EMAGIN CORP
Form 10-K/A
October 11, 2011

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K /A

Amendment No. 1

R ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGEACT OF 1934

For the fiscal year ended December 31, 2010

or

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

Commission file number 001-15751

eMAGIN CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	56-1764501
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

3006 Northup Way, Suite 103, Bellevue, Washington 98004
(Address of principal executive offices)

(425) 284-5200
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: Common Stock, $.001 Par Value Per Share

Indicate by check mark whether the registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act. Yes £ No R

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 R

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 R 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 (§ 229.405 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. £

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 definition 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 £ Non-accelerated filer £ Smaller Reporting Company R

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

As of June 30, 2010, the aggregate market value of the issued and outstanding common stock held by non-affiliates of the registrant, based upon the closing price of the common stock as traded on the NYSE Amex of $3.63 was approximately $47.7 million. For purposes of the above statement only, all directors, executive officers and 10% shareholders are assumed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for any other purpose.

Number of shares of common stock outstanding as of January 31, 2011 was 21,540,638.

DOCUMENTS INCORPORATED BY REFERENCE – None

eMAGIN CORPORATION

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FOR THE FISCAL YEAR ENDED DECEMBER 31, 2010

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EXPLANATORY NOTE

This Amendment No. 1 hereby amends our Annual Report on Form 10-K ("Form 10-K/A") for the year ended December 31, 2010 which was originally filed with the Securities and Exchange Commission on March 16, 2011 (the "Original 10-K"). This amendment is being filed mainly to include restated consolidated financial statements as described in Note 17, Restatement, of the Notes to the Consolidated Financial Statements. The consolidated financial statements are being restated to correct accounting errors as follows:

Adoption of certain provisions of Accounting Standards Codification ("ASC") 815 – "Derivatives and Hedging – Contracts in Entity's Own Equity" ("ASC 815") (formerly EITF 07-5, "Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity's Own Stock"). ASC 815 became effective January 1, 2009. The anti-dilution features in certain outstanding warrants ("Warrants") of the Company require these Warrants to be accounted for as liabilities and measured at fair value. The restated consolidated financial statements reflect the reclassification of the Warrants from shareholders' equity to warrant liability, the cumulative effect adjustment to the opening balance of accumulated deficit and record changes in the fair value of the warrant liability in the consolidated statements of operations.

Adoption of the two-class method for Earnings Per Share ("EPS") calculation under ASC 260, "Earnings Per Share" ("ASC 260"). The two-class method is an earnings allocation method under which EPS is calculated for each class of common stock and participating security. Under the two-class method, securities that participate in dividends, such as the Company's Series B Convertible Preferred stock, are considered 'participating securities." The restated financial statements reflect the restated basic and diluted earnings per share, as applicable and weighted average shares outstanding calculations.

The following sections of this Form 10-K/A have been amended to reflect the restatement:

Part I – Item 1A – Risk Factors
Part II – Item 6 – Selected Financial Data
Part II – Item 7 – Management's Discussion and Analysis of Financial Condition and Result of Operations
Part II – Item 8 – Financial Statements and Notes to the Consolidated Financial Statements
Part II – Item 9A – Controls and Procedures

For the convenience of the reader, this Form 10-K/A sets forth the Company's Original 10-K in its entirety, as amended by, and to reflect the restatement, as described above. Except as discussed above, the Company has not modified or updated disclosures presented in this Amendment. Accordingly, this Amendment does not reflect events occurring after the Original 10-K or modify or update those disclosures affected by subsequent events, except as specifically referenced herein. Information not affected by the restatement is unchanged and reflects the disclosures made at the time of the Original Filing.

This Form 10-K/A has been signed as of a current date and all certifications of the Company's Chief Executive Officer/Principal Executive Officer and Chief Financial Officer/Chief Accounting Officer and Principal Financial Officer are given as of a current date. Accordingly, this Form 10-K/A should be read in conjunction with the Company's filings with the Securities and Exchange Commission subsequent to the filing of the Original 10-K, including any amendments to those filings.

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STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

In this annual report, references to "eMagin Corporation," "eMagin," "Virtual Vision," "the Company," "we," "us," and "our" refer to eMagin Corporation and its wholly owned subsidiary, Virtual Vision, Inc.

Except for the historical information contained herein, some of the statements in this Report contain forward-looking statements that involve risks and uncertainties. These statements are found in the sections entitled "Business," "Management's Discussion and Analysis of Financial Condition and Results of Operation," and "Risk Factors." They include statements concerning: our business strategy; expectations of market and customer response; liquidity and capital expenditures; future sources of revenues; expansion of our proposed product line; and trends in industry activity generally. In some cases, you can identify forward-looking statements by words such as "may," "will," "should," "expect," "plan," "could," "anticipate," "intend," "believe," "estimate," "predict," "potential," "goal," or "continue" or similar terminology. These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including, but not limited to, the risks outlined under "Risk Factors," that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by such forward-looking statements. For example, assumptions that could cause actual results to vary materially from future results include, but are not limited to: our ability to successfully develop and market our products to customers; our ability to generate customer demand for our products in our target markets; the development of our target markets and market opportunities; our ability to manufacture suitable products at competitive cost; market pricing for our products and for competing products; the extent of increasing competition; technological developments in our target markets and the development of alternate, competing technologies in them; and sales of shares by existing shareholders. Although we believe that the expectations reflected in the forward looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Unless we are required to do so under federal securities laws or other applicable laws, we do not intend to update or revise any forward-looking statements.

PART I

ITEM 1. BUSINESS

Introduction

eMagin Corporation (“eMagin, “we,” “our,” or “us,”) is a leader in the manufacture of microdisplays using OLED (organic light emitting diode) technology. We design, develop, manufacture, and market OLED on silicon microdisplays, virtual imaging products which utilize OLED microdisplays, and related products. We also perform research in the OLED field. Our virtual imaging products integrate OLED technology with silicon chips to produce high-resolution microdisplays smaller than one-inch diagonally which, when viewed through a magnifier, create virtual images that appear comparable in size to that of a computer monitor or a large-screen television. Our products enable our original equipment manufacturer (“OEM”) customers to develop and market improved or new electronic products, especially products that are mobile and highly portable. We believe that virtual imaging will become an important way for increasingly mobile people to have quick access to high resolution data, work, and experience new more immersive forms of communications and entertainment.

We believe our OLED microdisplays offer a number of significant advantages over other microdisplay options for near-to-eye applications including greatly increased power efficiency, less weight, and wider viewing angles. Using our active matrix OLED technology, many computer and electronic system functions can be built directly into the OLED microdisplay, resulting in compact, high resolution, power efficient systems. We have developed our own intellectual property and accumulated over 7 years of manufacturing know-how to create high performance OLED microdisplays.

As the first to exploit OLED technology for microdisplays, we believe that we enjoy a significant advantage in the commercialization of microdisplays for virtual imaging. We believe we are currently the only company to sell active matrix small molecule OLED-on-silicon microdisplays in production quantities.

eMagin Corporation was created through the merger of Fashion Dynamics Corporation ("FDC"), which was organized on January 23, 1996 under the laws of the State of Nevada and FED Corporation ("FED"), a developer and manufacturer of optical systems and microdisplays for use in the electronics industry. Simultaneous with this merger, we changed our name to eMagin Corporation. eMagin is incorporated in the state of Delaware.

We derive the majority of our revenue from sales of our OLED microdisplay products. We also generate revenue from sales of optics, microdisplays combined with optics (“microviewers”), and virtual imaging systems (primarily our Z800 3DVisor ™). In addition we earn revenue from non-recurring engineering (“NRE”) projects and under government contracts that support some of our research and development programs.

Using our active matrix OLED technology, many computer and video electronic system functions can be built directly into the OLED microdisplay, resulting in compact systems with expected lower overall system costs relative to alternative microdisplay technologies. Already proven in commercialized military and commercial systems, our portfolio of OLED microdisplays deliver high-resolution, flicker-free virtual images, working effectively even in extreme temperatures and high-vibration conditions with greatly increased system level power efficiency, less weight and wider viewing angles.

Our Technology Platforms

Small Molecule, Top-Emitting Active Matrix OLED Technology

There are two basic classes of OLED technology, dubbed single molecule or small molecule (monomer) and polymer. Our microdisplays are currently based upon active matrix small molecule OLED technology, which we refer to as active matrix OLED ("AMOLED") because we build the displays directly on silicon chips. Our AMOLED technology uniquely permits millions of individual low-voltage light sources to be built on low-cost, silicon computer chips to produce single color, white or full-color display arrays. Using our OLED technology, many computer and video electronic system functions can be built directly into the silicon chip, under the OLED film, resulting in very compact, integrated systems with lowered overall system costs relative to alternative technologies.

OLEDs are thin films of stable organic materials that emit light of various colors when a voltage is impressed across them. OLEDs are emissive devices, which mean they create their own light, as opposed to liquid crystal displays, which require a separate light source. As a result, OLED devices use less power and can be capable of higher brightness and fuller color than liquid crystal microdisplays. Because the light they emit is Lambertian, which means that it appears equally bright from most forward directions, a moderate movement in the eye does not change the image brightness or color as it does in other technologies.

We have developed numerous and significant enhancements to OLED microdisplay technology as well as key silicon circuit designs to effectively incorporate the OLED film on a silicon integrated circuit. For example, we have developed a unique, top-emitting structure for our OLED devices that enables OLED displays to be built on opaque silicon integrated circuits rather than only on glass. Our OLED devices emit full visible spectrum light that is isolated with color filters to create full color images. Our microdisplays have a brightness that can be greater than that of a typical notebook computer and can have a potential useful life of over 50,000 operating hours, in certain applications. New materials and device improvements, such as our recently developed OLED-XL ™ technology, offer the potential for even better performance for brightness, efficiency, and lifespan. In addition to our active matrix OLED technology, we have developed compact optic and lens enhancements which, when coupled with the microdisplay, provide the high quality large screen appearance that we believe a large proportion of the marketplace demands.

We believe that our AMOLED technology provides significant advantages over other microdisplay technologies in our targeted microdisplay markets. We believe these key advantages include:

- Low power consumption for improved battery life and longer system life;
- High-speed performance resulting in clear video images;
- Wide angle light emission resulting in large apparent screen size;
- Wide operating temperature range;
- Good environmental stability (vibration and humidity);
- Low manufacturing cost; and
- Low cost system solutions.

Prism Optics

High quality, large view lenses with a wide range for eye positioning are essential for using our displays in near-eye systems. We have developed advanced molded plastic prism lenses which permit our AMOLED microdisplays to provide large field of view images that can be viewed for extended periods with reduced eye-fatigue. We have engaged a firm to manufacture our lenses in order to provide them in larger quantities to our customers and are using them in our own Z800 3DVisor personal display systems.

Our Market Opportunities

The growth potential of our selected target market segments has been investigated using information gathered from key industry market research firms and resources, including Consumer Electronics Association, DisplaySearch, Mobile Display Report, Frost and Sullivan, McLaughlin Group, Nikkei, VisionGain and others. Such data was obtained using published reports and data obtained at industry symposia. We have also relied substantially on market projections obtained privately from industry leaders, industry analysts, and current and potential customers.

Head-wearable display products incorporate microdisplays mounted in or on eyeglasses, goggles, simple headbands, helmets, or hardhats, and are often referred to as head-mounted displays (HMDs) or headsets. Head-wearable displays may block out surroundings for a fully immersive experience, or be designed as "see-through" or "see-around" to the user's surroundings. They may contain one (monocular) or two (binocular) displays. Some of the increased current interest is due to accelerating the timetable to adapt such systems to military applications such as night vision and fire and rescue applications. The virtual-imaging markets we are targeting broadly fall into the categories of military, industrial/medical, and consumer though many products serve multiple markets (“dual use”). Within each of these market sectors, we believe that our OLED microdisplays, when combined with compact optic lenses, will become a key component for a number of mobile electronic products.

Military/First Responder

Properly implemented, we believe that head-mounted systems incorporating our microdisplays increases the user’s effectiveness by allowing hands-free operation and increasing situational awareness with enough brightness for use in daylight, yet controllable for nighttime light security. As a COTS (commercial off the shelf) component, OLED microdisplays intrinsically demonstrate performance characteristics important to military and other demanding commercial and industrial applications, including high contrast, wide dimming range, shock and vibration resistance and insensitivity to high G-forces. The image does not suffer from flicker or color breakup in vibrating environments, and the microdisplay's wide viewing angle allows ease of viewing for long periods of time. Most importantly, our OLED's very low power consumption reduces battery weight and increases allowed mission length. The OLED's inherent wide temperature tolerance range is especially of interest for military applications because the display can turn on instantly at temperatures far below freezing and can operate at very high temperatures in desert conditions. Our SXGA OLED-XL™ microdisplay provides power advantages over other microdisplay technologies, particularly liquid crystal displays which require backlights and heaters and cannot provide instant-on capabilities at low temperatures.

Our products’ military applications primarily fall into three broad areas: (1) helmet-mounted displays for situational awareness and data, (2) night vision/thermal imaging goggles and viewers, and (3) training and simulation devices. Similar systems are of interest for other military applications as well as for demanding operations such as urban security, homeland defense, fire and rescue.

Situational Awareness. Situational awareness products include head mounted displays which are used to display mapping, logistics and status and handheld imagers for border patrol and training. In certain situations these products are combined with a weapon system in order to give the user the capability of selecting targets without direct exposure. Our OLED microdisplays have already been commercially incorporated into a number of military situational awareness programs including: US Army Land Warrior Program, U.S. Army Mounted Warrior Program, US Army Remote Viewer Program, FELIN Fantassin à Equipements et Liaisons Intégrés Program (French Infantryman with Networked Equipment), and Israeli Advanced Integrated Soldier System, among others. OEM products include Intevac Vision Systems' I-Port™ EX3, I-Port™', Night-Port™ and Binocular 50™.

Night Vision/Thermal Imaging. Night vision goggles allow the user to see in low light conditions. The most modern versions usually include two different technologies: infrared/thermal, and image intensification. Third and fourth generation military devices usually use some combination of the two modes. Thermal imagers detect infrared energy (heat) and convert it into an electronic signal. The resulting signal needs to be presented on a display. Heat sensed by an infrared camera can be very precisely quantified, or measured, allowing the user to not only monitor thermal performance, but also identify and evaluate the relative severity of heat-related problems. Thermal imaging systems can be stand-alone handheld systems or integrated as part of the aiming mechanism for a larger system. Our OLED microdisplays are typically targeted to uncooled systems, as opposed to systems that require external cooling in order to increase their sensitivity. Advances in sensor technology, both in sensitivity and resolution as well as economic efficiency, have been the driving factors in the adoption of thermal technologies for military applications. The power efficiency and environmental ruggedness of our products are strong competitive advantages, particularly in these small hand-held non-cooled systems. Fielded products incorporating eMagin OLED microdisplays include Northrop Grumman's Lightweight Laser Designator Rangefinders (LLDR), Thales SOPHIE™ handheld thermal imagers, and Thales MINIE™, LUCIE™, and MONIE™ night vision goggles.

Training and Simulation. Our OLED microdisplays and our Z800 3DVisor have been acquired by OEMs for use with their simulation and training products. The Z800's capability to integrate 360 degree head tracking and stereo vision, as well as its wide field of view are attractive attributes for any simulation or virtual reality system. Examples of commercialized training and simulation products incorporating our products include: Cubic CombatRedi™ tactical man-worn system with wireless communication, Drive Square's portable in-vehicle simulator, NVIS' Virtual Binocular SV™ and Monoscope SV™, Quantum 3D ExpeditionDI™, Rockwell Collins' SimEye SX45™ and SimEye SX60™, and Sensics' xSight.™

Our displays have already been commercialized or prototyped for situational awareness and night vision/thermal imaging applications by military systems integrators including Elbit, Insight Technologies, Intevac Vision Systems, Nivisys, Oasys Technology, Qioptiq, Rockwell Collins, Saab, Sagem, and Thales, among many others. Night Vision Equipment Corporation's HelmetIR-50™, a lightweight, military helmet mounted thermal imager, which provides hands-free operation and allows viewers to see through total darkness, battlefield obscurants, and even foliage, is the first OLED-equipped product to be listed on the US Government's GSA schedule. Similar systems are of interest for other military applications as well as for related operations such as urban security, fire and rescue.

Commercial, Industrial, and Medical

We believe that a wide variety of commercial and industrial markets offer significant opportunities for our products due to increasing demand for instant data accessibility in mobile workplaces. Some examples of potential microdisplay applications include: immediate access to inventory such as parts, tools and equipment availability; instant accessibility to maintenance or construction manuals; routine quality assurance inspection; endoscopic surgery; and real-time viewing of images and data for a variety of applications. As one potential example, a user wearing a HMD while using test equipment, such as oscilloscopes, can view technical data while simultaneously probing printed circuit boards. Current commercial products equipped with our OLED microdisplays in these sectors include those produced by Liteye, FLIR Systems, NordicNeuroLab, VRmagic GmbH, Sensics, and Total Fire Group, among others.

Consumer

We believe that the most significant driver of the longer term near-eye virtual imaging microdisplay market is growing consumer demand for mobile access to larger volumes of information and entertainment in smaller packages. This desire for mobility has resulted in the development of mobile video personal viewer products in two general categories: (i) an established market for electronic viewers incorporated in products such as viewfinders for digital cameras and video cameras which may potentially also be developed as personal viewers for cell phones and (ii) an emerging market for headset-application platforms which include accessories for mobile devices, portable DVD systems, electronic games, and other entertainment, and wearable computers.

As our OLED displays are manufactured in increasingly higher volumes at reduced costs, we believe that our OLED microdisplay products will be increasingly well positioned to compete with and displace liquid crystal displays in the rapidly growing consumer market as demand for higher-resolution, and better image quality evolves to meet the wish for more sophisticated Personal Viewers. Examples of potential applications for mobile Personal Viewers include handheld personal computers and mobile devices (such as smartphones, iPods™), whose small, direct view screens are often limitations, but which are now capable of running software applications that would benefit from a larger display accessory and entertainment and gaming video headset systems, which permit individuals to privately view television, including HDTV, video CDs, DVDs and video games on virtual large screens or stereovision.

Our Products

Our commercial microdisplay products based on our SVGA series OLED microdisplays, first introduced in 2001, have received award recognition including: SID Display of the Year and Electronic Products Magazine Product of the Year. In 2008 we introduced engineering samples of our SXGA OLED microdisplays. We began selling significant quantities of the SXGA product in 2010. In 2006 we introduced our OLED-XL technology, which provides longer luminance half life and enhanced efficiency for all of our microdisplay product lines. These OLED and OLED-XL products are being applied or considered for near-eye and headset applications in products to be manufactured by OEM customers for a wide variety of military, medical, industrial, and consumer applications. We offer our products to OEMs and other buyers as both separate components, integrated bundles coupled with our own optics, or full systems. We also offer engineering support to enable customers to quickly integrate our products into their own product development programs and offer design of customized displays with resolutions or features to meet special customer requirements.

SVGA+ OLED Microdisplay Series (Super Video Graphics Array of 800x600 plus 52 added columns of data). Our 0.62 inch diagonal SVGA+ OLED microdisplays have a resolution of 852x600 triad pixels (1.53 million picture elements). The product was dubbed "SVGA+" because it has 52 more display columns than a standard SVGA display, permitting users to run either (1) standard SVGA (800 x 600 pixels) to interface to the analog output of many portable

computers or (2) 852 x 480, using all the data available from a DVD player in a 16:9 wide screen entertainment format. The display also has an internal NTSC monochrome video decoder for low power night vision systems. SVGA+ Rev3 OLED-XL microdisplay, the most power efficient OLED solution for near-eye personal viewer applications, uses less than 115 mW power in monochrome, such as for thermal imaging applications, and lower than 175 mW at 400 cd/m2 (60Hz video at 70 cd/m2) for full color video. This new microdisplay has simpler calibration over temperature and is ideal for demanding binocular luminance and color matching. It also shares all the functional and design characteristics of eMagin's original SVGA OLEDs, responding instantly at temperatures as low as -40 degrees C.

SVGA-3D OLED Microdisplay (Super Video Graphics Array plus built-in stereovision capability). Our 0.59 inch diagonal SVGA-3D OLED microdisplays have a resolution of 800x600 triad pixels (1.44 million picture elements). A built-in circuit provides compatibility with single channel frame sequential stereoscopic vision without additional external components. The SVGA-3D OLED-XL is primarily used as components of our Z800 3DVisor.

SXGA OLED-XL (Super eXtended Graphics Array, 1280 x 1024). Our SXGA OLED microdisplay with 0.77 inch diagonal active area provides 3,932,160 sub-pixels in an active area that is only .15 inches larger than our SVGA+ microdisplay. The 1280 x 1024 triad pixel array comprises triads of vertical sub-pixels stacked side by side to make up each 12 x 12mm color pixel. The SXGA OLED-XL microdisplay offers both analog and digital signal processing, requiring less than 200mW under typical operation. The new SXGA microdisplays provide versatility and flexibility for OEM developers though a FPGA driver design available on a separate, lower power driver board, or as source code for integration into end product electronics for maximum power efficiency. The supported video formats are SXGA, 720p, DVGA (through 1280 x 960 pixel doubling), and both frame sequential and field sequential stereovision. Additional enhancements include increased pixel uniformity, improved color gamut, on-chip temperature sensor and compensation, and compatibility with both analog RGB and digital video signals. On-board circuitry ensures consistent color and brightness over a wide range of operating temperatures.

Lens and Design Reference Kits. We offer a WF05 prism optic, with mounting brackets or combined with OLED microdisplays to form an optic-display module. We provide Design Reference Kits, which include a microdisplay and associated electronics to help OEMs evaluate our microdisplay products and to assist their efforts to build and test new products incorporating our microdisplays.

Integrated Modules. We provide near-eye virtual imaging modules that incorporate our OLED-on-silicon microdisplays with our lenses and electronic interfaces for integration into OEM products. We have shipped customized modules to several customers, some of which have incorporated our products into their own commercial products.

Z800 3DVisor™ Our Z800 3DVisors™ give users the ability to work with their hands while simultaneously viewing information or video on the display. The Z800 3DVisor enables more versatile portable computing, using a 0.59-inch diagonal microdisplay (SVGA-3D capable of delivering an image that appears comparable to that of a 19-inch monitor at 22 to 24 inches from the eye, or a 105 inch movie screen at 12 foot distance.) Our systems are currently being used for personal entertainment, electronic gaming, and military training and simulation, among other applications. This product has received industry recognition including: Digital Living Class 2005 Innovators, Consumer Electronics Association's Consumer Electronics Show (CES) 2006 Best of Innovation Awards for the entire display category as well as a Design and Innovations Award for the electronic gaming category, and, was recognized as one of Advanced Imaging's Solutions of the Year, as integrated in Chatten Associates' head-aimed remote viewer.

Government Contract Funding

We derive a portion of our revenue from funding that we receive pursuant to research contracts or subcontracts funded by various agencies of the U.S. Government. The revenue that we recognize from these contracts represents reimbursement by various U.S. Government entities. In August 2008, we were awarded a contract for the development of power efficient microdisplays for US Army Night Vision. In October 2009, this agreement was renewed and we continue to provide research and development for these displays. In July 2007 we were awarded a contract for the development of an ultra-high resolution display for US Army Telemedicine. In May 2008 and September 2009, this agreement was renewed and we continue to provide research and development services for these displays. Our government contracts require us to conduct the research effort described in the statement of work section of the contract. These contracts may be modified or terminated at the discretion of the government and typically are subject to appropriation and allocation of the required funding on an annual basis. On contracts for which we are the prime contractor, we subcontract portions of the work to various entities and institutions. Approximately 16% of 2010 revenue was related to research contracts funded by the U.S. Government as compared to 11% in 2009.

Our Strategy

Our strategy is to strengthen our leadership position as a worldwide supplier of microdisplays and virtual imaging technology solutions for applications in high growth segments of the electronics industry by capitalizing on our experience and expertise in active matrix OLED technology. We aim to provide microdisplays and complementary accessories to enable OEM customers to develop and manufacture new and enhanced electronic products. Some key elements of our strategy to achieve these objectives include the following:

- Strengthen our technology leadership. As the first to exploit AMOLED microdisplays, we believe that we enjoy a significant advantage in bringing this technology to market. By continuing to invest in research and development, and protecting our intellectual property, we expect to further develop performance improvements and provide a competitive edge for our customers who integrate our displays into their end products.
- Optimize microdisplay manufacturing efficiencies while protecting proprietary processes. We intend to reduce our production costs primarily through increasing manufacturing yield and lowering fixed costs through reduced cycle time and increased automation, as well as equipment upgrades. We outsource certain portions of microdisplay production, such as chip fabrication, to minimize both our costs and time to market. We intend to retain the OLED-related processes in-house, where we have a core competency and manufacturing expertise. We also believe that by keeping these processes under tight control we can better protect our proprietary technology and process

know-how. This strategy will also enhance our ability to continue to optimize and customize processes and devices to meet customer needs.

- Build and maintain strong design capabilities. We employ in-house design capabilities supplemented by outsourced design services. Building and maintaining this capability will allow us to reduce engineering costs, accelerate the design process and enhance design accuracy to respond to our customers' needs as new markets develop. In addition, we intend to maintain a product design staff capable of rapidly developing prototype products for our customers and strategic partners. Contracting third party design support to meet demand and for specialized design skills may also remain a part of our overall long term strategy.
- Leverage strategic relationships. External relationships play an important role in our research and development efforts. Suppliers, equipment vendors, government organizations, contract research groups, external design companies, customer and corporate partners, consortia, and university relationships all enhance the overall research and development effort and bring us new ideas and solutions. In addition, we participate in industry associations such as Society Information Display (“SID”), FlexTech Alliance (formerly known as United States Display Consortium), OLED Association, Consumer Electronics Association, and the Association of the United States Army, among others. Furthermore, we have established a CRADA (Cooperative Research and Development Agreement) with the US Army/RDECOM/NVESD as of August 2010 for the purpose of evaluating and characterizing new and existing AMOLED microdisplay configurations. This agreement expires in 2015. We believe that strategic relationships allow us to better determine the demands of the marketplace and, as a result, allow us to focus our future research and development activities to satisfy our customers’ evolving requirements.

Sales and Marketing

We primarily provide our OLED display and optics components for OEMs to incorporate into their branded products and sell through their own well-established distribution channels. We have traditionally marketed and sold our products to customers through targeted selling, promotions, select advertising and attendance at trade shows. We identify companies with end products and applications for which we believe our products will provide a key differentiator. Marketing efforts focus on identifying prospects and communicating the product performance attributes foremost in the minds of purchasing decision-makers. This approach is intended to ensure the highest possible return on investment for our marketing expense.

We market our products in North America, Asia, and Europe directly from our sales office located in our Bellevue, Washington facility. We also have distributors in China and Korea. We sell the Z800 3DVisor to individual buyers, OEM systems and equipment customers, through distributors, and through our e-commerce website, www.3dvisor.com. The contents of our e-commerce website are not part of this Report.

An OEM design cycle typically requires between 6 and 36 months, depending on the uniqueness of the market, the complexity of the end product, or in the case of military OEM customers, government procurement schedules. Because our microdisplays are the main functional component that defines many of our customers' end products, we work closely with customers to provide technical assistance throughout the product evaluation and integration process.

Customers

Customers for our products include both large multinational and smaller OEMs. We maintain relationships with OEMs in a diverse range of industries encompassing the military, industrial, medical, and consumer market sectors. During 2010, 66% of our net revenue was to firms based in the United States and 34% was to international firms as compared to 57% domestic revenue and 43% international revenue during 2009. In 2010, we had ––10 customers that accounted for more than 57% of our total revenue as compared to 10 customers that accounted for more than 56% of our total revenue in 2009. In 2010 and 2009, we had 1 customer that accounted for more than 10% of our total revenue. Approximately 43% of our 2010 revenue, we estimate, was derived through sales of defense or military related products as compared to 41% in 2009.

Backlog

As of January 31, 2011, we had a backlog of approximately $9.8 million for purchases through December 2011. This backlog primarily consists of non-binding purchase orders and purchase agreements but does not include expected revenue from R&D contracts or expected NRE (non-recurring engineering) programs under development.

The majority of our backlog consists of non-binding purchase orders or purchase agreements for delivery over the next six months. Most purchase orders are subject to rescheduling or cancellation by the customer with no or limited penalties. We believe that the backlog metric is of limited utility in predicting future sales because many of our OEM customers operate on a ship-to-order basis. Variations in the magnitude and duration of purchase orders and customer delivery requirements may result in substantial fluctuations in backlog from period to period.

Manufacturing Facilities

Our manufacturing facilities are located at IBM's Microelectronics Division facility, known as the Hudson Valley Research Park, located about 70 miles north of New York City in Hopewell Junction, New York. We lease approximately 37,000 square feet of space which houses our own equipment for OLED microdisplay fabrication and research and development, includes a 16,300 square foot class 10 clean room space, additional lower level clean room space, assembly space and administrative offices.

Facilities services provided by IBM include our clean room, pure gases, high purity de-ionized water, compressed air, chilled water systems, and waste disposal support. This infrastructure provided by our lease with IBM provides us with many of the resources of a larger corporation without the added overhead costs. It further allows us to focus our resources more efficiently on our product development and manufacturing goals.

We also lease a facility in Bellevue, Washington where we house our Z800 3DVisor operations, finance function and business development activities. The facilities are well suited for designing and building limited volume prototypes and small quantities of industrial or government products.

We believe manufacturing efficiency is an important factor for success, especially in the consumer markets. Although, we currently have the equipment needed for profitable production in place, we added $2.3 million of equipment in 2010 and we plan to add $4.5 million equipment in 2011 to increase capacity and yield and to meet expected demand for our microdisplays.

Competition

The industry in which we operate is highly competitive. We face competition from legacy technologies such as cathode ray tubes (CRTs), liquid crystal on silicon microdisplays (LCOS), and transmissive liquid crystal displays (LCDs) as well as from alternative flat panel display technologies such as field emission and virtual scanning retinal displays. There are many large and small companies that manufacture or have in development products based on these technologies.

Currently, in the high resolution microdisplay market, we face competition from liquid crystal microdisplay manufacturers, such as those sold by Kopin Corporation. We are not aware of any significant current manufacturers of high resolution OLED microdisplays that compete with our microdisplay products. We are aware of two startups, located in France and China, which claim they can produce such displays.

To our knowledge, the only other companies that have publicly stated plans to commercially develop OLED microdisplays for near-eye applications are Yunnan North OLEiD Opto-Electronic Technology Co., Ltd. in China and MicroOLED in France. We believe that one or more companies in Asia are investigating production of OLED microdisplays. We may also compete with potential licensees of Universal Display Corporation, Global OLED Technology LLC, or Cambridge Display Technology, among others, each of which potentially can license OLED technology portfolios. If other new OLED-based companies enter our markets with directly relevant display designs and without manufacturing and reliability issues, we will face competition, though we believe that our progress to date in this area gives us a substantial head start.

In the future, we believe that our key competition will come from LCOS and small transmissive LCDs as well as OLED displays. While we believe that OLED technology has the capability to provide higher quality images, greater environmental ruggedness, reduced electronics cost and complexity, and improved power efficiency advantages over either type of liquid crystal based microdisplays, there is no assurance that these benefits will be fully realized or that liquid crystal manufacturers will not suitably improve these parameters to reduce these potential advantages of OLEDs.

Intellectual Property

We believe we have developed a substantial intellectual property portfolio of patents, trade secrets and manufacturing know-how. It is important to protect our investment in technology by obtaining and enforcing intellectual property rights, including rights under patent, trademark, trade secret and copyright laws. We seek to protect inventions we consider significant by applying for patents in the United States and other countries when appropriate.

Our intellectual property covers a wide range of materials, device structures, processes, and fabrication techniques, primarily concentrated in the following areas:

- OLED Materials, Structures, and Processes;
- Display Color Processing and Sealing;
- Active Matrix Circuit Methodologies and Designs;
- Lenses and Tracking (Eye and Head);
- Ergonomics and Industrial Design;
- Wearable Computer Interface Methodology; and
- Legacy Field Emission and General Display Technologies.

We believe that, in addition to patent protection, our success is dependent upon non-patentable trade secrets and technical expertise. To protect this information and know-how from unauthorized use or disclosure, we use nondisclosure agreements and other measures to protect our proprietary rights, and we require all employees, and where appropriate, contractors, consultants, advisors and collaborators to enter into confidentiality and non-competition agreements. We believe that our intellectual property portfolio, coupled with our strategic relationships and accumulated manufacturing know-how in OLED, gives us a significant advantage over potential competitors.

Employees

As of January 11, 2011, we had a total of 67 full time and part time staff. None of our employees are represented by a labor union. We have not experienced any work stoppages and consider our relations with our employees to be good.

Available Information

Our website address is www.emagin.com. We make available free of charge through our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, our Proxy Statements and all amendments to such reports filed under the Securities and Exchange Act after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission (SEC). These reports may be accessed from our website by following the links under “Investors,” then “SEC Filings.” The information found on our website is not part of this or any other report we file with or furnish to the SEC. We assume no obligation to update or revise any forward-looking statements in this Annual Report or in other reports filed with the SEC, whether as a result of new information, future events or otherwise, unless we are required to do so by law. A copy of this Annual Report and our other reports is available without charge upon written request to Investor Relations, eMagin Corporation, 3006 Northup Way, Suite 103, Bellevue, WA 98004.

We also post on our website the charters of our Audit, Compensation, Governance and Nominating committees, our Codes of Ethics and any amendments of or waiver to those codes of ethics, and other corporate governance materials recommended by the SEC as they occur, as well as earnings press releases and other business-related press releases. Our e-commerce site for sales of our Z800 3DVisor is www.3dvisor.com. The contents of this website are not part of this Report.

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ITEM 1A. RISK FACTORS

You should carefully consider the following risk factors and the other information included herein as well as the information included in other reports and filings made with the SEC before investing in our common stock. 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. The trading price of our common stock could decline due to any of these risks, and you may lose part or all of your investment.

RISKS RELATED TO OUR FINANCIAL RESULTS

We have had losses in the past and may incur losses in the future.

Our accumulated deficit is approximately $192 million as of December 31, 2010. We achieved profitability for three consecutive quarters in 2010. We can give no assurances that we will continue to be profitable in the future. We cannot assure investors that we will sustain profitability or that we will not incur operating losses in the future.

We may not be able to execute our business plan due to a lack of cash from operations.

Prior to April 2008, we had not produced positive cash flows from operations. However, we have generated positive cash flows the past 11 quarters. We anticipate that our cash from operations will be sufficient to meet our requirements over the next twelve months. In the event that cash flow from operations is less than anticipated and we are unable to secure additional funding to cover our expenses, in order to preserve cash, we may have to reduce expenditures and effect reductions in our corporate infrastructure, either of which could have a material adverse effect on our ability to continue our current level of operations. No assurance can be given that if additional financing is necessary, that it will be available, or if available, will be on acceptable terms.

Our operating results have significant fluctuations.

In addition to the variability resulting from the short-term nature of commitments from our customers, other factors contribute to significant periodic quarterly fluctuations in results of operations. These factors include, but are not limited to, the following:

- the receipt and timing of orders and the timing of delivery of orders;
- the inability to adjust expense levels or delays in adjusting expense levels, in either case in response to lower than expected revenues or gross margins;
- the volume of orders relative to our manufacturing capacity;
- product introductions and market acceptance of new products or new generations of products;
- changes in cost and availability of labor and components;
- product mix;
- variation in operating expenses; regulatory requirements, foreign currency fluctuations and changes in duties and tariffs;
- pricing and availability of competitive products and services; and
- changes, whether or not anticipated, in economic conditions.

Accordingly, the results of any past periods should not be relied upon as an indication of our future performance.

RISKS RELATED TO MANUFACTURING

The manufacture of active matrix OLED microdisplays continues to evolve as better methods are discovered and employed and therefore we may encounter manufacturing issues or delays.

Ours is an evolving technology and we are pioneers in this active matrix OLED microdisplay manufacturing technique. As such, we cannot assure you that we will be able to produce our products in sufficient quantity and quality to maintain existing customers and attract new customers. In addition, we cannot assure you that we will not experience manufacturing problems which could result in delays in delivery of orders or product introductions.

We are dependent on a single manufacturing line.

We currently manufacture our products on a single manufacturing line. If we experience any significant disruption in the operation of our manufacturing facility or a serious failure of a critical piece of equipment, we may be unable to supply microdisplays to our customers. For this reason, some OEMs may also be reluctant to commit a broad line of products to our microdisplays without a second production facility in place. However, we try to maintain product inventory to fill the requirements under such circumstances. Interruptions in our manufacturing could be caused by manufacturing equipment problems, the introduction of new equipment into the manufacturing process or delays in the delivery of new manufacturing equipment. Lead-time for delivery of manufacturing equipment can be extensive. No assurance can be given that we will not lose potential sales or be unable to meet production orders due to production interruptions in our manufacturing line. In order to meet the requirements of certain OEMs for multiple manufacturing sites, we will have to expend capital to secure additional sites and may not be able to manage multiple sites successfully.

We rely on key sole source and limited source suppliers.

We depend on a number of sole source or limited source suppliers for certain raw materials, components, and services. These include circuit boards, graphic integrated circuits, passive components, materials and chemicals, and equipment support. We maintain several single-source supplier relationships, either because alternative sources are not available or because the relationship is advantageous due to performance, quality, support, delivery, capacity, or price considerations. Even where alternative sources of supply are available, qualification of the alternative suppliers and establishment of reliable supplies could result in delays and a possible loss of sales, which could be detrimental to operating results. We do not manufacture the silicon integrated circuits on which we incorporate our OLED technology. Instead, we provide the design layouts to a sole semiconductor contract manufacturer who manufactures the integrated circuits on silicon wafers. Our inability to obtain sufficient quantities of components and other materials or services on a timely basis could result in manufacturing delays, increased costs and ultimately in reduced or delayed sales or lost orders which could materially and adversely affect our operating results. Generally, we do not have contracts or written agreements with our source suppliers.

Our results of operations, financial condition, and business would be harmed if we were unable to balance customer demand and capacity.

As customer demand for our products, particularly new products, changes we must be able to ramp up or adjust our production capacity to meet demand. We are continually taking steps to address our manufacturing capacity needs for our products. If we are not able to increase our capacity or if we increase our capacity too quickly, our business and results of operations could be adversely impacted. If we experience delays or unforeseen costs associated with adjusting our capacity levels, we may not be able to achieve our financial targets. For some of our products, vendor lead times exceed our customers' required delivery time causing us to order to forecast rather than order based on actual demand. Ordering raw material and building finished goods based on forecasts exposes us to numerous risks including potential inability to service customer demand in an acceptable timeframe, holding excess inventory or having unabsorbed manufacturing overhead.

Variations in our production yields impact our ability to reduce costs and could cause our margins to decline and our operating results to suffer.

All of our products are manufactured using technologies that are highly complex. The number of usable items, or yield, from our production processes may fluctuate as a result of many factors, including but not limited to the following:

- variability in our process repeatability and control;
- contamination of the manufacturing environment or equipment;
- equipment failure, power outages, or variations in the manufacturing process;
- lack of consistency and adequate quality and quantity of piece parts and other raw materials;
- defects in packaging either within or without our control; and
- any transitions or changes in our production process, planned or unplanned.

We could experience manufacturing interruptions, delays, or inefficiencies if we are unable to timely and reliably procure components from single-sourced suppliers.

We maintain several single-source supplier relationships, either because alternative sources are not available or because the relationship is advantageous due to performance, quality, support, delivery, capacity, or price considerations. If the supply of a critical single-source material or component is delayed or curtailed, we may not be able to ship the related product in desired quantities and in a timely manner. Even where alternative sources of supply are available, qualification of the alternative suppliers and establishment of reliable supplies could result in delays and a possible loss of sales, which could harm operating results.

RISKS RELATED TO OUR INTELLECTUAL PROPERTY

We may not be successful in protecting our intellectual property and proprietary rights.

We rely on a combination of patents, trade secret protection, licensing agreements and other arrangements to establish and protect our proprietary technologies. If we fail to successfully enforce our intellectual property rights, our competitive position could suffer, which could harm our operating results. Patents may not be issued for our current patent applications, third parties may challenge, invalidate or circumvent any patent issued to us, unauthorized parties could obtain and use information that we regard as proprietary despite our efforts to protect our proprietary rights, rights granted under patents issued to us may not afford us any competitive advantage, others may independently develop similar technology or design around our patents, and protection of our intellectual property rights may be limited in certain foreign countries. On April 30, 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, which may make it more difficult for patent holders to secure or maintain existing patents. Any future infringement or other claims or prosecutions related to our intellectual property could have a material adverse effect on our business. Any such claims, with or without merit, could be time consuming to defend, result in costly litigation, divert management's attention and resources, or require us to enter into royalty or licensing agreements. Such royalty or licensing agreements, if required, may not be available on terms acceptable to us, if at all. Protection of intellectual property has historically been a large yearly expense for eMagin. We have not been in a financial position to properly protect all of our intellectual property, and may not be in a position to properly protect our position or stay ahead of competition in new research and the protecting of the resulting intellectual property.

In addition to patent protection, we also rely on trade secrets and other non-patented proprietary information relating to our product development and manufacturing activities. We try to protect this information through appropriate efforts to maintain its secrecy, including requiring employees and third parties to sign confidentiality agreements. We cannot be sure that these efforts will be successful or that the confidentiality agreements will not be breached. We also cannot be sure that we would have adequate remedies for any breach of such agreements or other misappropriation of our trade secrets or that our trade secrets and proprietary know-how will not otherwise become known or be independently discovered by others.

RISKS RELATED TO THE MICRODISPLAY INDUSTRY

The commercial success of the microdisplay industry depends on the widespread market acceptance of microdisplay systems products.

The market for microdisplays is emerging. Our long-term success may depend on consumer acceptance of microdisplays as well as the success of the commercialization of the microdisplay market. As an OEM supplier, our customer's products must also be well accepted. At present, it is difficult to assess or predict with any assurance the potential size, timing and viability of market opportunities for our technology in this market.

The microdisplay systems business is intensely competitive.

We do business in intensely competitive markets that are characterized by rapid technological change, changes in market requirements and competition from both other suppliers and our potential OEM customers. Such markets are typically characterized by price erosion. This intense competition could result in pricing pressures, lower sales, reduced margins, and lower market share. Our ability to compete successfully will depend on a number of factors, both within and outside our control. We expect these factors to include the following:

- our success in designing, manufacturing and delivering expected new products, including those implementing new technologies on a timely basis;
- our ability to address the needs of our customers and the quality of our customer services;
- the quality, performance, reliability, features, ease of use and pricing of our products;
- successful expansion of our manufacturing capabilities;
- our efficiency of production, and ability to manufacture and ship products on time;
- the rate at which original equipment manufacturing customers incorporate our product solutions into their own products;
- the market acceptance of our customers' products; and
- product or technology introductions by our competitors.

Our competitive position could be damaged if one or more potential OEM customers decide to manufacture their own microdisplays, using OLED or alternate technologies. In addition, our customers may be reluctant to rely on a relatively small company such as eMagin for a critical component. We cannot assure you that we will be able to compete successfully against current and future competition, and the failure to do so would have a materially adverse effect upon our business, operating results and financial condition.

The display industry may be cyclical.

Our business strategy is dependent on OEM manufacturers building and selling products that incorporate our OLED displays as components into those products. Industry-wide fluctuations could cause significant harm to our business. The OLED microdisplay sector may experience overcapacity, if and when all of the facilities presently in the planning stage come on line, leading to a difficult market in which to sell our products.

Our competitors have many advantages over us.

As the microdisplay market develops, we expect to experience intense competition from numerous domestic and foreign companies including well-established corporations possessing worldwide manufacturing and production facilities, greater name recognition, larger retail bases and significantly greater financial, technical, and marketing resources than us, as well as from emerging companies attempting to obtain a share of the various markets in which our microdisplay products have the potential to compete. We cannot assure you that we will be able to compete successfully against current and future competition, and the failure to do so would have a materially adverse effect upon our business, operating results and financial condition.

Our products are subject to lengthy OEM development periods.

We sell most of our microdisplays to OEMs who will incorporate them into products they sell. OEMs determine during their product development phase whether they will incorporate our products. The time elapsed between initial sampling of our products by OEMs, the custom design of our products to meet specific OEM product requirements, and the ultimate incorporation of our products into OEM consumer products is significant, often with a duration of

between one and three years. If our products fail to meet our OEM customers' cost, performance or technical requirements or if unexpected technical challenges arise in the integration of our products into OEM consumer products, our operating results could be significantly and adversely affected. Long delays in achieving customer qualification and incorporation of our products could adversely affect our business.

In order to increase or maintain our profit margins we may have to continuously develop new products, product enhancements and new technologies.

In some markets, prices of established products tend to decline over time. In order to increase or maintain our profit margins over the long term, we believe that we will need to continuously develop new products, product enhancements and new technologies that will either slow price declines of our products or reduce the cost of producing and delivering our products. While we anticipate many opportunities to reduce production costs over time, there can be no assurance that these cost reduction plans will be successful, that we will have the resources to fund the expenditures necessary to implement certain cost-saving measures, or that our costs can be reduced as quickly as any reduction in unit prices. We may also attempt to offset the anticipated decrease in our average selling price by introducing new products with higher selling prices that may or may not offset price declines in more mature products. If we fail to do so, our results of operations could be materially and adversely affected.

RISKS RELATED TO OUR BUSINESS

Our success depends on attracting and retaining highly skilled and qualified technical and consulting personnel.

We must hire highly skilled technical personnel as employees and as independent contractors in order to develop our products. The competition for skilled technical employees is intense and we may not be able to retain or recruit such personnel. We must compete with companies that possess greater financial and other resources than we do, and that may be more attractive to potential employees and contractors. To be competitive, we may have to increase the compensation, bonuses, stock options and other fringe benefits offered to employees in order to attract and retain such personnel. The costs of attracting and retaining new personnel may have a materially adverse affect on our business and our operating results.

Our success depends in a large part on the continuing service of key personnel.

Changes in management could have an adverse effect on our business. We are dependent upon the active participation of several key management personnel and will also need to recruit additional management in order to expand according to our business plan. The failure to attract and retain additional management or personnel could have a material adverse effect on our operating results and financial performance.

Our operating results are substantially dependent on the development and acceptance of new products and technology innovations.

Our future success may depend on our ability to develop new and lower cost solutions for existing and new markets and for customers to accept those solutions. We must introduce new products in a timely and cost-efficient manner, and we must secure production orders for those products from our customers. The development of new products is a highly complex process, and we historically have experienced delays in completing the development and introduction of new products. Some or all of those technologies or products may not successfully make the transition from the research and development lab. Even when we successfully complete a research and development effort with respect to a particular product or technology, it may fail to gain market acceptance. The successful development and introduction of these products depends on a number of factors, including the following:

- achievement of technology breakthroughs required to make commercially viable devices;
- the accuracy of our predictions of market requirements;
- acceptance of our new product designs;
- acceptance of new technology in certain markets;
- the availability of qualified research and development and product development personnel;
- our timely completion of product designs and development;
- our ability and available resources to expand sales;
- our ability to develop repeatable processes to manufacture new products in sufficient quantities and at low enough costs for commercial sales;
- our customers' ability to develop competitive products incorporating our products; and
- acceptance of our customers' products by the market.

If any of these or other factors become problematic, we may not be able to develop and introduce these new products in a timely or cost-effective manner.

If government agencies discontinue or curtail their funding for our research and development programs our business may suffer.

Changes in federal budget priorities could adversely affect our contract revenue. Historically, government agencies have funded a significant part of our research and development activities. Our funding has the risk of being redirected to other programs when the government changes budget priorities, such as in time of war or for other reasons. Government contracts are also subject to the risk that the government agency may not appropriate and allocate all funding contemplated by the contract. In addition our government contracts generally permit the contracting authority to terminate the contract for the convenience of the government. The full value of the contracts would not be realized if they were prematurely terminated. We may be unable to incur sufficient allowable costs to generate the full estimated contract values. Furthermore, the research and development and product procurement contracts of the customers we supply may be similarly impacted. If the government funding is discontinued or reduced, our ability to develop or enhance products could be limited and our business results or operations and financial conditions could be adversely affected.

Our business depends on new products and technologies.

The market for our products is characterized by rapid changes in product, design and manufacturing process technologies. Our success depends to a large extent on our ability to develop and manufacture new products and technologies to match the varying requirements of different customers in order to establish a competitive position and become profitable. Furthermore, we must adopt our products and processes to technological changes and emerging industry standards and practices on a cost-effective and timely basis. Our failure to accomplish any of the above could harm our business and operating results.

We generally do not have long-term contracts with our customers.

Our business has primarily operated on the basis of short-term purchase orders. We receive some longer term purchase agreements, and procurement contracts, but we cannot guarantee that we will continue to do so. Our current purchase agreements can be cancelled or revised without penalty, depending on the circumstances. We plan production primarily on the basis of internally generated forecasts of demand based on communications with customers, and available industry data which makes it difficult to accurately forecast revenues. If we fail to accurately forecast operating results, our business may suffer and the value of your investment in eMagin may decline.

Our business strategy may fail if we cannot continue to form strategic relationships with companies that manufacture and use products that could incorporate our active matrix OLED technology.

Our prospects could be significantly affected by our ability to develop strategic alliances with OEMs for incorporation of our active matrix OLED microdisplay technology into their products. While we intend to continue to establish strategic relationships with manufacturers of electronic consumer products, personal computers, chipmakers, lens makers, equipment makers, material suppliers and/or systems assemblers, there is no assurance that we will be able to continue to establish and maintain strategic relationships on commercially acceptable terms, or that the alliances we do enter in to will realize their objectives. Failure to do so could have a material adverse effect on our business.

Our business depends to some extent on international transactions.

We purchase needed materials from companies located abroad and may be adversely affected by political and currency risk, as well as the additional costs of doing business with foreign entities. Some customers in other countries have longer receivable periods or warranty periods. In addition, many of the foreign OEMs that are the most likely long-term purchasers of our microdisplays expose us to additional political and currency risk. We may find it necessary to locate manufacturing facilities abroad to be closer to our customers which could expose us to various risks, including management of a multi-national organization, the complexities of complying with foreign laws and customs, political instability and the complexities of taxation in multiple jurisdictions.

Our business may expose us to product liability claims.

Our business may expose us to potential product liability claims. Although no such claims have been brought against us to date, and to our knowledge no such claim is threatened or likely, we may face liability to product users for damages resulting from the faulty design or manufacture of our products. While we plan to maintain product liability insurance coverage, there can be no assurance that product liability claims will not exceed coverage limits, fall outside the scope of such coverage, or that such insurance will continue to be available at commercially reasonable rates, if at all.

Our business is subject to environmental regulations and possible liability arising from potential employee claims of exposure to harmful substances used in the development and manufacture of our products.

We are subject to various governmental regulations related to toxic, volatile, experimental and other hazardous chemicals used in our design and manufacturing process. Our failure to comply with these regulations could result in the imposition of fines or in the suspension or cessation of our operations. Compliance with these regulations could require us to acquire costly equipment or to incur other significant expenses. We develop, evaluate and utilize new chemical compounds in the manufacture of our products. While we attempt to ensure that our employees are protected from exposure to hazardous materials, we cannot assure you that potentially harmful exposure will not occur or that we will not be liable to employees as a result.

Some of our business is subject to U.S. government procurement laws and regulations.

We must comply with certain laws and regulations relating to the formation, administration and performance of federal government contracts. These laws and regulations affect how we conduct business with our federal government contracts, including the business that we do as a subcontractor. In complying with these laws and regulations, we may incur additional costs, and non-compliance may lead to the assessment of fines and penalties, including contractual damages, or the loss of business.

Our business is subject to export laws and regulations.

We engage in international work falling under the jurisdiction of U.S. export control laws. Failure to comply with these control regimes can lead to severe penalties, both civil and criminal, and can include debarment from contracting with the U.S. government.

Current adverse economic conditions may adversely impact our business, operating results and financial condition.

The current economic conditions and market instability may affect our customers and suppliers. Any adverse financial or economic impact to our customers may impact their ability to pay timely, or result in their inability to pay. It may also impact their ability to fund future purchases, or increase the sales cycles which could lead to a

reduction in revenue and accounts receivable. Our suppliers may increase their prices or may be unable to supply needed raw materials on a timely basis which could result in our inability to meet customers' demand or affect our gross margins. Our suppliers may, also, impose more stringent payment terms on us. The timing and nature of any recovery in the credit and financial markets remains uncertain, and there can be no assurance that market conditions will improve in the near future or that our results will not be materially and adversely affected.

RISKS RELATED TO OUR STOCK

The substantial number of shares that are or will be eligible for sale could cause our common stock price to decline even if eMagin is successful.

Sales of significant amounts of common stock in the public market, or the perception that such sales may occur, could materially affect the market price of our common stock. These sales might also make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate. As of January 31, 2011, we have outstanding common shares of 21,540,638 plus (i) options to purchase 3,132,114 shares, (ii) warrants to purchase 2,305,514 shares and (iii) convertible preferred stock to purchase 7,572,000 shares of common stock.

Changes in internal controls or accounting guidance could cause volatility in our stock price.

Guidance regarding implementation and interpretation of the provisions of Section 404 of the Sarbanes-Oxley Act continues to be issued by the standards-setting community. In July 2010, smaller reporting companies were granted permanent exemption from having to obtain an auditors' report on management's assertion of the effectiveness of its internal control over financial reporting. However, in the future if we become an accelerated filer, we would be subject to an audit of our internal controls. As a result of the ongoing interpretation of new guidance and the audit testing which may be required to be completed in the future, our internal controls over financial reporting may include an unidentified material weakness which would result in receiving an adverse opinion on our internal controls over financial reporting from our independent registered public accounting firm. This could result in significant additional expenditures responding to the Section 404 internal control audit, heightened regulatory scrutiny and potentially an adverse effect to the price of our stock.

In addition, due to increased regulatory scrutiny surrounding publicly traded companies, the possibility exists that a restatement of past financial results could be necessitated by an alternative interpretation of present accounting guidance and practice. Although management does not currently anticipate that this will occur, a potential result of such interpretation could be an adverse effect on our stock price.

The market price of our common stock may be volatile.

The market price of our common stock has been subject to wide fluctuations. During our four most recently completed fiscal quarters, the closing price of our stock ranged from $1.73 to $6.00 and decreased to a low of $1.47 on February 4, 2010. The market price of our common stock in the future is likely to continue to be subject to wide fluctuations in response to various factors, including, but not limited to, the following:

- variations in our operating results and financial conditions;
- actual or anticipated announcements of technical innovations, new product developments, or design wins by us or our competitors;
- general conditions in the semiconductor and flat panel display industries; and
- worldwide economic and financial conditions.

In addition, the public stock markets have experienced extreme price and volume fluctuations that have particularly affected the market price for many technology companies and that have often been unrelated to the operating performance of these companies. The broad market fluctuations and other factors may continue to adversely affect the market price of our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our corporate offices are located in Bellevue, Washington. Our Washington location includes administrative, finance, operations, research and development and sales and marketing functions and consists of leased space of approximately 6,300 square feet. The lease expires in 2014. Our manufacturing facility is located in Hopewell Junction, New York, where we lease approximately 37,000 square feet from IBM. The New York facility houses our equipment for OLED microdisplay fabrication, assembly operations, research and development, and product development functions. The lease expires in 2014. We believe our facilities are adequate for our current and near-term needs. We believe we will be able to renew these leases or obtain alternative spaces or additional spaces as necessary under acceptable terms. See Note 12 to the Consolidated Financial Statements for more information about lease commitments.

ITEM 3. LEGAL PROCEEDINGS

On March 17, 2010, Gary Jones, a former executive at the Company filed a complaint for damages in the Superior Court of the State of Washington for King County (the "Complaint") against the Company and the Company's Chief Financial Officer. The Complaint alleges unspecified damages for failure to pay contractual payments and wages under Washington law and includes, among other claims, breach of contract, breach of the duty of good faith and fair dealing, promissory estoppel and misrepresentation.

On May 21, 2010, the court granted eMagin's motion to dismiss regarding the claim for misrepresentation and the Washington Wage Claim. The Chief Financial Officer's motion to dismiss was also granted relating to the following claims against him: the Washington Wage Claims, breach of contract, breach of promises of specific treatment in specific circumstances, breach of the duty of good faith and fair dealing, and promissory estoppel. With respect to the undismissed claims, the litigation is ongoing. The Company denies the allegations raised in the Complaint. In January 2011, the Company made a final settlement offer to Mr. Jones of $650 thousand. To date, such settlement offer has not been accepted and no final settlement or outcome of this matter has been reached.

ITEM 4. (Removed and Reserved)

PART II

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

During 2009 and until May 17, 2010, our common stock was quoted on the OTC Bulletin Board under the symbol "EMAN". As of May 18, 2010, our common stock trades on the NYSE Amex under the symbol “EMAN”. The following table sets forth the range of high and low prices per share of our common stock for each period indicated.

	2010		2009	
	High	Low	High	Low
First quarter	$ 3.90	$ 1.47	$ 0.85	$ 0.32
Second quarter	$ 5.49	$ 2.88	$ 1.40	$ 0.60
Third quarter	$ 3.65	$ 1.91	$ 2.08	$ 0.97
Fourth quarter	$ 6.00	$ 3.00	$ 2.00	$ 1.38

As of January 31, 2011, there were 491 holders of record of our common stock. Because brokers and other institutions hold many of the shares on behalf of shareholders, we are unable to determine the actual number of shareholders represented by these record holders.

Dividends

We have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain all future earnings to fund the operation of our business and do not anticipate paying dividends on our common stock in the foreseeable future.

Recent Issuances of Unregistered Stock

For the quarter ended December 31, 2010, pursuant to various cashless warrant exercises, we issued 916,519 shares of common stock. In connection with the foregoing, the Company relied upon the exemption from securities registration afforded by Rule 506 of Regulation D as promulgated by the SEC under the Securities Act of 1933, as amended (the “Securities Act”) and/or Section 4(2) of the Securities Act. No advertising or general solicitation was employed in offering the securities.

Equity Compensation Plan Information

The following table sets forth the aggregate information of our equity compensation plans in effect as of December 31, 2010:

Plan	Number of securities to be issued upon exercise of outstanding options and rights	Weighted-average exercise price of outstanding options and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first column
	2,099,368	$ 2.00	1,401,254

Equity compensation plans approved by security holders – 2003 Stock Option Plan				
Equity compensation plans not approved by security holders – 2008 Incentive Stock Plan	1,052,746	$	1.03	207,263

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with our consolidated financial statements and related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations". The consolidated statements of operations data for the years ended December 31, 2010 (Restated), 2009 and 2008 and the balance sheet data at December 31, 2010 (Restated) and 2009 are derived from our audited financial statements which are included elsewhere in this Form 10-K /A . The consolidated statements of operations data for the years ended December 31, 2007 and 2006 and the balance sheet data at December 31, 2008, 2007 and 2006 are derived from our audited financial statements which are not included in this Form 10-K /A . The historical results are not necessarily indicative of results to be expected for future periods. The following information is presented in thousands, except per share data.

Consolidated Statements of Operations Data:

	For the Year Ended December 31,				
	2010 (Restated)	2009	2008	2007	2006
	(In thousands, except per share data)				
Revenue	$ 30,458	$ 23,822	$ 18,739	$ 17,554	$ 8,169
Cost of goods sold	12,018	10,175	10,673	12,628	11,359
Gross profit (loss)	18,440	13,647	8,066	4,926	(3,190)
Operating expenses:					
Research and development	2,370	1,996	2,081	2,949	4,406
Selling, general and administrative	10,055	6,900	6,254	6,591	8,860
Total operating expenses	12,425	8,896	8,335	9,540	13,266
Income (loss) from operations	6,015	4,751	(269)	(4,614)	(16,456)
Other expense, net	(16,086)	(6,932)	(1,590)	(13,874)	1,190
Net loss prior to income tax provision	(10,071)	(2,181)	(1,859)	(18,488)	(15,266)
Income tax (benefit) expense	(8,931)	90	—	—	—
Net loss	$ (1,140)	$ (2,271)	$ (1,859)	$ (18,488)	$ (15,266)
Loss per share, basic	$ (0.06)	$ (0.14)	$ (0.13)	$ (1.59)	$ (1.52)
Loss per share, diluted	$ (0.06)	$ (0.14)	$ (0.13)	$ (1.59)	$ (1.52)
Shares used in calculation of loss per share:					
Basic	19,239,933	16,343,650	14,175,220	11,633,367	10,057,748
Diluted	19,239,933	16,343,650	14,175,220	11,633,367	10,057,748

Consolidated Balance Sheet Data:
(In thousands)

	December 31,				
	2010 (Restated)	2009	2008	2007	2006
Cash and cash equivalents	$ 7,796	$ 5,295	$ 2,404	$ 713	$ 1,415
Working capital (deficit)	$ 5,881	$ 8,581	$ 3,300	$ (4,708)	$ (305)

Total assets	$ 32,702	$ 13,980	$ 10,104	$ 6,648	$ 7,005
Long-term obligations	$ 5,158	$ 6,844	$ —	$ 60	$ 2,229
Total shareholders' equity (capital deficit)	$ 14,697	$ 2,893	$ 3,661	$ (4,170)	$ (1,164)

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

Introduction

The following discussion should be read in conjunction with the Financial Statements and Notes thereto. Our fiscal year ends December 31. This document contains certain forward-looking statements including, among others, anticipated trends in our financial condition and results of operations and our business strategy. These forward-looking statements are based largely on our current expectations and are subject to a number of risks and uncertainties. (See Part I, Item 1A, "Risk Factors "). Actual results could differ materially from these forward-looking statements. Important factors to consider in evaluating such forward-looking statements include (i) changes in external factors or in our internal budgeting process which might impact trends in our results of operations; (ii) unanticipated working capital or other cash requirements; (iii) changes in our business strategy or an inability to execute our strategy due to unanticipated changes in the industries in which we operate; and (iv) various competitive market factors that may prevent us from competing successfully in the marketplace.

Restatement of Previously Issued Consolidated Financial Statements

In this Amendment No. 1 we have restated our previously issued management’s discussion and analysis of financial condition and results of operations, audited consolidated financial statements and related disclosures for the year ended December 31, 2010 for the following:

- To correct errors in the accounting for certain warrants. Specifically, we previously classified as equity instruments warrants that should have been classified as derivative liability instruments based on the terms of the warrants and the applicable accounting guidance.

- To correct an error in the calculation of earnings per share (“EPS”). We issued Preferred Stock – Series B which participates in dividends with our common stock; as a result, we should have used the two-class method for calculating EPS.

Overview

We design and manufacture miniature displays, which we refer to as OLED-on-silicon-microdisplays, and microdisplay modules for virtual imaging, primarily for incorporation into the products of other manufacturers. Microdisplays are typically smaller than many postage stamps, but when viewed through a magnifier they can contain all of the information appearing on a high-resolution personal computer screen. Our microdisplays use organic light emitting diodes, or OLEDs, which emit light themselves when a current is passed through the device. Our technology permits OLEDs to be coated onto silicon chips to produce high resolution OLED-on-silicon microdisplays.

We believe that our OLED-on-silicon microdisplays offer a number of advantages in near to the eye applications over other current microdisplay technologies, including lower power requirements, less weight, fast video speed without flicker, and wider viewing angles. In addition, many computer and video electronic system functions can be built directly into the OLED-on-silicon microdisplay, resulting in compact systems with lower expected overall system costs relative to alternate microdisplay technologies.

Since our inception in 1996 through 2004, we derived the majority of our revenues from fees paid to us under research and development contracts, primarily with the U.S. government. We have devoted significant resources to the development and commercial launch of our products including our Z800 gaming headset. We commenced limited initial sales of our SVGA+ microdisplay in May 2001 and commenced shipping samples of our SVGA-3D

microdisplay in February 2002. From inception to December 31, 2010, we have recognized an aggregate of approximately $97.8 million from sales of our products. As of January 31, 2011, we had a backlog of approximately $9.8 million in products ordered for delivery through December 31, 2011. At February 28, 2010, we had a backlog of $6.8 million in products ordered for delivery through December 31, 2010. This backlog consists of non-binding purchase orders and purchase agreements. These products are being applied or considered for near-eye and headset applications in products such as thermal imagers, night vision goggles, entertainment headsets, handheld Internet and telecommunication appliances, viewfinders, and wearable computers to be manufactured by original equipment manufacturer (OEM) customers. We have also shipped our Z800 3DVisor personal display systems. In addition to marketing OLED-on-silicon microdisplays as components, we also offer microdisplays as an integrated package, which we call Microviewer that includes a compact lens for viewing the microdisplay and electronic interfaces to convert the signal from our customer's product into a viewable image on the microdisplay.

We have developed a strong portfolio of our own patents, manufacturing know-how and technology to create high performance OLED-on-silicon microdisplays and related optical systems. We believe our technology and intellectual property portfolio, gives us a leadership position in OLED and OLED-on-silicon microdisplay technology. We believe that we are the only company to demonstrate publicly, market and produce in significant quantities full-color small molecule OLED-on-silicon microdisplays.

In 2010, we continued to advance our technology. We are making good progress toward developing a HD resolution display that is under 1 inch in diagonal for the U.S. Army Telemedicine and Technology Research Center (TATRC). We are making great strides in OLED architectures that could double or triple OLED efficiency. We continue to place our microdisplays with additional customers. In 2010, we announced a $15 million notice of contract award from ITT, a new customer.

Company History

As of January 1, 2003, we were no longer classified as a development stage company. We transitioned to manufacturing our product and have significantly increased our marketing, sales, and research and development efforts, and expanded our operating infrastructure. Currently, most of our operating expenses are labor related and semi-fixed. If we are unable to generate significant revenues, our net income in any given period could be less than expected.

Critical Accounting Policies

The Securities and Exchange Commission ("SEC") defines "critical accounting policies" as those that require application of management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain and may change in subsequent periods. Not all of the accounting policies require management to make difficult, subjective or complex judgments or estimates. However, the following policies could be deemed to be critical within the SEC definition.

Revenue and Cost Recognition

Revenue on product sales is recognized when persuasive evidence of an arrangement exists, such as when a purchase order or contract is received from the customer, the price is fixed, title and risk of loss to the goods has changed and there is a reasonable assurance of collection of the sales proceeds. We obtain written purchase authorizations from our customers for a specified amount of product at a specified price and consider delivery to have occurred at the time of shipment. Products sold directly to consumers have a thirty day right of return. Revenue on consumer products is deferred until the right of return has expired.

Revenues from research and development activities relating to firm fixed-price contracts and cost-type contracts are generally recognized on the percentage-of-completion method of accounting as costs are incurred (cost-to-cost basis). Contract costs include all direct material and labor costs and an allocation of allowable indirect costs as defined by each contract, as periodically adjusted to reflect revised agreed upon rates. These rates are subject to audit by the other party.

Product Warranty

We offer a one-year product replacement warranty. In general, our standard policy is to repair or replace the defective products. We accrue for estimated returns of defective products at the time revenue is recognized based on historical activity as well as for specific known product issues. The determination of these accruals requires us to make estimates of the frequency and extent of warranty activity and estimate future costs to replace the products under warranty. If the actual warranty activity and/or repair and replacement costs differ significantly from these estimates, adjustments to cost of revenue may be required in future periods.

Use of Estimates

In accordance with accounting principles generally accepted in the United States of America, management utilizes certain estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an on-going basis, management evaluates its estimates and judgments related to, among others, allowance for doubtful accounts, warranty reserves, inventory reserves, stock-based compensation expense, deferred tax asset valuation allowances, litigation and other loss contingencies. Management bases its estimates and judgments on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates.

Fair Value of Financial Instruments - Restated

eMagin’s cash, cash equivalents, accounts receivable, short-term investments, and accounts payable are stated at cost which approximates fair value due to the short-term nature of these instruments. In addition, the long-term investments are stated at cost which approximates fair value. eMagin measures the fair value of our warrants based on the Monte Carlo Simulation approach.

Stock-based Compensation

eMagin maintains several stock equity incentive plans. The 2005 Employee Stock Purchase Plan (the “ESPP”) provides our employees with the opportunity to purchase common stock through payroll deductions. Employees may purchase stock semi-annually at a price that is 85% of the fair market value at certain plan-defined dates. As of December 31,

2010, the number of shares of common stock available for issuance was 300,000. As of December 31, 2010, the plan had not been implemented.

The 2003 Stock Option Plan (the"2003 Plan") provides for grants of shares of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. Under the 2003 plan, an ISO grant is granted at the market value of our common stock at the date of the grant and a non-ISO is granted at a price not to be less than 85% of the market value of the common stock. These options have a term of up to 10 years and vest over a schedule determined by the Board of Directors, generally over a five year period. The amended 2003 Plan provides for an annual increase in common stock available for issuance by 3% of the diluted shares outstanding on January 1 of each year for a period of 9 years which commenced January 1, 2005. In 2010, there were 939,085 options granted from the 2003 Plan.

The 2008 Incentive Stock Plan ("the 2008 Plan") adopted and approved by the Board of Directors on November 5, 2008 provides for shares of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. The 2008 Plan has an aggregate of 2,000,000 shares. In 2010, there were no options granted from this plan.

We account for the measurement and recognition of compensation expense for all share-based payment awards made to employees and directors by estimating the fair value of stock awards at the date of grant using the Black-Scholes option valuation model. Stock-based compensation expense is reduced for estimated forfeitures and is amortized over the vesting period using the straight-line method. See Note 11 of the Consolidated Financial Statements – Stock Compensation for a further discussion on stock-based compensation.

Income Taxes

In preparing our consolidated financial statements, we are required to estimate income taxes in each of the jurisdictions in which we operate. The process involves estimating our current tax expense together with assessing temporary differences resulting from the differing treatment of items for accounting and tax purposes. These differences result in deferred tax assets and liabilities. Operating losses and tax credits, to the extent not already utilized to offset taxable income also represent deferred tax assets. We must assess the likelihood that any deferred tax assets will be recovered from future taxable income, and to the extent we believe that recovery is not likely, we must establish a valuation allowance. Significant judgment is required in determining our provision for income taxes, deferred tax assets and liabilities and any valuation allowance recorded against our deferred tax assets.

From inception through the third quarter of 2010, we maintained a full valuation allowance against our deferred tax assets as we were unable to determine that it was more likely than not that we would generate sufficient future taxable income to utilize them. During the years ended December 31, 2010, 2009 and 2008, we utilized $6.3 million, $4.7 million, and $0 million, respectively, of historical net operating losses to offset taxable income in each of these periods. At December 31, 2010, we had deferred tax assets, including net operating losses and tax credits that would offset $111 million of future taxable income. In the fourth quarter of 2010, we determined that it was more likely than not that we would generate future taxable income and, as a result, recorded a $9.1 million reduction of our deferred tax asset valuation allowance and corresponding income tax benefit.

In determining future taxable income, assumptions are made to forecast operating income, the reversal of temporary timing differences and the implementation of tax planning strategies. Management uses significant judgment in the assumptions it uses to forecast future taxable income which are consistent with the forecasts used to manage the business. Realization of the deferred tax asset is dependent upon future earnings which there is uncertainty as to the timing. We will continue to monitor the realizability of the deferred tax asset.

As of December 31, 2010, the valuation allowance against the net deferred tax assets was $32.4 million. The valuation allowance will be maintained until further sufficient positive evidence exists to support an additional reduction in the valuation allowance.

Results of Operations

The following table presents certain financial data as a percentage of total revenue for the periods indicated. Our historical operating results are not necessarily indicative of the results for any future period.

	As a Percentage of Total Revenue Year Ended December 31,		
	2010 (Restated)	2009	2008
Consolidated Statements of Operations Data:			
Revenue	100%	100%	100%
Cost of goods sold	39	43	57
Gross profit	61	57	43
Operating expenses:			
Research and development	8	8	11
Selling, general and administrative	33	29	33
Total operating expenses	41	37	44
Income (loss) from operations	20	20	(1)
Other expense	(52)	(29)	(9)
Loss before provision for income taxes	(33)	(9)	(10)
Income tax (benefit) expense	(29)	—	—
Net loss	(4)%	(9)%	(10)%

Year Ended December 31, 2010 Compared to Year Ended December 31, 2009

Revenues

Revenues increased by approximately $6.7 million to a total of approximately $30.5 million for the year ended December 31, 2010 from approximately $23.8 million for the year ended December 31, 2009, representing an increase of 28%. The increase in revenue was due to increased customer demand of our OLED displays and active research and development contracts.

For the year ended December 31, 2010, product revenue increased approximately $3.8 million as compared to the year ended December 31, 2009. The 19% increase was due to higher customer demand along with a shift in the mix of products. For the year ended December 31, 2010, contract revenue increased 70% or approximately $2.9 million as compared to the year ended December 31, 2009. The increase was a result of an increase in the number of active research and development projects in 2010 as compared to 2009.

Cost of Goods Sold

Cost of goods sold is comprised of costs of product revenue and contract revenue. Cost of product revenue includes materials, labor and manufacturing overhead related to our products. Cost of contract revenue includes direct and allocated indirect costs associated with performance on contracts. Cost of goods sold for the year ended December 31, 2010 were approximately $12.0 million as compared to approximately $10.2 million for the year ended December 31, 2009, an increase of approximately $1.8 million. Cost of goods sold as a percentage of revenues improved to 39% for the year ended December 31, 2010 from 43% for the year ended December 31, 2009.

The following table outlines product, contract and total gross profit and related gross margins for the years ended December 31, 2010 and 2009 (dollars in thousands):

	For the Year ended December 31,			
	2010		2009	
Product revenue gross profit	$15,223		$11,910	
Product revenue gross margin	65	%	60	%
Contract revenue gross profit	$3,217		$1,737	
Contract revenue gross margin	47	%	43	%
Total gross profit	$18,440		$13,647	
Total gross margin	61	%	57	%

The gross profit for the year ended December 31, 2010 was approximately $18.4 million as compared to approximately $13.6 million for the year ended December 31, 2009, an increase of $4.8 million. Gross margin was 61% for the year ended December 31, 2010 up from 57% for the year ended December 31, 2009. The increase was attributable to increases in product gross margin of 5% and the contract gross margin of 4%.

The product gross profit for the year ended December 31, 2010 was approximately $15.2 million as compared to approximately $11.9 million for the year ended December 31, 2009, an increase of $3.3 million. Product gross margin was 65% for the year ended December 31, 2010 up from 60% for the year ended December 31, 2009. The increase in product gross profit and gross margin was due to higher sales volumes and improved product mix resulting in a higher average selling price in conjunction with a reduction of the warranty accrual. The higher average selling price was a result of the mix of products sold which included custom displays with a higher sales price.

The contract gross profit for the year ended December 31, 2010 was approximately $3.2 million as compared to approximately $1.7 million for the year ended December 31, 2009, an increase of $1.5 million. Contract gross margin was 47% for the year ended December 31, 2010 up from 43% for the year ended December 31, 2009. The contract gross margin is dependent upon the mix of internal versus external third party costs, with the external third party costs causing a lower gross margin and reducing the contract gross profit.

Research and Development Expenses

Research and development expenses include salaries, development materials and other costs specifically allocated to the development of new microdisplay products, OLED materials and subsystems. Research and development expenses for the year ended December 31, 2010 were approximately $2.4 million as compared to approximately $2.0 million for the year ended December 31, 2009, an increase of approximately $0.4 million. The increase was primarily related to an increase in internal research and development of $0.3 million and personnel expense of $0.1 million.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist principally of salaries, fees for professional services including legal fees, as well as other marketing and administrative expenses. Selling, general and administrative expenses for the year ended December 31, 2010 were approximately $10.1 million as compared to approximately $6.9 million for the year ended December 31, 2009, an increase of approximately $3.2 million. The increase is primarily related to severance expense of $1.1 million, personnel costs including non-cash compensation of $1.1 million, litigation settlement and legal fees of $1.5 million offset by a decrease in professional services of $0.1 million, accounting fees

of $0.1 million and recruiting expenses of $0.2 million.

Other (Expense) Income

Other income (expense), net consists primarily of interest income earned on investments, interest expense and other costs related to the debt, miscellaneous income and expense applicable to the change in fair value of the warrant liability.

For the year ended December 31, 2010, interest expense was approximately $115 thousand as compared to approximately $466 thousand for the year ended December 31, 2009. For the year ended December 31, 2010, the interest expense associated with debt was approximately $60 thousand, loan fees associated with the new line of credit was approximately $27 thousand, and interest on liquidated damages expense related to registration payment arrangements of approximately $28 thousand. For the year ended December 31, 2009, the interest expense associated with debt was approximately $63 thousand, loan fees associated with the new line of credit were approximately $13 thousand, interest on liquidated damages expense related to registration payment arrangements was approximately $28 thousand and the amortization of the deferred costs associated with the debt was approximately $362 thousand. The decrease in interest expense was primarily a result of fully amortizing the deferred debt issuance costs in 2009.

Other income for the year ended December 31, 2010 was approximately $16 thousand as compared to approximately $67 thousand for the year ended December 31, 2009. The other income for the year ended December 31, 2010 was interest income of approximately $10 thousand and $6 thousand from equipment salvage. The other income for the year ended December 31, 2009 was interest income of approximately $6 thousand; approximately $4 thousand of miscellaneous income; and approximately $57 thousand for a settlement of a liability.

Change in Fair Value of Warrant Liability. In accordance with ASC 815, adopted January 1, 2009, certain warrants previously classified within equity are reclassified as liabilities. As a result of this reclassification, the accounting guidance requires revaluation of this liability every reporting period. The fair value of the liability at December 31, 2010 and 2009 was measured by using the Monte Carlo Simulation model. The revaluation resulted in a charge of approximately $16.0 million for the year ended December 31, 2010 as compared to $6.5 million for the year ended December 31, 2009. This revaluation resulted in non-cash changes to other income (expense) and had no impact on our cash balances, operations, or operating income.

Income Tax (Benefit) Expense

For the year ended December 31, 2010, income tax benefit was approximately $8.9 million and for the year ended December 31, 2009, the income tax expense was $90 thousand. For 2010, we incurred $0.13 million of income tax expense related to alternative minimum tax, which is not offset by operating loss carryforwards. As a result of taxable income over the past two years, we concluded that it was more likely than not that we would continue to generate sufficient taxable income to utilize the benefit from a portion of our net operating loss carryforwards; therefore, we recorded a $9.1 million reduction of our deferred tax asset valuation allowance and corresponding income tax benefit.

Net Loss

Net loss totaled approximately $1.1 million for the year ended December 31, 2010 as compared to approximately $2.3 million for the year ended December 31, 2009. Net loss for the year ended December 31, 2010 would have been approximately $8.4 million excluding the one-time charges of a $1.1 million severance charge, $0.7 million litigation settlement offer, and the tax benefit of $9.1 million related to the reversal of valuation allowance.

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

Revenues

Revenues increased by approximately $5.1 million to a total of approximately $23.8 million for the year ended December 31, 2009 from approximately $18.7 million for the year ended December 31, 2008, representing an increase of 27%. The increase in revenue was due to increased customer demand.

For the year ended December 31, 2009, product revenue increased approximately $4.0 million as compared to the year ended December 31, 2008. The 26% increase was due to higher customer demand and product availability for our OLED displays and z800s. For the year ended December 31, 2009, contract revenue increased 34% or approximately $1.0 million as compared to the year ended December 31, 2008. The increase was a result of an increase in the research and development projects in 2009 as compared to 2008.

Cost of Goods Sold

Cost of goods sold includes direct and indirect costs associated with production. Cost of goods sold for the year ended December 31, 2009 was approximately $10.2 million as compared to approximately $10.7 million for the year ended December 31, 2008, a decrease of approximately $0.5 million. Cost of goods sold as a percentage of revenues improved to 43% for the year ended December 31, 2009 from 57% for the year ended December 31, 2008. Cost of goods is comprised primarily of material and labor cost with the labor portion of cost of goods mostly fixed. Improved manufacturing yield and lower royalty expense resulted in a lower cost of goods sold.

The following table outlines product, contract and total gross profit and related gross margins for the years ended December 31, 2009 and 2008 (dollars in thousands):

	For the Year ended December 31,			
	2009		2008	
Product revenue gross profit	$11,910		$6,644	
Product revenue gross margin	60	%	42	%

Contract revenue gross profit	$1,737		$1,422	
Contract revenue gross margin	43	%	47	%
Total gross profit	$13,647		$8,066	
Total gross margin	57	%	43	%

The gross profit for the year ended December 31, 2009 was approximately $13.6 million as compared to approximately $8.1 million for the year ended December 31, 2008, an increase of $5.6 million. Gross margin was 57% for the year ended December 31, 2009 up from 43% for the year ended December 31, 2008. The increase was mainly attributable to our increase in product gross margin of 18% offset by a reduction in the contract gross margin of 4%.

The product gross profit for the year ended December 31, 2009 was approximately $11.9 million as compared to approximately $6.6 million for the year ended December 31, 2008, an increase of $5.3 million. Product gross margin was 60% for the year ended December 31, 2009, up from 42% for the year ended December 31, 2008. The increase was attributed to the fuller utilization of our fixed production overhead due to improved yields and a reduction in royalty expense. See Note 12 of the Consolidated Financial Statements - Commitments and Contingencies for further discussion on the royalty expense.

The contract gross profit for the year ended December 31, 2009 was approximately $1.7 million as compared to approximately $1.4 million for the year ended December 31, 2008, an increase of $0.3 million. Contract gross margin was 43% for the year ended December 31, 2009, down from 47% for the year ended December 31, 2008. The contract gross margin is dependent upon the mix of internal versus external third party costs, with the external third party costs causing a lower gross margin and reducing the contract gross profit.

Research and Development Expenses

Research and development expenses include salaries, development materials and other costs specifically allocated to the development of new microdisplay products, OLED materials and subsystems. Research and development expenses for the year ended December 31, 2009 were relatively unchanged at approximately $2.0 million as compared to approximately $2.1 million for the year ended December 31, 2008, a decrease of approximately $0.1 million. The decrease was primarily due to an increase in the allocation of research and development resources and expenses related to contracts to cost of goods sold and a reduction of expense due to the streamlining of the research and development effort in the subsystems area offset by an increase in internal product development costs.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist principally of salaries, fees for professional services including legal fees, as well as other marketing and administrative expenses. Selling, general and administrative expenses for the year ended December 31, 2009 were approximately $6.9 million as compared to approximately $6.3 million for the year ended December 31, 2008, an increase of approximately $0.6 million. The increase is primarily related to an increase in personnel costs, shareholder related costs, professional fees and tradeshow costs offset by a decrease in reserve for allowance for bad debts and rent expense.

Other (Expense) Income

Other income (expense), net consists primarily of interest income earned on investments, interest expense related to the secured debt, income from the licensing of intangible assets and expense applicable to the change in fair value of the warrant liability .

For the year ended December 31, 2009, interest expense was approximately $466 thousand as compared to approximately $2.0 million for the year ended December 31, 2008. For the year ended December 31, 2009, the interest expense associated with debt was approximately $63 thousand, loan fees associated with the new line of credit were approximately $13 thousand, interest on liquidated damages expense related to registration payment arrangements was approximately $28 thousand and the amortization of the deferred costs associated with the debt was approximately $362 thousand. Interest expense for the year ended December 31, 2008 was comprised of interest associated with debt of approximately $0.7 million; the amortization of the deferred costs associated with debt of approximately $1.3 million; the amortization of the debt discount associated with debt of approximately $25 thousand; and other expenses of approximately $2 thousand. The decrease in interest expense was primarily a result of carrying a lower balance on our line of credit, the repayment and conversion of the 8% Senior Secured Convertible Notes in December 2008, and lower amortization of deferred debt issuance costs.

Other income for the year ended December 31, 2009 was approximately $67 thousand as compared to approximately $400 thousand for the year ended December 31, 2008. The other income for the year ended December 31, 2009 was interest income of approximately $6 thousand; approximately $4 thousand of miscellaneous income; and approximately $57 thousand for a settlement of a liability. Other income for the year ended December 31, 2008 was interest income of approximately $11 thousand; approximately $18 thousand of income from equipment salvage; gain on the license of intangibles of approximately $557 thousand (see Note 12 of the Consolidated Financial Statements - Commitments and Contingencies); and offset by approximately $186 thousand of liquidated damages expense related to registration payment arrangements.

Change in Fair Value of Warrant Liability. In accordance with ASC 815, adopted January 1, 2009, certain warrants previously classified within equity are reclassified as liabilities. As a result of this reclassification, the accounting guidance requires revaluation of this liability every reporting period. The fair value of the liability at December 31, 2009 was measured by using the Monte Carlo Simulation model. The revaluation resulted in a charge of $6.5 million for the year ended December 31, 2009. This revaluation resulted in non-cash changes to other income (expense) and had no impact on our cash balances, operations, or operating income.

Income Tax Expense

For the year ended December 31, 2009, income tax expense was approximately $90 thousand. We have net operating loss carryforwards to offset taxable income in 2009; however we are subject to alternative minimum tax ("AMT"). For the year ended December 31, 2008, the income tax expense was $0 thousand as we had a net loss.

Off-Balance Sheet Arrangements

We have no off balance sheet arrangements that are reasonably likely to have a current or future effect on our financial condition, revenues, results of operations, liquidity or capital expenditures.

Liquidity and Capital Resources

As of December 31, 2010, we had approximately $12.4 million of cash, cash equivalents, and investments in certificates of deposit ("CDs"). As of December 31, 2010, we had approximately $7.8 million of cash and cash equivalents as compared to $5.3 million as of December 31, 2009. The change in cash of $2.5 million was primarily due to cash provided by operations of approximately $8.3 million and financing activities of approximately $1.1 million offset by cash used for investing activities of approximately $6.9 million.

For the year ended December 31, 2010, operating activities provided $8.3 million in cash, which was attributable to our net loss of approximately $1.1 million offset by approximately $0.8 million from the change in operating assets and liabilities and the net non-cash expenses of $8.6 million including approximately $9.1 million of non-cash income related to reversal of a portion of a deferred tax valuation allowance and approximately $16.0 million of non-cash loss related to the change in the fair value of the warrant liability. For the year ended December 31, 2009, net cash provided by operating activities was approximately $5.3 million, attributable to our net loss of approximately $2.3 million and approximately $0.5 million from the change in operating assets and liabilities and offset by non-cash expenses of approximately $8.1 million.

For the year ended December 31, 2010, investing activities used approximately $6.9 million in cash, which was primarily the result of approximately $4.5 million in purchases of CDs and approximately $2.4 million for equipment purchases primarily for upgrading our production line. For the year ended December 31, 2009, investing activities used approximately $0.7 million, which was primarily related to equipment purchases.

For the year ended December 31, 2010, financing activities provided approximately $1.1 million in cash which was the result of proceeds from the exercise of stock options and warrants. Net cash used by financing activities for the year ended December 31, 2009 was approximately $1.7 million primarily to pay down the line of credit.

Credit Facility

At December 31, 2010, we had a credit facility with Access Business Finance, LLC ("Access") that provides for up to a maximum amount of $3 million based on a borrowing base equivalent of 75% of eligible accounts receivable. The interest on the credit facility is equal to the Prime Rate plus 4% but may not be less than 7.25% with a minimum monthly interest payment of $5 thousand. The credit facility will automatically renew on September 1, 2011 for a one year term unless written notice is provided. We did not draw on our credit facility in 2010.

The credit facility contains the customary representations and warranties as well as affirmative and negative covenants. We were in compliance with all debt covenants as of December 31, 2010.

As we have reported, our business continues to experience revenue growth. This trend, if it continues, may result in higher accounts receivable levels and may require increased production and/or higher inventory levels. We anticipate that our cash needs to fund these requirements as well as other operating or investing cash requirements over the next twelve months will be less than our current cash on hand and the cash we anticipate generating from operations. We anticipate that we will not require additional funds over the next twelve months other than perhaps for discretionary capital spending. If unanticipated events arise during the next twelve months, we believe we can raise sufficient funds. However, if we are unable to obtain sufficient funds, we may have to reduce the size of our organization and/or be forced to reduce and/or curtail our production and operations, all of which could have a material adverse impact on our business prospects.

Contractual Obligations

The following chart describes the outstanding contractual obligations of eMagin as of December 31, 2010 (in thousands):

		Payments due by period		
	Total	1 Year	2-3 Years	4-5 Years
Operating lease obligations	$ 3,830	$ 1,024	$ 2,348	$ 458
Line of credit	40	40	—	—
Purchase obligations (a)	5,304	5,304		