UNIVERSAL DISPLAY CORP \PA\
Form 10-K
February 27, 2013

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

FORM 10-K
(Mark One)
[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2012
OR
[ ] 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 1-12031
UNIVERSAL DISPLAY CORPORATION
(Exact name of registrant as specified in its charter)

Pennsylvania	23-2372688
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
375 Phillips Boulevard, Ewing, New Jersey	08618
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (609) 671-0980
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value	The NASDAQ Stock Market LLC

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 X No
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 No X
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 X No
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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes X No
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.
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 X Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company) 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 No X

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant computed by reference to the closing sale price of the registrant's common stock on the NASDAQ Global Market as of June 29, 2012, was $1,248,372,594. Solely for purposes of this calculation, all executive officers and directors of the registrant and all beneficial owners of more than 10% of the registrant's common stock (and their affiliates) were considered affiliates.

As of February 22, 2013, the registrant had outstanding 46,211,731 shares of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2013 Annual Meeting of Shareholders, which is to be filed with the Securities and Exchange Commission no later than April 30, 2013, are incorporated by reference into Part III of this report.

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CAUTIONARY STATEMENT
CONCERNING FORWARD-LOOKING STATEMENTS

This report and the documents incorporated by reference in this report contain some "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements concern possible or assumed future events, results and business outcomes. These statements often include words such as "believe," "expect," "anticipate," "intend," "plan," "estimate," "seek," "will," "may" or expressions. These statements are based on assumptions that we have made in light of our experience in the industry, as well as our perceptions of historical trends, current conditions, expected future developments and other factors we believe are appropriate under the circumstances.

As you read and consider this report, you should not place undue reliance on any forward-looking statements. You should understand that these statements involve substantial risk and uncertainty and are not guarantees of future performance or results. They depend on many factors that are discussed further under Item 1A below (Risk Factors), including:

- successful commercialization by organic light emitting diode (OLED) manufacturers of products incorporating our OLED technologies and materials and their continued willingness to utilize our OLED technologies and materials;
- our ability to form and continue strategic relationships with manufacturers of OLED products;
- the payments that we expect to receive under our existing contracts with OLED manufacturers and the terms of contracts that we expect to enter into with OLED manufacturers in the future;
- the adequacy of protections afforded to us by the patents that we own or license and the cost to us of maintaining, enforcing and defending those patents;
- our ability to obtain, expand and maintain patent protection in the future, and to protect our non-patented intellectual property;
- our exposure to and ability to defend third-party claims and challenges to our patents and other intellectual property rights;
- our ability to maintain and improve our competitive position following the expiration of our fundamental PHOLED patents;
- the potential commercial applications of and future demand for our OLED technologies and materials, and of OLED products in general;
- the comparative advantages and disadvantages of our OLED technologies and materials versus competing technologies and materials currently on the market;
- the nature and potential advantages of any competing technologies that may be developed in the future;
- the outcomes of our ongoing and future research and development activities, and those of others, relating to OLED technologies and materials;
- our ability to access future OLED technology developments of our academic and commercial research partners;

- our ability to acquire and supply OLED materials at cost competitive pricing;
- our ability to compete against third parties with resources greater than ours;
- our future capital requirements and our ability to obtain additional financing if and when needed;

- our future OLED technology licensing and OLED material revenues and results of operations, including supply and demand for our OLED materials; and

- general economic and market conditions.

Changes or developments in any of these areas could affect our financial results or results of operations and could cause actual results to differ materially from those contemplated by any forward-looking statements.

All forward-looking statements speak only as of the date of this report or the documents incorporated by reference, as the case may be. We do not undertake any duty to update, correct, modify, or supplement any of these forward-looking statements to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events.

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PART I

ITEM 1. BUSINESS

Our Company

We are a leader in the research, development and commercialization of organic light emitting diode, or OLED, technologies and materials. OLEDs are thin, lightweight and power-efficient solid-state devices that emit light, making them highly suitable for use in full-color displays and as lighting products. OLED displays are capturing a growing share of the flat panel display market. We believe that this is because OLEDs offer potential advantages over competing display technologies with respect to power efficiency, contrast ratio, viewing angle, video response time, form factor and manufacturing cost. We also believe that OLED lighting products have the potential to replace many existing light sources in the future because of their high power efficiency, excellent color rendering index, low operating temperature and novel form factor. Our technology leadership and intellectual property position should enable us to share in the revenues from OLED displays and lighting products as they enter mainstream consumer and other markets.

Our primary business strategy is to (1) further develop and license our proprietary OLED technologies to manufacturers of products for display applications, such as cell phones, portable media devices, tablets, laptop computers and televisions, and specialty and general lighting products; and (2) develop new OLED materials and sell the materials to those product manufacturers. Through our internal research and development efforts, our relationships with world-class partners such as Princeton University (Princeton), the University of Southern California (USC), the University of Michigan (Michigan) and PPG Industries, Inc. (PPG Industries), and acquisitions of patents and patent applications, we have established a significant portfolio of proprietary OLED technologies and materials. We currently own, exclusively license or have the sole right to sublicense more than 3,000 patents issued and pending worldwide.

We sell our proprietary OLED materials to customers for evaluation and use in commercial OLED products. We also enter into agreements with manufacturers of OLED display and lighting products under which we grant them licenses to practice under our patents and to use our proprietary know-how. At the same time, we work with these and other companies who are evaluating our OLED technologies and materials for possible use in commercial OLED display and lighting products.

Market Overview

The Flat Panel Display Market

Flat panel displays are essential for a wide variety of portable consumer electronics products, such as cell phones, portable media devices, digital cameras, tablets and laptop computers. Due to their narrow profile and light weight, flat panel displays have also become the display of choice for larger product applications, such as computer monitors and televisions.

Liquid crystal displays, or LCDs, continue to dominate the flat panel display market. However, we believe that OLED displays are an attractive alternative to LCDs because they offer a number of potential advantages, including:

- higher power efficiencies, thereby reducing energy consumption;
- a thinner profile and lighter weight;
- higher contrast ratios, leading to sharper picture images and graphics;
- wider viewing angles;

- faster response times for video; and
- lower cost manufacturing methods and materials.

Based on these characteristics, product manufacturers have adopted small-area OLED displays for use in portable electronic devices, such as smartphones and tablets. Manufacturers are also working to commercialize OLED displays for use in larger applications, such as computer monitors and televisions. We believe that if these efforts are successful, they could result in sizeable markets for OLED displays.

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In addition, due to the inherent transparency of organic materials and through the use of transparent electrode technology, OLEDs eventually may enable the production of transparent displays for use in products such as automotive windshields and windows with embedded displays. Organic materials also make technically possible the development of flexible displays for use in an entirely new set of product applications. Such applications include display devices that can be conformed to certain shapes or even rolled up for storage.

The Solid-State Lighting Market

Traditional incandescent light bulbs are inefficient because they convert only about 5% of the energy they consume into visible light, with the rest emerging as heat. Fluorescent lamps use excited gases, or plasmas, to achieve a higher energy conversion efficiency of about 20%. However, the color rendering index, or CRI, of most fluorescent lamps – in other words, the quality of their color compared to an ideal light source – is inferior to that of an incandescent bulb. Fluorescent lamps also pose environmental concerns because they typically contain mercury.

Solid-state lighting relies on the direct conversion of electricity to visible light using semiconductor materials. By avoiding the heat and plasma-producing processes of incandescent bulbs and fluorescent lamps, solid-state lighting products can have substantially higher energy conversion efficiencies.

There are currently two basic types of solid-state lighting devices: inorganic light emitting diodes, or LEDs, and OLEDs. Current LEDs are very small in size (about one square millimeter) and are extremely bright. Having been developed about 25 years before OLEDs, they are already employed in a variety of lighting products, such as traffic lights, billboards, replacements for incandescent lighting and as border or accent lighting. However, the high operating temperatures and intense brightness of LEDs may make them less desirable for many general illumination and diffuse lighting applications.

OLEDs, on the other hand, are larger in size and can be viewed directly, without using diffusers that are required to temper the intense brightness of LEDs. OLEDs can be built on any suitable surface, including glass, plastic or metal foil, and could be cost-effective to manufacture in high volume. Given these characteristics, product manufacturers are working to develop OLEDs for diffuse specialty lighting applications and ultimately general illumination. If these efforts are successful, we believe that OLED lighting products could begin to be used for applications currently addressed by incandescent bulbs and fluorescent lamps, as well as for new applications that take advantage of the OLED form factor.

Our Competitive Strengths

We believe our position as one of the leading technology developers in the OLED industry is the direct result of our technological innovation. We have built an extensive intellectual property portfolio around our OLED technologies and materials, and are working diligently to enable our manufacturing partners to adopt our OLED technologies and materials for expanding commercial usage. Our key competitive strengths include:

Technology Leadership. We are a recognized technology leader in the OLED industry. Along with our research partners, we have pioneered the development of our UniversalPHOLED® phosphorescent OLED technologies, which can be used to produce OLEDs that are up to four times as efficient as traditional fluorescent OLEDs and significantly more efficient than current LCDs, which are illuminated using backlights. We believe that our phosphorescent OLED technologies and materials are well-suited for industry usage in the commercial production of OLED displays and lighting products. Through our relationships with companies such as PPG Industries and our academic partners, we have also developed other important OLED technologies, as well as novel OLED materials that we believe will facilitate the adoption of our various OLED technologies by product manufacturers.

Broad Portfolio of Intellectual Property. We believe that our extensive portfolio of patents, trade secrets and non-patented know-how provides us with a competitive advantage in the OLED industry. Through our internal development efforts and our relationships with world-class partners such as Princeton, USC, Michigan and PPG Industries, we own, exclusively license or have the sole right to sublicense more than 3,000 patents issued and pending worldwide. In 2011, we purchased 74 issued U.S. patents from Motorola Solutions, Inc. (f/k/a Motorola, Inc.) (Motorola), together with foreign counterparts in various countries, which patents we had previously licensed from Motorola, and in 2012, we aquired the entire worldwide patent portfolio of more than 1,200 OLED patents and patent applications of Fujifilm Corporation (Fujifilm) for a total cost of $109.1 million. We also continue to accumulate valuable non-patented technical know-how relating to our OLED technologies and materials.

Focus on Licensing Our OLED Technologies. We are focused on licensing our proprietary OLED technologies to product manufacturers on a non-exclusive basis. Our current business model does not involve the direct manufacture or sale of OLED display or lighting products. Instead, we seek license fees and royalties from OLED product manufacturers based on their sales

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of licensed products. We believe this business model allows us to concentrate on our core strengths of technology development and innovation, while at the same time providing significant operating leverage. We also believe that this approach may reduce potential competitive conflicts between us and our customers.

Licenses with Key Product Manufacturers. We have licensed our OLED technologies and patents to several manufacturers for use in commercial products. In July 2012, Samsung Mobile Display Co. Ltd. (SMD) merged with Samsung Display Co., Ltd. (SDC). Following the merger, all agreements between us and SMD were assigned to SDC, and SDC is obligated to honor all pre-existing agreements made between us and SMD. In 2011, we entered into a new license agreement with SDC for its manufacture of active matrix OLED (AMOLED) display products, which agreement superseded our 2005 license agreement with SDC. We also have license agreements with Lumiotec, Inc. (Lumiotec), Pioneer Corporation (Pioneer) and Panasonic Idemitsu OLED Lighting Co., Ltd. (PIOL) for the manufacture of OLED lighting products, as well as a collaborative arrangement with Moser Baer Technologies, Inc. (Moser Baer) to support its development and manufacture of OLED lighting products. Additionally, we have license agreements with Showa Denko K.K. (Showa Denko) for its manufacture of OLED lighting products by solution processing methods (2009), Konica Minolta Holdings, Inc. (Konica Minolta) for its manufacture of OLED lighting products (2008) and DuPont Displays for its manufacture of solution-processed OLED display products using proprietary OLED materials obtained through us (2002). We also licensed one of our ink-jet printing patents and certain related patent filings to Seiko Epson Corporation (Seiko Epson) in 2006.

Leading Supplier of UniversalPHOLED Emitter Materials. We are the leading supplier of phosphorescent emitter materials to OLED product manufacturers. The emitter material, which is designed to efficiently convert electrical energy to a desired wavelength of light, is the key component in an OLED device. PPG Industries currently manufactures our proprietary emitter materials for us, which we then qualify and resell to OLED product manufacturers. We record revenues based on our sales of these materials to OLED product manufacturers. This allows us to maintain close technical and business relationships with the OLED product manufacturers purchasing our proprietary materials, which in turn further supports our technology licensing business.

Complementary UniversalPHOLED Host Material Business. We supply certain of our proprietary phosphorescent host materials to OLED product manufacturers. In one design, the emitter material is disbursed into a host material, with the resulting mixture consisting of predominantly host material. PPG Industries also currently is responsible for the manufacture of our proprietary host materials for us, which we then qualify and resell to OLED product manufacturers. We believe that host material sales can be complementary to our phosphorescent emitter material sales business; however, our customers are not required to purchase our host materials in order to utilize our phosphorescent emitter materials. In addition, the host material business is more competitive than the phosphorescent emitter material sales business. This means our long-term prospects for host material sales are uncertain.

Established Material Supply Relationships. We have established relationships with well-known manufacturers that are using, or are evaluating, our OLED materials for use in commercial products. In 2012, SDC, LG Display Co., Ltd. (LG Display), Tohoku Pioneer Corporation (Tohoku Pioneer) and Konica Minolta purchased our proprietary OLED materials for use in commercial OLED display and lighting products. We continue to work with many product manufacturers that are evaluating our OLED materials and technologies for use in commercial OLED displays and lighting products, including AU Optronics Corporation (AU Optronics), Innolux Corporation (Innolux) (formerly Chimei Innolux Corporation (CMI)) and Sony Corporation (Sony).

Strong U.S. Government Program Support. We perform work under research and development contracts with U.S. government agencies, such as the U.S. Department of the Army and the U.S. Department of Energy. Under these contracts, the U.S. Government funds a portion of our efforts to develop next-generation OLED technologies for applications such as flexible displays and solid-state lighting. This enables us to supplement our internal research and development budget with additional funding.

Experienced Management and Scientific Advisory Team. Our management team has significant experience in developing business models focused on licensing disruptive technologies in high growth industries. In addition, our management team has assembled a Scientific Advisory Board that includes some of the leading researchers in the OLED industry, such as Professor Stephen R. Forrest of Michigan (formerly of Princeton) and Professor Mark E. Thompson of USC.

Our Business Strategy

Our current business strategy is to promote and continue to expand our portfolio of OLED technologies and materials for widespread use in OLED displays and lighting products. We generate revenues primarily by licensing our OLED technologies and selling our proprietary OLED materials to display and lighting product manufacturers. We are presently focused on the following steps to implement our business strategy:

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Target Leading Product Manufacturers. We are targeting leading manufacturers of flat panel displays and lighting products as potential commercial licensees of our OLED technologies and purchasers of our OLED materials. We also supply our proprietary OLED materials to manufacturers of OLED displays and lighting products for evaluation and for use in product development and for pre-commercial activities, and we provide technical assistance and support to these manufacturers. We concentrate on working closely with OLED product manufacturers because we believe that the successful incorporation of our technologies and materials into commercial products is critical to their widespread adoption.

Enhance Our Existing Portfolio of PHOLED Technologies and Materials. We believe that a strong portfolio of proprietary OLED technologies and materials for both displays and lighting products is critical to our success. Consequently, we are continually seeking to expand this portfolio through our internal development efforts, our collaborative relationships with academic and other research partners, and other strategic opportunities. One of our primary goals is to develop new and improved phosphorescent OLED technologies and materials with increased efficiencies, enhanced color gamut and extended lifetimes, which are compatible with different manufacturing methods, so that they can be used by various manufacturers in a broad array of OLED display and lighting products.

Develop Next-Generation Organic Technologies. We continue to conduct research and development activities relating to next-generation OLED technologies for both displays and lighting products. Our current research and development initiatives involve flexible OLED displays and lighting, transparent or top-emitting OLED displays and thin-film encapsulation for OLEDs. We also are funding research by our academic partners on the use of organic thin-film technology in other applications. Our focus on next-generation technologies is designed to enable us to maintain our position as a leading provider of OLED and other organic electronics technologies and materials as new markets emerge.

Business and Geographic Markets

We derive revenue from the following:

- intellectual property and technology licensing;
- sales of OLED materials for evaluation, development and commercial manufacturing; and
- technology development and support, including government contract work and support provided to third parties for commercialization of their OLED products.

Most manufacturers of flat panel displays and lighting products who are or might potentially be interested in our OLED technologies and materials are currently located outside of the United States, particularly in the Asia-Pacific region. To provide on-the-ground support to these manufacturers, we have established wholly-owned subsidiaries in Korea, Japan, and Hong Kong as well as a representative office in Taiwan. At our subsidiary in Hong Kong, we operate a world-class chemistry laboratory to support our expanding research and development initiatives in OLED materials and technologies. Most recently, we also expanded to form a subsidiary in Ireland which will be responsible for licensing and managing intellectual property and undertaking certain other business transactions in all non-U.S. territories.

We receive a majority of our revenues from customers that are domiciled outside of the United States, and our business is heavily dependent on our relationships with these customers. In particular, one of our key customers located in the Asia-Pacific region, SDC, accounted for 68% of our consolidated revenues for 2012. Substantially all revenue derived from our customers is denominated in U.S. dollars.

For more information on our revenues, costs and expenses associated with our business, as well as a breakdown of revenues from North America and foreign sources, please see our Consolidated Financial Statements and the notes thereto, as well as “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” included elsewhere in this report.

Our Technology and its Relation to OLED Technology and Structure

OLED devices are solid-state semiconductor devices made from thin films of organic material that emit light of various wavelengths when electricity is selectively applied to the emissive layer of the device. OLED devices are typically referred to as incorporating an “OLED stack.” OLED stacks vary in specific structure but those commonly used today may include a cathode, an electron injection layer, an electron transport layer, an emissive layer, a hole transport layer, a hole injection layer and an anode, all of which are placed on a substrate which may be made of a number of different materials, including glass, plastic, metal and others.

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Our technology and materials are most commonly utilized in the emissive layer; the materials in the emissive layer are the light-generating component of the OLED stack. Many of our key technologies relate primarily to phosphorescent emitter materials, which we believe are more energy efficient than fluorescent emitter materials that can also be used to generate light within the emissive layer of the OLED device. We began selling emitter materials commercially in 2003. A manufacturer will use a small amount of emitter material for each device through a process called “doping” into a host material. The emitter material(s) and the host material(s) together form the emissive layer. Depending on the nature of the OLED device, the emissive materials may be designed to emit different colors. We have commercially produced and sold phosphorescent emitter materials that produce red, yellow, green and light blue light, which are combined in various ways for the flat panel display and the lighting market.

Our current materials business is focused primarily on the delivery of such emissive materials. We have also developed host materials for the emissive layer and began selling them commercially in 2011. In addition to our materials, which are protected by patents covering various molecular structures, we also have fundamental and important patents that cover various aspects of the OLED device, including the use of phosphorescent emission in an OLED device, flexible OLEDs, lighting, encapsulation, and methods of manufacturing OLEDs. These patents are important to our licensing business because they enable us to provide our business partners important OLED related technology.

Our Phosphorescent OLED Technologies

Phosphorescent OLEDs utilize specialized materials and device structures that allow OLEDs to emit light through a process known as phosphorescence. Traditional fluorescent OLEDs emit light through an inherently less efficient process. Theory and experiment show that phosphorescent OLEDs exhibit device efficiencies up to four times higher than those exhibited by fluorescent OLEDs. Phosphorescence substantially reduces the power requirements of an OLED and is potentially useful in displays for hand-held devices, such as smartphones, where battery power is often a limiting factor.

Phosphorescence is also important for large-area displays such as televisions, where higher device efficiency and lower heat generation may enable longer product lifetimes and increased energy efficiency.

We have a strong intellectual property portfolio surrounding our existing PHOLED phosphorescent OLED technologies and materials for both displays and lighting products which we market under the UniversalPHOLED® brand. We devote a substantial portion of our efforts to developing new and improved proprietary PHOLED materials and device architectures for red, green, yellow, blue and white OLED devices. In 2012, we continued our commercial supply relationships with companies such as SDC and LG Display to use our UniversalPHOLED® materials for their manufacture of OLED displays. In addition, we continued to work closely with customers evaluating and qualifying our proprietary PHOLED materials for commercial usage in both displays and lighting products, and with other material suppliers to match our PHOLED emitters with their phosphorescent hosts and other OLED materials.

Our Additional Proprietary OLED Technologies

Our research, development and commercialization efforts also encompass a number of other OLED device and manufacturing technologies, including the following:

FOLED™ Flexible OLEDs. We are working on a number of technologies required for the fabrication of OLEDs on flexible substrates. Most OLED and other flat panel displays are built on rigid substrates such as glass. In contrast, FOLEDs are OLEDs built on non-rigid substrates such as plastic or metal foil. This has the potential to enhance

durability and enable conformation to certain shapes or repeated bending or flexing. Eventually, FOLEDs may be capable of being rolled into a cylinder, similar to a window shade. These features create the possibility of new flat panel display product applications that do not exist today, such as a portable, roll-up Internet connectivity and communications device. Manufacturers also may be able to produce FOLEDs using more efficient continuous, or roll-to-roll, processing methods. We currently are conducting research and development on FOLED technologies internally, under several of our U.S. government programs and in connection with the government-sponsored Flexible Display Center at Arizona State University (ASU).

Thin-Film Encapsulation. We have developed proprietary, patented encapsulation technology for the packaging of flexible OLEDs and other thin-film devices, as well as for use as a barrier film for plastic substrates. Addressing a major roadblock to the successful commercialization of flexible OLEDs, our hybrid, single-layer approach provides barrier performance useful for OLEDs using a potentially cost-effective process. In addition to accelerating the commercial viability of flexible OLEDs, our thin-film encapsulation technology has the potential to provide benefits for a variety of other flexible thin-film devices, including photovoltaics and thin-film batteries.

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UniversalP^{2}OLED® Printable Phosphorescent OLEDs. The standard approach for manufacturing a small molecule OLED, including a PHOLED, is based on a vacuum thermal evaporation, or VTE, process. With a VTE process, the thin layers of organic material in an OLED are deposited in a high-vacuum environment. An alternate approach for manufacturing a small molecule OLED involves solution processing of the various organic materials in an OLED using techniques such as spin coating or inkjet printing onto the substrate. Solution-processing methods, and inkjet printing in particular, have the potential to be lower cost approaches to OLED manufacturing and scalable to large area displays. For several years, we worked on P^{2}OLEDs under joint development agreements with Seiko Epson. We are continuing to develop novel P^{2}OLED materials and device architectures for evaluation by OLED manufacturers, and to collaborate with other material manufacturers who are working on host, and other OLED materials, to match our P^{2}OLED emitters.

OVJP® Organic Vapor Jet Printing. OLEDs can be manufactured using other processes as well, including OVJP. As a direct printing technique, OVJP technology has the potential to offer high deposition rates for any size or shaped OLED. In addition, OVJP technology avoids the OLED material wastage associated with use of a shadow mask (i.e., the waste of material that deposits on the shadow mask itself when fabricating an OLED). By comparison to inkjet printing, an OVJP process does not use solvents and therefore the OLED materials utilized are not limited by their viscosity or solvent solubility. OVJP also avoids generation of solvent wastes and eliminates the additional step of removing residual solvent from the OLED device. We have installed a prototype OVJP tool at our Ewing, New Jersey facility, and we continue to collaborate on OVJP technology development with Professor Forrest of Michigan.

OVPD® Organic Vapor Phase Deposition. Another approach for manufacturing a small molecule OLED is based on OVPD. The OVPD process utilizes a carrier gas, such as nitrogen, in a hot walled reactor in a low pressure environment to deposit the layers of organic material in an OLED. The OVPD process may offer advantages over the VTE process or solution processing methods through more efficient materials utilization and enhanced deposition control. We have licensed Aixtron AG, a leading manufacturer of metal-organic chemical vapor deposition equipment, to develop and qualify equipment for the fabrication of OLED displays utilizing the OVPD process.

TOLED Transparent OLEDs. We have developed a technology for the fabrication of OLEDs that have transparent cathodes. Conventional OLEDs use a reflective metal cathode and a transparent anode. In contrast, TOLEDs use a transparent cathode and either a transparent, reflective or opaque metal anode. TOLEDs utilizing transparent cathodes and reflective metal anodes are known as “top-emission” OLEDs. In a “top-emission” AMOLED, light is emitted without having to travel through much of the device electronics where a significant portion of the usable light is lost. This results in OLED displays having image qualities and lifetimes superior to those of conventional AMOLEDs. TOLEDs utilizing transparent cathodes and transparent anodes may also be useful in novel flat panel display applications requiring semi-transparency or transparency, such as graphical displays in automotive windshields.

Our Strategic Relationships with Product Manufacturers

We have established early-stage evaluation programs, development and pre-commercial programs, and commercial arrangements with a substantial number of manufacturers or potential manufacturers of OLED display and lighting products. Many of these relationships are directed towards tailoring our proprietary OLED technologies and materials for use by individual manufacturers. Our ultimate objective is to license our OLED technologies and sell our OLED materials to these manufacturers for their commercial production of OLED products. Our publicly announced relationships with product manufacturers include the following:

SDC. We have been working with SDC and providing our next generation PHOLED materials to SDC for evaluation since 2001. In 2011, we entered into a patent license agreement with SDC for its manufacture and sale of AMOLED display products which has a term that extends through December 31, 2017. We also supply our proprietary

PHOLED materials to SDC for its use in manufacturing licensed products. Under a separate supplemental agreement, SDC has agreed to purchase a minimum amount of phosphorescent emitter material from us for the manufacture of licensed products. This minimum purchase commitment is subject to SDC's requirements for phosphorescent emitter materials and our ability to meet these requirements over the term of the supplemental agreement, which is concurrent with the term of the license agreement.

LG Display. We have been providing our proprietary PHOLED materials to LG Display for evaluation, and we have been supporting LG Display in its OLED product development activities for several years. In 2007, we entered into an agreement to supply LG Display with our proprietary PHOLED materials for use in AMOLED display products. This agreement, which has been extended several times, allows us to recognize commercial chemical sales and license fee revenues from our supply of materials to LG Display.

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AU Optronics. We have a longstanding collaborative relationship with AU Optronics dating back to 2001. We are providing our proprietary PHOLED materials to AU Optronics for evaluation, and we are working with AU Optronics to help accelerate its introduction of commercial OLED products into the market. In September 2012, we entered into an agreement to supply AU Optronics with certain of our UniversalPHOLED materials for commercial sale.

Sony. We have been supporting Sony in its development of AMOLED display products for many years. We continue to supply our proprietary PHOLED materials to Sony for evaluation.

Innolux. In 2007, we entered into an agreement to supply our proprietary PHOLED materials and technologies to Chi Mei EL Corporation (CMEL) for use in its manufacture of commercial AMOLED display products. The term of that agreement continued through the end of 2009, at which time CMEL became part of CMI, and in November 2012 was renamed Innolux Corporation. We continue to supply our proprietary PHOLED materials to Innolux in support of their OLED development efforts.

Pioneer. We have been supplying our proprietary PHOLED materials to Tohoku Pioneer, a subsidiary of Pioneer, for the commercial production of passive matrix OLED (PMOLED) display products since 2003. In 2011, we entered into a separate license agreement with Pioneer for its manufacture and sale of OLED lighting products.

Panasonic Idemitsu OLED Lighting. In 2011, we entered into a license agreement with PIOL, a subsidiary of Panasonic Corporation (Panasonic), as successor to Panasonic Electric Works Co., Ltd., and Idemitsu Kosan Co., Ltd. (Idemitsu Kosan), for the manufacture and sale of OLED lighting products. We also continue to work with and supply our proprietary PHOLED materials to Panasonic for evaluation and for use in the Japanese National Project for OLEDs.

Moser Baer Technologies. In 2011, we signed a Memorandum of Agreement with Moser Baer for technology licensing, material supply and technology assistance to support Moser Baer’s initiatives in white OLED lighting. We are also working with Moser Baer on U.S. Department of Energy programs to improve OLED manufacturing yield, and for Moser Baer to design and build the first white OLED lighting pilot manufacturing facility in the United States.

Konica Minolta. We have been supplying our proprietary PHOLED materials to Konica Minolta for evaluation, and we have been supporting Konica Minolta in its efforts to develop OLED lighting products for several years. In 2008, we entered into a technology license agreement with Konica Minolta for its manufacture and sale of OLED lighting products that utilize our phosphorescent and other OLED technologies.

Showa Denko. In 2009, we entered into an agreement with Showa Denko under which we granted Showa Denko license rights to make and sell OLED lighting products manufactured by solution processing methods.

Lumiotec. In January 2012, we entered into a technology license agreement with Lumiotec for its manufacture and sale of OLED lighting products utilizing our phosphorescent and other OLED technologies.

LG Chem. In February 2012, we entered into a short-term agreement to supply LG Chem, Ltd. (LG Chem) with our proprietary PHOLED materials for use in the manufacture of OLED products. This agreement allows us to recognize commercial chemical sales and license fee revenues from our supply of materials to LG Chem.

NEC Lighting. We have been supplying our proprietary PHOLED materials to NEC Lighting, Ltd. (NEC Lighting) for the manufacture of sample OLED lighting products. NEC Lighting has publicly exhibited OLED lighting panels that utilize our proprietary PHOLED materials and technology.

Seiko Epson. In 2004, we began conducting joint development work with Seiko Epson on the application of our proprietary PHOLED technologies and materials to ink-jet printing processes used by Seiko Epson. That arrangement ended in 2009; however, we are continuing to supply our proprietary PHOLED materials to Seiko Epson for evaluation. In addition, we licensed one of our ink-jet printing patents and certain related patent filings to Seiko Epson in 2006.

DuPont Displays. In 2005, we completed work under an agreement with DuPont Displays for the development of novel phosphorescent materials and device structures for solution-processed OLEDs. In 2002, we entered into a cross license agreement with DuPont Displays for its manufacture of solution-processed OLED display products using proprietary OLED materials obtained through us. We have not received any royalties from DuPont Displays under that agreement.

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Our OLED Materials Supply Business

In support of our OLED licensing business, we supply our proprietary UniversalPHOLED materials to display manufacturers and others. We qualify our materials in OLED devices before shipment in order to ensure that they meet required specifications. We believe that our inventory-carrying practices, along with the terms under which we sell our OLED materials (including payment terms), are typical for the markets in which we operate. In 2012, our OLED materials business received recertification in accordance with ISO 9001:2008 Quality Management Systems standards and guidelines.

PPG Industries

We have maintained a close working relationship with PPG Industries since 2000. In 2011, we entered into an agreement with PPG Industries, the term of which continues through December 31, 2014. Under that agreement, PPG Industries is responsible, under our direction, for manufacturing scale-up of our proprietary OLED materials, and for supplying us with those materials for research and development, and for resale to our customers, both for their evaluation and for use in commercial OLED products. Through our collaboration with PPG Industries, key raw materials are sourced from multiple suppliers to ensure that we are able to meet the needs of our customers on a timely basis. The raw materials we require for our emitter and host materials are available from multiple sources and historically, we have not had any issues with obtaining access to adequate amounts of any key raw materials.

Our OLED Material Customers

Throughout 2012, we continued supplying our proprietary UniversalPHOLED materials to SDC for use in its commercial AMOLED display products and for its development efforts. SDC is currently the largest manufacturer of AMOLED displays for handset and other personal electronic devices. SDC’s customers for these products have included many well-known consumer electronics companies throughout the world.

In 2012, we also supplied our proprietary UniversalPHOLED materials to LG Display for use in its commercial AMOLED display products, to Tohoku Pioneer for use in its commercial PMOLED display products, and Konica Minolta for its manufacture of commercial OLED lighting products. During the year, we also supplied our proprietary OLED materials to these and various other product manufacturers for evaluation and for purposes of development, manufacturing qualification and product testing.

Collaborations with Other OLED Material Manufacturers

We continued our non-exclusive collaborative relationships with other manufacturers of OLED materials during 2012, including Nippon Steel and Sumikin Chimical Co., Ltd. (NSSCC), Idemitsu Kosan, and LG Chem. Most of these relationships are focused on matching our proprietary PHOLED emitters with the host and other OLED materials of these companies. In 2012 we also entered into an agreement with Duksan Hi-Metal Company Limited (Duksan) to provide us host sublimination services in Korea. We believe that collaborative relationships such as these are important for ensuring success of the OLED industry and broader adoption of our PHOLED and other OLED technologies.

Research and Development

Our research and development activities are focused on the advancement of our OLED technologies and materials for displays, lighting and other applications. We conduct this research and development both internally and through various relationships with our commercial business partners and academic institutions. In the years 2012, 2011 and 2010, we incurred expenses of $30.0 million, $24.1 million and $21.7 million, respectively, on both internal and

third-party sponsored research and development activities with respect to our various OLED technologies and materials.

Internal Development Efforts

We conduct a substantial portion of our OLED development activities at our state-of-the-art development and testing facility in Ewing, New Jersey. At this 40,200 square-foot facility, which is currently being expanded, we perform technology development, including device and process optimization, prototype fabrication, manufacturing scale-up studies, process and product testing, characterization and reliability studies, and technology transfer with our business partners.

Our Ewing facility houses multiple OLED deposition systems, including a full-color flexible OLED system, a system for fabricating solution-processible OLEDs, and an OVJP organic vapor jet printing system. In addition, the facility contains equipment for substrate patterning, organic material deposition, display packaging, module assembly and extensive testing in Class 100 and 100,000 clean rooms and opto-electronic test laboratories. Our facility also includes state-of-the-art synthetic

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chemistry laboratories in which we conduct OLED materials research and make small quantities of new materials that we then test in OLED devices.

As of December 31, 2012, we employed a team of 72 research scientists, engineers and laboratory technicians in both our Ewing and Hong Kong facilities. This team includes chemists, physicists, engineers with electrical, chemical and mechanical backgrounds, and highly-trained experimentalists.

University Sponsored Research

We have long-standing relationships with Princeton University and USC, dating back to 1994, for the conduct of research relating to our OLED and other organic thin-film technologies and materials for applications such as displays and lighting. This research has been performed at Princeton under the direction of Professor Forrest and at USC under the direction of Professor Thompson. In 2006, Professor Forrest transferred to the University of Michigan, where we continue to fund his research.

We funded research at Princeton under a research agreement executed in 1997 (the 1997 Research Agreement). The 1997 Research Agreement was allowed to expire in 2007, after Professor Forrest had transferred to Michigan. We have exclusive license rights to all OLED and other thin-film organic electronic patents (other than for organic photovoltaic solar cells) arising out of research conducted under that agreement.

In connection with Professor Forrest's transfer to Michigan, in 2006 we entered into a new sponsored research agreement with USC under which we are funding organic electronics research being conducted by Drs. Forrest and Thompson (the 2006 Research Agreement). Work by Professor Forrest is being funded through a subcontract between USC and Michigan. As with the 1997 Research Agreement, we have exclusive license rights to all OLED and thin-film organic electronic patents (other than for organic photovoltaic solar cells) arising out of this research.

The original three-year term of the 2006 Research Agreement ran through April 2009. In May 2009, we extended the term of the agreement for an additional four years, through April 2013. As of December 31, 2012, we are obligated to reimburse the universities for up to $835,000 in actual costs to be incurred for research conducted under the remaining term of the agreement.

In 2005, we entered into a separate sponsored research agreement with Princeton to fund research under the direction of Professor Sigurd Wagner on thin-film encapsulation and fabrication of OLED devices. Like our other relationships with Princeton, we have exclusive license rights to all patents arising out of the research.

We entered into a sponsored research agreement with the Yuen Tjing Ling Industrial Research Institute of National Taiwan University in 2004. Under that agreement, we funded a research program under the direction of Professor Ken-Tsung Wong relating to new OLED materials. We have exclusive rights to all intellectual property developed under that program, which we have recently extended for an additional three years.

We entered into a contract research agreement with the Chitose Institute of Science and Technology of Japan (CIST) in 2004. Under that agreement, we funded a research program headed by Professor Chihaya Adachi relating to high-efficiency OLED materials and devices. We were granted exclusive rights to all intellectual property developed under this program. Our relationship with CIST ended in 2006 when Professor Adachi transferred to Kyushu University. However, we have continued our relationship with Professor Adachi under a separate consulting arrangement.

In 2006 and 2007, we entered into one-year research agreements with Kyung Hee University to sponsor research programs on flexible, amorphous silicon thin-film transistor (TFT) backplane technology. The programs were

directed by Professor Jin Jang. In 2008 and 2009, we entered into contract research agreements with Silicon Display Technology, Ltd. (SDT), a company founded by Professor Jang, and in 2012, we entered into another one-year agreement with SDT. We continue to maintain a good working relationship with Professor Jang.

Aixtron

In 2000, we entered into a development and license agreement with Aixtron AG of Aachen, Germany to develop and commercialize equipment used in the manufacture of OLEDs using the OVPD process. Under this agreement, we granted Aixtron an exclusive license to produce and sell its equipment for the manufacture of OLEDs and other devices using our proprietary OVPD process. Aixtron is required to pay us royalties on its sales of this equipment. Purchasers of the equipment also must obtain rights to use our proprietary OVPD process to manufacture OLEDs and other devices using the equipment, which they may do through us or Aixtron. If these rights are granted through Aixtron, Aixtron is required to make additional payments to us under our agreement.

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Aixtron has reported to us the delivery of six OVPD systems since 2002. These include two second-generation systems, one of which was sold to the Fraunhofer Institute for Photonic Microsystems in Dresden, Germany in 2007, and the other of which was sold to RiTdisplay Corporation of Taiwan in 2003. We record royalty income from Aixtron's sales of these various systems in the quarters in which Aixtron notifies us of the sale and the related royalties are due.

U.S. Government-Funded Research

We have entered into several U.S. government contracts and subcontracts to fund a portion of our efforts to develop next-generation OLED technologies. On contracts for which we are the prime contractor, we subcontract portions of the work to various entities and institutions, including Princeton, Michigan, L-3 Communications Corporation - Display Systems (L-3DS), Acuity Brands, Inc. (Acuity) and Moser Baer. We also serve as a subcontractor under certain of our government contracts, such as with Trident Systems, Inc. (Trident), PPG Industries and Moser Baer. All of our government contracts and subcontracts are subject to termination at the election of the contracting governmental agency.

Our government-funded programs are concentrated primarily in two areas: flexible OLEDs and OLEDs for lighting. We have received support for our work on flexible OLED technology through various U.S. Department of Defense (DOD) agencies, including the Army Research Laboratory (ARL), the Air Force Research Laboratory (AFRL), the Army Communications-Electronics Research Development and Engineering Center (CERDEC) and the National Science Foundation (NSF). The U.S. Department of Energy (DOE) supports our work on white OLEDs for lighting, including through its Solid State Lighting (SSL) initiative. Several of our key U.S. government program initiatives in 2012 were as follows:

Flexible OLED Display Prototypes. We continued our work during 2012 to develop and deliver next-generation prototype AMOLED displays on flexible substrates. These include, for example, prototype wrist-mounted communications devices for the U.S. Army and prototype displays for use by Air Force pilots in tactical cockpit settings. The flexible OLED displays utilize TFT backplanes supplied by LG Display. L-3DS and Trident were responsible for designing, building and ruggedizing the prototype devices into which these displays were incorporated.

Technology Development for OLED Lighting. During 2012, we continued working to develop technical approaches for using our proprietary PHOLED and other OLED technologies for high-efficiency white lighting applications. We received funding from the DOE to scale our PHOLED technology for large-area usage and to demonstrate the fabrication of OLED light sources with enhanced outcoupling designs and on novel substrates. In recognition for this work, the DOE again honored us at its annual SSL workshop entitled "Transformations in Lighting" in February 2012.

Novel Encapsulation Technology for OLEDs. Using technology pioneered at Princeton, we have demonstrated the feasibility of a novel encapsulation process based on plasma-enhanced chemical vapor deposition (PECVD). Flexible encapsulation technology is an important element on the development roadmap for commercialization of flexible OLED displays, and may be a cost-effective solution for high-volume OLED lighting products. In 2012, we successfully completed an NSF program working with Princeton to develop this technology for application to flexible OLED displays, and we applied this technology to our prototype flexible OLED devices.

U.S. Based Manufacturing of OLEDs for Lighting. In 2012, we continued working with Moser Baer on a DOE program to improve OLED manufacturing yields of white OLED lighting panels. In this program, we are working under a $1.0 million subcontract. Additionally, in 2012, we continued working with Moser Baer as our subcontractor on a $4.0 million DOE program for the creation of a U.S. PHOLED lighting panel manufacturing facility. Under the

program, we are demonstrating the scalability of our proprietary UniversalPHOLED technology and materials for the manufacture of white OLED lighting panels that meet commercial lighting targets. Moser Baer was tasked with designing and building the U.S.-based pilot facility, and we were providing technical support to Moser Baer for this work.

Prototype Commercial OLED Lighting System. In 2012, we continued working with Acuity under a DOE contract to demonstrate a prototype PHOLED lighting system for commercial application. Under this program, Acuity is responsible for designing and fabricating OLED lighting prototypes that can be tuned across a range of color temperatures by using our proprietary architecture and high-efficiency PHOLED panels. These prototypes are targeted for high-end commercial spaces, such as office, retail and health-care buildings, to take advantage of several key attributes of OLEDs including a thin, sleek form factor and high quality of light.

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The Army Flexible Display Center

We have been a Principal Member of The Army Flexible Display Center (FDC) since its establishment in 2004. The FDC is being supported through a $51.5 million cooperative agreement between Arizona State University and ARL. This agreement was renewed to provide an additional $50 million in funding to the FDC through 2014. The goal of the FDC is to develop flexible, low power, light-weight, information displays for future usage by soldiers and for other military and commercial applications.

We believe our involvement with the FDC enhances our flexible OLED display technology development efforts. In 2012, we continued to work with the FDC on flexible AMOLED displays using our proprietary PHOLED technology and materials and the FDC's proprietary bond-debond manufacturing technology. Dr. Michael Hack, our Vice President of Strategic Product Development and the General Manager of our OLED Lighting and Custom Displays Business, is a member of the Governing Board of the FDC.

The FlexTech Alliance

We are a member of the FlexTech Alliance, Inc. (formerly the United States Display Consortium), an organization devoted to fostering the growth, profitability and success of the electronic display and the flexible, printed electronics supply chain. The role of the FlexTech Alliance is to offer expanded collaboration between and among industry, academia, government and research organizations for advancing displays and flexible, printed electronics from R&D to commercialization. The FlexTech Alliance has approximately 89 members, including companies, universities and R&D organizations.

OLED Association

We are a charter member of the OLED Association (OLED-A). OLED-A is a trade association whose mission involves serving as an OLED information resource, driving OLED technology development, and promoting interest in OLED products. We are one of 14 members of OLED-A, and we actively participate on its marketing and technology committees. Steven V. Abramson, our President and Chief Executive Officer, is a member of the Board of Directors of OLED-A, and Janice K. Mahon, our Vice President of Technology Commercialization and General Manager of our PHOLED Material Sales Business, serves as chairperson of the Marketing Committee of OLED-A.

Next Generation Lighting Industry Alliance

We joined the Next Generation Lighting Industry Alliance (NGLIA) in 2009. NGLIA was formed in 2003 to foster industry-government partnership to accelerate the technical foundation, and ultimate commercialization, of solid state lighting systems. NGLIA was designated in 2005 as the “industry partner” by DOE for its SSL program. The SSL program is being undertaken to research, develop and conduct demonstration activities on advanced solid state white lighting technologies based on LEDs and OLEDs. We are one of 17 members of NGLIA.

Intellectual Property

Along with our personnel, our primary and most fundamental assets are patents and other intellectual property. This includes numerous U.S. and foreign patents and patent applications that we own, exclusively license or have the sole right to sublicense. It also includes a substantial body of non-patented technical know-how that we have accumulated over time.

Our Patents

Our research and development activities, conducted both internally and through collaborative programs with our partners, have resulted in the filing of a substantial number of patent applications relating to our OLED technologies and materials. As of December 31, 2012, we owned, through assignment to us alone or jointly with others, 349 pending U.S. applications (active U.S. cases and international applications designated in the U.S.) and 399 U.S. patents, together with counterparts filed in various foreign countries. These owned patents will start expiring in the U.S. in 2020.

Patents We License from Princeton, USC and Michigan

We exclusively license many of our patent rights, including certain of our key PHOLED technology patents, under a license agreement we executed with Princeton and USC in 1997 (the 1997 Amended License Agreement). In 2006, based on Professor Forrest's transfer to Michigan that year, Michigan was added as a party to this agreement. As of December 31, 2012, the patent rights we license from these universities included 64 pending U.S. applications (active U.S. cases and international applications designated in the U.S.) and 185 U.S. patents, together with counterparts filed in various foreign countries. The earliest

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of these patents will expire in the U.S. in 2014, while our key PHOLED technology patents licensed from these universities will start expiring in the U.S. in 2017.

Under the 1997 Amended License Agreement, Princeton, USC and Michigan granted us worldwide, exclusive license rights to specified patents and patent applications relating to OLED technologies and materials (including our PHOLED technology and materials). Our license rights also extend to any patent rights arising out of the research conducted by Princeton, USC or Michigan under our various research agreements with these entities. We are free to sublicense to third parties all or any portion of our patent rights under the 1997 Amended License Agreement. The term of the 1997 Amended License Agreement continues for the lifetime of the licensed patents, though it is subject to termination for an uncured material breach or default by us, or if we become bankrupt or insolvent.

Princeton is primarily responsible for the filing, prosecution and maintenance of all patent rights licensed to us under the 1997 Amended License Agreement pursuant to an inter-institutional agreement between Princeton, USC and Michigan. However, we manage this process and have the right to instruct patent counsel on specific matters to be covered in any patent applications filed by Princeton. We are required to bear all costs associated with the filing, prosecution and maintenance of these patent rights.

We are required under the 1997 Amended License Agreement to pay Princeton royalties for licensed products sold by us or our sublicensees. These royalties amount to 3% of the net sales price for licensed products sold by us and 3% of the revenues we receive for licensed products sold by our sublicensees. These royalty rates are subject to renegotiation for products not reasonably conceivable as arising out of the research agreements if Princeton reasonably determines that the royalty rates payable with respect to these products are not fair and competitive. Princeton shares portions of these royalties with USC and Michigan under their inter-institutional agreement.

We have a minimum royalty obligation of $100,000 per year during the term of the 1997 Amended License Agreement. Royalties under the 1997 Amended License Agreement with Princeton were $2.1 million for 2012. We also are required under the 1997 Amended License Agreement to use commercially reasonable efforts to bring the licensed OLED technology to market. However, this requirement is deemed satisfied if we invest a minimum of $800,000 per year in research, development, commercialization or patenting efforts respecting the patent rights licensed to us under the 1997 Amended License Agreement.

Patents We Acquired from Motorola

In 2000, we entered into a license agreement with Motorola whereby Motorola granted us perpetual license rights to what are now 74 issued U.S. patents relating to Motorola’s OLED technologies, together with foreign counterparts in various countries. These patents will expire in the U.S. between 2014 and 2018.

We were required under our license agreement with Motorola to pay Motorola annual royalties on gross revenues received by us on account of our sales of OLED products or components, or from our OLED technology licensees, whether or not these revenues relate specifically to inventions claimed in the patent rights licensed from Motorola.

On March 9, 2011, we purchased these patents from Motorola, including all existing and future claims and causes of action for any infringement of the patents. This effectively terminated our license agreement with Motorola, including any obligation to make royalty payments to Motorola. In consideration for Motorola assigning and transferring the patents to us, we made a one-time cash payment to Motorola of $440,000, and we granted Motorola a royalty-free, non-exclusive and non-sublicensable license under the patents for use by Motorola and its affiliates in their respective businesses.

Patents We Acquired from Fujifilm Corporation

On July 23, 2012, we entered into a Patent Sale Agreement (the Agreement) with Fujifilm. Under the Agreement, Fujifilm sold more than 1,200 OLED related patents and patent applications for a total cost of $109.1 million. The Agreement contains customary representations and warranties and covenants, including respective covenants not to sue by both parties thereto. The Agreement permitted us to assign all of its rights and obligations under the Agreement to its affiliates, and we assigned, prior to the consummation of the transactions contemplated by the Agreement, our rights and obligations to UDC Ireland Limited (UDC Ireland), a wholly-owned subsidiary formed under the laws of the Republic of Ireland. The transactions contemplated by the Agreement were consummated on July 26, 2012.

Intellectual Property Developed under Our Government Contracts

We and our subcontractors have developed and may continue to develop patentable OLED technology inventions under our various U.S. government contracts and subcontracts. Under these arrangements, we or our subcontractors generally can elect

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to take title to any patents on these inventions, and to control the manner in which these patents are licensed to third parties. However, the U.S. government reserves rights to these inventions and associated technical data that could restrict our ability to market them to the government for military and other applications, or to third parties for commercial applications. In addition, if the U.S. government determines that we or our subcontractors have not taken effective steps to achieve practical application of these inventions in any field of use in a reasonable time, the government may require that we or our subcontractors license these inventions to third parties in that field of use.

Non-patented Technical Know-How

We have accumulated, and continue to accumulate, a substantial amount of non-patented technical know-how relating to OLED technologies and materials. Where practicable, we share portions of this information with display manufacturers and other business partners on a confidential basis. We also employ various methods to protect this information from unauthorized use or disclosure, although no such methods can afford complete protection. Moreover, because we derive some of this information and know-how from academic institutions such as Princeton, USC and Michigan, there is an increased potential for public disclosure.

Competition

The industry in which we operate is highly competitive. We compete against alternative flat panel display technologies, in particular LCDs, as well as other OLED technologies. We also compete in the lighting market against incumbent technologies, such as incandescent bulbs and fluorescent lamps, and emerging technologies, such as inorganic LEDs, and other OLED technologies.

Flat Panel Display Industry Competitors

Numerous domestic and foreign companies have developed or are developing and improving LCD, plasma and other flat panel display technologies that compete with our OLED display technologies. We believe that OLED display technologies ultimately can compete with LCDs and other display technologies for many product applications on the basis of lower power consumption, better contrast ratios, faster video rates, form factor and lower manufacturing cost. However, other companies may succeed in continuing to improve these competing display technologies, or in developing new display technologies, that are superior to OLED display technologies in various respects. We cannot predict the timing or extent to which such improvements or developments may occur.

Lighting Industry Competitors

Traditional incandescent bulbs and fluorescent lamps are well-entrenched products in the lighting industry. In addition, compact fluorescent lamps and solid-state LEDs have recently been introduced into the market and would compete with OLED lighting products. Having attributes different than fluorescent lamps and LEDs, OLEDs may compete directly with these products for certain lighting applications. However, manufacturers of LEDs and compact fluorescent lamps may succeed in more broadly adapting their products to various lighting applications, or others may develop competing solid-state lighting technologies that are superior to OLEDs. Again, we cannot predict whether or when this might occur.

OLED Technology and Materials Competitors

Eastman Kodak Company (Kodak) developed and patented the original fluorescent OLED technology in 1987. Cambridge Display Technology, Ltd. (CDT), which was acquired by Sumitomo Chemical Company (Sumitomo) in 2007, developed and patented polymer OLED technology in 1989. Display and lighting manufacturers, including customers of ours, are engaged in their own OLED research, development and

commercialization activities, and have developed and may continue to develop proprietary OLED technologies that are necessary or useful for commercial OLED devices. In addition, other material manufacturers, such as Sumitomo, Idemitsu Kosan, Merck KGaA and BASF Corporation, are selling or sampling competing OLED materials to customers, including companies to which we sell our proprietary PHOLED materials.

Our licensing business is based on our control of a broad portfolio of OLED-related device patents and technology. We believe this portfolio includes fundamental patents in the field of phosphorescent OLED materials and devices, as well as certain additional complementary OLED technologies. As discussed above, alternative technologies, such as fluorescent OLED emitter materials, exist and could be competitive to our phosphorescent OLED material solutions. However, fluorescent materials have characteristics that we believe many market participants consider less desirable than those of phosphorescent materials. Suppliers of fluorescent emitter materials include Dow Chemical (previously Gracel Display), Doosan Electronics, SFC Co. Ltd. and Idemitsu Kosan Co. Ltd. Fluorescent materials may also be viewed as complementary in that they can be used in the same OLED stack as

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phosphorescent materials, especially for use as emitters for generating deep blue pixels in display modules until such time as the OLED industry improves the properties of commercially available deep blue phosphorescent materials, which are not currently manufactured for commercial applications.

The competitive landscape with respect to our host materials business is characterized by a larger number of established chemical material suppliers who have long-term relationships with many of our existing customers and licensees. We have elected to partner with certain of these companies to manufacture and deliver our host solutions to our customers, as well as selling our host materials directly to device manufacturers. We believe our competitive advantage stems, in part, from our deep knowledge of our phosphorescent emitter materials, which are complementary with the host materials. We believe that our understanding of the phosphorescent emitter materials enables us to create host material solutions that are especially well suited for use with a certain class of emitter materials that are implemented commercially today. However, we note that many of our technology partners have their own host solutions and the competitive landscape includes many well-established companies such as Dow Chemical, Idemitsu Kosan, NSSCC, Doosan Electronics, Merck KGaA and Duksan, which have significant resources and may aggressively pursue such business in the future.

Our existing business relationships with SDC and other product manufacturers suggest that our OLED technologies and materials, particularly our PHOLED technologies and materials, may achieve a significant level of market penetration in the flat panel display and lighting industries. However, others may succeed in developing new OLED technologies and materials that are required in addition to ours, or that may be utilized in place of ours. We cannot be sure of the extent to which product manufacturers will adopt and continue to utilize our OLED technologies and materials for the production of commercial flat panel displays and lighting products.

Employees

As of December 31, 2012, we had 116 active full-time employees and one part-time employee, none of whom are unionized. We believe that relations with our employees are good.

Our Company History

Our corporation was organized under the laws of the Commonwealth of Pennsylvania in 1985. Our business was commenced in 1994 by a company then known as Universal Display Corporation, which had been incorporated under the laws of the State of New Jersey. In 1995, a wholly-owned subsidiary of ours merged into this New Jersey corporation. The surviving corporation in this merger became a wholly-owned subsidiary of ours and changed its name to UDC, Inc. Simultaneously with the consummation of this merger, we changed our name to Universal Display Corporation. UDC, Inc. now functions as an operating subsidiary of ours and has overlapping officers and directors. We have also formed other wholly-owned subsidiaries, including Universal Display Corporation Hong Kong, Ltd. (2008), Universal Display Corporation Korea, Inc. (2010), Universal Display Corporation Japan, K.K. (2011) and UDC Ireland Limited (2012), and we established a representative office in Taiwan (2011).

Our Compliance with Environmental Protection Laws

We are not aware of any material effects that compliance with Federal, State or local environmental protection laws or regulations will have on our business. We have not incurred substantial costs to comply with any environmental protection laws or regulations, and we do not anticipate having to do so in the foreseeable future.

Our Internet Site

Our Internet address is www.universaldisplay.com. We make available through our Internet website, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we file such material with the Securities and Exchange Commission (the SEC). In addition, we have made available on our Internet website under the heading “Corporate Governance” the charter for the Audit Committee of our Board of Directors, as well as our Code of Ethics and Code of Conduct for Employees, and our Code of Conduct for Directors. We intend to make available on our website any future amendments or waivers to our Code of Ethics and Code of Conduct for Employees, and our Code of Conduct for Directors within four business days after any such amendments or waivers. The information on our Internet site is not part of this report.

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ITEM 1A. RISK FACTORS

You should carefully consider the following risks and uncertainties when reading this Annual Report on Form 10-K. The following factors, as well as other factors affecting our operating results and financial condition, could cause our actual future results and financial condition to differ materially from those projected.

If our OLED technologies and materials are not feasible for broad-based product applications, we may never generate revenues sufficient to support ongoing operations.

Our main business strategy is to license our OLED technologies and sell our OLED materials to manufacturers for incorporation into the flat panel display and lighting products that they sell. Consequently, our success depends on the ability and willingness of these manufacturers to develop, manufacture and sell commercial products integrating our technologies and materials.

Before product manufacturers will agree to utilize our OLED technologies and materials for wide-scale commercial production, they will likely require us to demonstrate to their satisfaction that our OLED technologies and materials are feasible for broad-based product applications. This, in turn, may require additional advances in our technologies and materials, as well as those of others, for applications in a number of areas, including, without limitation, advances with respect to the development of:

- OLED materials with improved lifetimes, efficiencies and color coordinates for full-color OLED displays and general lighting products;
- more robust OLED materials for use in more demanding large-scale manufacturing environments; and
- scalable and cost-effective methods and technologies for the fabrication of OLED materials and products.

We cannot be certain that these advances will ever occur, and hence our OLED technologies and materials may never be feasible for additional broad-based product applications.

Even if our OLED technologies are technically feasible, they may not be adopted by product manufacturers.

The potential size, timing and viability of market opportunities targeted by us are uncertain at this time. Market acceptance of our OLED technologies will depend, in part, upon these technologies providing benefits comparable or superior to current display and lighting technologies at an advantageous cost to manufacturers, and the adoption of products incorporating these technologies by consumers. Many potential licensees of our OLED technologies manufacture flat panel displays and lighting products utilize and have invested significant resources in competing technologies, and may, therefore, be reluctant to redesign their products or manufacturing processes to incorporate our OLED technologies.

During the entire product development process for a new product, we face the risk that our technology will fail to meet the manufacturer’s technical, performance or cost requirements or will be replaced by a competing product or alternative technology. Even if we offer technologies that are satisfactory to a product manufacturer, the manufacturer may choose to delay or terminate its product development efforts for reasons unrelated to our technologies. In addition, our license agreements do not require our customers to purchase our host materials in order to utilize our phosphorescent emitter materials, and those customers may elect not to purchase our host materials.

Mass production of OLED products will require the availability of suitable manufacturing equipment, components and materials, many of which are available only from a limited number of suppliers. In addition, there may be a number of

other technologies that manufacturers need to utilize to be used in conjunction with our OLED technologies in order to bring OLED products containing them to the market. Thus, even if our OLED technologies are a viable alternative to competing approaches, if product manufacturers are unable to obtain access to this equipment and these components, materials and other technologies, they may not utilize our OLED technologies.

There are numerous potential alternatives to OLEDs, which may limit our ability to commercialize our OLED technologies and materials.

The flat panel display market is currently, and will likely continue to be for some time, dominated by displays based on LCD technology. Numerous companies are making substantial investments in, and conducting research to improve characteristics of, LCDs; additionally, plasma and other competing flat panel display technologies have been, or are being, developed. A similar

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situation exists in the solid-state lighting market, which is currently dominated by LED products. Advances in any of these various technologies may overcome their current limitations and permit them to become the leading technologies in their field, either of which could limit the potential market for products utilizing our OLED technologies and materials. This, in turn, would cause product manufacturers to avoid entering into commercial relationships with us, or to terminate or not renew their existing relationships with us.

Other OLED technologies may be more successful or cost-effective than ours, which may limit the commercial adoption of our OLED technologies and materials.

Our competitors have developed OLED technologies that differ from or compete with our OLED technologies. In particular, competing fluorescent OLED technology, which entered the marketplace prior to ours, may become a viable alternative to our phosphorescent OLED technology. Moreover, our competitors may succeed in developing new OLED technologies that are more cost-effective or have fewer limitations than our OLED technologies. If our OLED technologies, and particularly our phosphorescent OLED technology, are unable to capture a substantial portion of the OLED product market, our business strategy may fail.

If we cannot form and maintain lasting business relationships with OLED product manufacturers, our business strategy will fail.

Our business strategy ultimately depends upon our development and maintenance of commercial licensing and material supply relationships with high-volume manufacturers of OLED products. We have entered into only a limited number of such relationships. Our other relationships with product manufacturers currently are limited to technology development and the evaluation of our OLED technologies and materials for possible use in commercial products. Some or all of these relationships may not succeed or, even if they are successful, may not result in the product manufacturers entering into commercial licensing and material supply relationships with us.

Many of our agreements with product manufacturers last for only limited periods of time, such that our relationships with these manufacturers will expire unless they continually are renewed. These product manufacturers may not agree to renew their relationships with us on a continuing basis. In addition, we regularly continue working with product manufacturers after our existing agreements with them have expired while we are attempting to negotiate contract extensions or new agreements with them. Should our relationships with the various product manufacturers not continue or be renewed, or if we are not able to identify other product manufacturers and enter into contracts with them, our business would suffer.

Our ability to enter into additional commercial licensing and material supply relationships, or to maintain our existing technology development and evaluation relationships, may require us to make financial or other commitments. We might not be able, for financial or other reasons, to enter into or continue these relationships on commercially acceptable terms, or at all. Failure to do so may cause our business strategy to fail.

We or our licensees may incur substantial costs or lose important rights as a result of litigation or other proceedings relating to our patent and other intellectual property rights, or with respect to our OLED materials business.

There are a number of other companies and organizations that have been issued patents and are filing patent applications relating to OLED technologies and materials, including, without limitation, Kodak (substantially all of whose OLED assets were sold to a group of LG companies in 2009), CDT (acquired by Sumitomo in 2007), Canon, Inc., Semiconductor Energy Laboratories Co., Idemitsu Kosan and Mitsubishi Chemical Corporation. As a result, there may be issued patents or pending patent applications of third parties that would be infringed by the use of our OLED technologies or materials, thus subjecting our licensees to possible suits for patent infringement in the future. Such lawsuits could result in our licensees being liable for damages or require our licensees to obtain additional

licenses that could increase the cost of their products. This, in turn, could have an adverse effect on our licensees' sales and thus our royalties, or cause our licensees to seek to renegotiate our royalty rates. In addition, we have agreed to indemnify customers purchasing our OLED materials for commercial usage against certain claims of patent infringement by third parties, as a result of which we may incur substantial legal costs in connection with defending these customers from such claims.

Our licensees may also seek to avoid paying future royalties by attempting to have our patents declared invalid and unenforceable by a court. Our licensees may be more likely to file such declaratory actions in light of the U.S. Supreme Court's decision in MedImmune, Inc. v. Genentech, Inc. (2007), in which the Court found that a licensee need not refuse to pay royalties and commit material breach of the license agreement before bringing an action to declare a licensed patent invalid and unenforceable.

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In addition, we may be required, from time-to-time, to assert our intellectual property rights by instituting legal proceedings against others. We cannot be assured that we will be successful in enforcing our patents in any lawsuits we may commence. Defendants in any litigation we may commence to enforce our patents may attempt to establish that our patents are invalid or are unenforceable. Thus, any patent litigation we commence could lead to a determination that one or more of our patents are invalid or unenforceable. If a third party succeeds in invalidating one or more of our patents, that party and others could compete more effectively against us. Our ability to derive licensing revenues from products or technologies covered by these patents would also be adversely affected.

Whether our licensees are defending the assertion of third-party intellectual property rights against their businesses arising as a result of the use of our technology, or we are asserting our own intellectual property rights against others, such litigation can be complex, costly, protracted and highly disruptive to our or our licensees' business operations by diverting the attention and energies of management and key technical personnel. As a result, the pendency or adverse outcome of any intellectual property litigation to which we or our licensees are subject could disrupt business operations, require the incurrence of substantial costs and subject us or our licensees to significant liabilities, each of which could severely harm our business. Costs associated with these actions are likely to increase as AMOLED products using our PHOLED and other OLED technologies and materials enter the consumer marketplace.

Plaintiffs in intellectual property cases often seek injunctive relief in addition to money damages. Any intellectual property litigation commenced against our licensees may force them to take actions that could be harmful to their businesses and thus to our royalties, including the following:

- stop selling their products that incorporate or otherwise use our allegedly infringing technology or materials;
- attempt to obtain a license to the relevant third-party intellectual property, which may not be available on reasonable terms or at all; or
- attempt to redesign their products to remove our allegedly infringing technology or materials to avoid infringement of the third-party intellectual property.

If our licensees are forced to take any of the foregoing actions, they may be unable to manufacture and sell their products that incorporate our technology or materials at a profit or at all. Furthermore, the measure of damages in intellectual property litigation can be complex, and is often subjective or uncertain. If our licensees were to be found liable for infringement of proprietary rights of a third party, the amount of damages they might have to pay could be substantial and is difficult to predict. Decreased sales of our licensees' products incorporating our technology or materials would have an adverse effect on our royalty revenues under existing licenses and material sales under our existing sales agreements. Were this to occur, it would likely harm our ability to (i) obtain new licensees which would have an adverse effect on the terms of the royalty arrangements we could enter into with any new licensees, and (ii) negatively impact our ability to sell our UniversalPHOLED materials to existing and new customers. Moreover, to the extent any third party claims are directed specifically to materials supplied by us to our customers, we may be required to incur significant costs associated with the defense of such claims and potential damages associated with such claims that may be awarded against our customers.

As is commonplace in technology companies, we employ individuals who were previously employed at other technology companies. To the extent our employees are involved in research areas that are similar to those areas in which they were involved at their former employers, we may be subject to claims that such employees or we have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of the former employers. Litigation may be necessary to defend against such claims. The costs associated with these actions or the loss of rights critical to our or our licensees' businesses could negatively impact our revenues or cause our business to fail.

If we cannot obtain and maintain appropriate patent and other intellectual property rights protection for our OLED technologies and materials, our business will suffer.

The value of our OLED technologies and materials is dependent on our ability to secure and maintain appropriate patent and other intellectual property rights protection. Although we own or license many patents respecting our OLED technologies and materials that have already been issued, there can be no assurance that additional patents applied for will be obtained, or that any of these patents, once issued, will afford commercially significant protection for our OLED technologies and materials, or will be found valid if challenged. Also, there is no assurance that we will be successful in defending the validity of our current or future patents in pending and future patent oppositions, invalidation trials, interferences, reexaminations, reissues, or other administrative or court proceedings. Moreover, we have not obtained patent protection for some of our OLED technologies and materials in all foreign countries in which OLED products or materials might be manufactured or sold, and recent U.S. Supreme Court case law

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has restricted the extraterritorial reach of U.S. patent law in certain instances. In any event, the patent laws of other countries may differ from those of the United States as to the patentability of our OLED technologies and materials and the degree of protection afforded.

We believe that the strength of our current intellectual property position results primarily from the essential nature of our fundamental patents covering phosphorescent OLED devices and certain materials utilized in these devices. Our existing fundamental phosphorescent OLED patents expire in the United States in 2017 and 2019, and in other countries of the world in 2018 and 2020. While we hold a wide range of additional patents and patent applications whose expiration dates extend (and in the case of patent applications, will extend) beyond 2020, many of which are also of importance in the OLED industry, none are of an equally essential nature as our fundamental patents, and therefore our competitive position may be less certain as these patents expire.

We may become engaged in litigation to protect or enforce our patent and other intellectual property rights, or in International Trade Commission proceedings to abate the importation of goods that would compete unfairly with those of our licensees. In addition, we are participating in or have participated in, and will likely have to participate in the future in interference, reissue, or reexamination proceedings before the U.S. Patent and Trademark Office, and opposition, nullity or other proceedings before foreign patent offices, with respect to our patents or patent applications. All of these actions place our patents and other intellectual property rights at risk and may result in substantial costs to us as well as a diversion of management attention from our business and operations. Moreover, if successful, these actions could result in the loss of patent or other intellectual property rights protection for the key OLED technologies and materials on which our business depends.

We rely, in part, on several non-patented proprietary technologies to operate our business. Others may independently develop the same or similar technologies or otherwise obtain access to our unpatented technologies. Furthermore, these parties may obtain patent protection for such technology, inhibiting or preventing us from practicing the technology. To protect our trade secrets, know-how and other non-patented proprietary information, we require employees, consultants, financial advisors and strategic partners to enter into confidentiality agreements. These agreements may not ultimately provide meaningful protection for our trade secrets, know-how or other non-patented proprietary information. In particular, we may not be able to fully or adequately protect our proprietary information as we conduct discussions with potential strategic partners. Additionally, although we take many measures to prevent theft and misuse of our proprietary information, We may face attempts by others to gain unauthorized access through the Internet to our information technology systems or to our intellectual property, which might be the result of industrial or other espionage or actions by hackers seeking to harm our company or its products. If we are unable to protect the proprietary nature of our technologies, it will harm our business.

Recent court decisions in various patent cases may make it more difficult for us obtain future patents, enforce our patents against third parties or obtain favorable judgments in cases where the patents are enforced.

Recent case law may make it more difficult for patent holders to secure future patents and/or enforce existing patents. For example, in KSR International Co. vs. Teleflex, Inc. (2007), the U.S. Supreme Court mandated a more expansive and flexible approach to determine whether a patent is obvious and invalid. As a result of the less rigid approach to assessing obviousness, defending the validity of or obtaining patents may be more difficult.

Recent court decisions may also impact the enforcement of our patents. For example, we may not be able to enjoin certain third party uses of products or methods covered by our patents following the initial authorized sale, even where those uses are expressly proscribed in an agreement with the buyer. Also, we may face increased difficulty enjoining infringement of our patents. The U.S. Supreme Court has held that an injunction should not automatically issue based on a finding of patent infringement, but should be determined based on a test balancing considerations of the patentee's interest, the infringer's interest, and the public's interest. Obtaining enhanced damages for willful infringement of our

patents may also be more difficult even in those cases where we successfully prove a third party has infringed our patents, as a recent case set a more stringent standard for proving willful infringement.

Therefore, as a result of such rulings, it may be more difficult for us to defend our currently issued patents, obtain additional patents in the future or achieve the desired competitive effect even when our patents are enforced. If we are unable to so defend our currently issued patents, or to obtain new patents for any reason, our business would suffer.

Conflicts or other problems may arise with our licensees or joint development partners, resulting in renegotiation, breach or termination of, or litigation related to, our agreements with them. This would adversely affect our revenues.

Conflicts or other problems could arise between us and our licensees or joint development partners, some of which we have made strategic investments in, as to royalty rates, milestone payments or other commercial terms. Similarly, we may disagree

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with our licensees or joint development partners as to which party owns or has the right to commercialize intellectual property that is developed during the course of the relationship or as to other non-commercial terms. If such a conflict were to arise, a licensee or joint development partner might attempt to compel renegotiation of certain terms of their agreement or terminate their agreement entirely, and we might lose the royalty revenues and other benefits of the agreement. Either we or the licensee or joint development partner might initiate litigation to determine commercial obligations, establish intellectual property rights or resolve other disputes under the agreement. Such litigation could be costly to us and require substantial attention of management. If we were unsuccessful in such litigation, we could lose the commercial benefits of the agreement, be liable for other financial damages and suffer losses of intellectual property or other rights that are the subject of dispute. Additionally, we have made strategic investments in certain of our smaller joint development partners, who because of the size of their company, limited financial, legal, or personnel resources, or technology risks may be more readily impacted by any number of negative factors. If any of these smaller joint development partners were to become negatively impacted in any of the foregoing areas, it would significantly impair our investment in such company. Any of these adverse outcomes could cause our business strategy to fail.

The consumer electronics industry experiences significant downturns from time to time, any of which may adversely affect the demand for and pricing of our OLED technologies and materials.

Because we do not sell any products to consumers, our success depends upon the ability and continuing willingness of our licensees to manufacture and sell products utilizing our technologies and materials, and the widespread acceptance of those products in the marketplace. Any slowdown in the demand for our licensees' products would adversely affect our royalty revenues and thus our business. The markets for flat panel displays and lighting products are highly competitive. Success in the market for end-user products that may integrate our OLED technologies and materials also depends on factors beyond the control of our licensees and us, including the cyclical and seasonal nature of the end-user markets that our licensees serve, as well as industry and general economic conditions.

The markets that we hope to penetrate have experienced significant periodic downturns, often in connection with, or in anticipation of, declines in general economic conditions. These downturns have been characterized by lower product demand, production overcapacity and erosion of average selling prices. Our business strategy is dependent on manufacturers building and selling products that incorporate our OLED technologies and materials. Industry-wide fluctuations and downturns in the demand for flat panel displays and solid-state lighting products could cause significant harm to our business.

Any downturn in U.S. or global economic conditions may have a significant adverse effect on our business.

There have been significant and sustained economic downturns in the U.S. and globally in recent years. This has placed pressure on consumer demand, and the resulting impact on consumer spending has had a material adverse effect on the demand for consumer electronic products. Similar downturns in the future may have a significant adverse effect on one or more of our licensees as an enterprise, which could result in those licensees reducing their efforts to commercialize products that incorporate our OLED technologies and materials. Consumer demand and the condition of the flat panel display and lighting industries may also be impacted by other external factors such as war, terrorism, geopolitical uncertainties and other business interruptions. The impact of these external factors is difficult to predict, and one or more of these factors could adversely impact the demand for our licensees' products, and thus our business.

Many of our competitors have greater resources, which may make it difficult for us to compete successfully against them.

The flat panel display and solid-state lighting industries are characterized by intense competition. Many of our competitors have better name recognition and greater financial, technical, marketing, personnel and research capabilities than us. Because of these differences, we may never be able to compete successfully in these markets or maintain any competitive advantages we are able to achieve over time.

If we fail to make advances in our OLED research and development activities, we might not succeed in commercializing our OLED technologies and materials.

Further advances in our OLED technologies and materials depend, in part, on the success of the research and development work we conduct, both alone and with our research partners. We cannot be certain that this work will yield additional advances in the research and development of these technologies and materials.

Our research and development efforts remain subject to all of the risks associated with the development of new products based on emerging and innovative technologies, including, without limitation, unanticipated technical or other problems and the possible insufficiency of funds for completing development of these products. Technical problems may result in delays and cause us to incur additional expenses that would increase our losses. If we cannot complete research and development of our OLED

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technologies and materials successfully, or if we experience delays in completing research and development of our OLED technologies and materials for use in potential commercial applications, particularly after incurring significant expenditures, our business may fail.

If we cannot keep our key employees or hire other talented persons as we grow, our business might not succeed.

Our performance is substantially dependent on the continued services of our executive officers and other key technical and managerial personnel, and on our ability to offer competitive salaries and benefits to these and our other employees. We do not have employment agreements with any of our executive officers or other key technical or managerial personnel. Additionally, competition for highly skilled technical and managerial personnel is intense. We might not be able to attract, hire, train, retain and motivate the highly skilled employees we need to be successful. If we fail to attract and retain the necessary technical and managerial personnel, our business will suffer and might fail.

We rely solely on PPG Industries to manufacture the OLED materials we use and sell to product manufacturers.

Our business prospects depend significantly on our ability to obtain proprietary OLED materials for our own use and for sale to product manufacturers. Our agreement with PPG Industries provides us with a source for these materials for development and evaluation purposes, as well as for commercial purposes. This agreement, however, is scheduled to expire at the end of 2014. Our inability to continue obtaining these OLED materials from PPG Industries or another source at cost-competitive prices would have a material adverse effect on our revenues and cost of goods sold relating to sales of these materials to OLED product manufacturers, as well as on our ability to perform future development work.

Inventory management relating to our material sales is complex, and excess inventory may harm our business and cause it to suffer.

Inventory management remains an area of focus as we balance the need to maintain strategic inventory levels of our OLED materials to ensure competitive lead times against the risk of inventory obsolescence because of rapidly changing technology and customer requirements. Our manufacturers may increase orders during periods of product shortages, cancel orders if their inventory is too high, or delay orders in anticipation of new products. They also may adjust their orders in response to the supply and demand of their products by end-users, our products and the products of our competitors that are available to them. Excess inventory of our OLED materials is subject to the risk of inventory obsolescence. In the event that a substantial portion of the Company's inventory becomes obsolete, it could have a material adverse effect on earnings due to the resulting costs associated with the inventory impairment charges and inventory write downs.

We may require additional funding in the future in order to continue our business.

Our capital requirements have been and will continue to be significant. We may require additional funding in the future for the research, development and commercialization of our OLED technologies and materials, to obtain and maintain patents and other intellectual property rights in these technologies and materials, and for working capital and other purposes, the timing and amount of which are difficult to ascertain. Our cash on hand may not be sufficient to meet all of our future needs. When we need additional funds, such funds may not be available on commercially reasonable terms or at all. If we cannot obtain more money when needed, our business might fail. Additionally, if we attempt to raise money in an offering of shares of our common stock, preferred stock, warrants or depositary shares, or if we engage in acquisitions involving the issuance of such securities, the issuance of these shares will dilute our then-existing shareholders.

Because the vast majority of OLED product manufacturers are located in the Asia-Pacific region, we are subject to international operational, financial, legal and political risks which may negatively impact our operations.

Many of our licensees and prospective licensees have a majority of their operations in countries other than the United States, particularly in the Asia-Pacific region. Risks associated with our doing business outside of the United States include, without limitation:

- compliance with a wide variety of foreign laws and regulations;
- legal uncertainties regarding taxes, tariffs, quotas, export controls, export licenses and other trade barriers;
- economic instability in the countries of our licensees, causing delays or reductions in orders for their products and therefore our royalties;

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- political instability in the countries in which our licensees operate, particularly in South Korea relating to its disputes with North Korea and in Taiwan relating to its disputes with China;

- difficulties in collecting accounts receivable and longer accounts receivable payment cycles; and

- potentially adverse tax consequences.

Any of these factors could impair our ability to license our OLED technologies and sell our OLED materials, thereby harming our business.

The U.S. government has rights to intellectual property derived from our government-funded work that might prevent us from realizing the full benefits of our intellectual property portfolio.

The U.S. government, through various government agencies, has provided and continues to provide funding to us, Princeton, USC and Michigan for work related to certain aspects of our OLED technologies. Because we have been provided
with this funding, the government has rights to any intellectual property derived from this work that could restrict our ability to market OLED products to the government for military and other applications, or to license this intellectual property to third parties for commercial applications. Moreover, if the government determines that we have not taken effective steps to achieve practical application of this intellectual property in any field of use in a reasonable time, the government could require us to license this intellectual property to other parties in that field of use. Any of these occurrences would limit our ability to obtain maximum value from our intellectual property portfolio.

The market price of our common stock may be highly volatile.

The market price of our common stock may be highly volatile, as has been the case with our common stock in the past as well as the securities of many companies, particularly other emerging-growth companies in the technology industry. We have included in the section of this report entitled “Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities,” a table indicating the high and low closing prices of our common stock as reported on the NASDAQ Global Market for the past two years. Factors such as the following may have a significant impact on the market price of our common stock in the future:

- our revenues, expenses and operating results;

- announcements by us or our competitors of technological developments, new product applications or license arrangements; and

- other factors affecting the flat panel display and solid-state lighting industries in general.

Our operating results may have significant period-to-period fluctuations, which would make it difficult to predict our future performance.

Due to the current stage of commercialization of our OLED technologies and materials, and the significant development and manufacturing objectives that we and our licensees must achieve to be successful, our quarterly operating results are difficult to predict and may vary significantly from quarter to quarter.

We believe that period-to-period comparisons of our operating results are not a reliable indicator of our future performance at this time. Among other factors affecting our period-to-period results, our license and technology development fees often consist of large one-time, annual or semi-annual payments, which may result in significant

fluctuations in our revenues. If, in some future period, our operating results or business outlook fall below the expectations of securities analysts or investors, our stock price would be likely to decline and investors in our common stock may not be able to resell their shares at or above their purchase price. Broad market, industry and global economic factors may also materially reduce the market price of our common stock, regardless of our operating performance.

The issuance of additional shares of our common stock could drive down the price of our stock.

The price of our common stock could decrease if:

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- shares of our common stock that are currently subject to restriction on sale become freely salable, whether through an effective registration statement or based on Rule 144 under the Securities Act of 1933, as amended; or

- we issue additional shares of our common stock that might be or become freely salable, including shares that would be issued upon conversion of our preferred stock or the exercise of outstanding stock options.

We can issue shares of preferred stock that may adversely affect the rights of shareholders of our common stock.

Our Articles of Incorporation authorize us to issue up to 5,000,000 shares of preferred stock with designations, rights and preferences determined from time-to-time by our Board of Directors. Accordingly, our Board of Directors is empowered, without shareholder approval, to issue preferred stock with dividend, liquidation, conversion, voting or other rights superior to those of shareholders of our common stock. For example, an issuance of shares of preferred stock could:

- adversely affect the voting power of the shareholders of our common stock;

- make it more difficult for a third party to gain control of us;

- discourage bids for our common stock at a premium; or

- otherwise adversely affect the market price of our common stock.

As of February 22, 2013, we have issued and outstanding 200,000 shares of Series A Nonconvertible Preferred Stock, all of which are held by an entity controlled by members of the family of Sherwin I. Seligsohn, our Founder and Chairman of the Board of Directors. Our Board of Directors has authorized and issued other shares of preferred stock in the past, none of which are currently outstanding, and may do so again at any time in the future.

Because we do not currently intend to pay dividends, shareholders will benefit from an investment in our common stock only if it appreciates in value.

We have never declared or paid any cash dividends on our common stock. We currently intend to retain our future earnings, if any, to finance further research and development and do not expect to pay any cash dividends in the foreseeable future. As a result, the success of an investment in our common stock will depend upon any future appreciation in its value. There is no guarantee that our common stock will appreciate in value or even maintain the price at which current shareholders purchased their shares.

Our executive officers and directors own a significant percentage of our common stock and could exert significant influence over matters requiring shareholder approval, including takeover attempts.

Our executive officers and directors, their respective affiliates and the adult children of Sherwin Seligsohn, our Founder and Chairman of the Board of Directors, beneficially own, as of February 22, 2013, approximately 13% of the outstanding shares of our common stock. Accordingly, these individuals may, as a practical matter, be able to exert significant influence over matters requiring approval by our shareholders, including the election of directors and the approval of mergers or other business combinations. This concentration also could have the effect of delaying or preventing a change in control of us.

Natural disasters or other unforeseen catastrophic events could unfavorably affect our business.

Natural disasters, such as hurricanes, tsunamis, or earthquakes, particularly in Asia-Pacific region, where many of our licensees are located, or the occurrence of other unforeseen catastrophic events, such a fire or flood, could unfavorably affect our business and financial performance. Such events could unfavorably affect our licensees in many ways, such as causing physical damage to one or more of their properties, the temporary or permanent closure of one or more plants, the disruption or cessation of manufacturing of product lines, and the temporary or long-term disruption in the supply or demand for their products. A resulting by-product of such natural disasters or other unforeseen catastrophic events could be a temporary or long-term disruption in the supply of or demand for our products.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

Our corporate offices and research and development laboratories are located at 375 Phillips Boulevard in Ewing, New Jersey. In 2004, we acquired the building and property at which this facility is located. During 2005, we conducted a two-stage expansion of our laboratory and office space in the building. We currently occupy the entire 40,200 square feet facility which is currently being expanded to increase office space. The expansion is expected to be completed in 2013.

ITEM 3. LEGAL PROCEEDINGS

Patent Related Challenges and Oppositions

Each major jurisdiction in the world that grants patents provides third parties with opportunities and access to administrative proceedings whereby they can request for additional review of previously issued patents in the respective jurisdiction. Each jurisdiction provides unique procedures for undertaking such activities, as well as different vehicles to review and appeal the determinations made in connection with such reviews. The conclusions made by the administration bodies tend to be appealable and generally are limited in scope and applicability to the specific claims and jurisdiction in question.

Below are summaries of certain proceedings that have been commenced against issued patents that are either exclusively licensed to us or which are now assigned to us. The Company notes that it currently has more than 3,000 issued patents and pending patent applications, worldwide, which are utilized in the Company's materials supply and device licensing business. The Company does not believe that the confirmation, loss or modification of the Company's rights in any individual claim or set of claim(s) that are the subject of the following legal proceedings would have a material impact on the Company's material sales or licensing business. However, as noted within the descriptions, many of the following legal proceedings involve patents relating to the Company's key phosphorescent OLED technologies and the Company intends to vigorously defend against such claims, which may require the expenditure of significant amounts of the Company's resources. The entries marked with an "*" relate to our UniversalPHOLED phosphorescent OLED technology.

Opposition to European Patent No. 0946958

On December 8, 2006, Cambridge Display Technology Ltd. (CDT), which was acquired in 2007 by Sumitomo Chemical Company (Sumitomo), filed a Notice of Opposition to European Patent No. 0946958 (EP ‘958 patent), which relates to our FOLED™ flexible OLED technology. The EP ‘958 patent, which was issued on March 8, 2006, is a European counterpart patent to U.S. patents 5,844,363, 6,602,540, 6,888,306 and 7,247,073. These patents are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

The European Patent Office (the EPO) conducted an Oral Hearing in this matter and on November 26, 2009 issued its written decision to reject the opposition and to maintain the patent as granted. CDT has filed an appeal to the EPO panel decision.

At this time, based on our current knowledge, we believe that the EPO panel decision will be upheld on appeal. However, we cannot make any assurances of this result.

Opposition to European Patent No. 1449238*

Between March 8, 2007 and July 27, 2007, three companies filed Notices of Opposition to European Patent No. 1449238 (EP ‘238 patent). The three companies are Sumation Company Limited (Sumation), a joint venture between Sumitomo and CDT, Merck Patent GmbH, of Darmstadt, Germany, and BASF Aktiengesellschaft, of Mannheim, Germany. The EP ‘238 patent, which was issued on November 2, 2006, is a European counterpart patent, in part, to U.S. patents 6,830,828; 6,902,830; 7,001,536; 7,291,406; 7,537,844; and 7,883,787; and to pending U.S. patent application 13/009,001, filed on January 19, 2011, and 13/205,290, filed on August 9, 2011 (hereinafter the “U.S. ‘828 Patent Family”). They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

The EPO combined all three oppositions into a single opposition proceeding. The EPO conducted an Oral Hearing in this matter and at the conclusion of the Oral Hearing, the EPO panel announced its decision to maintain the patent with claims directed to OLEDs comprising phosphorescent organometallic iridium compounds. The official minutes from the Oral Hearing and written decision were published on January 13, 2012.

All the parties filed notices of appeal to the EPO’s panel decision and submitted their initial papers in support of their respective requests for appellate review. We are currently awaiting for the EPO to schedule an Oral Hearing.

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At this time, based on our current knowledge, we believe that the EPO will uphold our positions on appeal. However, we cannot make any assurances of this result.

Invalidation Trial in Japan for Japan Patent No. 3992929*

On April 19, 2010, we received a copy of a Notice of Invalidation Trial from the Japanese Patent Office (the JPO) for Japan Patent No. 3992929 (the JP ‘929 patent), which was issued on August 3, 2007. The request for the Invalidation Trial was filed by Semiconductor Energy Laboratory Co., Ltd. (SEL), of Kanagawa, Japan. The JP ‘929 patent is a Japanese counterpart patent, in part, to the above-noted EP ‘238 patent. They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

On February 28, 2011, we learned that the JPO had issued a decision recognizing our invention and upholding the validity of most of the claims including those direct to the homoleptic iridium phenylpyridine family of compounds, but finding the broader set of claims in the patent invalid. We filed an appeal to the Japanese IP High Court. After filing the appropriate notices, supporting briefs and having the applicable hearings before the Japanese IP High Court, on May 16, 2012, we learned that the Japanese IP High Court issued a decision that confirmed the prior decision of the JPO. We filed a notice of appeal with the Japanese Supreme Court and received notice that on December 9, 2012 the Japanese Supreme Court denied our request to review the Japanese IP High Court decision. Accordingly, the Japanese IP High Court decision is now final.

Opposition to European Patent No. 1394870*

On April 20, 2010, five European companies filed Notices of Opposition to European Patent No. 1394870 (the EP ‘870 patent). The EP ‘870 patent, which was issued on July 22, 2009, is a European counterpart patent, in part, to U.S. patents 6,303,238; 6,579,632; 6,872,477; 7,279,235; 7,279,237; 7,488,542; 7,563,519; and 7,901,795; and to pending U.S. patent application 13/035,051, filed on February 25, 2011 (hereinafter the “U.S. ‘238 Patent Family”). They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

The five companies are Merck Patent GmbH; BASF Schweitz AG of Basel, Switzerland; Osram GmbH of Munich, Germany; Siemens Aktiengesellschaft of Munich, Germany; and Koninklijke Philips Electronics N.V., of Eindhoven, The Netherlands.

The EPO combined the oppositions into a single opposition proceeding. The matter has been briefed and we are waiting for the EPO to provide notice of the date of the Oral Hearing. We are also waiting to see whether any of the other parties in the opposition file additional documents to which we might respond.

At this time, based on our current knowledge, we believe there is a substantial likelihood that the patent being challenged will be declared valid and that all or a significant portion of our claims will be upheld. However, we cannot make any assurances of this result.

Invalidation Trials in Japan for Japan Patent Nos. 4357781 and 4358168*

On May 24, 2010, we received two Notices of Invalidation Trials against Japan Patent Nos. 4357781 (the JP ‘781 patent) and 4358168 (the JP ‘168 patent), which were both issued on August 14, 2009. The requests for these two additional Invalidation Trials were also filed by SEL. The JP ‘781 and ‘168 patents are also Japanese counterpart patents, in part, to the above-noted U.S. ‘828 Patent Family and EP ‘238 Patent. They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

On March 31, 2011, we learned that the JPO had issued decisions finding all claims in the JP ‘781 and JP ‘168 patents invalid. We believe that the JPO’s decisions invalidating these claims were erroneous, and we filed appeals for both cases to the Japanese IP High Court.

Both parties filed appeal briefs in this matter with the Japanese IP High Court. The Japanese IP High Court held hearings for this matter on November 22, 2011, March 5, 2012, and June 18, 2012. On November 7, 2012, we were notified by our Japanese counsel that the Japanese IP High Court had reversed the JPO's finding of invalidity and remanded the case back to the JPO for further consideration. No dates for further proceedings have been set by the JPO at this point in time, however the JPO may review the matter and issue a decision in view of the Japanese IP High Court's findings on its own schedule without further briefings or argument.

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At this time, based on our current knowledge, we believe that all the claims in our JP ‘781 and JP ‘168 patents should be upheld by the JPO on remand. However, we cannot make any assurances of this result.

Invalidation Trial in Korea for Patent No. KR-0998059

On March 10, 2011, we received informal notice from our Korean patent counsel of a Request for an Invalidation Trial from the Korean Intellectual Property Office (KIPO) for its Korean Patent No. 10-0998059 (the KR ‘059 patent), which was issued on November 26, 2010. The Request was filed by a certain individual petitioner, but we still do not know which company, if any, was ultimately responsible for filing this Request. The KR ‘059 patent is a Korean counterpart patent to the OVJP, Organic Vapor Jet Printing, family of U.S. patents originating from U.S. patent 7,431,968.

On April 21, 2011, our Korean patent counsel received a copy of the petitioner’s brief in support of the Request. We filed a response to the Request on June 20, 2011. The petitioner filed a rebuttal brief on August 8, 2011, and we filed a response to the rebuttal brief on October 12, 2011. The petitioner filed a second rebuttal brief on January 17, 2012, and we filed a response to the second rebuttal brief on March 29, 2012. The petitioner filed a third rebuttal brief on June 12, 2012, to which we filed rebuttal briefs on October 12, 2012, and November 2, 2012. At an oral hearing held on December 18, 2012, the judges asked for further briefs, which have now been submitted.

At this time, based on our current knowledge, we believe there is a substantial likelihood that the patent being challenged will be declared valid and that all or a significant portion of our claims will be upheld. However, we cannot make any assurances of this result.

Invalidation Trial in Japan for Japan Patent No. 4511024*

On June 16, 2011, we learned that a Request for an Invalidation Trial was filed in Japan for our Japanese Patent No. JP-4511024 (the JP ‘024 patent), which issued on May 14, 2010. The Request was filed by SEL, the same opponent as in the above-noted Japanese Invalidation Trial for the JP ‘929 patent. The JP ‘024 patent is a counterpart patent, in part, to the U.S. ‘238 Patent Family, which relate to the EP ‘870 patent, which is subject to one of the above-noted European oppositions; and to our Korean KR-558632 and KR-963857 patents, which relate to the Company's UniversalPHOLED phosphorescent OLED technology. They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

We timely filed a Written Reply to the Request for Invalidation Trial. A hearing was held on March 15, 2012.

On May 10, 2012, we learned that the JPO issued a decision upholding the validity of certain claimed inventions in the JP ‘024 Patent but invalidating the broadest claims in the patent. We believe the JPO’s decision was erroneous with respect to the broadest claims, and we intend to appeal the decision to the Japanese IP High Court.

A Notice of Appeal was filed with the Japanese IP High Court on September 5, 2012. The Appeal Brief was timely filed on October 19, 2012. The opponent filed their reply on January 15, 2013. It is expected that the parties will file additional briefs in support of their positions and that the Japanese IP High Court may render a decision in the second half of 2013.

At this time, based on our current knowledge, we believe that the patent being challenged should be declared valid and that all or a significant portion of our claims should be upheld. However, we cannot make any assurances of this result.

Opposition to European Patent No. 1252803*

On July 12 and 13, 2011, three companies filed oppositions to our European Patent No. 1252803 (the EP ‘803 patent). The three companies are Sumitomo, Merck Patent GmbH and BASF SE, of Ludwigshaven, Germany. The EP ‘803 patent, which was issued on October 13, 2010, is a European counterpart patent, in part, to the U.S. ‘828 Patent Family. They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

The EPO combined the oppositions into a single opposition proceeding. Our initial response to the oppositions was timely filed prior to the February 18, 2012 extended due date.

On December 7, 2012 the EPO rendered a decision at an Oral Hearing wherein it upheld the broadest claim of the granted patent. The written decision was reported by the EPO on December 21, 2012. We chose not to file an appeal. At least two of the three opponents filed an appeal as of the February 21, 2013 due date.

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At this time, based on our current knowledge, we believe there is a substantial likelihood that the patent being challenged will be declared valid and that all or a significant portion of our claims will be further upheld on appeal if one is timely filed by the opponents. However, we cannot make any assurances of this result.

Opposition to European Patent No. 1390962

On November 16, 2011, Osram AG and BASF SE each filed a Notice of Opposition to European Patent No. 1390962 (EP ‘962 patent), which relates to our white phosphorescent OLED technology. The EP ‘962 patent, which was issued on February 16, 2011, is a European counterpart patent to U.S. patents 7,009,338 and 7,285,907. They are exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

The EPO combined the oppositions into a single opposition proceeding. Our response to the opponents' opposition briefs was timely filed on June 28, 2012.

At this time, based on our current knowledge, we believe there is a substantial likelihood that the patent being challenged will be declared valid, and that all or a significant portion of our claims will be upheld. However, we cannot make any assurances of this result.

Opposition to European Patent No. 1933395*

On February 24 and 27, 2012, oppositions were filed to our European Patent No. 1933395 (the EP ‘395 patent). These oppositions were filed by Sumitomo, Merck Patent GmbH and BASF SE. The EP ‘395 patent is a counterpart patent to the above-noted JP ‘168 patent, and to Korean Patent Nos. KR-840,637 and KR-937-470, counterpart patent, in part, to the U.S. ‘828 Patent Family. This patent is exclusively licensed to us by Princeton, and we are required to pay all legal costs and fees associated with this proceeding.

Our response to the opponents’ opposition briefs was timely filed on September 27, 2012.

At this time, based on our current knowledge, we believe there is a substantial likelihood that the patent being challenged will be declared valid and that all or a significant portion of our claims will be upheld. However, we cannot make any assurances of this result.

Opposition to European Patent No. 1981898*

On January 18, 2013, an opposition was filed to our European Patent No. 1981898 (the EP '898 patent). This opposition was filed only by Merck Patent GmbH. The EP '898 patent is exclusively owned by UDC.

The EPO set a due date of June 15, 2013 for filing a response to this opposition.

At this time, based on our current knowledge, we believe there is a substantial likelihood that the patent being challenged will be declared valid and that all or a significant portion of our claims will be upheld. However, we cannot make any assurances of this result.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth certain information with respect to our executive officers as of February 22, 2013:

Name	Age	Position
Sherwin I. Seligsohn	77	Founder and Chairman of the Board of Directors

Steven V. Abramson	61	President, Chief Executive Officer and Director
Sidney D. Rosenblatt	65	Executive Vice President, Chief Financial Officer, Treasurer, Secretary and Director
Julia J. Brown	51	Senior Vice President and Chief Technical Officer
Michael G. Hack	56	Vice President of Strategic Product Development and General Manager, OLED Lighting & Custom Displays
Janice K. Mahon	55	Vice President of Technology Commercialization and General Manager, PHOLED Material Sales Business
Mauro Premutico	47	Vice President, Legal and General Manager, Patents and Licensing

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Our Board of Directors has appointed these executive officers to hold office until their successors are duly appointed.

Sherwin I. Seligsohn is our Founder and has been the Chairman of our Board of Directors since June 1995. He also served as our Chief Executive Officer from June 1995 through December 2007, and as our President from June 1995 through May 1996. Mr. Seligsohn serves as the sole Director, President and Secretary of American Biomimetics Corporation, International Multi-Media Corporation, and Wireless Unified Network Systems Corporation. He was also previously the Chairman of the Board of Directors, President and Chief Executive Officer of Global Photonic Energy Corporation since its inception until April 2012, when he resigned from his positions at GPEC. Since that time, the only relationship Mr. Seligsohn has had with GPEC is as a shareholder and option holder. From June 1990 to October 1991, Mr. Seligsohn was Chairman Emeritus of InterDigital Communications, Inc. (InterDigital), formerly International Mobile Machines Corporation. He founded InterDigital and from August 1972 to June 1990 served as its Chairman of the Board of Directors. Mr. Seligsohn is a member of the Industrial Advisory Board of the Princeton Institute for the Science and Technology of Materials (PRISM) at Princeton.

Steven V. Abramson is our President and Chief Executive Officer, and has been a member of our Board of Directors since May 1996. Mr. Abramson served as our President and Chief Operating Officer from May 1996 through December 2007. From March 1992 to May 1996, Mr. Abramson was Vice President, General Counsel, Secretary and Treasurer of Roy F. Weston, Inc., a worldwide environmental consulting and engineering firm. From December 1982 to December 1991, Mr. Abramson held various positions at InterDigital, including General Counsel, Executive Vice President and General Manager of the Technology Licensing Division. Mr. Abramson has also been a member of the Board of Directors of the OLED Association since its inception in 2008.

Sidney D. Rosenblatt is an Executive Vice President and has been our Chief Financial Officer, Treasurer and Secretary since June 1995. He also has been a member of our Board of Directors since May 1996. Mr. Rosenblatt was the owner of S. Zitner Company from August 1990 through August 2010 and served as its President from August 1990 through December 1998. From May 1982 to August 1990, Mr. Rosenblatt served as the Senior Vice President, Chief Financial Officer and Treasurer of InterDigital.

Julia J. Brown, Ph.D. is a Senior Vice President and has been our Chief Technical Officer since June 2002. She joined us in June 1998 as our Vice President of Technology Development. From November 1991 to June 1998, Dr. Brown was a Research Department Manager at Hughes Research Laboratories where she directed the pilot line production of high-speed Indium Phosphide-based integrated circuits for insertion into advanced airborne radar and satellite communication systems. Dr. Brown received an M.S. and Ph.D. in Electrical Engineering/Electrophysics at USC under the advisement of Professor Stephen R. Forrest. Dr. Brown has served as an Associate Editor of the Journal of Electronic Materials and as an elected member of the Electron Device Society Technical Board. She co-founded an international engineering mentoring program sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and is a Fellow of the IEEE. Dr. Brown has served on numerous technical conference committees and is presently a member of the Society of Information Display.

Michael G. Hack, Ph.D. has been our Vice President of Strategic Product Development since October 1999, and became the General Manager of OLED Lighting & Custom Displays in January 2010. Prior to joining us, Dr. Hack was associated with dpiX, a Xerox Company, where from 1996 to 1999 he was responsible for manufacturing flat panel displays and digital medical imaging products based on amorphous silicon TFT technology. Previously, Dr. Hack was a Principal Scientist with Xerox PARC, engaged in the research of material and device aspects of amorphous- and poly-silicon as related to flat panel displays. Dr. Hack received his Ph.D. degree from Cambridge University, England in 1981, and in 2007 he was elected a Fellow of the Society for Information Display. Dr. Hack is also a member of the Governing Board of The Army Flexible Display Center at Arizona State University.

Janice K. Mahon has been our Vice President of Technology Commercialization since January 1997, and became the General Manager of our PHOLED Material Sales Business in January 2007. From 1992 to 1996, Ms. Mahon was Vice President of SAGE Electrochromics, Inc., a thin-film electrochromic technology company, where she oversaw a variety of business development, marketing and finance and administrative activities. From 1984 to 1989, Ms. Mahon was a Vice President and General Manager for Chronar Corporation, a leading developer and manufacturer of amorphous silicon photovoltaic (PV) panels. Prior to that, Ms. Mahon worked as Senior Engineer for the Industrial Chemicals Division of FMC Corporation. Ms. Mahon received her B.S. in Chemical Engineering from Rensselaer Polytechnic Institute in 1979, and an M.B.A. from Harvard University in 1984. Ms. Mahon was a member of the Technical Council of the FlexTech Alliance from 1997 through 2010, and a member of its Governing Board from 2008 through 2010. Ms. Mahon has also served as chairperson of the Marketing Committee for the OLED Association since the beginning of 2009.

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Mauro Premutico has been our Vice President of Legal and General Manager of Patents and Licensing since April 2012. Prior to joining us, Mr. Premutico was the Managing Vice President and Chief Patent Counsel for The Walt Disney Company from 2009 to 2012, and Vice President of Intellectual Property and Associate General Counsel for Lenovo Group Ltd. from 2005 to 2009. Mr. Premutico was also Special Counsel at the international law firm of Cleary, Gottlieb, Steen & Hamilton from 2002 until 2005 where he served as the co-head of the New York's office Intellectual Property and Technology Law practice. Mr. Premutico received his law degree from Boston University School of Law and a BSEE from Worcester Polytechnic Institute.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Our Common Stock

Our common stock is quoted on the NASDAQ Global Market under the symbol "PANL." The following table sets forth, for the periods indicated, the high and low closing prices of our common stock as reported on the NASDAQ Global Market.

	High Close	Low Close
2012		
Fourth Quarter……....	$34.91	$22.52
Third Quarter…….	43.58	30.76
Second Quarter……..	45.16	27.24
First Quarter……..	47.83	32.48
2011		
Fourth Quarter……....	$53.31	$33.08
Third Quarter…….	58.36	22.80
Second Quarter……..	60.07	31.74
First Quarter……...	55.04	31.88

As of February 22, 2013, there were approximately 291 holders of record of our common stock.

We have never declared or paid cash dividends on our common stock. We currently intend to retain any future earnings for the operation and expansion of our business. We do not anticipate declaring or paying cash dividends on our common stock in the foreseeable future. Any future payment of cash dividends on our common stock will be at the discretion of our Board of Directors and will depend upon our results of operations, earnings, capital requirements, contractual restrictions and other factors deemed relevant by our Board of Directors.

Share Repurchases

During the quarter ended December 31, 2012, we announced that the board of directors had approved a program to repurchase up to $50 million of our outstanding shares of common stock from time to time over the next twelve months. The amount and timing of repurchases will depend on a number of factors, including the price, availability of shares of the company's common stock, trading volume and general market conditions. The repurchases may be made on the open market, in block trades or otherwise. The program may be suspended or discontinued at any time.

Additionally, we acquired 187 shares of common stock through transactions related to the vesting of restricted share awards previously granted to employees of ours. Upon vesting, the employees turned in shares of common stock in amounts sufficient to pay the minimum statutory tax withholding at rates required by the relevant tax authorities.

The following table provides information relating to the shares we received and repurchased during the fourth quarter of 2012 (dollar amounts in thousands, other than per share amounts):

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Period	Total Number of Shares Purchased	Weighted Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program
October 1 – October 31	187	$33.95	n/a	$—
November 1 – November 30	—	—	n/a	50,000
December 1 – December 31	205,902	25.26	205,902	44,798
Total	206,089	25.27	205,902	44,798

Performance Graph

The performance graph below compares the change in the cumulative shareholder return of our common stock from December 31, 2007 to December 31, 2012, with the percentage change in the cumulative total return over the same period on (i) the Russell 2000 Index, and (ii) the Nasdaq Electronics Components Index. This performance graph assumes an initial investment of $100 on December 31, 2007 in each of our common stock, the Russell 2000 Index and the Nasdaq Electronics Components Index.

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	Cumulative Total Return					
	12/07	12/08	12/09	12/10	12/11	12/12
Universal Display Corp.	100.00	45.72	59.80	148.28	177.50	123.95
Russell 2000	100.00	66.21	84.20	106.82	102.36	119.09
NASDAQ Electronic Components	100.00	52.67	85.15	97.82	89.33	88.18

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data has been derived from, and should be read in conjunction with, our Consolidated Financial Statements and the notes thereto, and with “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” included elsewhere in this report.

(in thousands, except share and per share data)	Year Ended December 31,				
	2012	2011	2010	2009	2008
Operating Results:					
Total revenue…….....	$83,244	$61,289	$30,545	$15,787	$11,075
Cost of material sales.....	4,528	3,731	888	374	600
Research and development expense.....	30,032	24,129	21,695	21,122	19,221
Selling, general and administrative expense.....	19,550	18,940	13,041	10,922	10,171
Patent costs and amortization of acquired technology.....	13,385	7,442	4,271	3,240	3,349
Interest income.....	1,240	994	279	670	2,608
Income tax (expense) benefit.....	(5,208)	714	134	130	962
Net income (loss).....	9,660	3,155	(19,917)	(20,505)	(19,140)
Net income (loss) per common share, basic.....	0.21	0.07	(0.53)	(0.56)	(0.53)
Net income (loss) per common share, diluted.....	0.21	0.07	(0.53)	(0.56)	(0.53)
Balance Sheet Data:					
Total assets.....	$385,524	$373,878	$92,327	$80,140	$96,229
Current liabilities.....	22,299	19,517	25,045	13,966	15,770
Shareholders’ equity.....	350,235	342,227	57,430	59,628	76,714
Other Financial Data:					
Working capital.....	$245,246	$342,787	$57,355	$53,664	$64,600
Capital expenditures.....	2,737	2,624	369	259	1,277
Purchases of intangibles.....	109,102	440	—	—	—
	45,951,276	43,737,968	37,567,374	36,479,331	35,932,372

Weighted average shares used in computing basic net income (loss) per common share.....					
Weighted average shares used in computing diluted net income (loss) per common share.....	46,883,602	45,140,394	37,567,374	36,479,331	35,932,372
Shares of common stock outstanding, end of period.....	46,355,535	46,113,296	38,936,571	36,818,440	36,131,981

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the section entitled "Selected Financial Data" in this report and our Consolidated Financial Statements and related notes to this report. This discussion and analysis contains forward-looking statements based on our current expectations, assumptions, estimates and projections. These forward-looking statements involve risks and uncertainties. Our actual results could differ materially from those indicated in these forward-looking statements as a result of certain factors, as more fully discussed in Item 1A of this report, entitled "Risk Factors."

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Overview

We are a leader in the research, development and commercialization of organic light emitting diode, or OLED, technologies for use in flat panel display, solid-state lighting and other applications. Since 1994, we have been exclusively engaged, and expect to continue to be exclusively engaged, in funding and performing research and development activities relating to OLED technologies and materials, and in attempting to commercialize these technologies and materials. We derive our revenue from the following:

- intellectual property and technology licensing;
- sales of OLED materials for evaluation, development and commercial manufacturing; and
- technology development and support, including government contract work and support provided to third parties for commercialization of their OLED products.

While we have made significant progress over the past few years developing and commercializing our family of OLED technologies (PHOLED, TOLED, FOLED, etc.) and materials, we have incurred significant losses since our inception, resulting in an accumulated deficit of $204.2 million as of December 31, 2012.

We anticipate fluctuations in our annual and quarterly results of operations due to uncertainty regarding, among other factors:

- the timing, cost, and volume of sales of our OLED materials;
- the timing of our receipt of license fees and royalties, as well as fees for future technology development and evaluation;
- the timing and magnitude of expenditures we may incur in connection with our ongoing research and development and patent-related activities; and
- the timing and financial consequences of our formation of new business relationships and alliances.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect our reported assets and liabilities, revenues and expenses, and other financial information. Actual results may differ significantly from our estimates under other assumptions and conditions.

We believe that our accounting policies related to revenue recognition and deferred revenue, the valuation of certain investments, the valuation and recoverability of acquired technology, stock-based compensation, income taxes and our Supplemental Executive Retirement Plan, as described below, are our “critical accounting policies” as contemplated by the SEC. These policies, which have been reviewed with our Audit Committee, are discussed in greater detail below.

Revenue Recognition and Deferred Revenue

Technology development and support revenue is revenue earned from government contracts, development and technology evaluation agreements and commercialization assistance fees, which includes reimbursements by the U.S.

government for all or a portion of the research and development expenses we incur related to our government contracts. Revenue is recognized proportionally as research and development expenses are incurred or as defined milestones are achieved. In order to ascertain the revenue associated with these contracts for a period, we estimate the proportion of related research and development expenses incurred and whether defined milestones have been achieved. Different estimates would result in different revenues for the period.

We receive non-refundable cash payments under certain commercial, development and technology evaluation agreements with our customers. These payments are generally recognized as revenue over the term of the agreement. On occasion, however, certain of the payments under development and evaluation agreements are creditable against license fees and/or royalties payable by the customer if a commercial license agreement is subsequently executed with the customer. These payments are classified as deferred revenues, and are recorded as liabilities in the consolidated balance sheet until such time as revenue can be recognized. Revenue is deferred until a commercial license agreement is executed or negotiations have ceased and there is no

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appreciable likelihood of executing a commercial license agreement with the customer. If a commercial license agreement is executed, payments are recorded as revenue over the term of the agreement or the estimated useful life of the licensed technology, for perpetual licenses, and the revenue is classified based on the terms of the license. Otherwise, payments deferred pending a commercial license are recorded as revenue at the time negotiations with the customer show that there is no appreciable likelihood of executing a commercial license agreement. If we used different estimates for the useful life of the licensed technology, or formed a different judgment on the likelihood of executing a commercial license agreement, reported revenue during the relevant period would differ. As of December 31, 2012, $7.4 million was recorded as deferred revenue, of which $1.5 million is creditable against future commercial license agreements that have not yet been executed or deemed effective. For the years ended December 31, 2012 and 2010, respectively, $1.9 million and $2.1 million of revenue was recognized relating to cash payments received that were creditable against license fees and/or royalties for which we determined there was no appreciable likelihood of executing a license agreement with the customer. For arrangements with extended payment terms where the fee is not fixed and determinable, revenue is recognized when the payment is due and payable.

Short-term and Long-term Investments

We have invested in convertible promissory notes issued by two private companies, both of which are early-stage companies still defining their strategic direction and business models. The carrying value of our convertible promissory note investment portfolio totaled $4.3 million as of December 31, 2012. For additional information, see Note 2 in Notes to Consolidated Financial Statements.

Our convertible promissory note investments were initially recorded at cost and are classified within both short-term and long-term investments on the consolidated balance sheet.

These convertible promissory note investments are inherently risky as the notes lack a ready market for resale, and the note issuer’s success is dependent on product development, market acceptance, operational efficiency, the ability of the investee companies to raise additional funds in financial markets that can be volatile, and other key business factors. The companies we have invested in could fail or not be able to raise additional funds when needed. These events could cause our investments to become impaired. In addition, financial market volatility could negatively affect our ability to realize value in our investments through liquidity events such as mergers and private sales.

We determine the fair value of our convertible promissory note investments portfolio quarterly. The fair value of our convertible promissory note investments is determined through the consideration of whether the investee is experiencing financial difficulty and overall trends in interest rates. Management performs an evaluation of the probability that the borrower will be in payment default on any of its debt in the foreseeable future. The evaluation requires significant judgment and includes quantitative and qualitative analysis of identified events or circumstances affecting the investee, which may impact the fair value of the investment, such as:

- the investee’s revenue and earnings trends relative to pre-defined milestones and overall business prospects;
- the technological feasibility of the investee’s products and technologies;
- the general market conditions in the investee’s industry or geographic area, including adverse regulatory or economic changes;
- factors related to the investee’s ability to remain in business, such as the investee’s liquidity, debt ratios, and the rate at which the investee is using its cash; and
- the investee’s receipt of additional funding at a lower valuation.

If the fair value of a convertible promissory note investment is below our carrying value, the asset will be written down to its fair value with a resulting charge to net income. Temporary impairments result in a write down of the investment to its fair value with the charge reported in shareholders' equity. There were no impairments of convertible promissory note investments as of December 31, 2012.

Valuation and Recoverability of Acquired Technology

During the year ended December 31, 2012, we acquired a portfolio of patent and patent applications for $109.1 million including related costs and expenses. For additional information, see Note 5 in the Notes to Consolidated Financial Statements.

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The net book value of all our acquired technology was $104.6 million as of December 31, 2012. Acquired technology assets are subject to amortization. These assets are currently being amortized on a straight-line basis over a period of 7.5 to 10 years which are their estimated economic lives. Changes in technology or in our intended use of these assets, as well as changes in economic or industry factors or in our business or prospects, may cause the estimated period of use or the value of these assets to change.

We periodically review our acquired technology assets to confirm the appropriateness of the lives. Our assessment takes into account actual usage, our anticipated future use of the technology, and assumptions about technology evolution. If these factors indicate that the useful life is different from the previous assessment, we would amortize the remaining net book values prospectively over the adjusted remaining estimated useful life.

We also regularly review our acquired OLED technologies for events or changes in circumstances that might indicate the value of these technologies is impaired. Factors considered that could cause impairment include, among others, significant changes in our anticipated future use of these technologies, expected revenue streams resulting from the technologies, and our overall business strategy as it pertains to these technologies, particularly in light of patents owned by others in the same field of use. When factors indicate that long-lived assets should be evaluated for possible impairment, the Company uses an estimate of the related undiscounted cash flows in measuring whether the long-lived asset should be written down to fair value as well as if the remaining useful life is still appropriate. Measurement of the amount of impairment would be based on generally accepted valuation methodologies, as deemed appropriate.

Valuation of Stock-Based Compensation

We recognize in the statement of operations the grant-date fair value of equity-based compensation issued to employees and directors (see Notes 2, 9 and 11 of the Notes to Consolidated Financial Statements). We also record an expense for equity-based compensation grants to non-employees, in exchange for goods or services, and stock appreciation rights (SARs) issued to employees, based on the fair value, which is remeasured over the vesting period of such awards.

We use the Black-Scholes option-pricing model to estimate the fair value of SARs, options and warrants we have granted for purposes of recording charges to the statement of operations. In order to calculate the fair value of the SARs, options and warrants, assumptions are made for certain components of the model, including expected volatility, expected dividend yield rate and expected life. Expected volatilities utilized in the model are based on the historical volatility of our stock price over a period commensurate with the expected life of the award. The risk-free interest rate is derived from the U.S. Treasury yield curve in effect at the time of grant. In the case of stock options granted to employees, we estimate the expected term of options granted based on our historical experience with our employees' exercise of stock options. In the case of stock options and warrants granted to non-employees, the contractual life is used. Although we use our best estimates when setting these assumptions, changes to the assumptions could cause significant adjustments to the valuation of future grants or the remeasurement of non-employee awards.

Accounting for Income Taxes

We are subject to income taxes in both the U.S. and foreign jurisdictions. Significant judgments and estimates are required in evaluating our tax positions for future realization and determining our provision for income taxes. Our income tax expense, deferred tax assets and liabilities, and reserves for unrecognized tax benefits reflect management's best assessment of estimated future taxes to be paid.

Income tax expense during the year ended December 31, 2012 was primarily comprised of foreign witholding taxes. These foreign taxes are primarily related to foreign taxes withheld on royalty and license fees paid to the US operating

entity. SDC has been required to withhold tax upon payment of royalty and license fees to the U.S. operating entity at a rate of 16.5%. Any potential foreign tax credits to be received by the U.S. operating entity for these amounts on our United States tax returns are currently offset by a full valuation allowance as noted below.

Although we generated income before income taxes during the years ended December 31, 2012 and 2011, there was no provision for United States federal or state income taxes, excluding certain estimated alternative minimum taxes due to the utilization of net operating loss carryforwards which are offset by a full valuation allowance. At December 31, 2012, we had approximately $168 million of federal and $76 million of state net operating loss carryforwards. Our ability to use these net operating loss carryforwards could be subject to limitation because of certain ownership changes.

See "Income Taxes" below for additional information.

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Retirement Plan

We have recorded a significant retirement plan benefit liability that is developed from actuarial valuations. The determination of our retirement plan benefit liability requires key assumptions regarding discount rates, as well as rates of compensation increases, retirement dates and life expectancies used to determine the present value of future benefit payments. We determine these assumptions in consultation with, and after input from, our actuaries and considering our experience and expectations for the future. Actual results for a given period will often differ from assumed amounts because of economic and other factors.

The discount rate reflects the estimated rate at which the benefit liabilities could be settled at the end of the year. The discount rate is determined by selecting a single rate that produces a result equivalent to discounting expected benefit payments from the plan using the Citigroup Above-Median Pension Discount Curve (Curve). Based upon this analysis using the Curve, we used a discount rate to measure our retirement plan benefit liability of 3.49% at December 31, 2012. A change of 25 basis points in the discount rate would increase or decrease the expense on an annual basis by approximately $54,000.

Results of Operations

Year Ended December 31, 2012 Compared to Year Ended December 31, 2011

We had operating income of $13.7 million for the year ended December 31, 2012, compared to operating income of $5.7 million for 2011. The increase in operating income was due to:

- an increase in revenue of $22.0 million; offset by

- an increase in operating expenses of $14.0 million.

We had net income of $9.7 million, or $0.21 per basic and diluted share, for the year ended December 31, 2012, compared to net income of $3.2 million, or $0.07 per basic and diluted share, for 2011. The increase in net income was primarily due to:

- an increase of operating income of $8.0 million; and

- a decrease in loss on stock warrant liability of $4.2 million; offset by

- an increase in income tax expense of $5.9 million.

Our revenues were $83.2 million for the year ended December 31, 2012, compared to $61.3 million for the year ended December 31, 2011. The increase in our overall revenue was primarily due to additional licensing revenues and OLED material sales from the expanded adoption of our technology and materials in the marketplace by display manufacturers, particularly SDC, the successor-in-interest to Samsung Mobile Display Co., Ltd. (SMD).

Material sales increased to $44.5 million for the year ended December 31, 2012, compared to $37.4 million for 2011. Material sales relates to the sale of our OLED materials for incorporation into our customers' commercial OLED products or for their OLED development and evaluation activities. The increase in material sales was due to the overall expanded adoption of our technology and materials in the marketplace by display manufacturers, particularly from SDC. We expect this trend to continue through the next year.

Material sales included sales of both phosphorescent emitter and host materials. Phosphorescent emitter sales were 86% of our total material sales in 2012, compared to 70% of our total material sales in 2011. Host material sales were 14% of our total material sales in 2012, compared to 30% of our total material sales in 2011. We believe we can participate in the host material business due to our long experience developing emitter materials, which are used together with host material in the emissive layer of an OLED. However, our customers are not required to purchase our host materials in order to utilize our phosphorescent emitter materials, and in addition the host material business is more competitive than the phosphorescent emitter material sales business. Thus, our long-term prospects for host material sales are uncertain.

We cannot accurately predict how long our phosphorescent emitter material sales or host material sales to particular customers will continue, as our customers frequently update and alter their product offerings in response to market demands. Continued sales of our OLED materials to these customers will depend on several factors, including pricing, availability, continued technical improvement and competitive product offerings.

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Royalty and license fees increased to $31.7 million for the year ended December 31, 2012, compared to $15.3 million for 2011. A substantial portion of the increase was due to royalty and license fee payments received under our patent license agreements with SDC. In August 2011, we entered into a patent license agreement with SDC which replaced and superseded the then existing patent license agreement with SDC. This patent license agreement with SDC runs through December 31, 2017. For the year ended December 31, 2012, we received and recognized $30.0 million in license fees from SDC under the new patent license agreement. For the year ended December 31, 2011, we received and recognized $8.2 million in license fees from SDC under the new patent license agreement and $3.6 million in royalties from SDC under the old patent license agreement.

Our current patent license agreement with SDC covers the manufacture and sale of specified OLED display products. Under the agreement, SDC has agreed to pay us a fixed license fee, payable in semi-annual installments over the agreement term. These installments, which are due in the second and fourth quarter of each annual period, increase on an annual basis over the term of the license agreement. The installment amounts replaced the quarterly royalty reporting structure in the prior patent license agreement. The installment amounts were determined through negotiation based on a number of factors, including, without limitation, estimates of SDC's OLED business growth as a percentage of published OLED market forecasts, the use of red and green phosphorescent materials in SDC's OLED display products, and appropriate royalty rates relating to SDC's practice under the licensed patents. Based upon the extended payment arrangement, such amounts are not considered fixed and determinable for revenue recognition purposes until such time the installments become due and payable. As a result, license fees under our new agreement with SDC will be recognized as they become due and payable, which is currently scheduled to be in the second and fourth quarter of each year; therefore our quarterly license fees, will fluctuate accordingly, depending on the timing of such payments.

At the same time we entered into the current patent license agreement with SDC, we also entered into a new supplemental material purchase agreement with SDC. Under the current supplemental material purchase agreement, SDC agrees to purchase from us a minimum dollar amount of phosphorescent emitter materials for use in the manufacture of licensed products. This minimum purchase commitment is subject to SDC's requirements for phosphorescent emitter materials and our ability to meet these requirements over the term of the supplemental agreement. The minimum purchase amounts increase on an annual basis over the term of the supplemental agreement. These amounts were determined through negotiation based on a number of factors, including, without limitation, estimates of SDC's OLED business growth as a percentage of published OLED market forecasts and SDC's projected minimum usage of red and green phosphorescent emitter materials over the term of the agreement. SDC purchased phosphorescent emitter materials from us in excess of the minimum purchase amount for the years ended December 31, 2012 and 2011.

Cost of material sales increased to $4.5 million for the year ended December 31, 2012, compared to $3.7 million for 2011, based on the aforementioned increase in material sales. Cost of material sales includes the cost of producing materials that have been classified as commercial and shipping costs for such materials, but excludes the cost of certain materials which costs have already been expensed as research and development expense. Commercial materials are materials that have been validated by the Company for use in commercial OLED products.

Depending on the amounts, timing and stage of materials being classified as commercial, we expect the costs of materials sold to fluctuate from quarter to quarter. As a result of these timing issues, and due to increased sales of commercial materials, cost of material sales increased for the year ended December 31, 2012 compared to 2011. For the years ended December 31, 2012 and 2011, costs associated with $27.3 million and $25.3 million, respectively, of material sales relating to commercial materials were included in cost of material sales.

We incurred research and development expenses of $30.0 million for the year ended December 31, 2012, compared to $24.1 million for 2011. The increase was mainly due to:

- increased costs of $2.6 million incurred under our agreement with PPG Industries;

- increased costs of $1.7 million related to outsourced research and development efforts; and

- increased costs of $1.6 million related to sponsored research and development contracts.

Selling, general and administrative expenses were $19.5 million for the year ended December 31, 2012, compared to $18.9 million for 2011. The increase was mainly due to increased employee costs related to salaries and expenses for new employees as well as costs associated with retirement benefits for certain executive officers, offset by decreased marketing and advertising expenses.

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Patent costs and amortization of acquired technology increased to $13.4 million for the year ended December 31, 2012, compared to $7.4 million for 2011. The increase was mainly due to increased amortization costs of $4.8 million due to the amortization expense associated with technology acquired in July 2012 (see Note 5 in Notes to Consolidated Financial Statements for further discussion). Additionally, the increase was due to increased costs associated with our defense of certain ongoing and new challenges to our issued patents, as well as the timing of prosecution and maintenance costs associated with a number of patents and patent applications.

Royalty and license expense increased to $2.1 million for the year ended December 31, 2012, compared to $1.4 million for 2011. The increase consisted mainly of royalties incurred under an amended license agreement with Princeton, USC and Michigan, resulting from increased revenues. See Note 3 in Notes to Consolidated Financial Statements for further discussion.

Interest income increased to $1.2 million for the year ended December 31, 2012, compared to $1.0 million for 2011.

On January 1, 2009, we adopted certain revised provisions of Accounting Standards Codification (ASC) 815, Derivatives and Hedging. These provisions apply to freestanding financial instruments or embedded features that have the characteristics of a derivative and to freestanding financial instruments that are potentially settled in an entity's own common stock. As a result, certain stock purchase warrants that we issued, but which are no longer outstanding, were considered to be derivatives since they contained "down-round" provisions requiring remeasurement at fair value at the end of each period as they were recorded as liabilities.

The fair value of the stock warrant liability was determined using the Black-Scholes option pricing model using assumptions for certain components of the model, including expected volatility and expected annual dividend yield. The change in fair value of the stock warrant liability was recorded as a gain or loss on the statement of operations, until all warrants were exercised.

In 2011, all remaining outstanding stock warrants to purchase shares of our common stock were exercised. The change in fair value of these warrants during 2011 prior to the exercise date resulted in a $4.2 million non-cash loss on our statement of operations for the year ended December 31, 2011.

We recorded income tax expense of $5.2 million for the year ended December 31, 2012 and a benefit of $714,000 for the year ended December 31, 2011. See "Income Taxes" below for additional information.

Year Ended December 31, 2011 Compared to Year Ended December 31, 2010

We had operating income of $5.7 million for the year ended December 31, 2011, compared to an operating loss of $10.2 million for 2010. The change to operating income was due to:

- an increase in revenue of $30.7 million;
- offset by an increase in operating expenses of $14.8 million.

We had net income of $3.2 million, or $0.07 per diluted share, for the year ended December 31, 2011, compared to a net loss of $19.9 million, or $0.53 per diluted share, for 2010. The change to net income was primarily due to:

- an increase of operating income of $15.9 million;
- a decrease in loss on stock warrant liability of $5.9 million;

- an increase in interest income of $715,000; and
- an increase in income tax benefit of $580,000.

Our revenues were $61.3 million for the year ended December 31, 2011, compared to $30.5 million for the year ended December 31, 2010. The increase in our overall revenue was primarily due to additional OLED material sales and licensing revenues from the expanded adoption of our technology and materials in the marketplace by display manufacturers, particularly SDC.

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Material sales increased to $37.4 million for the year ended December 31, 2011, compared to $17.3 million for 2010. Material sales relates to the sale of our OLED materials for incorporation into our customers' commercial OLED products or for their OLED development and evaluation activities.

Material sales included sales of both phosphorescent emitter and host materials. Phosphorescent emitter sales were 70% of our total material sales in 2011, compared to 88% of our total material sales in 2010. Host material sales were 30% of our total material sales in 2011, compared to 12% of our total material sales in 2010.

Royalty and license fees increased to $15.3 million for the year ended December 31, 2011, compared to $4.6 million for 2010. A substantial portion of the increase was due to royalty and license fee payments received under our patent license agreements with SDC.

For the year ended December 31, 2011, we received and recognized $8.2 million in license fees from SDC under the new patent license agreement and $3.6 million in royalties from SDC under the old patent license agreement.

Cost of material sales increased to $3.7 million for the year ended December 31, 2011, compared to $888,000 for 2010, based on the aforementioned increase in material sales. For the years ended December 31, 2011 and 2010, costs associated with $25.3 million and $5.7 million, respectively, of material sales relating to commercial materials were included in cost of material sales.

We incurred research and development expenses of $24.1 million for the year ended December 31, 2011, compared to $21.7 million for 2010. The increase was mainly due to:

- increased employee costs of $2.2 million due primarily to new employees, increased salaries, costs associated with retirement benefits and incentive stock awards for certain executive officers;
- increased costs of $943,000 due to overall expanded research and development efforts to support the growth of our business; and
- costs of $705,000 resulting from commencement of research and development activities at certain of our foreign subsidiaries; offset by
- decreased amortization costs of $1.2 million due to part of our acquired technology being fully amortized as of December 31, 2010.

Selling, general and administrative expenses were $18.9 million for the year ended December 31, 2011, compared to $13.0 million for 2010. The overall increase in these costs was driven in part by increased commercial activities and non-cash expenses related to stock compensation and in part by costs incurred to establish new subsidiaries in Hong Kong, Korea and Japan. Specifically, we incurred increased costs in the following areas:

- increased employee costs of $2.0 million, due primarily to increased salaries, costs associated with retirement benefits and incentive stock awards for certain executive officers;
- costs of $573,000 resulting from the incorporation and commencement of operations of certain of our foreign subsidiaries;
- increased costs of $546,000 related to stock compensation for members of our Board of Directors;
- increased legal fees of $484,000, due in large part to expanded licensing negotiations;

- increased expense of $450,000 due to costs associated with certain prototypes; and

- increased international consulting fees of $382,000, resulting from increased revenues.

Patent costs increased to $7.4 million for the year ended December 31, 2011, compared to $4.3 million for 2010. The increase was mainly due to increased costs associated with our defense of certain ongoing and new challenges to our issued patents, as well as the timing of prosecution and maintenance costs associated with a number of patents and patent applications.

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Royalty and license expense increased to $1.4 million for the year ended December 31, 2011, compared to $876,000 for 2010. The increase consisted mainly of royalties incurred under an amended license agreement with Princeton, USC and Michigan, resulting from increased revenues. See Note 3 in Notes to Consolidated Financial Statements for further discussion.

Interest income increased to $994,000 for the year ended December 31, 2011, compared to $279,000 for 2010. The increase was mainly attributable to interest earned on higher average cash and investment balances as a result of proceeds received from the completion of our public offering in March 2011.

In 2011, all remaining outstanding stock warrants to purchase shares of our common stock were exercised. The warrants, which contained a “down-round” provision, were previously recorded as a liability. The change in fair value of these warrants during the period prior to the exercise date resulted in a $4.2 million non-cash loss on our statement of operations for the year ended December 31, 2011, compared to a $10.1 million non-cash loss for 2010.

Income Taxes

The provision for income taxes primarily consists of foreign taxes on South Korean royalty and license fee income starting in May 2010. In addition, during the year ended December 31, 2011, we sold approximately $45.2 million of our state-related income tax net operating losses (NOLs) and $232,000 of our research and development tax credits under the New Jersey Technology Tax Certificate Transfer Program. We recorded the amount of the completed sale as an income tax benefit for the year ended December 31, 2011 and received the proceeds of $2.7 million in January 2012. During the year ended December 31, 2010, we sold approximately $3.8 million of our state-related income tax NOLs and $194,000 of our research and development tax credits under the New Jersey Technology Tax Certificate Transfer Program. We received proceeds of $464,000 from our sale of these NOLs and research and development tax credits, and we recorded these proceeds as an income tax benefit for the year ended December 31, 2010. For the year ended December 31, 2012 the tax expense was $5.2 million and for the years ended December 2011 and 2010 the net tax benefit was $714,000 and $134,000 respectively.

Although we generated income before income taxes during the years ended December 31, 2012 and 2011, there was no provision for United States federal or state income taxes, excluding certain estimated alternative minimum taxes due to the utilization of net operating loss carryforwards which are offset by a full valuation allowance. At December 31, 2012, we had approximately $168 million of federal and $76 million of state net operating loss carryforwards. Our ability to use these net operating loss carryforwards could be subject to limitation because of certain ownership changes.

The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income to obtain benefit from the reversal of temporary differences, net operating loss carryforwards and tax credits. We consider the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Our level of future profitability could cause us to conclude that all or a portion of our deferred tax assets will be realizable. We continue to assess our current and projected taxable income in the jurisdictions in which we operate on a quarterly basis and provided that we continue to sustain actual profitability and can demonstrate sustained forecasted profitability and/or upon the implementation of certain tax planning strategies, we could release all or a portion of our deferred tax valuation allowance to reflect the realizability of our deferred tax assets and would begin to provide for income taxes at a rate equal to our combined federal, state and foreign effective rates, at that time. Currently, a full valuation allowance has been established for significantly all our net deferred tax assets because we incurred substantial consolidated operating losses from inception through 2010, as well as continuing losses in certain jurisdictions, and based on the aforementioned factors, we have assessed that the net deferred tax assets do not meet the criteria for realization as of December 31, 2012. At this time, the amount and timing of any future release of the deferred tax valuation allowance and resulting future effective tax rates cannot be determined, but could be material to

both our financial position and results of operations and may occur in the near term if current and expected operating trends continue or we implement certain tax planning strategies.

Liquidity and Capital Resources

As of December 31, 2012, we had cash and cash equivalents of $85.9 million and short-term investments of $158.0 million, for a total of $243.9 million. This compares to cash and cash equivalents of $111.8 million and short-term investments of $234.3 million, for a total of $346.1 million, as of December 31, 2011. The decrease in cash and cash equivalents and short-term investments of $102.2 million was primarily due to cash used in investing activities due to the purchase of intangible assets from Fujifilm for a total cost of $109.1 million.

Cash provided by operating activities was $17.8 million for 2012, compared to $16.4 million for 2011. The increase in cash provided by operating activities was primarily due to the following:

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- the impact of the timing of receipts of accounts receivable of $5.5 million; and

- an increase in net income of $5.0 million, which amount excludes the impact of non-cash items; offset by

- impact of the timing of net inventory purchases of $3.3 million to meet future customer needs;

- an increase in other current assets of $2.3 million;

- impact of the timing of payment of accounts payable and accrued expenses of $2.1 million; and

- a decrease of $1.3 million in deferred revenue and licensing fees received.

Cash used in investing activities was $36.1 million for 2012, compared to $183.8 million for 2011. The decrease in cash used in investing activities was mainly due to the timing of maturities of investments as well as the timing of purchases of investments as a result of the completion of our public offering described below, offset by $109.1 million from the purchase of intangible assets.

Cash used in financing activities was $7.5 million for 2012, compared to cash provided of $258.8 million for 2011. The decrease in cash provided by financing activities was primarily due to repurchases of common stock of $5.2 million in 2012, as well as the completion of our March 2011 public offering. The offering resulted in proceeds to us of $249.9 million, which was net of $14.9 million in underwriting discounts and commissions and other costs associated with the completion of the offering. In addition, for the year ended December 31, 2012, we received proceeds of $1.5 million from the exercise of options, compared to proceeds of $13.3 million from the exercise of options and warrants to purchase shares of our common stock in 2011. In connection with stock-based employee compensation and option exercises for the years ended December 31, 2012 and 2011, we made payments of $4.1 million and $4.5 million, respectively, in withholding taxes.

Working capital was $245.2 million as of December 31, 2012, compared to $342.8 million as of December 31, 2011. The reduction in working capital is primarily due to the purchase of intangible assets for $109.1 million in July of 2012.

We anticipate, based on our internal forecasts and assumptions relating to our operations (including, among others, assumptions regarding our working capital requirements, the progress of our research and development efforts, the availability of sources of funding for our research and development work, and the timing and costs associated with the preparation, filing, prosecution, maintenance, defense and enforcement of our patents and patent applications), that we have sufficient cash, cash equivalents and short-term investments to meet our obligations for at least the next 12 months.

We believe that potential additional financing sources for us include long-term and short-term borrowings, public and private sales of our equity and debt securities and the receipt of cash upon the exercise of outstanding stock options. It should be noted, however, that additional funding may be required in the future for research, development and commercialization of our OLED technologies and materials, to obtain, maintain and enforce patents respecting these technologies and materials, and for working capital and other purposes, the timing and amount of which are difficult to ascertain. There can be no assurance that additional funds will be available to us when needed, on commercially reasonable terms or at all, particularly in the current economic environment.

Contractual Obligations

As of December 31, 2012, we had the following contractual commitments:

	Payments due by period (in thousands)				
Contractual Obligations	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Estimated retirement plan benefit payments	$18,354	$—	$302	$1,219	$16,833
Research related obligations	3,567	2,035	1,532	—	—
Minimum royalty obligation (1)	500	100	200	200	100/year[(1)]
Total (2)	$22,421	$2,135	$2,034	$1,419	$16,833

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(1) Under the 1997 Amended License Agreement, we are obligated to pay Princeton minimum royalties of $100,000 per year until such time as the agreement is no longer in effect. The agreement has no scheduled expiration date.

(2) See Note 13 to the Consolidated Financial Statements for discussion of obligations upon termination of employment of executive officers as a result of a change in control of the Company.

Off-Balance Sheet Arrangements

As of December 31, 2012, we had no off-balance sheet arrangements in the nature of guarantee contracts, retained or contingent interests in assets transferred to unconsolidated entities (or similar arrangements serving as credit, liquidity or market risk support to unconsolidated entities for any such assets), or obligations (including contingent obligations) arising out of variable interests in unconsolidated entities providing financing, liquidity, market risk or credit risk support to us, or that engage in leasing, hedging or research and development services with us.

Recently Issued Accounting Pronouncements

Recently issued accounting pronouncements are addressed in Note 2 in the Notes to Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We do not utilize financial instruments for trading purposes and hold no derivative financial instruments, other financial instruments or derivative commodity instruments that could expose us to significant market risk other than our investments disclosed in “Fair Value Measurements” in Note 2 to the Consolidated Financial Statements included herein. We generally invest in investment grade financial instruments to reduce our exposure related to investments. Our primary market risk exposure with regard to such financial instruments is to changes in interest rates, which would impact interest income earned on investments. However, based upon the conservative nature of our investment portfolio and current experience, we do not believe a decrease in investment yields would have a material negative effect on our interest income.

Substantially all our revenue is derived from outside of North America. All revenue is primarily denominated in U.S. dollars and therefore we bear no significant foreign exchange risk.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our Consolidated Financial Statements and the relevant notes to those statements are attached to this report beginning on page F-1.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2012. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures, as of the end of

the period covered by this report, are effective to provide reasonable assurance that the information required to be disclosed by us in reports filed or submitted under the Securities Exchange Act of 1934, as amended, is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (ii) accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding disclosure. However, a controls system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the controls system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

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Management's Report on Internal Control over Financial Reporting and Report of Independent Registered Public Accounting Firm on Internal Control over Financial Reporting

The report of management on our internal control over financial reporting and the associated attestation report of our independent registered public accounting firm are set forth in Item 8 of this report.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2012 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information with respect to this item is set forth in our definitive Proxy Statement for the 2013 Annual Meeting of Shareholders, which is to be filed with the Securities and Exchange Commission no later than April 30, 2013, (our "Proxy Statement"), and which is incorporated herein by reference. Information regarding our executive officers is included at the end of Part I of this report.

ITEM 11. EXECUTIVE COMPENSATION

Information with respect to this item will be set forth in our Proxy Statement, and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information with respect to this item will be set forth in our Proxy Statement, and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information with respect to this item will be set forth in our Proxy Statement, and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information with respect to this item will be set forth in our Proxy Statement, and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

(1) Financial Statements:

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(2) Financial Statement Schedules:

None.

(3) Exhibits:

The following is a list of the exhibits filed as part of this report. Where so indicated by footnote, exhibits that were previously filed are incorporated by reference. For exhibits incorporated by reference, the location of the exhibit in the previous filing is indicated parenthetically, together with a reference to the filing indicated by footnote.

Exhibit Number	Description
3.1	Amended and Restated Articles of Incorporation of the registrant [(1)]
3.2	Bylaws of the registrant [(2)]
10.1#	Amended and Restated Change in Control Agreement between the registrant and Sherwin I. Seligsohn, dated as of November 4, 2008 [(3)]
10.2#	Amended and Restated Change in Control Agreement between the registrant and Steven V. Abramson, dated as of November 4, 2008 [(3)]
10.3#	Amended and Restated Change in Control Agreement between the registrant and Sidney D. Rosenblatt, dated as of November 4, 2008 [(3)]
10.4#	Amended and Restated Change in Control Agreement between the registrant and Julia J. Brown, dated as of November 4, 2008 [(3)]
10.5#	Amended and Restated Change in Control Agreement between the registrant and Janice K. Mahon, dated as of November 4, 2008 [(3)]
10.6#	Second Amended and Restated Change in Control Agreement between the registrant and Michael G. Hack, dated as of January 11, 2010 [(4)]
10.7#	Non-Competition and Non-Solicitation Agreement between the registrant and Sherwin I. Seligsohn, dated as of February 23, 2007 [(5)]
10.8#	

	Non-Competition and Non-Solicitation Agreement between the registrant and Steven V. Abramson, dated as of January 26, 2007 (5)
10.9#	Non-Competition and Non-Solicitation Agreement between the registrant and Sidney D. Rosenblatt, dated as of February 7, 2007 (5)
10.10#	Non-Competition and Non-Solicitation Agreement between the registrant and Julia J. Brown, dated as of February 5, 2007 (5)
10.11#	Non-Competition and Non-Solicitation Agreement between the registrant and Janice K. Mahon, dated as of February 23, 2007 (3)
10.12#	Non-Competition and Non-Solicitation Agreement between the registrant and Michael G. Hack, dated as of February 5, 2007 (4)
10.13#	Equity Retention Agreement between the registrant and Steven V. Abramson, dated as of March 18, 2010 (6)

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10.14#	Equity Retention Agreement between the registrant and Sidney D. Rosenblatt, dated as of March 18, 2010 (6)
10.15#	Equity Retention Agreement between the registrant and Julia J. Brown, dated as of January 6, 2011 (7)
10.16#	Equity Retention Agreement between the registrant and Janice K. Mahon, dated as of January 6, 2011 (7)
10.17#	Equity Retention Agreement between the registrant and Michael G. Hack, dated as of January 6, 2011 (7)
10.18#	Equity Retention Agreement between the registrant and Julia J. Brown, dated as of March 8, 2012 (8)
10.19#	Equity Retention Agreement between the registrant and Janice K. Mahon, dated as of March 8, 2012 (8)
10.20#	Equity Retention Agreement between the registrant and Michael G. Hack, dated as of March 8, 2012 (8)
10.21#	Amended and Restated Change in Control Agreement between the Registrant and Mauro Premutico, dated April 16, 2012 (9)
10.22#	Equity Retention Agreement between the Registrant and Mauro Premutico, dated April 16, 2012 (9)
10.23#	Supplemental Executive Retirement Plan, dated as of April 1, 2010 (6)
10.24#	Equity Compensation Plan, last amended effective as of June 23, 2011 (10)
10.25	Sponsored Research Agreement between the registrant and the University of Southern California, dated as of May 1, 2006 (11)
10.26	Amendment No. 1 to the Sponsored Research Agreement between the registrant and the University of Southern California, dated as of May 1, 2006 (3)
10.27	Amendment No. 2 to the Sponsored Research Agreement between the registrant and the University of Southern California, dated as of May 7, 2009 (12)
10.28	1997 Amended License Agreement among the registrant, The Trustees of Princeton University and the University of Southern California, dated as of October 9, 1997 (13)
10.29	Amendment #1 to the Amended License Agreement among the registrant, the Trustees of Princeton University and the University of Southern California, dated as of August 7, 2003 (14)
10.3	Amendment #2 to the Amended License Agreement among the registrant, the Trustees of Princeton University, the University of Southern California and the Regents of the University of Michigan, dated as of January 1, 2006 (14)
10.31	Termination, Amendment and License Agreement by and among the registrant, PD-LD, Inc., Dr. Vladimir S. Ban, and The Trustees of Princeton University, dated as of July 19, 2000 (15)
10.32	Letter of Clarification of UDC/GPEC Research and License Arrangements between the registrant and Global Photonic Energy Corporation, dated as of June 4, 2004 (5)

10.33+	Amended and Restated OLED Materials Supply and Service Agreement between the registrant and PPG Industries, Inc., dated as of October 1, 2011 (16)
10.34+	OLED Patent License Agreement between the registrant and Samsung Mobile Display Co., Ltd., dated as of August 22, 2011 (17)
10.35+	Supplemental OLED Material Purchase Agreement between the registrant and Samsung Mobile Display Co., Ltd., dated as of August 22, 2011 (17)
10.36+	Settlement and License Agreement between the registrant and Seiko Epson Corporation, dated as of July 31, 2006(18)
10.37+	Amendment No. 1 to the Settlement and License Agreement between the registrant and Seiko Epson Corporation, dated as of March 30, 2009 (19)
10.38+	OLED Technology License Agreement between the registrant and Konica Minolta Holdings, Inc., dated as of August 11, 2008 (20)
10.39+	Memorandum of Agreement between the registrant and Moser Baer Technologies Inc., dated as of February 4, 2011 (7)
10.40+	Limited-Term OLED Technology License Agreement between the registrant and Panasonic Idemitsu OLED Lighting Co., Ltd., dated as of August 23, 2011 (16)

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10.41+	OLED Technology License Agreement between the registrant and Showa Denko K.K., dated as of December 17, 2009 (21)
10.42+	OLED Technology License Agreement between the registrant and Pioneer Corporation, dated as of September 27, 2011 (22)
10.43+	OLED Technology License Agreement between the registrant and Lumiotec, Inc., dated as of January 5, 2012 (8)
10.44+	Patent Sale Agreement, dated as of July 23, 2012 by and between FUJIFILM Corporation and the Company. (23)
21*	Subsidiaries of the registrant
23.1*	Consent of KPMG LLP
31.1*	Certifications of Steven V. Abramson, Chief Executive Officer, as required by Rule 13a-14(a) or Rule 15d-14(a)
31.2*	Certifications of Sidney D. Rosenblatt, Chief Financial Officer, as required by Rule 13a-14(a) or Rule 15d-14(a)
32.1**	Certifications of Steven V. Abramson, Chief Executive Officer, as required by Rule 13a-14(b) or Rule 15d-14(b), and by 18 U.S.C. Section 1350. (This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section. Further, this exhibit shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.)
32.2**	Certifications of Sidney D. Rosenblatt, Chief Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b), and by 18 U.S.C. Section 1350. (This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section. Further, this exhibit shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.)
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema Document
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document

Explanation of footnotes to listing of exhibits:

* Filed herewith.

**	Furnished herewith.
#	Management contract or compensatory plan or arrangement.
+	Confidential treatment has been accorded to certain portions of this exhibit pursuant to Rule 406 under the Securities Act of 1933, as amended, or Rule 24b-2 under the Securities Exchange Act of 1934, as amended.

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(1)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2010, filed with the SEC on August 9, 2010.
(2)	Filed as an Exhibit to the Annual Report on Form 10-K for the year ended December 31, 2003, filed with the SEC on March 1, 2004.
(3)	Filed as an Exhibit to the Annual Report on Form 10-K for the year ended December 31, 2008, filed with the SEC on March 12, 2009.
(4)	Filed as an Exhibit to the Annual Report on Form 10-K for the year ended December 31, 2009, filed with the SEC on March 15, 2010.
(5)	Filed as an Exhibit to the Annual Report on Form 10-K for the year ended December 31, 2006, filed with the SEC on March 15, 2007.
(6)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2010, filed with the SEC on May 10, 2010.
(7)	Filed as an Exhibit to a Current Report on Form 8-K, filed with the SEC on March 21, 2011.
(8)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2012, filed with the SEC on May 9, 2012.
(9)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2012, filed with the SEC on August 8, 2012.
(10)	Filed as an Exhibit to the Definitive Proxy Statement for the 2011 Annual Meeting of Shareholders, filed with the SEC on April 29, 2011.
(11)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2006, filed with the SEC on August 9, 2006.
(12)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, filed with the SEC on August 10, 2009.
(13)	Filed as an Exhibit to the Annual Report on Form 10K-SB for the year ended December 31, 1997, filed with the SEC on March 31, 1998.
(14)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2003, filed with the SEC on November 10, 2003.
(15)	Filed as an Exhibit to the amended Quarterly Report on Form 10-Q for the quarter ended September 30, 2000, filed with the SEC on November 20, 2001.
(16)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2011, filed with the SEC on November 8, 2011.
(17)	Filed as an Exhibit to an Amended Current Report on Form 8-K, filed with the SEC on December 19, 2011.
(18)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2006, filed with the SEC on November 6, 2006.
(19)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2009, filed with the SEC on May 7, 2009.
(20)	Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2008, filed with the SEC on November 6, 2008.
(21)	Filed as an Exhibit to the Annual Report on Form 10-K for the year ended December 31, 2009, as amended, filed with the SEC on June 23, 2010.
(22)	Filed as an Exhibit to Amendment No. 1 to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2011, filed with the SEC on January 27, 2012.
(23)	Filed as an Exhibit to a Current Report on Form 8-K, filed with the SEC on July 27, 2012.

Note: Any of the exhibits listed in the foregoing index not included with this report may be obtained, without charge, by writing to Mr. Sidney D. Rosenblatt, Corporate Secretary, Universal Display Corporation, 375 Phillips Boulevard, Ewing, New Jersey 08618.

(b) The exhibits required to be filed by us with this report are listed above.

(c) The consolidated financial statement schedules required to be filed by us with this report are listed above.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

UNIVERSAL DISPLAY CORPORATION

By: /s/ Sidney D. Rosenblatt
Sidney D. Rosenblatt
Executive Vice President, Chief Financial Officer,
Treasurer and Secretary

Date: February 27, 2013

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Name	Title	Date
/s/ Sherwin I. Seligsohn Sherwin I. Seligsohn	Founder and Chairman of the Board of Directors	February 27, 2013
/s/ Steven V. Abramson Steven V. Abramson	President, Chief Executive Officer and Director (principal executive officer)	February 27, 2013
/s/ Sidney D. Rosenblatt Sidney D. Rosenblatt	Executive Vice President, Chief Financial Officer, Treasurer, Secretary and Director (principal financial and accounting officer)	February 27, 2013
/s/ Leonard Becker Leonard Becker	Director	February 27, 2013
/s/ Elizabeth H. Gemmill Elizabeth H. Gemmill	Director	February 27, 2013
/s/ C. Keith Hartley C. Keith Hartley	Director	February 27, 2013
/s/ Lawrence Lacerte Lawrence Lacerte	Director	February 27, 2013

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Consolidated Financial Statements:

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MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles. Our system of internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) 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 (iii) 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.

Management performed an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2012 based upon criteria in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management determined that the Company's internal control over financial reporting was effective as of December 31, 2012, based on the criteria in Internal Control-Integrated Framework issued by COSO.

The effectiveness of our internal control over financial reporting as of December 31, 2012, has been attested to by KPMG LLP, an independent registered public accounting firm, as stated in its report which appears on the following page.

Steven V. Abramson
President and Chief Executive Officer

Sidney D. Rosenblatt
Executive Vice President and Chief Financial Officer

February 27, 2013

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders
Universal Display Corporation:

We have audited Universal Display Corporation’s internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Universal Display Corporation'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. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit.

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, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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, Universal Display Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Universal Display Corporation and subsidiaries as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive income (loss), shareholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2012, and our report dated February 27, 2013 expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP

Philadelphia, Pennsylvania
February 27, 2013

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders
Universal Display Corporation:

We have audited the accompanying consolidated balance sheets of Universal Display Corporation and subsidiaries as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive income (loss), shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2012. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 Universal Display Corporation and subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Universal Display Corporation's internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 27, 2013 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG LLP

Philadelphia, Pennsylvania
February 27, 2013

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in thousands, except share and per share data)

	December 31, 2012	2011
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$85,923	$111,795
Short-term investments	158,018	234,294
Accounts receivable	8,657	10,727
Inventory	11,018	3,843
Other current assets	3,929	1,645
Total current assets	267,545	362,304
PROPERTY AND EQUIPMENT, net	11,808	10,884
ACQUIRED TECHNOLOGY, net	104,624	391
INVESTMENTS	1,270	—
OTHER ASSETS	277	299
TOTAL ASSETS	$385,524	$373,878
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$7,596	$4,776
Accrued expenses	10,394	9,020
Deferred revenue	4,273	5,534
Other current liabilities	36	187
Total current liabilities	22,299	19,517
DEFERRED REVENUE	3,153	3,874
RETIREMENT PLAN BENEFIT LIABILITY	9,837	8,260
Total liabilities	35,289	31,651
COMMITMENTS AND CONTINGENCIES (Note 13)		
SHAREHOLDERS' EQUITY:		
Preferred Stock, par value $0.01 per share, 5,000,000 shares authorized, 200,000 shares of Series A Nonconvertible Preferred Stock issued and outstanding (liquidation value of $7.50 per share or $1,500)	2	2
Common Stock, par value $0.01 per share, 100,000,000 shares authorized, 46,561,437 and 46,113,296 shares issued at December 31, 2012 and 2011, respectively	465	461
Additional paid-in capital	564,883	561,492
Accumulated deficit	(204,211)	(213,871)
Accumulated other comprehensive loss	(5,702)	(5,857)
Treasury stock, at cost (205,902 shares at December 31, 2012)	(5,202)	—
Total shareholders' equity	350,235	342,227
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$385,524	$373,878

The accompanying notes are an integral part of these consolidated financial statements.

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except share and per share data)

	Year Ended December 31,		
	2012	2011	2010
REVENUE:			
Material sales	$44,472	$37,444	$17,272
Royalty and license fees	31,698	15,345	4,606
Technology development and support revenue	7,074	8,500	8,667
Total revenue	83,244	61,289	30,545
OPERATING EXPENSES:			
Cost of material sales	4,528	3,731	888
Research and development	30,032	24,129	21,695
Selling, general and administrative	19,550	18,940	13,041
Patent costs and amortization of acquired technology	13,385	7,442	4,271
Royalty and license expense	2,073	1,360	876
Total operating expenses	69,568	55,602	40,771
Operating income (loss)	13,676	5,687	(10,226)
INTEREST INCOME	1,240	994	279
INTEREST EXPENSE	(48)	(50)	(27)
LOSS ON STOCK WARRANT LIABILITY	—	(4,190)	(10,077)
INCOME (LOSS) BEFORE INCOME TAXES	14,868	2,441	(20,051)
INCOME TAX (EXPENSE) BENEFIT	(5,208)	714	134
NET INCOME (LOSS)	$9,660	$3,155	$(19,917)
NET INCOME (LOSS) PER COMMON SHARE:			
BASIC	$0.21	$0.07	$(0.53)
DILUTED	$0.21	$0.07	$(0.53)
WEIGHTED AVERAGE SHARES USED IN COMPUTING NET INCOME (LOSS) PER COMMON SHARE:			
BASIC	45,951,276	43,737,968	37,567,374
DILUTED	46,883,602	45,140,394	37,567,374

The accompanying notes are an integral part of these consolidated financial statements.

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(in thousands)

	Year Ended December 31,		
	2012	2011	2010
NET INCOME (LOSS)	$9,660	$3,155	$(19,917)
OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX:			
Unrealized (loss) gain on available-for-sale securities	(31)	(1)	(11)
Employee benefit plan:			
Actuarial loss on retirement plan	(442)	(418)	(879)
Amortization of prior service cost and actuarial loss for retirement plan	628	600	438
Initial prior service cost for retirement plan	—	—	(5,611)
Net change	186	182	(6,052)
TOTAL OTHER COMPREHENSIVE INCOME (LOSS)	155	181	(6,063)
COMPREHENSIVE INCOME (LOSS)	$9,815	$3,336	$(25,980)

The accompanying notes are an integral part of these consolidated financial statements.

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(in thousands, except for share data)

	Series A Nonconvertible Preferred Stock		Common Stock		Additional
	Shares	Amount	Shares	Amount	Paid-in Capital
BALANCE, JANUARY 1, 2010	200,000	$2	36,818,440	$368	$256,341
Net loss	—	—	—	—	—
Other comprehensive loss	—	—	—	—	—
Exercise of common stock options and warrants, net of tendered shares	—	—	1,304,654	13	17,743
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	651,384	7	3,126
Stock-based non-employee compensation	—	—	491	—	47
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	61,946	1	1,346
Issuance of common stock in connection with materials and license agreements	—	—	80,073	1	1,254
Issuance of common stock to employees under an Employee Stock Purchase Plan (ESPP)	—	—	19,583	—	245
BALANCE, DECEMBER 31, 2010	200,000	2	38,936,571	390	280,102
Net income	—	—	—	—	—
Other comprehensive income	—	—	—	—	—
Exercise of common stock options and warrants, net of tendered shares	—	—	1,266,191	12	27,743
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	103,112	1	2,105
Stock-based non-employee compensation	—	—	174	—	7
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	46,536	—	1,648
Issuance of common stock in connection with materials and license agreements	—	—	181	—	9
Issuance of common stock to employees under an ESPP	—	—	10,531	—	307
Issuance of common stock through a public offering, net of expenses of $14,871	—	—	5,750,000	58	249,571
BALANCE, DECEMBER 31, 2011	200,000	2	46,113,296	461	561,492
Net income	—	—	—	—	—
Other comprehensive income	—	—	—	—	—
Repurchase of common stock	—	—	—	—	—
Exercise of common stock options, net of tendered shares	—	—	222,549	2	853
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	170,584	2	1,123
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	43,341	—	1,094
Issuance of common stock to employees under an ESPP	—	—	11,667	—	321
BALANCE, DECEMBER 31, 2012	200,000	$2	46,561,437	$465	$564,883

The accompanying notes are an integral part of these consolidated financial statements.

(Continued)

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (Continued)

(in thousands, except for share data)

	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Treasury Stock Shares	Treasury Stock Amount	Total Shareholders' Equity
BALANCE, January 1, 2010	$ (197,109)	$ 25	—	—	$59,627
Net loss	(19,917)	—	—	—	(19,917)
Other comprehensive loss	—	(6,063)	—	—	(6,063)
Exercise of common stock options and warrants, net of tendered shares	—	—	—	—	17,756
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	—	—	3,133
Stock-based non-employee compensation	—	—	—	—	47
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	—	—	1,347
Issuance of common stock in connection with materials and license agreements	—	—	—	—	1,255
Issuance of common stock to employees under an ESPP	—	—	—	—	245
BALANCE, DECEMBER 31, 2010	(217,026)	(6,038)	—	—	57,430
Net income	3,155	—	—	—	3,155
Other comprehensive income	—	181	—	—	181
Exercise of common stock options and warrants, net of tendered shares	—	—	—	—	27,755
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	—	—	2,106
Stock-based non-employee compensation	—	—	—	—	7
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	—	—	1,648
Issuance of common stock in connection with materials and license agreements	—	—	—	—	9
Issuance of common stock to employees under an ESPP	—	—	—	—	307
Issuance of common stock through a public offering, net of expenses of $14,871	—	—	—	—	249,629
BALANCE, DECEMBER 31, 2011	(213,871)	(5,857)	—	—	342,227
Net income	9,660	—	—	—	9,660
Other comprehensive income	—	155	—	—	155
Repurchase of common stock	—	—	205,902	(5,202)	(5,202)
Exercise of common stock options, net of tendered shares	—	—	—	—	855
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	—	—	1,125
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	—	—	1,094
	—	—	—	—	321

Issuance of common stock to employees under an ESPP					
BALANCE, DECEMBER 31, 2012	$ (204,211)	$ (5,702)	205,902	$ (5,202)	$ 350,235

The accompanying notes are an integral part of these consolidated financial statements.

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2012	2011	2010
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income (loss)	$9,660	$3,155	$(19,917)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Amortization of deferred revenue	(5,284)	(3,275)	(4,891)
Depreciation	1,978	1,451	1,707
Amortization of intangibles	4,869	49	1,234
Amortization of premium and discount on investments, net	(778)	(775)	(173)
Stock-based employee compensation	4,263	4,373	4,554
Stock-based non-employee compensation	—	6	47
Non-cash expense under materials and license agreements	—	9	1,173
Stock-based compensation to Board of Directors and Scientific Advisory Board	781	1,377	1,333
Loss on stock warrant liability	—	4,190	10,077
Retirement plan benefit expense	1,600	1,527	1,026
Decrease (increase) in assets:			
Accounts receivable	2,070	(3,479)	(3,903)
Inventory	(7,175)	(3,841)	(2)
Other current assets	(2,284)	341	(1,575)
Other assets	22	(82)	11
Increase in liabilities:			
Accounts payable and accrued expenses	4,718	6,775	2,388
Other current liabilities	11	23	—
Deferred revenue	3,303	4,585	2,711
Net cash provided by (used in) operating activities	17,754	16,409	(4,200)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of property and equipment	(2,737)	(2,624)	(369)
Purchases of intangibles	(109,102)	(440)	—
Purchases of short-term investments	(304,500)	(337,442)	(91,394)
Proceeds from sale of short-term investments	380,253	156,717	79,933
Net cash used in investing activities	(36,086)	(183,789)	(11,830)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of common stock	321	249,936	246
Repurchase of common stock	(5,202)	—	—
Proceeds from the exercise of common stock options and warrants	1,483	13,343	14,619
Payment of withholding taxes related to stock-based employee compensation	(4,142)	(4,473)	(1,167)
Net cash (used in) provided by financing activities	(7,540)	258,806	13,698
(DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(25,872)	91,426	(2,332)
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	111,795	20,369	22,701
CASH AND CASH EQUIVALENTS, END OF YEAR	$85,923	$111,795	$20,369

The accompanying notes are an integral part of these consolidated financial statements.

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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BUSINESS:

Universal Display Corporation (Company) is engaged in the research, development and commercialization of organic light emitting diode (OLED) technologies and materials for use in flat panel display, solid-state lighting and other product applications. The Company's primary business strategy is to develop and license its proprietary OLED technologies to product manufacturers for use in these applications. In support of this objective, the Company also develops new OLED materials and sells those materials to product manufacturers. Through internal research and development efforts, acquisitions from and relationships with entities such as Princeton University (Princeton), the University of Southern California (USC), the University of Michigan (Michigan), FUJIFILM Corporation (FUJIFILM), Motorola Solutions, Inc. (f/k/a Motorola, Inc.) (Motorola) and PPG Industries, Inc. (PPG Industries), the Company has established a significant portfolio of proprietary OLED technologies and materials (see Notes 3, 5 and 7).

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Principles of Consolidation

The consolidated financial statements include the accounts of Universal Display Corporation and its wholly owned subsidiaries, UDC, Inc., Universal Display Corporation Hong Kong, Ltd., Universal Display Corporation Korea, Inc., Universal Display Corporation Japan, Inc. and UDC Ireland Limited. All intercompany transactions and accounts have been eliminated.

Management's Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The estimates made are principally in the area of revenue recognition for license agreements, useful life of acquired technology, stock-based compensation and the valuation of stock warrant and retirement benefit plan liabilities. Actual results could differ from those estimates.

Cash, Cash Equivalents and Investments

The Company considers all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents. The Company classifies its remaining investments as available-for-sale. These securities are carried at fair market value, with unrealized gains and losses reported in shareholders' equity. Gains or losses on securities sold are based on the specific identification method. Investments at December 31, 2012 and 2011 consist of the following (in thousands):

Investment Classification	Amortized Cost	Unrealized Gains	(Losses)	Aggregate Fair Market Value
December 31, 2012				
Certificates of deposit	$7,562	$3	$(5)	$7,560
Commercial paper	2,997	—	—	2,997
Corporate bonds	141,349	9	(25)	141,333
U.S. Government bonds	3,098	—	—	3,098

Convertible notes	4,300	—	—	4,300
	$159,306	$12	$(30)	$159,288
December 31, 2011				
Certificates of deposit	$5,797	$—	$(5)	$5,792
Corporate bonds	223,260	43	(25)	223,278
U.S. Government bonds	5,224	—	—	5,224
	$234,281	$43	$(30)	$234,294

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On July 13, 2012, the Company entered into a three-year joint development agreement with Plextronics, Inc. (Plextronics), a private company engaged in printed solar, lighting and other electronics related research and development. Under the joint development agreement, the Company is committed to pay $1 million per year to Plextronics for three years. In addition, the Company invested $4 million in Plextronics through the purchase of a convertible promissory note. The Company also received warrants in connection with the purchase of the convertible note. The note accrues interest at the rate of 3% per year and is due and payable by June 30, 2013. The note is included in short-term investments on the consolidated balance sheet. Depending on certain conditions, the note may either convert automatically, or if other certain conditions are met, the Company has the option to convert the note into shares of Plextronics' preferred stock at a specified conversion price.

On July 17, 2012, the Company invested $300,000 in a private company engaged in plasma processing equipment research and development (the Borrower) through the purchase of a convertible promissory note. The note accrues interest at the rate of 5% per year and is due and payable by August 1, 2015. The note is included in investments on the consolidated balance sheet. The Company has the option to convert the note into shares of the Borrower's preferred stock at a specified conversion price.

All short-term investments held at December 31, 2012 will mature within one year. Long-term investments held at December 31, 2012 will mature between February 2014 and July 2015.

Trade Accounts Receivable

Trade accounts receivable are stated at the amount the Company expects to collect and do not bear interest. The Company considers the following factors when determining the collectability of specific customer accounts: customer credit-worthiness, past transaction history with the customer, current economic industry trends, and changes in customer payment terms. The Company's accounts receivable balance is a result of chemical sales, royalties, license fees and U.S. government contract revenues. These receivables have historically been paid timely. Due to the nature of the accounts receivable balance, the Company believes there is no significant risk of collection. If the financial condition of the Company's customers were to deteriorate, adversely affecting their ability to make payments, allowances for doubtful accounts would be required. The Company recorded no bad debt expense in the years ended December 31, 2012, 2011 and 2010.

Inventory

Inventory, which consists of materials that have been classified as commercial, is valued at the lower of cost or market using the first-in, first-out method. Commercial materials are materials that have been validated by the Company for use in commercial OLED products.

Fair Value Measurements

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of December 31, 2012 (in thousands):

		Fair Value Measurements, Using		
	Total carrying value as of December 31, 2012	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cash equivalents	$63,863	$63,863	$—	$—
Short-term investments	158,018	154,018	—	4,000

Long-term investments	1,270	970	—	300

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of December 31, 2011 (in thousands):

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		Fair Value Measurements, Using		
	Total carrying value as of December 31, 2011	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cash equivalents	$96,538	$96,538	$—	$—
Short-term investments	234,294	234,294	—	—

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on management’s own assumptions used to measure assets and liabilities at fair value. A financial asset or liability’s classification is determined based on the lowest level input that is significant to the fair value measurement.

Our convertible promissory note investments were initially recorded at cost and are classified within both short-term and long-term investments on the consolidated balance sheet.

These convertible promissory note investments are inherently risky as the notes lack a ready market for resale, and the note issuer's success is dependent on product development, market acceptance, operational efficiency, the ability of the investee companies to raise additional funds in financial markets that can be volatile, and other key business factors. The companies we have invested in could fail or not be able to raise additional funds when needed. These events could cause our investments to become impaired. In addition, financial market volatility could negatively affect our ability to realize value in our investments through liquidity events such as mergers and private sales.

We determine the fair value of our convertible promissory note investments portfolio quarterly. The fair value of our convertible promissory note investments is determined through the consideration of whether the investee is experiencing financial difficulty. Management performs an evaluation of the probability that the borrower will be in payment default on any of its debt in the foreseeable future. The evaluation requires significant judgment and includes quantitative and qualitative analysis of identified events or circumstances affecting the investee, which may impact the fair value of the investment, such as:

- the investee's revenue and earnings trends relative to pre-defined milestones and overall business prospects;
- the technological feasibility of the investee's products and technologies;
- the general market conditions in the investee's industry or geographic area, including adverse regulatory or economic changes;
- factors related to the investee's ability to remain in business, such as the investee's liquidity, debt ratios, and the rate at which the investee is using its cash; and
- the investee's receipt of additional funding at a lower valuation.

If the fair value of a convertible promissory note investment is below our carrying value, the asset will be written down to its fair value with a resulting charge to net income. Temporary impairments result in a write down of the investment to its fair value with the charge reported in shareholders' equity. There were no impairments of non-marketable convertible debt as of December 31, 2012.

The following table is a reconciliation of the changes in fair value of the Company's investments in convertible notes for the year ended December 31, 2012, which had been classified in Level 3 in the fair value hierarchy (in thousands):

	Year Ended December 31, 2012
Fair value of notes, beginning of year	$—
Investments	4,300
Fair value of notes, end of year	$4,300

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The following table is a reconciliation of the changes in fair value of the Company's stock warrant liability for the years ended December 31, 2011 and 2010, which had been classified in Level 3 in the fair value hierarchy (in thousands):

	Year Ended December 31	
	2011	2010
Fair value of stock warrant liability, beginning of year	$10,660	$3,720
Loss for period	4,190	10,077
Warrants exercised	(14,850)	(3,137)
Fair value of stock warrant liability, end of year	$—	$10,660

The fair value of the stock warrant liability was determined using the Black-Scholes option pricing model with the following inputs at December 31:

	2010
Contractual life (years)	0.6
Expected volatility	55.6%
Risk-free interest rate	0.2%
Annual dividend yield	—%

Fair Value of Financial Instruments

The carrying values of accounts receivable, other current assets, and accounts payable approximate fair value in the accompanying financial statements due to the short-term nature of those instruments. The Company's other financial instruments, which include cash equivalents and investments are carried at fair value as noted above.

Property and Equipment

Property and equipment are stated at cost and depreciated on a straight-line basis over the estimated useful life of 30 years for building, 15 years for building improvements, and three to seven years for office and lab equipment and furniture and fixtures. Repair and maintenance costs are charged to expense as incurred. Additions and betterments are capitalized.

Impairment of Long-Lived Assets

Company management continually evaluates whether events or changes in circumstances might indicate that the remaining estimated useful life of long-lived assets may warrant revision, or that the remaining balance may not be recoverable. When factors indicate that long-lived assets should be evaluated for possible impairment, the Company uses an estimate of the related undiscounted cash flows in measuring whether the long-lived asset should be written down to fair value. Measurement of the amount of impairment would be based on generally accepted valuation methodologies, as deemed appropriate. As of December 31, 2012, Company management believed that no revision to the remaining useful lives or write-down of the Company's long-lived assets was required, and similarly, no such revisions were required for the years ended December 31, 2011 or 2010.

Stock Warrant Liability

The Company had warrants to purchase shares of common stock outstanding containing a "down-round" provision. In accordance with the guidance in Accounting Standards Codification (ASC) 815, Derivatives and Hedging, the fair value of these warrants was required to be reported as a liability, with the changes of fair value recorded on the

statement of operations. The change in fair value of these warrants resulted in a non-cash loss on the Company's consolidated statement of operations of $4.2 million and $10.1 million for the years ended December 31, 2011 and 2010, respectively. In 2011, all remaining outstanding stock warrants to purchase shares of the Company's common stock were exercised.

The fair value of the stock warrant liability was determined using the Black-Scholes option pricing model as noted above in "Fair Value Measurements."

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Net Income (Loss) Per Common Share

Basic net income (loss) per common share is computed by dividing the net income (loss) by the weighted-average number of shares of common stock outstanding for the period, excluding unvested restricted stock awards. Diluted net income (loss) per common share reflects the potential dilution from the exercise or conversion of securities into common stock, the effect of unvested restricted stock awards and restricted stock units, and the impact of shares to be issued under the ESPP.

The following table is a reconciliation of net income (loss) and the shares used in calculating basic and diluted net income (loss) per common share for the years ended December 31, 2012, 2011 and 2010 (in thousands, except share and per share data):

	Year Ended December 31,		
	2012	2011	2010
Numerator:			
Net income (loss)	$9,660	$3,155	$(19,917)
Denominator:			
Weighted average common shares outstanding – Basic	45,951,276	43,737,968	37,567,374
Effect of dilutive shares:			
Common stock equivalents arising from stock options and ESPP	648,661	956,803	—
Restricted stock awards and units	283,665	445,623	—
Weighted average common shares outstanding – Diluted	46,883,602	45,140,394	37,567,374
Net income (loss) per common share:			
Basic	$0.21	$0.07	$(0.53)
Diluted	$0.21	$0.07	$(0.53)

For the year ended December 31, 2012, the combined effects of outstanding stock options, and unvested restricted stock awards and restricted stock units, and outstanding stock options of 212,941, and the impact of shares to be issued under the ESPP, which was minor, were excluded from the calculation of diluted EPS as their impact would have been antidilutive. For the year ended December 31, 2011, the effect of 586,972 warrants prior to their exercise was excluded from the calculation of diluted EPS as the impact would have been antidilutive. For the year ended December 31, 2010, the effects of the assumed exercise of the combined outstanding stock options and warrants and unvested restricted stock awards and restricted stock units of 3,165,048 and the impact of shares to be issued under the ESPP, which was minor, were excluded from the calculation of diluted EPS as the impact would have been antidilutive.

Revenue Recognition and Deferred Revenue

Material sales relate to the Company’s sale of its OLED materials, for incorporation into its customers’ commercial OLED products or for their OLED development and evaluation activities. Material sales are recognized at the time of shipment or at time of delivery, and passage of title, depending upon the contractual agreement between the parties.

The Company has received non-refundable advance license and royalty payments under certain commercial, development and technology evaluation agreements. Certain of the payments under development and technology evaluation agreements are creditable against future amounts payable under commercial license agreements that the parties may subsequently enter into and, as such, are deferred until such commercial license agreements are executed or negotiations have ceased and Company management determines that there is no appreciable likelihood of executing a commercial license agreement with the other party. Revenue would then be recognized over the term of the agreement or the expected useful life of the relevant licensed technology, for perpetual licenses, if there is an effective

commercial license agreement or amounts are not creditable against future commercial license fees, or at the time Company management determines that there is no appreciable likelihood of an executable commercial license agreement. Amounts deferred are classified as current and non-current based upon current contractual remaining terms; however, based upon on-going relationships with customers, as well as future agreement extensions, amounts classified as current as of December 31, 2012, may not be recognized as revenue over the next twelve months. As of December 31, 2012, $7.4 million was recorded as deferred revenue, of which $1.5 million is creditable against future commercial license agreements that have not yet been executed or deemed effective. For the years ended December 31, 2012 and 2010, respectively, $1.9 million and $2.1 million of revenue was recognized relating to cash payments received that were creditable against license fees and/or royalties for which the Company determined there was no appreciable likelihood of executing a commercial license agreement with the customer. For arrangements with extended payment terms where the fee is not fixed and determinable, the Company recognizes revenue when the payment is due and payable. Royalty revenue is recognized when earned and the amount is fixed and determinable.

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Technology development and support revenue is revenue earned from government contracts, development and technology evaluation agreements and commercialization assistance fees, which includes reimbursements by government entities for all or a portion of the research and development costs the Company incurs in relation to its government contracts. Revenues are recognized proportionally as research and development costs are incurred, or as defined milestones are achieved.

Included in accounts receivable as of December 31, 2012 and 2011 are unbilled receivables of $308,000 and $870,000, respectively. All amounts are billed and due within one year.

Cost of Material Sales

Cost of material sales represents costs associated with the sale of materials that have been classified as commercial.

Research and Development

Expenditures for research and development are charged to operations as incurred. Research and development expenses consist of the following (in thousands):

	Year Ended December 31,		
	2012	2011	2010
Development and operations in the Company’s facilities	$21,381	$18,707	$16,194
Costs incurred under sponsored research agreements	2,058	1,022	1,143
PPG OLED Materials Agreement (Note 7)	6,170	3,539	3,296
Scientific Advisory Board compensation	423	861	1,062
	$30,032	$24,129	$21,695

Patent Costs and Amortization of Acquired Technology

Costs associated with patent applications, patent prosecution, patent defense and the maintenance of patents are charged to expense as incurred. Costs to successfully defend a challenge to a patent are capitalized to the extent of an evident increase in the value of the patent. Costs that relate to an unsuccessful outcome are charged to expense. Amortization costs relate to acquired technology from FUJIFILM and Motorola in 2012 and 2011, respectively.

Translation of Foreign Currency Financial Statements and Foreign Currency Transactions

The Company's reporting currency is the U.S. dollar. The functional currency for the Company's Ireland subsidiary is also the U.S. dollar and the functional currency for each of the Company's Asia-Pacific foreign subsidiaries is its local currency. The Company translates the amounts included in the Consolidated Statements of Operations from its Asia-Pacific foreign subsidiaries into U.S. dollars at weighted-average exchange rates, which it believes are representative of the actual exchange rates on the dates of the transactions. The Company's foreign subsidiaries' assets and liabilities are translated into U.S. dollars from local currency at the actual exchange rates as of the end of each reporting date, and the Company records the resulting foreign exchange translation adjustments in the Consolidated Balance Sheets as a component of accumulated other comprehensive loss. The overall effect of the translation of foreign currency and foreign currency transactions to date have been insignificant.

Statement of Cash Flow Information

The following non-cash activities occurred (in thousands):

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	Year Ended December 31,		
	2012	2011	2010
Unrealized (loss) gain on available-for-sale securities	$(31)	$(1)	$(12)
Common stock issued for royalties that was earned in a previous period	—	—	81
Common stock issued to Board of Directors and Scientific Advisory Board that was earned in a previous period	328	300	314
Common stock issued to employees that was accrued for in a previous period, net of shares withheld for taxes	(252)	1,113	930
Fair value of stock warrant liability reclassified to shareholders' equity upon exercise	—	14,850	3,137

During the year ended December 31, 2012, 2011, and 2010, the Company paid cash of $5.3 million, $2.0 million, and $330,000 for income taxes.

Income Taxes

Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities. Deferred tax assets or liabilities at the end of each period are determined using the tax rate expected to be in effect when taxes are actually paid or recovered. The Company accounts for the sale of its state net operating losses on a cash basis; therefore, it does not record an income tax benefit until the cash is received. The Company classifies interest and penalties, if any, as a component of tax expense.

Share-Based Payment Awards

The Company recognizes in the statements of operations the grant-date fair value of stock options and other equity-based compensation, such as shares issued under employee stock purchase plans, restricted stock awards and units and stock appreciation rights (SARs), issued to employees and directors.

The grant-date fair value of stock options is determined using the Black-Scholes option pricing model. The fair value of share-based awards is recognized as compensation expense on a straight-line basis over the requisite service period, net of estimated forfeitures. The Company relies primarily upon historical experience to estimate expected forfeitures and recognizes compensation expense on a straight-line basis from the date of the grant. The Company issues new shares upon the exercise or vesting of share-based payment awards.

Cash-settled SARs awarded in share-based payment transactions are classified as liability awards; accordingly, the Company records these awards as a component of accrued expenses on its consolidated balance sheets. The fair value of each SAR is estimated using the Black-Scholes option pricing model and is remeasured at each reporting period until the award is settled. Changes in the fair value of the liability award are recorded as expense or income in the statements of operations.

Recent Accounting Pronouncements

In May 2011, the Financial Accounting Standards Board (FASB) issued amended standards that revised the application of the valuation premise of highest and best use of an asset, the application of premiums and discounts for fair value determination, as well as the required disclosures for transfers between Level 1 and Level 2 fair value measures and the highest and best use of nonfinancial assets. The update provides additional disclosures regarding Level 3 fair value measurements and clarifies certain other existing disclosure requirements. The new guidance is effective prospectively for fiscal years, and interim periods within those years, beginning after December 15, 2011. The adoption of this new guidance did not have an impact on the Company's results of operations or financial position.

In June 2011, the FASB issued amended standards for the reporting of other comprehensive income. The amendments require that all non-owner changes in shareholders' equity be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. In either case, an entity is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. Regardless of which option is chosen, the entity is required to present on the face of the financial statements any adjustments for items that are reclassified from other comprehensive income to net income in the statements where the components of net income and the components of other comprehensive income are presented. In December 2011, the FASB issued additional standards which defer specific requirements to present reclassification adjustments for each

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component of accumulated other comprehensive income. The new guidance is effective retrospectively for fiscal years, and interim periods within those years, beginning after December 15, 2011. This new guidance did not have an impact on the Company's results of operations or financial position, but changed the Company's presentation of comprehensive income (loss).

In February 2013, the FASB issued amended standards that revised the reporting of reclassifications out of accumulated other comprehensive income and addressed certain matters from the June 2011 standards for reporting of other comprehensive income that were deferred pending additional consideration. The amendment requires an entity to provide information about the amounts reclassified out of accumulated other comprehensive income by component. In addition, entities are required to present, either on the face of the statement where net income is presented or in the notes, significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income but only if the amount reclassified is required under U.S. GAAP to be reclassified to net income in its entirety in the same reporting period. For other amounts that are not required under U.S. GAAP to be reclassified in their entirety to net income, entities are required to cross-reference to other disclosures required under U.S. GAAP that provide additional detail on these amounts. This guidance is effective prospectively for reporting periods beginning after December 15, 2012. This new guidance will not have an impact on the Company's results of operations or financial position, but may change the Company's presentation of net income (loss) and comprehensive income (loss), and/or disclosures to the Company's Consolidated Financial Statements.

3. RESEARCH AND LICENSE AGREEMENTS WITH PRINCETON UNIVERSITY, UNIVERSITY OF SOUTHERN CALIFORNIA AND THE UNIVERSITY OF MICHIGAN:

The Company funded OLED technology research at Princeton and, on a subcontractor basis, at USC, for 10 years under a Research Agreement executed with Princeton in August 1997 (1997 Research Agreement). The Principal Investigator conducting work under the 1997 Research Agreement transferred to Michigan in January 2006. Following this, the 1997 Research Agreement was allowed to expire on July 31, 2007.

As a result of the transfer, the Company entered into a new Sponsored Research Agreement with USC to sponsor OLED technology research at USC and, on a subcontractor basis, Michigan. This new Research Agreement (2006 Research Agreement) was effective as of May 1, 2006, and had an original term of 3 years. The 2006 Research Agreement superseded the 1997 Research Agreement with respect to all work being performed at USC and Michigan. Payments under the 2006 Research Agreement are made to USC on a quarterly basis as actual expenses are incurred. The Company incurred $2.2 million in research and development expense for work performed under the 2006 Research Agreement during the original term, which ended on April 30, 2009.

Effective May 1, 2009, the Company amended the 2006 Research Agreement to extend the term of the agreement for an additional 4 years. As of December 31, 2012, the Company is obligated to pay USC up to $835,000 for work to actually be performed during the remaining extended term, which runs through April 30, 2013. From May 1, 2009 through December 31, 2012, the Company incurred $4.3 million in research and development expense for work performed under the amended 2006 Research Agreement.

On October 9, 1997, the Company, Princeton and USC entered into an Amended License Agreement (1997 Amended License Agreement) under which Princeton and USC granted the Company worldwide, exclusive license rights, with rights to sublicense, to make, have made, use, lease and/or sell products and to practice processes based on patent applications and issued patents arising out of work performed by Princeton and USC under the 1997 Research Agreement. Under this agreement, the Company is required to pay Princeton royalties for licensed products sold by the Company or its sublicensees. For licensed products sold by the Company, the Company is required to pay Princeton 3% of the net sales price of these products. For licensed products sold by the Company's sublicensees, the Company is required to pay Princeton 3% of the revenues received by the Company from these sublicensees. These

royalty rates are subject to renegotiation for products not reasonably conceivable as arising out of the 1997 Research Agreement if Princeton reasonably determines that the royalty rates payable with respect to these products are not fair and competitive.

The Company is obligated under the 1997 Amended License Agreement to pay to Princeton minimum annual royalties. The minimum royalty payment is $100,000 per year. The Company incurred $2.1 million, $1.2 million and $556,000 of royalty expense in connection with the agreement for the years ended December 31, 2012, 2011 and 2010, respectively.

The Company also is required under the 1997 Amended License Agreement to use commercially reasonable efforts to bring the licensed OLED technology to market. However, this requirement is deemed satisfied if the Company invests a minimum of $800,000 per year in research, development, commercialization or patenting efforts respecting the patent rights licensed to the Company.

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In connection with entering into the 2006 Research Agreement, the Company amended the 1997 Amended License Agreement to include Michigan as a party to that agreement effective as of January 1, 2006. Under this amendment, Princeton, USC and Michigan have granted the Company a worldwide exclusive license, with rights to sublicense, to make, have made, use, lease and/or sell products and to practice processes based on patent applications and issued patents arising out of work performed under the 2006 Research Agreement. The financial terms of the 1997 Amended License Agreement were not impacted by this amendment.

4. PROPERTY AND EQUIPMENT:

Property and equipment consist of the following (in thousands):

	December 31,	
	2012	2011
Land	$820	$820
Building and improvements	11,652	11,469
Office and lab equipment	19,056	15,597
Furniture and fixtures	374	341
Construction-in-progress	619	1,392
	32,521	29,619
Less: Accumulated depreciation	(20,713)	(18,735)
Property and equipment, net	$11,808	$10,884

Depreciation expense was $2.0 million, $1.5 million and $1.7 million for the years ended December 31, 2012, 2011 and 2010, respectively.

5. ACQUIRED TECHNOLOGY:

Acquired technology consists of acquired license rights for patents and know-how obtained from PD-LD, Inc., Motorola and FUJIFILM. These intangible assets consist of the following (in thousands):

	December 31,	
	2012	2011
PD-LD, Inc.	$1,481	$1,481
Motorola	15,909	15,909
FUJIFILM	109,102	—
	126,492	17,390
Less: Accumulated amortization	(21,868)	(16,999)
Acquired technology, net	$104,624	$391

Amortization expense for all intangible assets was $4.9 million, $49,000 and $1.2 million for the years ended December 31, 2012, 2011 and 2010, respectively.

Motorola Patent Acquisition

In 2000, the Company entered into a license agreement with Motorola whereby Motorola granted the Company perpetual license rights to what are now 74 issued U.S. patents relating to Motorola’s OLED technologies, together with foreign counterparts in various countries. These patents expire in the U.S. between 2014 and 2018.

The Company was required under a license agreement to pay Motorola annual royalties on gross revenues received on account of the Company's sales of OLED products or components, or from its OLED technology licenses, whether or not these revenues related specifically to inventions claimed in the patent rights licensed from Motorola.

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On March 9, 2011, the Company purchased these patents from Motorola, including all existing and future claims and causes of action for any infringement of the patents, pursuant to a Patent Purchase Agreement. The Patent Purchase Agreement effectively terminated the Company's license agreement with Motorola, including any obligation to make royalty payments to Motorola.

The technology acquired from Motorola had an assigned value of $440,000 as of March 9, 2011, which is being amortized over a period of 7.5 years. The Company accrued royalty expense in connection with the Motorola license agreement of $310,000 and $163,000 for the years ended December 31, 2010 and 2009, respectively. To satisfy the royalty obligation, the Company issued to Motorola 7,200 shares of the Company's common stock, valued at $81,000, and paid $81,000 in cash for the year ended December 31, 2009, which were issued and paid in 2010. There was no corresponding royalty expense for the years ended December 31, 2011 and 2012.

FUJIFILM Patent Acquisition

On July 23, 2012, the Company entered into a Patent Sale Agreement (the Agreement) with FUJIFILM. Under the Agreement, FUJIFILM sold more than 1,200 OLED related patents and patent applications in exchange for a cash payment of $105.0 million. The Agreement contains customary representations and warranties and covenants, including respective covenants not to sue by both parties thereto. The Agreement permitted the Company to assign all of its rights and obligations under the Agreement to its affiliates, and the Company assigned, prior to the consummation of the transactions contemplated by the Agreement, its rights and obligations to UDC Ireland Limited (UDC Ireland), a wholly-owned subsidiary of the Company formed under the laws of the Republic of Ireland. The transactions contemplated by the Agreement were consummated on July 26, 2012.

The Company recorded the $105.0 million plus $4.1 million of costs as acquired technology which is being amortized over a period of 10 years. The total amortization expense for the year ended December 31, 2012 associated with the acquired technology is $4.8 million, and is included in the patent costs and amortization of acquired technology expense line item on the Consolidated Statement of Operations.

Amortization expense related to acquired technology is currently expected to be as follows (in thousands):