7) million in 2014, $(0.3) million in 2013 and $2.4 million in 2012. The change between 2014 and 2013 is primarily due to the fluctuation in foreign exchange rates. The change from 2013 and 2012 is primarily due to the gain on the sale of fixed assets of $1.9 million related to ending our contract manufacturing agreement with HML that was recorded in 2012.

Provision for Income Taxes

We recorded a 2014 income tax benefit of $7.3 million, or an effective tax rate of (18.8%). The effective rate differs from the federal statutory rate of 35% primarily due to the benefit of earnings in foreign jurisdictions which are subject to lower tax rates, federal research and development tax credit benefit, state income tax benefits, and tax expense associated with current period uncertain tax positions. Additionally, the Company recognized significant tax benefit related to restructuring expenses in the U.S. and Germany attributable to our Inverter segment.

We recorded a 2013 income tax benefit of $17.8 million, or an effective tax rate of (124.6%). The effective rate differs from the federal statutory rate of 35% primarily due to the benefit of earnings in foreign jurisdictions which are subject to lower tax rates, federal tax credits, state income tax benefits, the release of uncertain tax positions, and, a domestic production activity benefit. Additionally, the Company recognized significant tax benefit related to restructuring expenses incurred primarily in the U.S.

We recorded a 2012 income tax provision of $9.6 million, or an effective tax rate of 32.3%. The effective rate differs from the federal statutory rate of 35% primarily due to the benefit of earnings in foreign jurisdictions which are subject to lower tax rates, a benefit from the federal alternative minimum tax credit, a domestic production activity benefit, offset by a net expense related to a change in the valuation allowance applicable to deferred tax assets.

Our future effective income tax rate depends on various factors, such as changes in tax laws, regulations, accounting principles, or interpretations thereof; and the geographic composition of our pre-tax income. We carefully monitor

these factors and adjust our effective income tax rate accordingly.

Table of Contents

Non-GAAP Results

To evaluate business performance against business objectives and for planning purposes, management uses non-GAAP results. We believe these measures will enhance investors' ability to review our business from the same perspective as management and facilitate comparisons of this period's results with prior periods. These non-GAAP measures are not in accordance with U.S. GAAP and may differ from non-GAAP methods of accounting and reporting used by other companies. The presentation of this additional information should not be considered a substitute for results prepared in accordance with U.S. GAAP.

The non-GAAP results presented below exclude the impact of restructuring charges, stock-based compensation, amortization of intangible assets, acquisition-related costs, and nonrecurring tax release items (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Income, net of tax, as reported	$46,982	$32,086	$20,176
Adjustments, net of tax:			
Restructuring charges	1,931	30,235	4,775
Non-GAAP income, net of tax, excluding restructuring charges	48,913	62,321	24,951
Adjustments, net of tax:			
One-time gain on sale of flow assets	—	—	(1,452)
Acquisition-related costs	718	993	—
Stock-based compensation	4,468	12,010	8,103
Amortization of intangible assets	7,205	5,342	3,629
Nonrecurring inventory impairment	9,058	—	—
Nonrecurring tax release items	—	(5,608)	—
Nonrecurring executive severance	800	—	—
Non-GAAP income, net of tax	$71,162	$75,058	$35,231
Diluted weighted-average common shares outstanding	41,034	40,667	39,447
Non-GAAP Earnings Per Share excluding restructuring charges	$1.19	$1.53	$0.63
Non-GAAP Earnings Per Share	$1.73	$1.85	$0.90

Impact of Inflation

In recent years, inflation has not had a significant impact on our operations. However, we continuously monitor operating price increases, particularly in connection with the supply of component parts used in our manufacturing process. To the extent permitted by competition, we pass increased costs on to our customers by increasing sales prices over time. Sales price increases, however, were not significant in any of the years presented herein.

Liquidity and Capital Resources

LIQUIDITY

We believe that adequate liquidity and cash generation is important to the execution of our strategic initiatives. Our ability to fund our operations, acquisitions, capital expenditures, and product development efforts may depend on our ability to generate cash from operating activities which is subject to future operating performance, as well as general economic, financial, competitive, legislative, regulatory, and other conditions, some of which may be beyond our control. Our primary sources of liquidity are our available cash, investments, cash generated from current operations and availability under our credit facilities noted below.

At December 31, 2014, we had $128.4 million in cash, cash equivalents, and marketable securities. We believe that adequate liquidity and cash generation will be important to the execution of our strategic initiatives. We believe that our current cash levels and our cash flows from future operations will be adequate to meet anticipated working capital needs, anticipated levels of capital expenditures, and contractual obligations for the next twelve months.

At December 31, 2014, we had $48.0 million of cash, cash equivalents, and marketable securities held by foreign subsidiaries. Except as required under U.S. tax laws, we do not provide for U.S. taxes on the undistributed earnings of our foreign subsidiaries since we intend to invest such undistributed earnings indefinitely outside of the U.S. If our intent changes or if these

38

Table of Contents

funds are needed for our U.S. operations, we would be required to accrue U.S. taxes on some or all of these undistributed earnings and our effective tax rate would be adversely affected.

On October 12, 2012, we entered into an agreement with Wells Fargo Bank, National Association which provides for a secured revolving credit facility ("Credit Facility") of up to $49.4 million. As of December 31, 2014, we had $49.4 million of availability on our Wells Fargo Credit Facility. Borrowings under the Credit Facility are subject to a borrowing base based upon our accounts receivable and inventory and are available for various corporate purposes. The Credit Facility provides us further flexibility for execution of our strategic plans including acquisitions. Refusol initially had two outstanding notes with various banks that provided up to12.0 million Euros of borrowing, which we assumed in the acquisition. During the year ended December 31, 2014 the last of the revolving lines was repaid and canceled. As of December 31, 2014, there was no outstanding balance on these notes. For more information on these Credit Facilities, see Note 22. Credit Facilities in Part II Item 8 of this Form 10-K.

In May 2014, our Board of Directors authorized a program to repurchase up to $25.0 million of our stock over a twelve-month period. Under this program, during the twelve months ended December 31, 2014, we repurchased and retired 1.4 million shares of our common stock for a total of $25.0 million. We completed the share repurchase program in the second quarter of 2014. All shares repurchased were executed in the open market and no shares were repurchased from related parties. Repurchased shares were retired and assumed the status of authorized and unissued shares.

CASH FLOWS

A summary of our cash provided by and used in operating, investing and financing, activities is as follows (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Net cash provided by operating activities	$75,586	$35,316	$110,777
Net cash used in investing activities	(54,996)	(70,926)	(24,527)
Net cash provided by (used in) financing activities	(32,480)	26,313	(54,864)
Effect of currency translation on cash	(950)	858	(2,461)
Increase (decrease) in cash and cash equivalents	(12,840)	(8,439)	28,925
Cash and cash equivalents, beginning of the period	138,125	146,564	117,639
Cash and cash equivalents, end of the period	$125,285	$138,125	$146,564

2014 CASH FLOWS COMPARED TO 2013

Net cash provided by operating activities

Net cash provided by operating activities for the twelve months ended December 31, 2014 was $75.6 million, compared to $35.3 million for the same period ended December 31, 2013. The increase of $40.3 million in net cash flows from operating activities is primarily due to the increase in net income, and decreases in accounts receivable and inventory. The overall increase in sales discussed above resulted in higher collections throughout the year while inventory have decreased as we focus our investment in our Inverters product line.

Net cash used in investing activities

Net cash used in investing activities for the twelve months ended December 31, 2014 was $55.0 million, a decrease of $15.9 million from the prior year. The decrease is the result of the lower cash used for the acquisitions of Power Control Modules, HiTek and Ultravolt compared to the acquisition of Refusol in 2013.

Capital expenditures in 2014 were slightly lower than 2013 and are expected to remain at current levels. We expect to fund future capital expenditures with cash generated from operations.

Net cash provided by (used in) financing activities

Net cash used in financing activities in the twelve months ended December 31, 2014 was $32.5 million, a $58.8 million change from the $26.3 million generation of cash in the same period of 2013. This was primarily due to the settlement of performance stock units in cash of $11.2 million in the first quarter of 2014, coupled with the completion of the $25.0 million stock buyback program. Additionally, the exercise of stock options provided $15.8 million of cash in 2014 as compared to $26.3 million in 2013. Furthermore, the paydown of the Commerzbank and Bayern notes utilized $16.3 million in cash in 2014.

39

Table of Contents

2013 CASH FLOWS COMPARED TO 2012

Net cash provided by operating activities

Net cash provided by operating activities for the twelve months ended December 31, 2013 was $35.3 million, compared to $110.8 million for the same period ended December 31, 2012. The decrease of $75.5 million in net cash flows from operating activities was primarily due to increases in accounts receivable and inventory coupled with higher payments of taxes due to improved operating results. The overall increase in sales discussed above resulted in higher accounts receivable balances while inventory has increased in anticipation of higher shipment volumes of our new 1 megawatt inverter product which began shipping late in the fourth quarter. Restructuring activities resulted in payments for severance and facility closing costs further impacting cash from operations.

Net cash flows used in investing activities

Net cash used in investing activities for the twelve months ended December 31, 2013 was $70.9 million, an increase of cash used of $46.4 million from the prior year. The increase was the result of the cash payment of $75.4 million, net of cash acquired, for the acquisition of Refusol. Investments in marketable securities generated cash in 2013 as it was needed to fund the acquisition while there was very little net cash from investments in 2012. Capital expenditures in 2013 were consistent with 2012.

Net cash flows provided by (used in) financing activities

Net cash used in financing activities in the twelve months ended December 31, 2013 was $26.3 million, a $81.2 million change from the cash provided by financing activities of $54.9 million in the same period of 2012. As the value of our stock continued its increase in 2013, many holders of options began exercising their options generating $26.3 million of cash.

Effect of currency translation on cash

The effect of foreign currency translations on cash changed $1.8 million to a $1.0 million negative impact for the year ended December 31, 2014 compared to a $0.9 million positive impact for the year ended December 31, 2013. The net effect of foreign currency translations on cash changed $3.3 million to a $0.9 million positive impact for the year ended December 31, 2013 compared to a $2.5 million negative impact for the year ended December 31, 2012.

The functional currencies of our worldwide operations primarily include U.S. dollar ("USD"), Japanese Yen ("JPY"), Chinese Yuan Renminbi ("CNY"), New Taiwan Dollar ("TWD"), South Korean Won ("KRW"), British Pound ("GBP"), Swiss Franc ("CHF"), Canadian Dollar ("CAD") , Euro ("EUR"), and Indian Rupee ("INR"). Our purchasing and sales activities are primarily denominated in USD, JPY, CNY, and EUR. The change in these key currency rates during the twelve months ended December 31, 2014 and 2013 are as follows:

		Year Ended December 31,		
From	To	2014	2013	2012
CNY	USD	(2.4)%	2.9 %	1.2 %
EUR	USD	(12.0)%	4.2 %	2.0 %
JPY	USD	(12.1)%	(17.6)%	(10.7)%
KRW	USD	(3.9)%	0.7 %	9.3 %
TWD	USD	(5.3)%	(3.0)%	4.6 %
GBP	USD	(5.9)%	1.9 %	4.9 %
CAD	USD	(8.6)%	(6.6)%	3.0 %
CHF	USD	(10.2)%	2.5 %	2.6 %
INR	USD	(2.11)%	(11.3)%	(3.3)%

Off Balance Sheet Arrangements

We have no off-balance sheet arrangements or variable interest entities except for our commitment to fund our defined benefit obligation in the amount of $0.8 million per year through 2024. For more information on the defined benefit obligation, please see Note 15 - Retirement Plans of our Consolidated Financial Statements.

40

Table of Contents

Contractual Obligations

The following table sets forth our future payments due under contractual obligations as of December 31, 2014 (in thousands):

		Less than			More than 5
	Total	1 year	1 -3 years	3-5 years	years
Operating lease obligations	$21,717	$5,319	$5,213	$4,024	$7,161
Purchase obligations	58,746	58,746	—	—	—
Total	$80,463	$64,065	$5,213	$4,024	$7,161

As of December 31, 2014, we have recorded liabilities of $8.0 million related to uncertain tax positions including accrued interest and penalties. Because of the uncertainty of the amounts to be ultimately paid, as well as the timing of such payments, these liabilities are not reflected in the contractual obligations table. Purchase obligations include firm commitments and agreements with various suppliers to ensure the availability of components.

Recent Accounting Pronouncements

From time to time, the Financial Accounting Standards Board (“FASB”) or other standards setting bodies issue new accounting pronouncements. Updates to the FASB Accounting Standards Codification (“ASC”) are communicated through issuance of an Accounting Standards Update (“ASU”). Unless otherwise discussed, we believe that the impact of recently issued guidance, whether adopted or to be adopted in the future, is not expected to have a material impact on our Consolidated Financial Statements upon adoption.

To understand the impact of recently issued guidance, whether adopted or to be adopted, please review the information provided in Note 1— Operations and Summary of Significant Accounting Policies and Estimates to our Consolidated Financial Statements included in Item 8 of this Form 10-K.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk and Risk Management

In the normal course of business, we have exposures to interest rate risk from our investments, credit facility, and foreign exchange rate risk related to our foreign operations and foreign currency transactions.

Interest Rate Risk

Our market risk exposure relates to changes in interest rates in our investment portfolio and credit facility. We generally place our investments with high-credit quality issuers and by policy are averse to principal loss and seek to protect and preserve our invested funds by limiting default risk, market risk, and reinvestment risk.

As of December 31, 2014, our investments consisted primarily of certificates of deposit with maturity of less than 1 years. As a measurement of the sensitivity of our portfolio and assuming that our investment portfolio balances remain constant, a hypothetical decrease of 100 basis points (1%) in interest rates would decrease annual pre-tax earnings by a nominal amount.

We had no debt outstanding as of December 31, 2014. Assuming a full drawdown on all outstanding loan agreements subject to variable interest rates, and holding other variables constant, a hypothetical immediate one percentage point change in interest rates would be expected to have an impact on pre-tax earnings and cash flows of approximately $0.5 million over the course of 12 months.

Foreign Currency Exchange Rate Risk

We are impacted by changes in foreign currency exchange rates through sales and purchasing transactions when we sell products and purchase materials in currencies different from the currency in which product and manufacturing costs were incurred. The functional currencies of our worldwide facilities primarily include the USD, EUR, KRW, TWD, GBP, and CNY. Our purchasing and sales activities are primarily denominated in the USD, JPY, EUR and CNY. We may be impacted by changes in the relative buying power of our customers, which may impact sales volumes either positively or negatively. As these currencies fluctuate against each other, and other currencies, we are exposed to foreign currency exchange rate risk on sales, purchasing transactions and labor.

From time to time, we enter into foreign currency exchange rate contracts to hedge against changes in foreign currency exchange rates on assets and liabilities expected to be settled at a future date. Market risk arises from the potential adverse effects

41

Table of Contents

on the value of derivative instruments that result from a change in foreign currency exchange rates. In 2011 we entered into foreign currency forward contracts to manage the exchange rate risk associated with intercompany debt denominated in nonfunctional currencies. We minimize our market risk applicable to foreign currency exchange rate contracts by establishing and monitoring parameters that limit the types and degree of our derivative contract instruments. We enter into derivative contract instruments for risk management purposes only. We do not enter into or issue derivatives for trading or speculative purposes.

Our reported financial results of operations, including the reported value of our assets and liabilities, are also impacted by changes in foreign currency exchange rates. Assets and liabilities of substantially all of our subsidiaries outside the U.S. are translated at period end rates of exchange for each reporting period. Operating results and cash flow statements are translated at weighted-average rates of exchange during each reporting period. Although these translation changes have no immediate cash impact, the translation changes may impact future borrowing capacity, and overall value of our net assets.

Currency exchange rates vary daily and often one currency strengthens against the USD while another currency weakens. Because of the complex interrelationship of the worldwide supply chains and distribution channels, it is difficult to quantify the impact of a change in one or more particular exchange rates.

Table of Contents

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Table of Contents

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Advanced Energy Industries, Inc.

We have audited the accompanying consolidated balance sheets of Advanced Energy Industries, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive income, stockholders equity, and cash flows for each of the three years in the period ended December 31, 2014. 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 conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Advanced Energy Industries, Inc. and subsidiaries as of December 31, 2014 and 2013, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2014 in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2014, based on criteria established in the 1992 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 26, 2015 expressed an unqualified opinion.

/s/ GRANT THORNTON LLP

Denver, Colorado
February 26, 2015

Table of Contents

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Advanced Energy Industries, Inc.

We have audited the internal control over financial reporting of Advanced Energy Industries, Inc. and subsidiaries (the "Company") as of December 31, 2014, based on criteria established in the 1992 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting ("Management's Report"). Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. Our audit of, and opinion on, the Company's internal control over financial reporting does not include the internal control over financial reporting of UltraVolt, Inc. and HiTek Power Group, two wholly-owned subsidiaries, whose aggregate financial statements reflect total assets and revenues constituting 8.5 and 3.9 percent, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2014. As indicated in Management's Report, UltraVolt, Inc. and HiTek Power Group were acquired during 2014. Management's assertion on the effectiveness of the Company's internal control over financial reporting excluded internal control over financial reporting of UltraVolt, Inc. and Hitek Power Group.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in the 1992 Internal Control-Integrated Framework issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of the Company as of and for the year ended December 31, 2014, and our report dated February 26, 2015 expressed an unqualified opinion on those financial statements.

/s/ GRANT THORNTON LLP

Denver, Colorado

February 26, 2015

45

Table of Contents

ADVANCED ENERGY INDUSTRIES, INC.
Consolidated Balance Sheets
(In thousands, except per share amounts)

	December 31,	
	2014	2013
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$125,285	$138,125
Marketable securities	3,083	11,568
Accounts receivable, net of allowances of $3,035 and $2,920, respectively	124,150	125,782
Inventories, net of reserves of $41,080 and $15,349, respectively	95,082	109,771
Deferred income tax assets	14,011	10,746
Income taxes receivable	5,555	10,027
Other current assets	9,588	10,950
Total current assets	376,754	416,969
Property and equipment, net	28,976	34,888
Deposits and other	2,052	2,421
Goodwill	203,329	157,800
Other intangible assets, net	47,074	19,411
Deferred income tax assets	26,384	21,488
Total assets	$684,569	$652,977
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$53,040	$55,623
Income taxes payable	1,495	2,324
Accrued payroll and employee benefits	13,479	12,892
Accrued warranty expense	17,769	10,198
Other accrued expenses	19,970	20,704
Customer deposits	6,817	6,955
Notes payable	—	13,661
Total current liabilities	112,570	122,357
Deferred income tax liabilities	1,439	1,500
Uncertain tax positions	6,484	5,781
Accrued warranty expense	18,352	11,869
Long term deferred revenue	47,246	43,171
Other long-term liabilities	23,513	3,837
Total liabilities	209,604	188,515
Commitments and contingencies (Note 17)	—	—
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.001 par value, 1,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.001 par value, 70,000 shares authorized; 40,613 and 40,504 issued and outstanding, respectively	41	41
Additional paid-in capital	237,752	251,550
Retained earnings	226,396	179,414
Accumulated other comprehensive income	10,776	33,457
Total stockholders' equity	474,965	464,462
Total liabilities and stockholders' equity	$684,569	$652,977

The accompanying notes are an integral part of these Consolidated Financial Statements.

Table of Contents

ADVANCED ENERGY INDUSTRIES, INC.
Consolidated Statements of Operations
(In thousands, except per share amounts)

	Years Ended December 31,		
	2014	2013	2012
SALES	$583,098	$547,004	$451,931
COST OF SALES	389,069	336,868	284,185
GROSS PROFIT	194,029	210,136	167,746
OPERATING EXPENSES:			
Research and development	59,032	58,314	58,076
Selling, general, and administrative	83,852	84,662	69,127
Amortization of intangible assets	8,366	6,142	5,696
Restructuring charges and asset impairment	2,356	46,395	7,473
Total operating expenses	153,606	195,513	140,372
OPERATING INCOME	40,423	14,623	27,374
Interest income (expense)	(230)	(320)	607
Other income (expense), net	(515)	(19)	1,825
Total other income (expense)	(745)	(339)	2,432
Income from continuing operations before income taxes	39,678	14,284	29,806
Provision (benefit) for income taxes	(7,304)	(17,802)	9,630
INCOME FROM CONTINUING OPERATIONS, NET OF INCOME TAXES	46,982	32,086	20,176
Income from discontinued operations, net of income taxes	—	—	405
NET INCOME	$46,982	$32,086	$20,581
Basic weighted-average common shares outstanding	40,420	39,597	38,879
Diluted weighted-average common shares outstanding	41,034	40,667	39,447
EARNINGS PER SHARE:			
CONTINUING OPERATIONS:			
BASIC EARNINGS PER SHARE	$1.16	$0.81	$0.52
DILUTED EARNINGS PER SHARE	$1.14	$0.79	$0.51
DISCONTINUED OPERATIONS			
BASIC EARNINGS (LOSS) PER SHARE	$—	$—	$0.01
DILUTED EARNINGS (LOSS) PER SHARE	$—	$—	$0.01
NET INCOME:			
BASIC EARNINGS PER SHARE	$1.16	$0.81	$0.53
DILUTED EARNINGS PER SHARE	$1.14	$0.79	$0.52

The accompanying notes are an integral part of these Consolidated Financial Statements.

Table of Contents

ADVANCED ENERGY INDUSTRIES, INC.
Consolidated Statements of Comprehensive Income
(In thousands)

	Years Ended December 31,		
	2014	2013	2012
Net income	$46,982	$32,086	$20,581
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	(23,214)	3,733	1,188
Unrealized gains (losses) on marketable securities	533	(1)	10
Comprehensive income	$24,301	$35,818	$21,779

The accompanying notes are an integral part of these Consolidated Financial Statements.

Table of Contents

ADVANCED ENERGY INDUSTRIES, INC.
Consolidated Statements of Stockholders' Equity
(In thousands)

	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Amount				
Balances, January 1, 2012 as revised*	41,956	$42	$254,003	$126,747	$ 28,527	$ 409,319
Stock issued from equity plans	691	1	3,721	—	—	3,722
Stock-based compensation	—	—	12,720	—	—	12,720
Excess tax benefit from stock-based compensation	—	—	(811)	—	—	(811)
Stock buyback	(4,656)	(5)	(57,113)	—	—	(57,118)
Comprehensive income:						
Equity adjustment from foreign currency translation	—	—	—	—	1,188	1,188
Unrealized holding gains	—	—	—	—	10	10
Net income	—	—	—	20,581	—	20,581
Total comprehensive income	—	—	—	20,581	1,198	21,779
Balances, December 31, 2012 as revised*	37,991	$38	$212,520	$147,328	$ 29,725	$ 389,611
Stock issued from equity plans	2,513	3	26,334	—	—	26,337
Stock-based compensation	—	—	13,742	—	—	13,742
Excess tax benefit from stock-based compensation	—	—	(1,046)	—	—	(1,046)
Stock buyback	—	—	—	—	—	—
Comprehensive income:						
Equity adjustment from foreign currency translation	—	—	—	—	3,733	3,733
Unrealized holding losses	—	—	—	—	(1)	(1)
Net income	—	—	—	32,086	—	32,086
Total comprehensive income	—	—	—	32,086	3,732	35,818
Balances, December 31, 2013	40,504	$41	$251,550	$179,414	$ 33,457	$ 464,462
Stock issued from equity plans	1,485	1	15,830	—	—	15,831
Stock-based compensation	—	—	4,993	—	—	4,993
RSUs settled in cash	—	—	(11,198)	—	—	(11,198)
Excess tax benefit from stock-based compensation	—	—	1,576	—	—	1,576
Stock buyback	(1,376)	(1)	(24,999)	—	—	(25,000)
Comprehensive income:						
Equity adjustment from foreign currency translation	—	—	—	—	(23,214)	(23,214)
Unrealized holding gains	—	—	—	—	533	533
Net income	—	—	—	46,982	—	46,982
Total comprehensive income	—	—	—	46,982	(22,681)	24,301
Balances at December 31, 2014	40,613	$				