

UNIVERSAL DISPLAY CORP \PA\  
Form 10-K  
March 15, 2010

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF  
1934

For the fiscal year ended December 31, 2009

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  
(State or other jurisdiction of incorporation or  
organization)

23-2372688  
(I.R.S. Employer Identification No.)

375 Phillips Boulevard, Ewing, New Jersey  
(Address of principal executive offices)

08618  
(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      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 ☒

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 ☒ 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 ☐ 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. X

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

Accelerated filer X

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 30, 2009, was \$264,732,228. 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 March 10, 2010, the registrant had outstanding 37,033,701 shares of common stock.

#### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2010 Annual Meeting of Shareholders, which is to be filed with the Securities and Exchange Commission no later than April 30, 2010, 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” 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:

- the outcomes of our ongoing and future research and development activities, and those of others, relating to organic light emitting diode (OLED) technologies and materials;
- our ability to access future OLED technology developments of our academic and commercial research partners;
- the potential commercial applications of and future demand for our OLED technologies and materials, and of OLED products in general;
- our ability to form and continue strategic relationships with manufacturers of OLED products;
- successful commercialization of products incorporating our OLED technologies and materials by OLED manufacturers, and their continued willingness to utilize our OLED technologies and materials;
- 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;
- our ability to compete against third parties with resources greater than ours;
- our ability to maintain and improve our competitive position following the expiration of our fundamental OLED patents;
- the adequacy of protections afforded to us by the patents that we own or license and the cost to us of maintaining and enforcing those patents;
- our ability to obtain, expand and maintain patent protection in the future, and to protect our unpatentable intellectual property;

- our exposure to and ability to withstand third-party claims and challenges to our patents and other intellectual property rights;
- 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;
- 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; 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 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 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 heat generation 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 further develop and license our proprietary OLED technologies to manufacturers of products for display applications, such as cell phones, MP3 players, laptop computers and televisions, and specialty and general lighting products. In support of this objective, we also develop new OLED materials and sell materials to those product manufacturers. Through our internal research and development efforts and our relationships with world-class partners such as Princeton University (Princeton), the University of Southern California (USC), the University of Michigan (Michigan), Motorola, Inc. (Motorola) and PPG Industries, Inc. (PPG Industries), 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 1,000 patents issued and pending worldwide.

We sell our proprietary OLED materials to customers for evaluation and use in commercial OLED products. A substantial portion of our commercial OLED material sales in 2009 were to Samsung Mobile Display Co., Ltd. (Samsung SMD). In 2009, we also received royalties under our patent license agreement with Samsung SMD on account of its sales of active matrix OLED (AMOLED) display products.

In 2009, we entered into a patent license agreement with Showa Denko K.K. (Showa Denko) for its manufacture of OLED lighting products by solution processing methods. We previously entered into a patent license agreement for OLED lighting products with Konica Minolta Holdings, Inc. and its subsidiary (Konica Minolta), and a cross license agreement with DuPont Displays, Inc. (DuPont Displays) for its manufacture of solution-processed OLED display products using proprietary OLED materials obtained through us. We continue to work with many 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, MP3 players, digital cameras 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 desktop computer monitors and televisions.

Liquid crystal displays, or LCDs, currently 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;

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

Based on these characteristics, product manufacturers are adopting small-area OLED displays for use in portable electronic devices, such as cell phones and MP3 players. These manufacturers are also working to develop 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.

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 as 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, how good their color is compared to an ideal light source – is inferior to that of an incandescent bulb. Fluorescent lamps also pose environmental concerns because they historically have contained mercury.

Solid-state lighting relies on the direct conversion of electricity to visible white 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, which in theory could approach 100%.

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 various specialty lighting products, such as traffic lights, billboards, replacements for neon lighting and as border or accent lighting. However, the high operating temperatures and intense brightness of LEDs may make them less desirable for 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.

### 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. We and our research partners 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 backlit LCDs. We believe that our PHOLED technologies 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.

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**Relationships with Leading Product Manufacturers.** We have established relationships with well-known manufacturers that are using, or are evaluating, our OLED technologies and materials for use in commercial products. In 2009, Samsung SMD, LG Display Co., Ltd. (LG Display) and Tohoku Pioneer Corporation (Tohoku Pioneer) purchased our proprietary OLED materials for use in commercial OLED display products. In 2009, we also entered into a license agreement with Showa Denko for its manufacture of OLED lighting products by solution processing methods. Previously, we entered into license agreements with Konica Minolta for its manufacture of OLED lighting products (2008), Samsung SMD for its manufacture of AMOLED display products (2005), 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. We continue to work with many product manufacturers who are evaluating our OLED technologies and materials for use in commercial OLED displays and lighting products, including AU Optronics Corporation (AU Optronics) and Sony Corporation (Sony).

**Broad Portfolio of Intellectual Property.** We believe that our extensive portfolio of patents, trade secrets and 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, Motorola and PPG Industries, we own, exclusively license or have the sole right to sublicense more than 1,000 patents issued and pending worldwide. We also continue to accumulate valuable trade secret information and 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 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.

**Leading Supplier of UniversalPHOLED Emitter Materials.** We are the leading supplier of phosphorescent emitter materials to OLED product manufacturers. 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.

**Established U.S. Government Contracts to Fund Research and Development.** In 2009, we started or continued working under approximately 15 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 both promote and continue to expand our portfolio of OLED technologies and materials for widespread use in OLED displays and lighting products, and to generate revenues by licensing our OLED technologies and selling our proprietary OLED materials. We presently are focused on the following steps to implement our business strategy:

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 have entered into license agreements with Showa Denko, Konica Minolta, Samsung SMD, DuPont Displays and Seiko Epson. In 2009, we sold our proprietary phosphorescent OLED materials to Samsung SMD, LG Display and Tohoku Pioneer for use in commercial OLED display products. 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

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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 PHOLED 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, 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, such as organic lasers and photodetectors. Our focus on next-generation technologies is designed to enable us to continue 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;
- technical assistance and support provided to third parties for commercialization of their OLED products; and
- technology research and development, including government contract work and collaborative R&D with third parties.

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 in foreign countries, particularly the Asia-Pacific region. Consequently, we receive a substantial portion of our revenues from external customers that are domiciled outside of the United States, and our business is heavily dependent on our relationships with these customers. In particular, one customer located in the Asia-Pacific region, Samsung SMD, accounted for approximately 31% of our consolidated revenues for 2009. Substantially all revenue derived from these 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 Phosphorescent OLED Technologies

Phosphorescent OLEDs utilize specialized materials and device structures that allow OLEDs to emit light through a process known as phosphorescence. Conversely, 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 for hand-held devices, such as mobile phones, 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. We devote a substantial portion of our efforts to developing new and improved proprietary PHOLED materials and device architectures for red, green, blue and white OLED devices. In 2009, we

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continued our commercial supply relationships with companies such as Samsung SMD and LG Display to use our PHOLED 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:

**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.

**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 enhances durability and enables 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).

**OVPD™ Organic Vapor Phase Deposition.** 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 is based on OVPD. In contrast to the VTE process, the OVPD process utilizes a carrier gas stream 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 through more efficient materials utilization and enhanced deposition control. We have partnered with 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.

**UniversalP2OLED™ Printable Phosphorescent OLEDs.** OLEDs can be manufactured using other processes as well. Another method involves preparing solutions of the various organic materials in an OLED that can be solution-processed by 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 P2OLEDs under joint development agreements with Seiko Epson. We are continuing to develop novel P2OLED 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 P2OLED emitters.

OVJP™ Organic Vapor Jet Printing. Our OVJP technology is another direct printing method for the manufacture of OLEDs. 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. 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.

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### Our Strategic Relationships with Product Manufacturers

We have established early-stage evaluation programs, development and pre-commercial programs, and commercial arrangements with more than 25 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:

**Samsung SMD.** We have been working with Samsung SMD and providing our next generation PHOLED materials to Samsung SMD for evaluation since 2001. In 2005, we entered into a patent license agreement with Samsung SMD, the term of which currently runs through June 2010. Under this agreement, we granted Samsung SMD license rights to make and sell AMOLED displays on glass. We also supply our proprietary PHOLED materials to Samsung SMD for its use in manufacturing these AMOLED display products. In June 2009, we presented a joint paper with Samsung SMD on highly-efficient green phosphorescent OLEDs at the Society for Information Display (SID) conference in San Antonio, Texas.

**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 was recently extended through June 2010, allows us to recognize commercial chemical sales and license fee revenues from our supply of materials to LG Display. In June 2009, we presented an invited paper based on work from our flexible OLED collaboration with LG Display at the SID conference in San Antonio, Texas.

**AU Optronics.** We have a longstanding collaborative relationship with AU Optronics, dating back to 2001. AU Optronics recently resumed its OLED activities and announced plans to manufacture various commercial OLED products. 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 these products into the market.

**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.

**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 September 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.

**Tohoku Pioneer.** We have been supplying our proprietary PHOLED materials to Tohoku Pioneer, a subsidiary of Pioneer Corporation (Pioneer), for the commercial production of passive matrix OLED (PMOLED) display products since 2003. In 2005, we received the grand prize of the 10th annual Advanced Display of the Year (ADY) award, in the Display Materials and Components category, at FINETECH for the performance of our red emitter combined with a Nippon Steel Chemical Company (NSCC) red host, as built in a Pioneer OLED display.

**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 August 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 December 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.

LG Chem. We have been working with and supplying our proprietary PHOLED materials for evaluation to LG Chem, Ltd. (LG Chem) for several years. In November 2009, LG Chem publicly exhibited OLED lighting panels that utilized our proprietary red and green PHOLED materials.

CMEL. 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

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continued through the end of 2009. Our relationship with CMEL is currently inactive pending completion of the acquisition of CMEL's parent company, Chi Mei Optoelectronics Corporation, by Innolux Display Corporation.

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. As of December 31, 2009, we had not received any royalties from DuPont under that agreement.

### 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 September 2009, our OLED materials business received certification 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. Our current agreement with PPG Industries went into effect in 2006. 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. In 2008, we extended the term of our agreement with PPG Industries through December 2011.

### Our OLED Material Customers

Throughout 2009, we continued supplying our proprietary UniversalPHOLED materials to Samsung SMD for use in its commercial AMOLED display products. Samsung SMD is currently the largest manufacturer of AMOLED displays for handset and other personal electronic devices. Samsung SMD's customers for these products have included many well-known consumer electronics companies throughout the world.

In 2009, we also supplied our proprietary UniversalPHOLED materials to LG Display for use in its commercial AMOLED display products, and to Tohoku Pioneer for use in its commercial PMOLED display products. During the year, we supplied our proprietary OLED materials to 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 2009, including NSCC, Idemitsu Kosan Co., Ltd. (Idemitsu Kosan), LG Chem and SFC Co., Ltd. All of these relationships are focused on matching our proprietary PHOLED emitters with the host and other OLED materials of these companies. 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 2009, 2008 and 2007, we incurred \$20,015,080, \$18,908,783 and \$18,360,509, respectively, on both internal and third-party sponsored research and development activities with respect to our various OLED technologies and materials.

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### 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, 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 six OLED deposition systems, including a full-color flexible OLED system, a system for fabricating solution-processible OLEDs, an OVPD organic vapor phase deposition system 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 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, 2009, we employed a team of 52 research scientists, engineers and laboratory technicians at our Ewing facility. 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 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 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. During that three-year period, we paid the universities \$2,155,570 for research conducted under the agreement. In May 2009, we extended the term of the agreement for an additional four years, through April 2013. During the four-year extension period, we are obligated to reimburse the universities for up to \$7.5 million in actual costs incurred for research conducted under 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. We recently extended this agreement through December 2010. 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. The program is currently being extended through February 2011.

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 that is being extended through March 2011.

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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. Our latest agreement with SDT ran through November 2009, and we are in the process of extending our relationship with Professor Jang.

### Aixtron

In 2000, we entered into a development and license agreement with Aixtron AG of Aachen, Germany to jointly develop and commercialize equipment for 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.

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 (IPMS) 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 quarter 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. These include, among others, Small Business Innovation Research (SBIR) Phase I program contracts for the demonstration of technical merit and feasibility and SBIR Phase II program contracts for continued research and development and the fabrication of prototypes. On contracts for which we are the prime contractor, we subcontract portions of the work to various entities and institutions, including Princeton, USC, Michigan, L-3 Communications Corporation — Display Systems (L-3DS), Armstrong World Industries, Inc. (Armstrong) and LG Display. 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 receive support for our work on flexible OLED technology through various U.S. Department of Defense (DOD) agencies, including the Army Communications-Electronics Research Development and Engineering Center (CERDEC), the Army Research Laboratory (ARL) and the Air Force Research Laboratory (AFRL), as well as 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. All of our government contracts and subcontracts are subject to termination at the election of the contracting governmental agency. Several of our key U.S. government program initiatives in 2009 were as follows:

**Flexible OLED Displays.** We continued our work during 2009 to develop and deliver next-generation prototype AMOLED displays on flexible metal foil 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 amorphous silicon TFT backplanes developed and fabricated by LG Display. L-3DS, a leading systems integrator for the DOD, is responsible for designing, building and ruggedizing the prototype devices into which these displays are incorporated.

OLEDs for Lighting. During 2009, 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 continue our development of a ceiling-based white OLED lighting system in conjunction with Armstrong. We also received a new funding award from the DOE to demonstrate a thin, highly-efficient white OLED lighting concept for under-cabinet applications. In addition, we received funding from the DOE to scale our PHOLED technology for large-area usage and to demonstrate the fabrication of OLED light sources on high-index substrates. In recognition for this work, the DOE honored us at its annual SSL workshop entitled “Transformations in Lighting” in February 2009.

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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 2009, we received funding from ARL and NSF to continue working with Princeton to develop this technology for application to flexible OLED displays, and we began applying this technology to our prototype flexible OLED devices. We also received a funding award from the DOE to begin applying our encapsulation technology to white OLED devices.

### 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 ASU and ARL. This agreement was recently 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 June 2009, we introduced jointly with the FDC a novel amorphous silicon flexible AMOLED display implementing 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 effort 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 more than 100 members, including companies, universities and R&D organizations. We are one of nine members with representation on the Governing Board of the FlexTech Alliance, and we actively participate on its Technical Council. Janice Mahon, our Vice President of Technology Commercialization and the General Manager of our Chemical Supply Business, serves as our representative on the Executive Committee of the Governing Board and on the Technical Council.

### OLED Association

We are a charter member of the newly-established 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 nine 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 Mahon 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 16 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 trade secrets and technical know-how that we have accumulated over time.

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### 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, 2009, we owned, through assignment to us alone or jointly with others, 125 issued and pending U.S. patents (active U.S. cases and international applications designated in the U.S.), together with numerous counterparts filed in various foreign countries. These patents will start expiring in the U.S. in 2020.

### Patents We License from Princeton, USC and Michigan

We exclusively license the bulk of our patent rights, including our key PHOLED technology patents, under a license agreement we executed with Princeton and USC in 1997 (the 1997 License Agreement). Based on Professor Forrest's transfer to Michigan, in 2006 Michigan was added as a party to this agreement. As of December 31, 2009, the patent rights we license from these universities included 217 issued and pending U.S. patents (active U.S. cases and international applications designated in the U.S.), together with numerous counterparts filed in various foreign countries. These patents will start expiring in the U.S. in 2014, but our key PHOLED technology patents licensed from these universities will not start expiring in the U.S. until 2017.

Under the 1997 License Agreement, Princeton, USC and Michigan granted us worldwide, exclusive license rights to specified patents and patent applications relating to OLED technologies 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 License Agreement. The term of the 1997 License Agreement is perpetual, 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 License Agreement pursuant to an interinstitutional 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 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 interinstitutional agreement.

We have a minimum royalty obligation of \$100,000 per year during the term of the 1997 License Agreement. Royalties under the 1997 License Agreement with Princeton were \$222,721 for 2009. We also are required under the 1997 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 License Agreement.

### Patents We License 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 numerous foreign counterparts in various countries. These patents will start expiring in the U.S. in 2012. We have the right to freely

sublicense these patents to third parties and, with limited exceptions, Motorola has agreed not to license these patents to others in the OLED industry. Motorola remains responsible for the prosecution and maintenance of all patent rights licensed to us under our license agreement, including all associated costs. Motorola is obligated to keep us informed as to the status of these activities.

We are 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. We have the option to pay these royalties to Motorola in either all cash or 50% cash and 50% shares of our common stock.

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The royalty due to Motorola for the year ended December 31, 2009 was \$162,558. We satisfied this royalty obligation by issuing 7,200 shares of our common stock to Motorola on March 9, 2010, and by paying Motorola \$81,285 in cash on March 10, 2010. The number of shares of common stock used to pay the stock portion of the royalty was equal to approximately 50% of the total royalty due divided by the average daily closing price per share of our common stock on the NASDAQ Global Market over the 10 trading days ended two business days prior to the date of payment.

### 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 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.

### Trade Secrets and Technical Know-How

We have accumulated, and continue to accumulate, a substantial amount of trade secret information and technical know-how relating to OLED technologies and materials. Where practicable, we share portions of this information and know-how with display manufacturers and other business partners on a confidential basis. We also employ various methods to protect this information and know-how 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.

#### Flat Panel Display Industry Competitors

Numerous domestic and foreign companies have developed or are developing 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 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,

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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 existing business relationships with Samsung SMD 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, 2009, we had 82 full-time employees and two part-time employees, 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. In 2008, we also formed a second wholly-owned subsidiary, Universal Display Corporation Hong Kong, Ltd.

## 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](http://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 Exchange Act 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.

## ITEM 1A. RISK FACTORS

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

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

We cannot be certain that these advances will ever occur, and hence our OLED technologies and materials may never be feasible for 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 utilizing 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. For example, we are aware that some of our licensees and prospective licensees have entered into arrangements with our competitors regarding the development of competing technologies. 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.

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. Plasma and other competing flat panel display technologies have been, or are being, developed. A similar 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.

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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 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 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.

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. 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.

The current U.S. and global economic crisis may have a significant adverse effect on our business.

With the significant deterioration of economic conditions in the U.S. and elsewhere over the past eighteen months, there has been considerable pressure on consumer demand, and the resulting impact on consumer spending has had and may continue to have a material adverse effect on the demand for products that incorporate our OLED technologies and materials. This decline in demand 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 these products. 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.

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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.

Most 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. For example, our commercial agreements with Samsung SMD and LG Display are currently scheduled to expire at the end of June 2010. These and other 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.

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

Conflicts could arise between us and our licensees or joint development partners as to royalty rates, milestone payments or other commercial terms. Similarly, we may disagree 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. Any of these adverse outcomes could cause our business strategy 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. 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. 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.

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 key importance in the OLED industry, none are of an equally essential nature as our fundamental patents, and therefore our competitive position after 2020 may be less certain.

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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 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. 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 unpatented proprietary technologies to operate our business. Others may independently develop the same or similar technologies or otherwise obtain access to our unpatented technologies. To protect our trade secrets, know-how and other 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 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. If we are unable to protect the proprietary nature of our technologies, it will harm our business.

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.

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), Fuji Film Co., Ltd., 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 affect on our licensees' sales and thus our royalties, or cause our licensees to seek to renegotiate our royalty rates.

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 technology that contains our allegedly infringing intellectual property;
- attempt to obtain a license to the relevant third-party intellectual property, which may not be available on reasonable terms or at all; or

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- attempt to redesign their products to remove our allegedly infringing intellectual property 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 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 would have an adverse effect on our royalty revenues under existing licenses. Any necessity to procure rights to the third-party technology might cause our existing licensees to seek to renegotiate the royalty terms of their licenses with us to compensate for this increase in their cost of production or, in certain cases, to terminate their licenses with us entirely. Were this to occur, it would likely harm our ability to compete for new licensees and would have an adverse effect on the terms of the royalty arrangements we could enter into with any new licensees.

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.

A 2007 U.S. Supreme Court decision may raise the standards for all patent applicants and holders for patentability.

In 2007, the U.S. Supreme Court, in *KSR International Co. vs. Teleflex, Inc.*, mandated a more expansive and flexible approach towards a determination as to whether a patent is obvious and invalid. This ruling may make it more difficult for patent holders to secure or maintain existing patents. At the present time, we are unable to predict the impact, if any, that this ruling will have on our currently issued or future patents. As a result of the Supreme Court ruling, however, it may be more difficult for us to defend our currently issued patents or to obtain additional patents in the future. If we are unable to defend our currently issued patents, or to obtain new patents for any reason, our business would suffer.

We have a history of losses and may never be profitable.

Since inception, we have incurred significant losses and we expect to incur losses until such time, if ever, as we are able to achieve sufficient levels of revenue from the commercial exploitation of our OLED technologies and materials to support our operations. This may never occur because:

- OLED technologies might not be adopted for broad commercial usage;
- markets for flat panel displays and solid-state lighting products utilizing OLED technologies may be limited; and
- amounts we can charge for access to our OLED technologies and materials may not be sufficient for us to make a profit.

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.

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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.

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 2011. Our inability to continue obtaining these OLED materials from PPG Industries or another source would have a material adverse effect on our revenues from sales of these materials to OLED product manufacturers, as well as on our ability to perform future development work.

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;
- 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.

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 senior management and other key personnel, and on our ability to offer competitive salaries and benefits to our employees. We do not have employment agreements with any of our management or other key personnel. Additionally, competition for highly skilled technical, managerial and other

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personnel is intense. We might not be able to attract, hire, train, retain and motivate the highly skilled managers and 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 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 March 10, 2010, 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.

If the price of our common stock goes down, we may have to issue more shares than are presently anticipated to be issued under our agreement with PPG Industries.

Under our agreement with PPG Industries, we are required to issue to PPG Industries shares of our common stock as partial payment for services rendered by it, though under limited circumstances we are required to compensate PPG Industries fully in cash in lieu of common stock. The number of shares of common stock that we are required to deliver to PPG Industries is based on a specified formula. Under this formula, the lower the price of our common stock at and around the time of issuance, the greater the number of shares that we are required to issue to PPG Industries. Lower than anticipated market prices for our common stock, and correspondingly greater numbers of shares issuable to PPG Industries, with a resulting increase in the number of shares available for public sale, could cause people to sell our common stock, including in short sales, which could drive down the price of our common stock, thus reducing its value and perhaps hindering our ability to raise additional funds in the future. In addition, such an increase in the number of outstanding shares of our common stock would further dilute existing holders of this stock.

Our executive officers and directors own a large 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 March 10, 2010, approximately 15% 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.

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 small and emerging-growth companies. 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;

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- 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 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 or annual payments, resulting 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:

- 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 warrants and options.

Because we do not 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.

## ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

## 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.

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ITEM 3. LEGAL PROCEEDINGS

Opposition to European Patent No. 0946958

On December 8, 2006, CDT, which was acquired in 2007 by Sumitomo, filed a Notice of Opposition to European Patent No. 0946958 (the “EP ‘958 patent”). 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 relate to our FOLED technology. They are exclusively licensed to us by Princeton, and under the license agreement 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 on October 6, 2009. No representative from CDT attended the Oral Hearing. At the conclusion of the Oral Hearing, the EPO panel announced its decision to reject the opposition and to maintain the patent as granted. The minutes of the Oral Hearing were dispatched on October 27, 2009, and the EPO issued its official decision on November 26, 2009.

CDT filed an appeal to the EPO decision on January 25, 2010. CDT will need to file its reasons for the appeal with the EPO by April 6, 2010, after which we will have several months to respond. At this time, we believe that the EPO decision will be upheld on appeal, though we cannot make any assurances of this result.

Opposition to European Patent No. 1449238

On March 8, 2007, Sumation Company Limited (“Sumation”), a joint venture between Sumitomo and CDT, filed a first Notice of Opposition to European Patent No. 1449238 (the “EP ‘238 patent”). 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 and 7,291,406, and to pending U.S. patent application 11/879,379, filed on July 16, 2007. These patents and this patent application relate to our PHOLED technology. They are exclusively licensed to us by Princeton, and under the license agreement we are required to pay all legal costs and fees associated with this proceeding.

Two other parties filed additional oppositions to the EP ‘238 patent just prior to the August 2, 2007 expiration date for such filings. On July 24, 2007, Merck Patent GmbH, of Darmstadt, Germany, filed a second Notice of Opposition to the EP ‘238 patent, and on July 27, 2007, BASF Aktiengesellschaft, of Mannheim, Germany, filed a third Notice of Opposition to the EP ‘238 patent. The EPO combined all three oppositions into a single opposition proceeding.

The EPO set a January 6, 2008 due date for us to file our response to the opposition. We requested a two-month extension to file this response, and we subsequently filed our response in a timely manner. We are currently waiting for the EPO to notify us of the date of the oral hearing. We are also waiting to see whether the other parties in the opposition file any additional documents, to which we may respond.

At this time, we cannot make any prediction as to the probable outcome of the opposition. However, based on an analysis of the evidence presented to date, we continue to believe there is a substantial likelihood that the patent being challenged will be declared valid, and that all or a significant portion of its claims will be upheld.



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## EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth certain information with respect to our executive officers as of March 10, 2010:

Name	Age	Position
Sherwin I. Seligsohn	74	Founder and Chairman of the Board of Directors
Steven V. Abramson	58	President, Chief Executive Officer and Director
Sidney D. Rosenblatt	62	Executive Vice President, Chief Financial Officer, Treasurer, Secretary and Director
Julia J. Brown	49	Vice President and Chief Technical Officer
Janice K. Mahon	52	Vice President of Technology Commercialization and General Manager of Material Supply Business
Michael G. Hack	53	Vice President of Strategic Product Development and General Manager of OLED Lighting and Custom Displays Business

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 is also Chairman of the Board of Directors, President and Chief Executive Officer of Global Photonic Energy Corporation. 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 is the owner of and served as the President of S. Zitner Company 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.

Janice K. Mahon has been our Vice President of Technology Commercialization since January 1997, and became the General Manager of our Materials Supply 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.

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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 has been a member of the Technical Council of the FlexTech Alliance since 1997, and a member of its Governing Board since January 2008. Ms. Mahon has also served as chairperson of the Marketing Committee for the OLED Association since the beginning of 2009.

Michael G. Hack, Ph.D. has been our Vice President of Strategic Product Development since October 1999, and became the General Manager of our OLED Lighting and Custom Displays Business 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.

## ITEM 4. REMOVED AND RESERVED

## 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
2009		
Fourth Quarter.....	\$13.72	\$10.68
Third Quarter.....	12.78	9.18
Second Quarter.....	11.98	8.10
First Quarter.....	10.12	5.04
2008		
Fourth Quarter.....	\$11.75	\$5.51
Third Quarter.....	16.08	10.96
Second Quarter.....	15.95	12.32
First Quarter.....	20.78	13.43

As of March 10, 2010, there were approximately 17,400 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.

## Issuance of Shares to PPG Industries

Under our agreement with PPG Industries, we have the option to issue shares of our common stock to PPG Industries on a periodic basis as payment for up to 50% of the amounts due for certain services performed for us by PPG Industries. During the quarter ended December 31, 2009, we issued an aggregate of 40,241 shares of our common stock to PPG Industries as partial payment for these services. The shares were issued in reliance on the exemption from registration contained in Section 4(2) of the Securities Act of 1933, as amended.

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## Withholding of Shares to Satisfy Tax Liability

During the quarter ended December 31, 2009, we acquired 401 shares of common stock through a transaction related to the vesting of a restricted share award previously granted to an employee of ours. Upon vesting, the employee turned in shares of common stock in an amount sufficient to pay his minimum statutory tax withholding at rates required by the relevant tax authorities.

The following table provides information relating to the shares we received during the fourth quarter of 2009.

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	401	\$ 13.59	n/a	--
November 1 – November 30	--	--	n/a	--
December 1 – December 31	--	--	n/a	--
Total	401	\$ 13.59	n/a	--

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## Performance Graph

The performance graph below compares the change in the cumulative shareholder return of our common stock from December 31, 2004 to December 31, 2009, 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, 2004 in each of our common stock, the Russell 2000 Index and the Nasdaq Electronics Components Index.

	Cumulative Total Return					
	12/04	12/05	12/06	12/07	12/08	12/09
Universal Display Corp.	100.00	116.78	166.78	229.67	105.00	137.33
Russell 2000	100.00	104.55	123.76	121.82	80.66	102.58
NASDAQ Electronic Components	100.00	107.81	101.44	116.92	59.73	97.30

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## 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.

	Year Ended December 31,				
	2009	2008	2007	2006	2005
<b>Operating Results:</b>					
Total revenue.....	\$15,786,617	\$11,075,224	\$11,305,907	\$11,921,292	\$10,147,995
Research and development expense....	20,015,080	18,908,783	18,360,509	17,150,673	16,468,291
Selling, general and administrative expense...	10,921,859	10,170,593	9,569,381	8,902,462	7,704,931
Interest income.....	669,633	2,607,897	3,599,229	2,168,933	1,419,858
Income tax benefit.....	129,915	962,478	804,980	544,567	424,207
Net loss.....	(20,505,320)	(19,139,736)	(15,975,841 )	(15,186,804)	(15,801,612)
Net loss attributable to common shareholders.....	(20,505,320)	(19,139,736)	(15,975,841 )	(15,186,804)	(15,801,612)
Net loss per share, basic and diluted....	(0.56 )	(0.53 )	(0.47 )	(0.49 )	(0.56 )
<b>Balance Sheet Data:</b>					
Total assets.....	\$80,139,887	\$96,228,505	\$105,000,071	\$72,331,536	\$73,819,417
Current liabilities.....	13,965,959	15,769,505	12,790,531	14,382,673	11,974,854
Long-term debt.....	—	—	—	—	—
Shareholders’ equity.....	59,627,526	76,714,463	89,215,957	54,382,363	57,616,463
<b>Other Financial Data:</b>					
Working capital.....	\$53,663,617	\$64,600,256	\$73,979,638	\$37,422,740	\$38,347,913
Capital expenditures.....	258,761	1,277,098	1,225,857	2,349,033	5,656,905
Weighted average shares used in computing basic and diluted net loss per common share.....	36,479,331	35,932,372	33,759,581	30,855,297	28,462,925
Shares of common stock outstanding, end of period...	36,818,440	36,131,981	35,563,201	31,385,408	29,545,471

## 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 Section 1A of this report, entitled “Risk Factors.”

## 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. Our revenues are generated through contract research, sales of development and

commercial chemicals, license fees and royalties, technology development and evaluation agreements, and commercialization assistance agreements. In the future, we anticipate that the revenues from licensing our intellectual property will become a more significant part of our revenue stream.

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 and will likely continue to do so until our OLED technologies and materials become more widely adopted by product manufacturers. We have incurred significant losses since our inception, resulting in an accumulated deficit of \$197,108,705 as of December 31, 2009.



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

- the timing of our receipt of license fees and royalties, as well as fees for future technology development and evaluation;
- the timing and volume of sales of our OLED materials for both commercial usage and evaluation purposes;
- the timing and magnitude of expenditures we may incur in connection with our ongoing research and development 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 license fees, valuation of acquired technology, stock-based compensation and accounting for warrants, 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 License Fees

Contract research revenue represents 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 development and technology evaluation agreements with our customers. These payments are generally recognized as revenue over the term of the agreement. On occasion, however, these payments are creditable against license fees and/or royalties payable by the customer if a license agreement is subsequently executed with the customer. These payments are classified as deferred license fees or 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 license agreement is executed or negotiations have ceased and there is no appreciable likelihood of executing a license agreement with the customer. If a license agreement is executed, these payments are recorded as revenue over the estimated useful life of the licensed technology and the revenue is classified based on the terms of the license. Otherwise, these payments are recorded as revenue at the time negotiations with the customer show that there is no appreciable likelihood of executing a license agreement. If we used different estimates for the useful life of the licensed technology, reported revenue during the relevant period would differ. As of December 31, 2009, \$10,277,631 was recorded as deferred license fees and deferred revenue, of

which \$5,466,667 may be recognized under license agreements that have not yet been executed or deemed effective.

#### Valuation of Acquired Technology

We regularly review our acquired OLED technologies for events or changes in circumstances that might indicate the value of these technologies may have been impaired. Factors considered important that could cause impairment include, among others, significant changes in our anticipated future use of these 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. Measurement of the amount of impairment would be based on generally accepted valuation methodologies, as deemed appropriate. As of December 31, 2009, we believe that no

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revision of the remaining useful lives or write-down of our acquired technology was required for 2009, nor was such a revision needed in 2008 or 2007. The net book value of our acquired technology was \$1,234,272 as of December 31, 2009.

### Valuation of Stock-Based Compensation

We recognize in the statement of operations the grant-date fair value of stock options and other equity-based compensation issued to employees and directors (see Notes 2 and 10 of the Notes to Consolidated Financial Statements). We also record an expense for our option and warrant grants to non-employees, in exchange for goods or services, based on the fair value of the options and warrants, which is remeasured over the vesting period of such awards.

We use the Black-Scholes option-pricing model to estimate the fair value of options we have granted for purposes of recording charges to the statement of operations. In order to calculate the fair value of the options, assumptions are made for certain components of the model, including expected volatility, expected dividend yield rate and expected option life. Although we use available resources and information 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 Warrants

On January 1, 2009, we adopted certain revised provisions of Accounting Standards Codification (ASC) 815, Derivatives and Hedging. These provisions apply to any freestanding financial instruments or embedded features that have the characteristics of a derivative and to any freestanding financial instruments that are potentially settled in an entity's own common stock. As a result, certain of our warrants are considered to be derivatives and must be valued at the end of each period using various assumptions as they are recorded as liabilities.

The fair value of the stock warrant liability is determined using the Black-Scholes valuation model using assumptions for certain components of the model, including expected volatility and expected annual dividend yield. Although we use available resources and information when setting these assumptions, changes in assumptions could cause significant adjustments to the future valuation of the stock warrant liability. The change in fair value of the stock warrant liability is recorded as a gain or loss on the statement of operations.

### Results of Operations

#### Year Ended December 31, 2009 Compared to Year Ended December 31, 2008

We had an operating loss of \$20,266,794 for the year ended December 31, 2009, compared to an operating loss of \$22,662,914 for 2008. The decrease in operating loss was primarily due to:

- an increase in revenue of \$4,711,393;
- offset by an increase in operating expenses of \$2,315,273.

We had a net loss of \$20,505,320 (or \$0.56 per diluted share) for the year ended December 31, 2009, compared to a net loss of \$19,139,736 (or \$0.53 per diluted share) for 2008. The increase in net loss was primarily due to:

- a decrease in interest income of \$1,938,264;

- a loss on stock warrant liability of \$1,031,055; and

- a decrease in income tax benefit of \$832,563.

The increase in net loss was offset by a decrease in operating loss of \$2,396,120.

Our revenues were \$15,786,617 for the year ended December 31, 2009, compared to \$11,075,224 for 2008.

Commercial revenue increased to \$6,118,099 for the year ended December 31, 2009, compared to \$5,630,758 for 2008. Commercial revenue relates to the incorporation of our OLED technologies and materials into our customers' commercial

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products, and includes commercial chemical revenue, royalty and license revenues, and commercialization assistance revenue. The increase in commercial revenue was due to the following:

- an increase of \$764,717 in royalty revenue, which mainly represented royalties received under our patent license agreement with Samsung SMD;
- an increase of \$525,010 for commercialization assistance under a business agreement executed in the fourth quarter of 2008; and
- an increase of \$179,639 in license fees, primarily due to a patent license agreement we entered into with Konica Minolta in August 2008, a joint development agreement we previously entered into with a subsidiary of Konica Minolta, and two other agreements we entered into during the fourth quarter of 2008.

The increase in commercial revenue was offset by a decrease of \$982,025 in commercial chemical revenue. The decrease resulted from a lower volume of OLED material sales to Samsung SMD. Our understanding is that this lower sales volume was due to Samsung SMD's implementation of manufacturing process efficiencies, improved materials utilization and more efficient and improved device structures, offset in part by increased production volume. We cannot accurately predict how long our material sales to Samsung SMD or other customers will continue, as they 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.

Developmental revenue increased to \$9,668,518 for the year ended December 31, 2009, compared to \$5,444,466 for 2008. Developmental revenue relates to OLED technology and material development and evaluation activities for which we are paid, and includes contract research revenue, development chemical revenue and technology development revenue. The increase in developmental revenue was mainly due to the following:

- an increase of \$1,814,734 in technology development revenue, primarily due to revenue recognition of a non-refundable payment of \$1,500,000 that we received from Kyocera Corporation (Kyocera) during the third quarter of 2008;
- a increase of \$1,558,254 in contract research revenue, principally to the timing of work performed and costs incurred in connection with several new and completed government contracts during 2009, as well as an overall increase in value of our government contracts; and
- an increase of \$851,064 in development chemical revenue, mainly due to increased purchases of development chemical by a customer transitioning its OLED activities from development to commercial production.

The \$1,500,000 payment from Kyocera referenced above was for technical assistance previously provided under an evaluation agreement with a subsidiary of Kyocera established by it to conduct OLED research, development, manufacturing and sales activities. We had previously classified this payment as deferred revenue because it was creditable against a portion of the upfront fee under our license agreement with Kyocera. The license agreement was to become effective upon notice from Kyocera given on or before December 31, 2009. In September 2009, we received notification from Kyocera that it was terminating the evaluation agreement because its OLED subsidiary was being dissolved on September 30, 2009. Based on this notification, we determined and confirmed that Kyocera would not be sending us a notice declaring the license agreement effective. As a result of this development, we recorded the

\$1,500,000 payment as technology development revenue in the third quarter of 2009.

We incurred research and development expenses of \$20,015,080 for the year ended December 31, 2009, compared to \$18,908,783 for 2008. The increase was mainly due to:

- increased costs of \$631,931 associated with subcontractors and consultants under our government contracts;
- increased employee costs of \$428,723;
- increased costs of \$169,225 incurred in connection with stock compensation to members of our Scientific Advisory Board; and

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·increased costs of \$104,106 incurred under our agreement with PPG Industries.

The increase in research and development expenses was offset by an overall decrease of \$227,688 in operating costs associated with our Ewing facility.

Selling, general and administrative expenses were \$10,921,859 for the year ended December 31, 2009, compared to \$10,170,593 for 2008. Selling, general and administrative expenses remained relatively consistent over these corresponding periods.

Interest income decreased to \$669,633 for the year ended December 31, 2009, compared to \$2,607,897 for 2008. The decrease was mainly attributable to decreased rates of return on investments during 2009, compared to rates of return during 2008, as well as a decrease in the amount of cash available for investment. Due to current market conditions, we anticipate that these lower rates of return will continue for the foreseeable future.

At January 1, 2009, we had outstanding warrants to purchase 838,446 shares of common stock, which warrants contain a “down-round” provision. On January 1, 2009, the fair value of these warrants of \$2,689,110 was reclassified from equity to a liability upon the adoption of certain revisions to ASC 815. The change in fair value of these warrants during 2009 resulted in a \$1,031,055 non-cash loss on our statement of operations for the year ended December 31, 2009. We will continue to report the warrants as a liability, with changes in fair value recorded in the statement of operations, until such time as these warrants are exercised or expire.

During 2009, we received federal cash refunds of \$104,428 related to research and development credits. We also received state cash refunds of \$25,487 from claims for overpaid New Jersey Alternative Minimum Assessment tax for taxable years 2003 to 2006. During 2008, we sold approximately \$12.5 million of our state-related income tax net operating losses (NOLs) under the New Jersey Technology Tax Certificate Transfer Program. In 2008, we received proceeds of \$962,478 from our sale of these NOLs and research and development tax credits, and we recorded these proceeds as an income tax benefit. No such proceeds were received during 2009; however, we received \$464,162 in early 2010 for the sale of \$3.8 million of our state-related NOLs under the 2009 program.

Year Ended December 31, 2008 Compared to Year Ended December 31, 2007

We had an operating loss of \$22,662,914 for the year ended December 31, 2008, compared to an operating loss of \$20,371,858 for 2007. The increase in operating loss was primarily due to an increase in operating expenses of \$2,060,373.

We had a net loss of \$19,139,736 (or \$0.53 per diluted share) for the year ended December 31, 2008, compared to a net loss of \$15,975,841 (or \$0.47 per diluted share) for 2007. The increase in net loss was primarily due to the increase in operating expenses of \$2,060,373 and a decrease in interest income of \$991,332.

Our revenues were \$11,075,224 for the year ended December 31, 2008, compared to \$11,305,907 for 2007.

Commercial revenue increased to \$5,630,758 for the year ended December 31, 2008, compared to \$4,428,048 for 2007. The increase in commercial revenue was due to the following:

·an increase of \$887,734 in commercial chemical and royalty revenue, which mainly represented increased commercial chemical sales and royalties received under our patent license agreement with Samsung SMD;

revenue of \$166,898 received for commercialization assistance under a business agreement executed in the fourth quarter of 2008; and

·an increase of \$148,078 in license fees, primarily due to a patent license agreement we entered into with Konica Minolta in August 2008, a joint development agreement we previously entered into with a subsidiary of Konica Minolta, and two other agreements we entered into during the fourth quarter of 2008.

Developmental revenue decreased to \$5,444,466 for the year ended December 31, 2008, compared to \$6,877,859 for 2007. The decrease in developmental revenue was mainly due to the following:



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- a decrease of \$1,785,631 in contract research revenue, principally to the timing of work performed and costs incurred in connection with several new and completed government contracts during 2008, although the overall value of our government contracts remained relatively constant during both years; and
- a decrease of \$645,731 in technology development revenue, mainly due to the completion of a major joint development program with a customer during 2007.

The decrease in overall developmental revenue was offset in part by an increase in development chemical revenue. Our development chemical customer base increased significantly during 2008, as did the average dollar value of development chemical sales per customer. We cannot accurately predict the timing and frequency of development chemical purchases by our customers due to participants in the OLED industry having differing OLED technology development and product launch strategies, which are subject to change at any time.

We incurred research and development expenses of \$18,908,783 for the year ended December 31, 2008, compared to \$18,360,509 for 2007. Research and development expenses remained relatively consistent over these corresponding periods.

Selling, general and administrative expenses were \$10,170,593 for the year ended December 31, 2008, compared to \$9,569,381 for 2007. Selling, general and administrative expenses remained relatively consistent over these corresponding periods.

Patent costs increased to \$3,348,851 for the year ended December 31, 2008, compared to \$2,548,753 for the same period in 2007. The increase was mainly attributable to higher prosecution and maintenance costs associated with an increased number of patents and patent applications, as well as the timing of costs for certain ongoing patent matters.

Interest income decreased to \$2,607,897 for the year ended December 31, 2008, compared to \$3,599,229 for 2007. The decrease was mainly attributable to decreased rates of return on investments during 2008, compared to rates of return during 2007.

During 2008, we sold approximately \$12.5 million of our state-related income tax NOLs under the New Jersey Technology Tax Certificate Transfer Program. In 2008, we received proceeds of \$962,478 from our sale of these NOLs and research and development tax credits, and we recorded these proceeds as an income tax benefit. In 2007, we received proceeds of \$804,980 from corresponding sales of approximately \$7.8 million in NOLs and research and development tax credits.

## Liquidity and Capital Resources

As of December 31, 2009, we had cash and cash equivalents of \$22,701,126 and short-term investments of \$41,172,955, for a total of \$63,874,081. This compares to cash and cash equivalents of \$28,321,581 and short-term investments of \$49,132,619, for a total of \$77,454,200, as of December 31, 2008. The decrease in cash and cash equivalents and short-term investments of \$13,580,119 was primarily due to the usage of cash in operating activities.

Cash used in operating activities was \$14,610,208 for 2009, compared to \$7,785,164 for 2008. The increased usage of cash in operating activities was mainly due to the following:

- higher net loss of \$2,606,222, which amount excludes the impact of non-cash items;

the receipt of additional cash payments – \$2,184,053 more in 2008 than in 2009 – from various customers for license rights granted to these customers, and/or joint development work performed or technical assistance provided at the request of these customers;

·the timing of receipts from accounts receivable of \$838,783; and

·the timing of payment of accounts payable and accrued expenses of \$832,380.

Cash provided by investing activities was \$8,025,988 for 2009, compared to \$600,444 for 2008. The increase in cash provided by investing activities was primarily due to the following:

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- a decrease of \$1,018,337 for purchases of equipment; and
- a net increase of \$6,404,207 in proceeds from investment activity, due to the timing of short-term investment purchases.

Cash provided by financing activities was \$963,765 for 2009, as compared to \$1,635,605 for 2008. In 2009, we received proceeds of \$1,702,138 from the exercise of options and warrants to purchase shares of our common stock, compared to \$2,407,160 of corresponding proceeds received in 2008.

Working capital decreased to \$53,663,617 as of December 31, 2009, from \$64,600,256 as of December 31, 2008. The decrease was mainly due to the use of cash in operating activities. 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 warrants and 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, 2009, we had the following contractual commitments:

Contractual Obligations	Total	Payments due by period			
		Less than 1 year	1-3 years	3-5 years	More than 5 years
Sponsored research obligation	\$6,806,848	\$2,331,275	\$4,475,573	\$—	\$ —
Minimum royalty obligation (1)	500,000	100,000	200,000	200,000	100,000/year(1)
Total (2)	\$7,306,848	\$2,431,275	\$4,675,573	\$200,000	\$100,000/year(1)

(1) Under the 1997 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 11 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, 2009, 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.

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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 short-term investments and our stock warrant liability disclosed in “Fair Value Measurements” in Note 2 to the consolidated financial statements included herein. We 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. A change in interest rates of one point would not have a material impact on our operating results and cash flows.

We record as a liability the fair value of warrants to purchase 838,446 shares of our common stock. The fair value of the stock warrant liability (\$3,720,165 at December 31, 2009) is determined using the Black-Scholes option valuation model and is therefore sensitive to changes in the stock price and volatility of our common stock. Our primary market risk exposure to the stock warrant liability is to changes in the stock price, which would impact the valuation of the stock warrant liability. Increases in our stock price or the expected volatility of our common stock would increase the fair value of the stock warrant liability and therefore result in an additional loss on the statement of operations. Decreases in these items would decrease the fair value of the stock warrant liability and therefore result in an additional gain on the statement of operations.

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, 2009. 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 functioning effectively 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.

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, 2009 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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ITEM 9B. OTHER INFORMATION

Item 1.01 – Entry into a Material Definitive Agreement

On March 10, 2010, the Registrant renewed its Commercial Supply Agreement with LG Display Co., Ltd. (“LGD”), formerly named LG.Phillips LCD Co., Ltd. The renewal is effective from December 31, 2009 – the date on which the Commercial Supply Agreement had previously expired according to its terms. The term of the Commercial Supply Agreement now runs through June 30, 2010.

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 2010 Annual Meeting of Shareholders, which is to be filed with the Securities and Exchange Commission no later than April 30, 2010, (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 is 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 is 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 is set forth in our Proxy Statement, and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

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

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PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

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

(1) Financial Statements:

Management's Report on Internal Control Over Financial Reporting.....	F-2
Reports of Independent Registered Public Accounting Firm.....	F-3.....
Consolidated Balance Sheets.....	F-5.....
Consolidated Statements of Operations.....	F-6.....
Consolidated Statements of Shareholders' Equity and Comprehensive Loss.....	F-7
Consolidated Statements of Cash Flows.....	F-9.....
Notes to Consolidated Financial Statements.....	F-10.....

(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	Amendment to Amended and Restated Articles of Incorporation of the registrant (2)
3.3	Bylaws of the registrant (1)
10.1#	Warrant Agreement between the registrant and Julia J. Brown, dated as of April 18, 2000 (3)
10.2#	Amendment No. 1 to Warrant Agreement between the registrant and Julia J. Brown, dated as of April 18, 2000 (1)
10.3#	Amended and Restated Change in Control Agreement between the registrant and Sherwin I. Seligsohn, dated as of November 4, 2008 (4)
10.4#	Amended and Restated Change in Control Agreement between the registrant and Steven V. Abramson, dated as of November 4, 2008 (4)



- 10.5# Amended and Restated Change in Control Agreement between the registrant and Sidney D. Rosenblatt, dated as of November 4, 2008 (4)
- 10.6# Amended and Restated Change in Control Agreement between the registrant and Julia J. Brown, dated as of November 4, 2008 (4)
- 10.7# Amended and Restated Change in Control Agreement between the registrant and Janice K. Mahon, dated as of November 4, 2008 (4)

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- 10.8#\* Second Amended and Restated Change in Control Agreement between the registrant and Michael G. Hack, dated as of January 11, 2010
- 10.9# Non-Competition and Non-Solicitation Agreement between the registrant and Sherwin I. Seligsohn, dated as of February 23, 2007 (5)
- 10.10# Non-Competition and Non-Solicitation Agreement between the registrant and Steven V. Abramson, dated as of January 26, 2007 (5)
- 10.11# Non-Competition and Non-Solicitation Agreement between the registrant and Sidney D. Rosenblatt, dated as of February 7, 2007 (5)
- 10.12# Non-Competition and Non-Solicitation Agreement between the registrant and Julia J. Brown, dated as of February 5, 2007 (5)
- 10.13# Non-Competition and Non-Solicitation Agreement between the registrant and Janice K. Mahon, dated as of February 23, 2007 (4)
- 10.14#\* Non-Competition and Non-Solicitation Agreement between the registrant and Michael G. Hack, dated as of February 5, 2007
- 10.15 Equity Compensation Plan, dated as of June 29, 2006 (6)
- 10.16 Sponsored Research Agreement between the registrant and the University of Southern California, dated as of May 1, 2006 (7)
- 10.17 Amendment No. 1 to the Sponsored Research Agreement between the registrant and the University of Southern California, dated as of May 1, 2006 (4)
- 10.18 Amendment No. 2 to the Sponsored Research Agreement between the registrant and the University of Southern California, dated as of May 7, 2009 (8)
- 10.19 1997 Amended License Agreement among the registrant, The Trustees of Princeton University and the University of Southern California, dated as of October 9, 1997 (9)
- 10.20 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 (10)
- 10.21 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 (10)
- 10.22 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 (11)
- 10.23 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)

10.24+ License Agreement between the registrant and Motorola, Inc., dated as of September 29, 2000 (11)

10.25+ OLED Materials Supply and Service Agreement between the registrant and PPG Industries, Inc., dated as of July 29, 2005 (12)

10.26 Amendment No. 1 to the OLED Materials Supply and Service Agreement between the registrant and PPG Industries, Inc., dated as of January 4, 2008 (13)

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- 10.27+ OLED Patent License Agreement between the registrant and Samsung SDI Co., Ltd., dated as of April 19, 2005 (14)
- 10.28+ OLED Supplemental License Agreement between the registrant and Samsung SMD Co., Ltd., dated as of April 19, 2005 (14)
- 10.29+ Amendment No. 1 to the OLED Patent License Agreement between the registrant and Samsung SDI Co., Ltd., dated as of July 30, 2008 (15)
- 10.30 Agreement and Consent to Assignment and Assumption of Patent License Agreement between the registrant and Samsung SDI Co., Ltd., dated as of February 4, 2009 (16)
- 10.31+ Settlement and License Agreement between the registrant and Seiko Epson Corporation, dated as of July 31, 2006 (17)
- 10.32+ Amendment No. 1 to the Settlement and License Agreement between the registrant and Seiko Epson Corporation, dated as of March 30, 2009 (16)
- 10.33+ Commercial Supply Agreement between the registrant and Chi Mei EL Corporation, dated as of April 5, 2007 (18)
- 10.34 Amendment No. 1 to the Commercial Supply Agreement between the registrant and Chi Mei EL Corporation, dated as of March 16, 2009 (16)
- 10.35+ Commercial Supply Agreement between the registrant and LG.Philips LCD Co., Ltd. (now known as LG Display Co., Ltd.), dated as of May 23, 2007 (18)
- 10.36 Amendment No. 1 to the Commercial Supply Agreement between the registrant and LG Display Co., Ltd., dated as of November 21, 2008 (4)
- 10.37 Amendment No. 2 to the Commercial Supply Agreement between the registrant and LG Display Co., Ltd., dated as of August 11, 2009 (19)
- 10.38+ OLED Technology License Agreement between the registrant and Konica Minolta Holdings, Inc., dated as of August 11, 2008 (15)
- 10.39++\* OLED Technology License Agreement between the registrant and Showa Denko K.K., dated as of December 17, 2009
- 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.)

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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.

++ Confidential treatment has been requested as to certain portions of this exhibit pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.

- (1) 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.
- (2) Filed as an Exhibit to a Current Report on Form 8-K, filed with the SEC on December 21, 2007.
- (3) Filed as an Exhibit to the Annual Report on Form 10-K for the year ended December 31, 2000, filed with the SEC on March 29, 2001.
- (4) 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.
- (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 Definitive Proxy Statement for the 2006 Annual Meeting of Shareholders, filed with the SEC on April 27, 2006.
- (7) 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.
- (8) 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.
- (9) 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.
- (10) 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.
- (11) 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.
- (12) Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2005, filed with the SEC on November 7, 2005.
- (13) Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2008, filed with the SEC on May 8, 2008.

- (14) Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2005, filed with the SEC on August 9, 2005.
- (15) 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.

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- (16) 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.
- (17) 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.
- (18) Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, filed with the SEC on August 9, 2007.
- (19) Filed as an Exhibit to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2009, filed with the SEC on November 9, 2009.

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: March 15, 2010

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	March 15, 2010
/s/ Steven V. Abramson Steven V. Abramson	President, Chief Executive Officer and Director (principal executive officer)	March 15, 2010
/s/ Sidney D. Rosenblatt Sidney D. Rosenblatt	Executive Vice President, Chief Financial Officer, Treasurer, Secretary and Director (principal financial and accounting officer)	March 15, 2010
/s/ Leonard Becker Leonard Becker	Director	March 15, 2010
/s/ Elizabeth H. Gemmill Elizabeth H. Gemmill	Director	March 15, 2010
/s/ C. Keith Hartley C. Keith Hartley	Director	March 15, 2010
/s/ Lawrence Lacerte Lawrence Lacerte	Director	March 15, 2010



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UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES

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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, 2009 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, 2009, 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, 2009, 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

March 15, 2010

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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, 2009, 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, 2009, 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, 2009 and 2008, and the related consolidated statements of operations, shareholders' equity and comprehensive loss and cash flows for each of the years in the three-year period ended December 31, 2009, and our report dated March 15, 2010 expressed an unqualified opinion on those consolidated financial statements .

/s/ KPMG LLP

Philadelphia, Pennsylvania  
March 15, 2010

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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, 2009 and 2008, and the related consolidated statements of operations, shareholders' equity and comprehensive loss and cash flows for each of the years in the three-year period ended December 31, 2009. 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, 2009 and 2008, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2009, 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, 2009, 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 March 15, 2010 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG LLP

Philadelphia, Pennsylvania  
March 15, 2010

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## UNIVERSAL DISPLAY CORPORATION AND SUBSIDIARIES

## CONSOLIDATED BALANCE SHEETS

	December 31,	
	2009	2008
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	\$22,701,126	\$28,321,581
Short-term investments	41,172,955	49,132,619
Accounts receivable	3,344,255	2,450,444
Inventory	641	2,209
Other current assets	410,599	462,908
Total current assets	67,629,576	80,369,761
PROPERTY AND EQUIPMENT, net	11,048,763	12,859,628
ACQUIRED TECHNOLOGY, net	1,234,272	2,929,344
OTHER ASSETS	227,276	69,772
TOTAL ASSETS	\$80,139,887	\$96,228,505
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	\$1,275,695	\$1,585,015
Accrued expenses	5,238,870	5,296,433
Deferred license fees	6,047,467	6,148,267
Deferred revenue	1,403,927	2,739,790
Total current liabilities	13,965,959	15,769,505
DEFERRED LICENSE FEES	2,826,237	3,407,037
DEFERRED REVENUE	—	337,500
STOCK WARRANT LIABILITY	3,720,165	—
Total liabilities	20,512,361	19,514,042
COMMITMENTS AND CONTINGENCIES (Note 11)		
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 \$1,500,000)	2,000	2,000
Common Stock, par value \$0.01 per share, 50,000,000 shares authorized, 36,818,440 and 36,131,981 shares issued and outstanding at December 31, 2009 and 2008, respectively	368,184	361,320
Additional paid-in capital	256,340,530	256,696,849
Unrealized gain on available-for-sale securities	25,517	126,497
Accumulated deficit	(197,108,705)	(180,472,203)



Total shareholders' equity	59,627,526	76,714,463
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$ 80,139,887	\$ 96,228,505

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

	Year Ended December 31,		
	2009	2008	2007
<b>REVENUE:</b>			
Commercial revenue	\$6,118,099	\$5,630,758	\$4,428,048
Developmental revenue	9,668,518	5,444,466	6,877,859
Total revenue	15,786,617	11,075,224	11,305,907
<b>OPERATING EXPENSES:</b>			
Cost of chemicals sold	1,481,398	912,094	893,276
Research and development	20,015,080	18,908,783	18,360,509
Selling, general and administrative	10,921,859	10,170,593	9,569,381
Patent costs	3,239,795	3,348,851	2,548,753
Royalty and license expense	395,279	397,817	305,846
Total operating expenses	36,053,411	33,738,138	31,677,765
Operating loss	(20,266,794)	(22,662,914)	(20,371,858)
INTEREST INCOME	669,633	2,607,897	3,599,229
INTEREST EXPENSE	(7,019 )	(47,197 )	(8,192 )
LOSS ON STOCK WARRANT LIABILITY	(1,031,055 )	—	—
LOSS BEFORE INCOME TAX BENEFIT	(20,635,235)	(20,102,214)	(16,780,821)
INCOME TAX BENEFIT	129,915	962,478	804,980
NET LOSS	\$(20,505,320)	\$(19,139,736)	\$(15,975,841)
BASIC AND DILUTED NET LOSS PER COMMON SHARE	\$(0.56 )	\$(0.53 )	\$(0.47 )
WEIGHTED AVERAGE SHARES USED IN COMPUTING BASIC AND DILUTED NET LOSS PER COMMON SHARE	36,479,331	35,932,372	33,759,581

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 AND COMPREHENSIVE LOSS

	Series A Nonconvertible Preferred Stock		Common Stock		Additional Paid-in Capital
	Shares	Amount	Shares	Amount	
BALANCE, JANUARY 1, 2007	200,000	\$2,000	31,385,408	\$313,854	\$199,505,981
Issuance of common stock through a public offering, net of expenses of \$2,599,977	—	—	2,800,000	28,000	37,972,023
Exercise of common stock options and warrants	—	—	1,169,648	11,696	8,528,247
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	70,238	703	2,049,554
Stock-based non-employee compensation	—	—	—	—	23,336
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	37,796	378	714,364
Issuance of common stock in connection with materials and license agreements	—	—	100,111	1,001	1,447,489
Net loss	—	—	—	—	—
Unrealized gain on available-for-sale securities	—	—	—	—	—
Comprehensive loss					
BALANCE, DECEMBER 31, 2007	200,000	2,000	35,563,201	355,632	250,240,994
Exercise of common stock options and warrants	—	—	352,864	3,529	2,403,631
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	86,340	863	2,085,315
Stock-based non-employee compensation	—	—	174	2	6,099
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	42,932	429	744,558
Issuance of common stock in connection with materials and license agreements	—	—	86,470	865	1,216,252
Net loss	—	—	—	—	—
Unrealized gain on available-for-sale securities	—	—	—	—	—
Comprehensive loss					
BALANCE, DECEMBER 31, 2008	200,000	2,000	36,131,981	361,320	256,696,849
Cumulative effect of the adoption of revisions to ASC 815, See Note 2	—	—	—	—	(6,557,928 )
Exercise of common stock options and warrants	—	—	340,279	3,403	1,698,735

Stock-based employee compensation, net of shares withheld for employee taxes	—	—	147,078	1,471	2,446,034
Stock-based non-employee compensation	—	—	450	4	7,007
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	61,742	617	750,298
Issuance of common stock in connection with materials and license agreements	—	—	122,854	1,228	1,169,492
Issuance of common stock to employees under an Employee Stock Purchase Plan	—	—	14,056	141	130,043
Net loss	—	—	—	—	—
Unrealized loss on available-for-sale securities	—	—	—	—	—
Comprehensive loss					
BALANCE, DECEMBER 31, 2009	200,000	\$2,000	36,818,440	\$368,184	\$256,340,530

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 AND  
COMPREHENSIVE LOSS — (Continued)

	Unrealized Gain (Loss) on Available-for-Sale Securities	Accumulated Deficit	Total Shareholders' Equity
BALANCE, JANUARY 1, 2007	\$ (82,846 )	\$(145,356,626)	\$54,382,363
Issuance of common stock through a public offering, net of expenses of \$2,599,977	—	—	38,000,023
Exercise of common stock options and warrants	—	—	8,539,943
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	2,050,257
Stock-based non-employee compensation	—	—	23,336
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	714,742
Issuance of common stock in connection with materials and license agreements	—	—	1,448,490
Net loss	—	(15,975,841 )	(15,975,841)
Unrealized gain on available-for-sale securities	32,644	—	32,644
Comprehensive loss			(15,943,197)
BALANCE, DECEMBER 31, 2007	(50,202 )	(161,332,467)	89,215,957
Exercise of common stock options and warrants	—	—	2,407,160
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	2,086,178
Stock-based non-employee compensation	—	—	6,101
Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	744,987
Issuance of common stock in connection with materials and license agreements	—	—	1,217,117
Net loss	—	(19,139,736 )	(19,139,736)
Unrealized gain on available-for-sale securities	176,699	—	176,699
Comprehensive loss			(18,963,037)
BALANCE, DECEMBER 31, 2008	126,497	(180,472,203)	76,714,463
Cumulative effect of the adoption of revisions to ASC 815, See Note 2	—	3,868,818	(2,689,110 )
Exercise of common stock options and warrants	—	—	1,702,138
Stock-based employee compensation, net of shares withheld for employee taxes	—	—	2,447,505
Stock-based non-employee compensation	—	—	7,011

Issuance of common stock to Board of Directors and Scientific Advisory Board	—	—	750,915
Issuance of common stock in connection with materials and license agreements	—	—	1,170,720
Issuance of common stock to employees under an Employee Stock Purchase Plan	—	—	130,184
Net loss	—	(20,505,320 )	(20,505,320)
Unrealized loss on available-for-sale securities	(100,980 )	—	(100,980 )
Comprehensive loss			(20,606,300)
BALANCE, DECEMBER 31, 2009	\$ 25,517	\$(197,108,705)	\$59,627,526

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

	Year Ended December 31,		
	2009	2008	2007
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net loss	\$(20,505,320)	\$(19,139,736)	\$(15,975,841)
Adjustments to reconcile net loss to net cash used in operating activities:			
Amortization of deferred license fees and deferred revenue	(3,986,490 )	(1,527,525 )	(1,700,229 )
Depreciation	2,069,626	1,943,184	1,774,236
Amortization of intangibles	1,695,072	1,695,072	1,695,072
Amortization of premium and discount on investments, net	(426,065 )	(1,044,499 )	(311,613 )
Stock-based employee compensation	3,156,420	3,663,575	3,391,394
Stock-based non-employee compensation	7,011	5,110	23,336
Non-cash expense under materials and license agreements	1,170,039	1,232,668	926,582
Stock-based compensation to Board of Directors and Scientific Advisory Board	755,294	745,016	754,711
Loss on stock warrant liability	1,031,055	—	—
(Increase) decrease in assets:			
Accounts receivable	(893,811 )	(55,028 )	(282,153 )
Inventory	1,568	38,956	(10,567 )
Other current assets	52,309	211,023	(67,664 )
Other assets	(157,504 )	10,000	10,000
Increase (decrease) in liabilities:			
Accounts payable and accrued expenses	(210,939 )	621,440	(1,816,543 )
Deferred license fees	—	2,000,000	—
Deferred revenue	1,631,527	1,815,580	1,150,000
Net cash used in operating activities	(14,610,208)	(7,785,164 )	(10,439,279)
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchases of property and equipment	(258,761 )	(1,277,098 )	(1,225,857 )
Purchases of short-term investments	(61,345,251)	(96,859,458)	(61,336,182)
Proceeds from sale of short-term investments	69,630,000	98,737,000	29,892,000
Net cash provided by (used in) investing activities	8,025,988	600,444	(32,670,039)
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Proceeds from issuance of common stock	130,184	—	38,000,023
Proceeds from the exercise of common stock options and warrants	1,702,138	2,407,160	8,539,943
Payment of withholding taxes related to stock-based employee compensation	(868,557 )	(771,555 )	(657,485 )
Net cash provided by financing activities	963,765	1,635,605	45,882,481
(DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(5,620,455 )	(5,549,115 )	2,773,163



CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	28,321,581	33,870,696	31,097,533
CASH AND CASH EQUIVALENTS, END OF YEAR	\$22,701,126	\$28,321,581	\$33,870,696

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 (the “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 and relationships with entities such as Princeton University (“Princeton”), the University of Southern California (“USC”), the University of Michigan (“Michigan”), Motorola, Inc. (“Motorola”) and PPG Industries, Inc. (“PPG Industries”), the Company has established a significant portfolio of proprietary OLED technologies and materials (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. and Universal Display Corporation Hong Kong, Ltd. 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 and the valuation of stock warrant liabilities. Actual results could differ from those estimates.

## Cash, Cash Equivalents and Short-term 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 existing marketable securities 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.

Short-term investments at December 31, 2009 and 2008 consist of the following:

Investment Classification	Amortized Cost	Unrealized		Aggregate Fair Market Value
		Gains	(Losses)	
December 31, 2009-				
Certificates of deposit	\$8,688,457	\$1,633	\$(7,245)	\$8,682,845

U.S. Government bonds	32,458,981	31,140	(11	)	32,490,110
	\$41,147,438	\$32,773	\$(7,256	)	\$41,172,955
December 31, 2008-					
Certificates of deposit	\$10,318,000	\$35,577	\$(3,323	)	\$10,350,254
U.S. Government bonds	38,688,122	96,121	(1,878	)	38,782,365
	\$49,006,122	\$131,698	\$(5,201	)	\$49,132,619

All short-term investments held at December 31, 2009 will mature within one year.

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## Fair Value Measurements

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of December 31, 2009:

	Total carrying value as of December 31, 2009	Fair Value Measurements, Using		
		Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Investments	\$41,172,955	\$41,172,955	\$—	\$ —
Stock warrant liability	3,720,165	—	—	3,720,165

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.

The following table is a reconciliation of the changes in fair value of the Company's stock warrant liability, which has been classified in Level 3 in the fair value hierarchy:

	Year ended December 31, 2009
Fair value of stock warrant liability, beginning of year	\$—
Cumulative effect of reclassification of stock warrant liability under ASC 815, see "Recent Accounting Pronouncements" below	2,689,110
Unrealized loss for period	1,031,055
Fair value of stock warrant liability, end of year	\$3,720,165

The fair value of the stock warrant liability was determined using the Black-Scholes option pricing model with the following inputs at December 31, 2009:

Contractual life (years)	0.13-1.64
Expected volatility	40.51-76.72%
Risk-free interest rate	0.05-0.81%
Annual dividend yield	—

## Fair Value of Financial Instruments

Cash and cash equivalents, accounts receivable, other current assets, and accounts payable are reflected in the accompanying financial statements at fair value due to the short-term nature of those instruments.

## 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.

#### Inventory

Inventory consists of chemicals held at the Company's Ewing, New Jersey facility and is valued at the lower of cost or market, with cost determined using the specific identification method.

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### Acquired Technology

Acquired technology consists of license rights and know-how obtained from PD-LD, Inc. and Motorola (Note 5). Acquired technology is amortized on a straight-line basis over its estimated useful life of 10 years.

### 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, 2009, Company management believed that no revision to the remaining useful lives or write-down of the Company's long-lived assets was required. No such revisions were required for the years ended December 31, 2008 or 2007.

### Net Loss Per Common Share

Basic net loss per common share is computed by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period. Diluted net loss per common share reflects the potential dilution from the exercise or conversion of securities into common stock and the impact of shares to be issued under the Employee Stock Purchase Plan ("ESPP"). For the years ended December 31, 2009, 2008 and 2007, the effects of the combined outstanding stock options and warrants of 4,025,293, 4,577,775 and 5,172,041, respectively, and the impact of shares to be issued under the ESPP, which was minor, were excluded from the calculation of diluted net loss per common share as the impact would have been anti-dilutive.

### Revenue Recognition and Deferred License Fees

Commercial revenue relates to the incorporation of OLED technologies and materials into the Company's customers' commercial products, and includes commercial chemical revenue, royalty and license revenues, and commercialization assistance revenue. Developmental revenue relates to OLED technology and material development activities for which the Company is paid, and includes contract research revenue, development chemical revenue and technology development revenue.

Commercial chemical revenue represents revenues from sales of OLED materials to manufacturers for the production of commercial products. This revenue is 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 development and technology evaluation agreements. Certain of these payments are creditable against future amounts payable under commercial license agreements that the parties may subsequently enter into and, as such, are deferred until such license agreements are executed or negotiations have ceased and Company management determines that there is no appreciable likelihood of executing a license agreement with the other party. Revenue would then be recorded over the expected useful life of the relevant licensed technology, if there is an effective license agreement, or at the time Company management determines that there is no appreciable likelihood of an executable 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, 2009, may not be recognized as revenue over the next twelve months. Advanced payments received under agreements that are not creditable against license fees are deferred and recognized as revenue over the

term of the agreement. Royalty revenue is recognized when earned and the amount is fixed and determinable.

Development chemical revenue represents revenues from sales of OLED materials to product manufacturers for evaluation and development purposes. Revenue is recognized at the time of shipment and passage of title. The customer does not have the right to return the materials.

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Contract research revenue represents 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, 2009 and 2008 are unbilled receivables of \$1,405,987 and \$567,221, respectively. All amounts are billed and collected within one year.

## Research and Development

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

	Year Ended December 31,		
	2009	2008	2007
Development and operations in the Company's facility	\$ 14,350,130	\$ 13,628,598	\$ 12,897,938
Costs incurred under sponsored research agreements	1,264,983	1,153,549	1,083,810
PPG OLED Materials Agreement (Note 7)	2,159,904	2,055,798	2,181,408
Amortization of intangibles	1,695,072	1,695,072	1,695,072
Scientific Advisory Board compensation	544,991	375,766	502,281
	\$ 20,015,080	\$ 18,908,783	\$ 18,360,509

## Patent Costs

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. Patent costs were \$3,239,795, \$3,348,851 and \$2,548,753 for the years ended December 31, 2009, 2008 and 2007, respectively.

## Statement of Cash Flow Information

The following non-cash activities occurred:

	Year Ended December 31,		
	2009	2008	2007
Unrealized (loss) gain on available-for-sale securities	\$(100,980 )	\$ 176,699	\$ 32,644
Common stock issued under a materials agreement that was earned in a previous period	—	—	21,915
Common stock issued for royalties that was earned in a previous period	81,954	66,403	499,993
Common stock issued to Board of Directors and Scientific Advisory Board that was earned in a previous period	309,802	299,968	260,000
Common Stock issued to employees that was accrued for in a previous period, net of shares withheld for taxes	1,031,645	867,510	944,115
Common stock issued to non-employee that was earned in a previous period	—	991	—



## 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.

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### Share-Based Payment Awards

The Company recognizes in the statement 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 and stock appreciation rights, issued to employees and directors.

The grant-date fair value of stock options is determined using the Black-Scholes valuation 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.

### Recent Accounting Pronouncements

In April 2008, the Financial Accounting Standards Board (“FASB”) issued guidance that amends the list of factors an entity should consider in developing renewal or extension assumptions used in determining the useful life of recognized intangible assets. The new guidance applies to (1) intangible assets that are acquired individually or with a group of other assets and (2) intangible assets acquired in both business combinations and asset acquisitions. Under the new guidance, entities estimating the useful life of a recognized intangible asset must consider their historical experience in renewing or extending similar arrangements or, in the absence of historical experience, assumptions that market participants would use about renewal or extension. This new guidance is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. The adoption of this new guidance did not have any impact on the Company’s results of operations or financial position.

In June 2008, the FASB approved guidance related to the determination of whether a freestanding equity-linked instrument should be classified as equity or debt. If an instrument is classified as debt, it is valued at fair value, and this value is re-measured on an ongoing basis, with changes recorded on the statement of operations in each reporting period. This new guidance is effective for financial statements for fiscal years beginning after December 15, 2008. At January 1, 2009, the Company had warrants to purchase 838,446 shares of common stock outstanding containing a “down-round” provision. In accordance with this new guidance, the fair value of these warrants is required to be reported as a liability, with the changes of fair value recorded on the statement of operations. As such, on January 1, 2009, the fair value of these warrants of \$2,689,110 was reclassified from equity to a liability. As a result of the change, the original fair value of the warrants at the date of issuance of \$6,557,928 was recorded as a reduction to additional paid-in capital. In addition, accumulated deficit, as of January 1, 2009, decreased from \$180,472,203 to \$176,603,385 to reflect the cumulative effect of the adoption of this new guidance. The change in fair value of these warrants resulted in a \$1,031,055 loss on the statement of operations for the year ended December 31, 2009. The Company will continue to report the warrants as a liability, with changes in fair value recorded in the statement of operations, until such time as these warrants are exercised or expire.

In November 2008, the FASB approved guidance related to defensive intangible assets, which are acquired intangible assets that the acquirer does not intend to actively use but intends to hold to prevent its competitors from obtaining access to them. As these assets are separately identifiable, an acquiring entity is required to account for defensive intangible assets as a separate unit of accounting which should be amortized to expense over the period the intangible asset will directly or indirectly affect the entity’s cash flows. Defensive intangible assets must be recognized at fair value. This new guidance is effective for financial statements issued for fiscal years beginning after December 15, 2008. The adoption of this new guidance did not have any impact on the Company’s results of operations or financial position.

In April 2009, the FASB issued guidance which provides additional provisions for estimating fair value when the volume and level of activity for an asset or liability have significantly decreased and guidance on identifying circumstances that indicate a transaction is not orderly. This new guidance is effective for interim and annual reporting periods ending after June 15, 2009, and is to be applied prospectively. The adoption of this new guidance did not have any impact on the Company's results of operations or financial position.

In June 2009, the FASB issued the FASB Accounting Standards Codification ("Codification" or "ASC"), as the single source of authoritative U.S. GAAP recognized by the FASB. The Codification reorganizes various U.S. GAAP pronouncements into accounting topics and displays them using a consistent structure. Also included in the Codification are certain rules and interpretive releases of the Securities and Exchange Commission ("SEC"), under authority of federal

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securities laws that are also sources of authoritative U.S. GAAP for SEC registrants. The Codification is effective for interim and annual periods ending after September 15, 2009. The Codification has no impact on the Company's results of operations or financial position other than changing the way specific accounting standards are referenced.

In September 2009, the FASB issued guidance which will affect the revenue recognition accounting policies for transactions that involve multiple deliverables. The new guidance requires companies to allocate revenue in arrangements involving multiple deliverables based on the estimated selling price of each deliverable, even though those deliverables are not sold separately either by the company itself or other vendors. This new guidance eliminates the requirement that all undelivered elements have objective and reliable evidence of fair value before a company can recognize the portion of the overall arrangement fee that is attributable to items that already have been delivered. In the absence of vendor-specific objective evidence and third-party evidence for one or more elements in a multiple-element arrangement, companies will estimate the selling prices of those elements. The overall arrangement fee will be allocated to each element whether delivered or undelivered, based on their relative selling prices, regardless of whether those estimated selling prices are evidenced by vendor-specific objective evidence, third-party evidence of fair value or are based on the company's judgment. The new guidance will be effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. However, early adoption is permitted. If a company elects early adoption and the period of adoption is not the beginning of its fiscal year, the requirements must be applied retrospectively to the beginning of the fiscal year. Retrospective application to prior years is permitted, but not required. In the initial year of application, companies are required to make qualitative and quantitative disclosures about the impact of the changes. In many circumstances, the new guidance under these consensuses will require significant changes to a company's revenue recognition policies and procedures, including system modifications. The Company does not expect this new guidance to have a material impact to its results of operations or financial position.

### 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 (the "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 (the "2006 Research Agreement") was effective as of May 1, 2006, and had an original term of three 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 \$2,155,570 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 four years. Under the amendment, the Company is obligated to pay USC up to \$7,456,294 for work actually performed during the extended term, which runs through April 30, 2013. From May 1, 2009 through December 31, 2009, the Company incurred \$649,446 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 (as amended, the "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.

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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 \$222,721, \$223,901 and \$163,007 of royalty expense in connection with the agreement for the years ended December 31, 2009, 2008 and 2007, 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.

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:

	December 31,	
	2009	2008
Land	\$ 820,000	\$ 820,000
Building and improvements	11,164,063	11,151,956
Office and lab equipment	14,504,076	14,462,838
Furniture and fixtures	332,818	324,773
Construction-in-progress	16,296	2,678
	26,837,253	26,762,245
Less: Accumulated depreciation	(15,788,490)	(13,902,617)
Property and equipment, net	\$ 11,048,763	\$ 12,859,628

Depreciation expense was \$2,069,626, \$1,943,184 and \$1,774,236 for the years ended December 31, 2009, 2008 and 2007, respectively.

#### 5. ACQUIRED TECHNOLOGY:

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

	December 31,	
	2009	2008
PD-LD, Inc.	\$ 1,481,250	\$ 1,481,250
Motorola	15,469,468	15,469,468

	16,950,718	16,950,718
Less: Accumulated amortization	(15,716,446)	(14,021,374)
Acquired technology, net	\$1,234,272	\$2,929,344

On July 19, 2000, the Company, PD-LD, Inc. ("PD-LD"), its president Dr. Vladimir Ban and the Trustees of Princeton entered into a Termination, Amendment and License Agreement whereby the Company acquired all PD-LD's rights to certain issued and pending OLED technology patents in exchange for 50,000 shares of the Company's common stock which was valued at \$1,481,250.

On September 29, 2000, the Company entered into a License Agreement with Motorola. Pursuant to this agreement, the Company licensed from Motorola what are now 74 issued U.S. patents and corresponding foreign patents relating to

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OLED technologies. These patents expire in the U.S. between 2012 and 2018. The Company has the sole right to sublicense these patents to OLED product manufacturers. As consideration for this license, the Company issued to Motorola shares of the Company's common stock, shares of the Company's Series B Convertible Preferred Stock and a warrant to purchase of the Company's common stock. The shares of the Series B Convertible Preferred Stock issued were converted into shares of the Company's common stock in 2004. The warrant expired in 2007, without having been exercised. The Company also issued a warrant to an unaffiliated third party to acquire shares of the Company's common stock as a finder's fee in connection with the Motorola transaction. The warrant was exercised on a cashless basis in 2007. In total, the Company recorded an intangible asset of \$15,469,468 for the technology acquired from Motorola. Amortization expense for all intangible assets was \$1,695,072 for each of the years ended December 31, 2009, 2008 and 2007. For 2010 amortization expense will be \$1,234,272.

The Company is required under the License Agreement to pay Motorola royalties on gross revenues earned by the Company from its sales of OLED products or components, or from its OLED technology licensees, whether or not these revenues relate specifically to inventions claimed in the patent rights licensed from Motorola. For the years ended December 31, 2009, 2008 and 2007, the Company recorded royalty expenses of \$162,558, \$163,916 and \$132,839, respectively. To satisfy the royalty obligation, the Company issued to Motorola 7,200, 12,015 and 3,801 shares of the Company's common stock, valued at \$81,273, \$81,954 and \$66,403 and paid \$81,285, \$81,962 and \$66,436 in cash, respectively.

#### 6. ACCRUED EXPENSES:

Accrued expenses consist of the following:

	December 31,	
	2009	2008
Compensation	\$3,440,951	\$3,453,062
Royalties	385,279	387,817
Consulting	357,064	326,469
Professional fees	406,381	437,547
Subcontracts	178,206	170,324
Research and development agreements	332,741	377,786
Other	138,248	143,428
	\$5,238,870	\$5,296,433

#### 7. EQUITY AND CASH COMPENSATION UNDER THE PPG AGREEMENTS:

On October 1, 2000, the Company entered into a five-year Development and License Agreement ("Development Agreement") and a seven-year Supply Agreement ("Supply Agreement") with PPG Industries. Under the Development Agreement, a team of PPG Industries scientists and engineers assisted the Company in developing its proprietary OLED materials and supplied the Company with these materials for evaluation purposes. Under the Supply Agreement, PPG Industries supplied the Company with its proprietary OLED materials that were intended for resale to customers for commercial purposes.

On July 29, 2005, the Company entered into an OLED Materials Supply and Service Agreement with PPG Industries (the "OLED Materials Agreement"). The OLED Materials Agreement superseded and replaced in their entirety the Development Agreement and Supply Agreement effective as of January 1, 2006, and extended the term of the Company's relationship with PPG Industries through December 31, 2009. Under the OLED Materials Agreement,



PPG Industries continues to assist the Company in developing its proprietary OLED materials and supplying the Company with those materials for evaluation purposes and for resale to its customers. On January 4, 2008, the term of the OLED Materials Agreement was extended for an additional three years, through December 31, 2011.

Under the OLED Materials Agreement, the Company compensates PPG Industries on a cost-plus basis for the services provided during each calendar quarter. The Company is required to pay for some of these services in all cash and for other of the services through the issuance of shares of the Company's common stock. Up to 50% of the remaining services are payable, at the Company's sole discretion, in cash or shares of the Company's common stock, with the balance payable in all cash. The actual number of shares of common stock issuable to PPG Industries is determined based on the average

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closing price for the Company's common stock during a specified number of days prior to the end of each calendar half-year period ending on March 31 and September 30. If, however, this average closing price is less than \$6.00, the Company is required to compensate PPG Industries in all cash.

The Company is also required under the OLED Materials Agreement to reimburse PPG Industries for its raw materials and conversion costs for all development chemicals produced on behalf of the Company.

In 2009, 2008 and 2007, the Company issued to PPG Industries 110,839, 82,669 and 58,930 shares of the Company's common stock, respectively, as consideration for services provided by PPG Industries under the OLED Materials Agreement. For these shares, the Company recorded charges of \$1,088,766, \$1,150,714 and \$926,582 to research and development expense for the years ended December 31, 2009, 2008 and 2007, respectively.

The Company also recorded \$1,387,887, \$905,084 and \$1,254,826 in research and development expense for the cash portion of the reimbursement of expenses to and work performed by PPG Industries during the years ended December 31, 2009, 2008 and 2007, respectively.

For work performed through the end of 2006, the Company was required under its agreements with PPG Industries to grant options to purchase shares of the Company's common stock to PPG Industries employees performing certain development services for the Company, in a manner consistent with that for issuing options to its own employees. Subject to certain contingencies, these options were to vest one year following the date of grant and were to remain exercisable for up to 90 days after the individual PPG Industries employee ceased performing development services for the Company. However, in connection with the conclusion of the development program on December 31, 2006, the exercise periods for these options were extended. In the case of certain PPG Industries employees who were hired by the Company as full-time employees in April 2006, the exercise period was extended to run for so long as they remain employees of the Company, plus an additional period of up to one year thereafter, just as other Company employees are treated under the Company's Equity Compensation Plan. For those PPG Industries employees not hired by the Company, the exercise period was extended for three years through December 31, 2009.

### 8. PREFERRED STOCK:

The Company's Articles of Incorporation authorize it to issue up to 5,000,000 shares of preferred stock with designations, rights and preferences determined from time-to-time by the Company's Board of Directors. Accordingly, the Company's 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 the Company's common stock.

In 1995, the Company issued 200,000 shares of Series A Nonconvertible Preferred Stock ("Series A") to American Biomimetics Corporation ("ABC") pursuant to a certain Technology Transfer Agreement between the Company and ABC. The Series A shares have a liquidation value of \$7.50 per share. Series A shareholders, as a single class, have the right to elect two members of the Company's Board of Directors. This right has never been exercised. Holders of the Series A shares are entitled to one vote per share on matters which shareholders are generally entitled to vote. The Series A shareholders are not entitled to any dividends. The Series A shares were valued at \$1.75 per share, which was based upon an independent appraisal.

### 9. SHAREHOLDERS' EQUITY:

Effective as of March 31, 2009, the Company issued 5,568 shares and, as of each of June 30, 2009, September 30, 2009 and December 31, 2009, the Company issued 5,564 shares of fully vested common stock to members of its Board of Directors as partial payment for services performed for the three-month periods ended on such dates. The fair value of the shares issued was \$205,905, of which \$196,100 was recorded as a compensation charge in selling,

general and administrative expense for the year ended December 31, 2009 and \$9,805 was accrued for as of December 31, 2008. During the years ended December 31, 2008 and 2007, respectively, the Company issued 21,100 and 20,000 shares of fully vested common stock to members of its Board of Directors. The fair value of the shares issued was \$369,250 and \$249,600, respectively, which was recorded as a compensation charge in selling, general and administrative expense for the years ended December 31, 2008 and 2007, respectively. The Company has also accrued \$14,202 as of December 31, 2009 in relation to shares granted to the Board of Directors on December 18, 2009 which are being expensed through March 31, 2010.

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There are outstanding warrants to purchase 1,428,792 shares of the Company's common stock as of December 31, 2009. These warrants are exercisable at a weighted average exercise price of \$13.53, and they expire between 2010 and 2012. For the years ended December 31, 2009, 2008 and 2007, respectively, 61,024, 135,415 and 685,129 warrants were exercised, resulting in proceeds of \$618,783, \$1,187,050 and \$4,987,903, respectively.

In May 2007, the Company sold 2,800,000 shares of its common stock through a public offering at \$14.50 per share. The offering resulted in net proceeds to the Company of \$38,000,023, net of \$2,599,977 in associated costs.

In January 2010, 2009 and 2008, the Company granted a total of 127,995, 194,955 and 105,165 shares of fully vested common stock to employees and non-employee members of the Scientific Advisory Board for services performed in 2009, 2008 and 2007, respectively. The fair value of the shares issued was \$1,513,710, \$1,673,352 and \$1,627,767, respectively, for employees and \$299,979, \$299,997 and \$299,968, respectively, for non-employee members of the Scientific Advisory Board, which amounts were accrued at December 31, 2009, 2008 and 2007, respectively. In connection with the issuance of these grants, 41,259, 63,372 and 29,708 shares, with a fair value of \$585,220, \$641,707 and \$544,845 were withheld in satisfaction of employee tax withholding obligations in 2010, 2009 and 2008, respectively. The stock awards were recorded as a compensation charge in general and administrative expense for 2009, 2008 and 2007 of \$1,051,697, \$1,162,221 and \$1,143,792, respectively, and research and development expense of \$761,992, \$811,128 and \$783,944, respectively. In 2007, the Company issued 500 shares to an employee and \$8,750 was charged to research and development expense as the fair value of these shares.

# 10. STOCK-BASED COMPENSATION:

## Equity Compensation Plan

In 1995, the Board of Directors of the Company adopted a Stock Option Plan (the "1995 Plan"), under which options to purchase a maximum of 500,000 shares of the Company's common stock were authorized to be granted at prices not less than the fair market value of the common stock on the date of the grant, as determined by the Compensation Committee of the Board of Directors. Through December 31, 2009, the Company's shareholders have approved increases in the number of shares reserved for issuance under the 1995 Plan to 7,000,000, and have extended the term of the 1995 Plan through 2015. The 1995 Plan was also amended and restated in 2003, and is now called the Equity Compensation Plan. The Equity Compensation Plan provides for the granting of incentive and nonqualified stock options, shares of common stock, stock appreciation rights and performance units to employees, directors and consultants of the Company. Stock options are exercisable over periods determined by the Compensation Committee, but for no longer than 10 years from the grant date. At December 31, 2009, there were 1,129,912 shares that remained available to be granted under the Equity Compensation Plan.

The following table summarizes the stock option activity during the year ended December 31, 2009 for all grants under the Equity Compensation Plan:

	Options	Weighted Average Exercise Price
Outstanding at January 1, 2009	2,966,116	\$10.10
Granted	500	10.04
Exercised	(318,365 )	4.91
Forfeited	—	
Cancelled	(51,750 )	14.61

Outstanding at December 31, 2009	2,596,501	10.65
Vested and expected to vest	2,596,230	10.65
Exercisable at December 31, 2009	2,587,501	10.63

The weighted average grant date fair value of stock options granted in 2009, 2008 and 2007 was \$8.06, \$8.80 and \$8.65, respectively. The fair value of the stock options granted was estimated using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model considers assumptions related to volatility, risk-free interest rates, dividend yields and expected life. Expected volatility was based on the Company's historical daily stock price volatility. The risk-free rate was based on average U.S. Treasury security yields in the quarter of the grant. The dividend yield was based on historical

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information. The expected life was determined using historical information and management estimates. The following table provides the assumptions used in determining the fair value of the stock options for the years ended December 31, 2009, 2008 and 2007, respectively:

	2009	2008	2007
Dividend yield rate	0%	0%	0%
Expected volatility	74.8%	49.4%	48.1 – 52.5%
Risk-free interest rates	3.6%	2.8%	3.8 – 4.8%
Expected life	10 Years	5 Years	5 Years

The following table summarizes the status of unvested stock options at December 31, 2009, and the weighted-average grant date fair value of these stock options at December 31, 2009:

	Options	Weighted Average Grant Date Fair Value
Unvested options at January 1, 2009	28,000	\$9.69
Granted	500	8.06
Vested	(19,500 )	9.11
Forfeited	—	—
Unvested options at December 31, 2009	9,000	\$10.87

A summary of stock options outstanding and exercisable by price range at December 31, 2009 is as follows:

Exercise Price	Outstanding				Exercisable			
	Number of Options Outstanding at December 31, 2009	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Aggregate Intrinsic Value (A)	Number of Options Outstanding at December 31, 2009	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Aggregate Intrinsic Value (A)
\$5.45–8.14	683,265	4.00	\$ 7.04	\$3,637,967	683,265	4.00	\$ 7.04	\$3,637,967
8.15–9.50	546,000	1.68	8.88	1,897,688	546,000	1.68	8.88	1,897,688
9.51–10.51	707,528	4.47	10.35	1,423,897	707,528	4.47	10.35	1,423,897
10.52–18.13	537,208	4.09	15.00	45,585	528,208	4.06	15.01	45,585
18.14–24.38	122,500	1.02	21.26	—	122,500	1.02	21.26	—
\$5.45–24.38	2,596,501	3.52	\$ 10.65	\$7,005,137	2,587,501	3.51	10.63	\$7,005,137

(A) The difference between the stock option's exercise price and the closing price of the common stock at December 31, 2009.

The total intrinsic value of stock awards exercised during the years ended December 31, 2009, 2008 and 2007 was \$2,310,832, \$1,820,464 and \$4,607,227, respectively. The Company recorded as compensation expense related to the vesting of all employee stock options charges of \$97,145 for the year ended December 31, 2009. At December 31, 2009, there was \$30,497 of total unrecognized compensation cost from stock-based compensation arrangements granted under the Equity Compensation Plan, which cost is related to non-vested options. The compensation expense is expected to be recognized over a weighted-average period of less than one year.

In 2009, 39,110 shares of common stock, valued at \$480,137, were tendered to net share settle the exercise of 123,157 options.

The Company has issued restricted stock to employees and non-employee members of the Scientific Advisory Board with vesting terms of three years. The fair value is equal to the market price of the Company's common stock on the date of grant. Expense for restricted stock is amortized ratably over the vesting period for the awards issued to employees and using a graded vesting method for the awards issued to non-employee members of the Scientific Advisory Board.

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For the years ended December 31, 2009, 2008 and 2007, the Company recorded as compensation charges related to all restricted stock and certain other awards included in general and administrative expense of \$993,357, \$647,666 and \$323,377, respectively, and research and development expense of \$761,046, \$445,318 and \$387,986, respectively. In connection with the vesting of deferred and restricted stock awards during the years ended December 31, 2009, 2008 and 2007, respectively, 22,164, 13,183 and 4,339 shares, with an aggregate fair value of \$209,685, \$226,710 and \$67,840, were withheld in satisfaction of tax withholding obligations.

In addition, on January 6, 2010, the Company granted a total of 119,505 shares of restricted common stock to employees and non-employee members of the Scientific Advisory Board for services to be rendered. The restricted stock had a fair value of \$1,693,386 on the date of grant and vests over three years from the date of grant.

The following table summarizes the stock activity related to restricted stock and fully vested share based payment awards:

	Number of Shares	Weighted- Average Grant-Date Fair Value
Unvested, January 1, 2009	170,321	\$ 16.39
Granted	392,461	10.12
Vested	(296,655 )	11.59
Cancelled	—	—
Unvested, December 31, 2009	266,127	\$ 12.57

## Employee Stock Purchase Plan

On April 7, 2009, the Board of Directors of the Company adopted an Employee Stock Purchase Plan (the “ESPP”). The ESPP was approved by the Company’s shareholders and became effective on June 25, 2009. The Company has reserved 1,000,000 shares of common stock for issuance under the ESPP. Unless sooner terminated by the Board of Directors, the ESPP will expire when all reserved shares have been issued.

Eligible employees may elect to contribute to the ESPP through payroll deductions during consecutive three-month purchase periods, the first of which began on July 1, 2009. Each employee who elects to participate will be deemed to have been granted an option to purchase shares of the Company’s common stock on the first day of the purchase period. Unless the employee opts out during the purchase period, the option will automatically be exercised on the last day of the period, which is the purchase date, based on the employee’s accumulated contributions to the ESPP. The purchase price will equal 85% of the lesser of the price per share of common stock on the first day of the period or the last day of the period.

Employees may allocate up to 10% of their base compensation to purchase shares of common stock under the ESPP; however, each employee may purchase no more than 12,500 shares on a given purchase date, and no employee may purchase more than \$25,000 of common stock under the ESPP during a given calendar year.

For year ended December 31, 2009, the Company issued 14,056 shares of its common stock under the ESPP, resulting in proceeds of \$130,184. For the year ended December 31, 2009, the Company recorded charges of \$15,276 to general and administrative expense and \$27,718 to research and development expense related to the ESPP equal to the amount



of the discount and the value of the look-back feature.

11. COMMITMENTS AND CONTINGENCIES:

Commitments

Under the 2006 Research Agreement with USC, the Company is obligated to make certain payments to USC based on work performed by USC under that agreement, and by Michigan under its subcontractor agreement with USC. See Note 3 for further explanation.

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Under the terms of the 1997 Amended License Agreement, the Company is required to make minimum royalty payments to Princeton. See Note 3 for further explanation.

Under the terms of a license agreement, the Company is required to make royalty payments to Motorola. See Note 5 for further explanation.

The Company has agreements with five executive officers which provide for certain cash and other benefits upon termination of employment of the officer in connection with a change in control of the Company. Each executive is entitled to a lump-sum cash payment equal to two times the sum of the average annual base salary and bonus of the officer and immediate vesting of all stock options and other equity awards that may be outstanding at the date of the change in control, among other items.

### 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 (the “EP ‘958 patent”). 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 relate to the Company’s FOLED technology. They are exclusively licensed to the Company by Princeton, and under the license agreement the Company is 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 on October 6, 2009. No representative from CDT attended the Oral Hearing. At the conclusion of the Oral Hearing, the EPO panel announced its decision to reject the opposition and to maintain the patent as granted. The minutes of the Oral Hearing were dispatched on October 27, 2009, and the EPO issued its official decision on November 26, 2009.

CDT filed an appeal to the EPO decision on January 25, 2010. CDT will need to file its reasons for the appeal with the EPO by April 6, 2010, after which the Company will have several months to respond. At this time, Company management believes that the EPO decision will be upheld on appeal, though the Company cannot make any assurances of this result.

### Opposition to European Patent No. 1449238

On March 8, 2007, Sumation Company Limited (“Sumation”), a joint venture between Sumitomo and CDT, filed a first Notice of Opposition to European Patent No. 1449238 (the “EP ‘238 patent”). 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 and 7,291,406, and to pending U.S. patent application 11/879,379, filed on July 16, 2007. These patents and this patent application relate to the Company’s PHOLED technology. They are exclusively licensed to the Company by Princeton, and under the license agreement the Company is required to pay all legal costs and fees associated with this proceeding.

Two other parties filed additional oppositions to the EP ‘238 patent just prior to the August 2, 2007 expiration date for such filings. On July 24, 2007, Merck Patent GmbH, of Darmstadt, Germany, filed a second Notice of Opposition to the EP ‘238 patent, and on July 27, 2007, BASF Aktiengesellschaft, of Mannheim, Germany, filed a third Notice of Opposition to the EP ‘238 patent. The EPO combined all three oppositions into a single opposition proceeding.

The EPO set a January 6, 2008 due date for the Company to file its response to the opposition. The Company requested a two-month extension to file this response, and the Company subsequently filed its response in a timely manner. The Company is currently waiting for the EPO to notify it of the date of the oral hearing. The Company is

also waiting to see whether the other parties in the opposition file any additional documents, to which the Company may respond.

At this time, Company management cannot make any prediction as to the probable outcome of the opposition. However, based on an analysis of the evidence presented to date, Company management continues to believe there is a substantial likelihood that the patent being challenged will be declared valid, and that all or a significant portion of its claims will be upheld.

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## 12. CONCENTRATION OF RISK:

Contract research revenue, which is included in developmental revenue in the accompanying statement of operations, of \$4,373,316, \$2,815,062 and \$4,600,693 for the years ended December 31, 2009, 2008 and 2007, respectively, has been derived from contracts with United States government agencies. Revenues derived from contracts with government agencies represented 28%, 25% and 41% of the consolidated revenue for the years ended December 31, 2009, 2008 and 2007, respectively.

One non-government customer accounted for approximately 31%, 42% and 35% of consolidated revenue for the years ended December 31, 2009, 2008 and 2007, respectively. Accounts receivable from this customer were \$1,114,349 at December 31, 2009. Another non-government customer also accounted for approximately 11% of consolidated revenue in 2007.

Revenues from outside of North America represented 70%, 72% and 57% of the consolidated revenue for the years ended December 31, 2009, 2008 and 2007, respectively.

All chemical materials were purchased from one supplier. See Note 7.

## 13. INCOME TAXES:

The components of the income tax benefit are as follows:

	Year ended December 31,		
	2009	2008	2007
Current	\$ 129,915	\$ 962,478	\$ 804,980
Deferred	11,231,717	7,962,201	6,907,000
	11,361,632	8,924,679	7,711,980
Increase in valuation allowance	(11,231,717)	(7,962,201)	(6,907,000)
	\$ 129,915	\$ 962,478	\$ 804,980

The difference between the Company's federal statutory income tax rate and its effective income tax rate is primarily due to the increase in the valuation allowance, as well as state income tax benefits, non-deductible expenses and general business credits.

As of December 31, 2009, the Company had net operating loss and credit carry forwards. The Company's net operating loss carry forwards differ from the accumulated deficit principally due to the timing of the recognition of certain expenses. A portion of the Company's net operating loss carry forwards relate to tax deductions from stock-based compensation that would be accounted for as an increase to additional-paid-in-capital for financial reporting purposes to the extent such future deductions could be utilized by the Company. In accordance with the Tax Reform Act of 1986, utilization of the Company's net operating loss and general business credit carry forwards could be subject to limitations because of certain ownership changes. The following table summarizes Company tax loss and tax credit carry forwards at December 31, 2009:



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	Related Tax Deduction	Deferred Tax Asset	Expiration Date
Loss carry forwards:			
Federal net operating loss	\$ 168,736,000	\$ 57,370,000	2011 to 2029
State net operating loss	124,060,000	7,353,000	2011 to 2029
Total loss carry forwards	\$ 292,796,000	\$ 64,723,000	
Tax credit carry forwards:			
Research tax credit	n/a	\$ 5,151,000	2018 to 2029
State tax credits	n/a	1,641,000	2014 to 2024
Total credit carry forwards	n/a	\$ 6,792,000	

Significant components of the Company's deferred tax assets are as follows:

	December 31,	
	2009	2008
Gross deferred tax assets:		
Net operating loss carry forwards	\$ 64,723,000	\$ 54,401,000
Capitalized technology license	3,769,000	3,543,000
Stock options and warrants	83,000	304,000
Accruals and reserves	418,000	380,000
Deferred revenue	4,105,000	5,046,000
Other	635,000	354,000
Tax credit carry forward	6,792,000	5,265,000
	80,525,000	69,293,000
Valuation allowance	(80,525,000)	(69,293,000)
Net deferred tax asset	\$—	\$—

During the year ended December 31, 2009, the Company received federal cash refunds of \$104,428 related to research and development credits. The Company also received state cash refunds of \$25,487 from claims for overpaid New Jersey Alternative Minimum Assessment tax for taxable years 2003 to 2006. During the years ended December 31, 2008 and 2007, the Company sold approximately \$12.5 million and \$7.5 million, respectively, of its net state operating losses and \$0 and \$263,000 of its research and development tax credits under the New Jersey Technology Tax Certificate Transfer Program, and received net proceeds of \$962,478 and \$804,980, respectively, during these years. The Company recorded the proceeds as an income tax benefit.

A valuation allowance has been established for all of the deferred tax assets because the Company has incurred substantial operating losses since inception and expects to incur additional losses in 2010. At this time, Company management has concluded that these deferred tax assets will not be realized.

The Company does not have any liability recorded for uncertain tax positions as of December 31, 2009 and December 31, 2008. Company management does not anticipate any material change in its uncertain tax positions in the next twelve months. The Company's federal income tax returns for 2006 through 2009 are open tax years and are subject to examination by the Internal Revenue Service. State tax years (Pennsylvania, New Jersey, Idaho and California) that remain open to examination range from 2005 to 2009.

14. DEFINED CONTRIBUTION PLAN:

The Company maintains the Universal Display Corporation 401(k) Plan (the "Plan") in accordance with the provisions of Section 401(k) of the Internal Revenue Code (the "Code"). The Plan covers substantially all full-time employees of the Company. Participants may contribute up to 15% of their total compensation to the Plan, not to exceed the

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limit as defined in the Code, with the Company matching 50% of the participant's contribution, limited to 6% of the participant's total compensation. For the years ended December 31, 2009, 2008 and 2007, the Company contributed \$230,395, \$200,956 and \$195,697, respectively, to the Plan.

## 15. QUARTERLY SUPPLEMENTAL FINANCIAL DATA (UNAUDITED):

The following tables present certain unaudited consolidated quarterly financial information for each of the eight quarters in the two-year period ended December 31, 2009. In the opinion of Company management, this quarterly information has been prepared on the same basis as the consolidated financial statements and includes all adjustments (consisting of only normal recurring adjustments) necessary to present fairly the information for the periods presented. The results of operations for any quarter are not necessarily indicative of the results for the full year or for any future period.

## Year ended December 31, 2009:

		Three Months Ended			
	March 31	June 30	September 30	December 31	Total
Revenue	\$2,833,858	\$2,956,354	\$5,145,393	\$4,851,012	\$15,786,617
Net loss	(5,569,599)	(6,415,178)	(4,672,847)	(3,847,696)	(20,505,320)
Basic and diluted net loss per common share	(0.15 )	(0.18 )	(0.13 )	(0.10 )	(0.56 )

## Year ended December 31, 2008:

		Three Months Ended			
	March 31	June 30	September 30	December 31	Total
Revenue	\$2,716,819	\$2,145,598	\$2,625,639	\$3,587,168	\$11,075,224
Net loss	(4,193,385)	(5,205,790)	(5,302,983)	(4,437,578)	(19,139,736)
Basic and diluted net loss per common share (a)	(0.12 )	(0.15 )	(0.15 )	(0.12 )	(0.53 )

(a) The sum of the quarterly net loss per common share amounts do not equal the amount for the full year due to the use of weighted average shares for each period, and rounding.



