EMAGIN CORP
Form 10-K
March 14, 2013
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2012
or

o 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. Yeso No þ

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 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 þ No o

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

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

Large accelerated filer o Accelerated filer o Non-accelerated filer o Smaller Reporting Company þ

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

As of June 30, 2012, 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 MKT of $3.09 was approximately $49.89 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, 2013 was 23,674,541.

DOCUMENTS INCORPORATED BY REFERENCE – Portions of the registrant's definitive Proxy Statement relating to its 2013 Annual Meeting of Shareholders are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated.

eMAGIN CORPORATION

FORM 10-K

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2012

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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.

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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 so that people have immediate access to information and may experience immersive forms of communications and entertainment.

We believe our OLED microdisplays offer a number of significant advantages over comparable liquid crystal microdisplays (LCDs) including greatly increased power efficiency, less weight, and dramatically higher contrast, with expected lower overall system costs relative to alternative microdisplay technologies. Using our active matrix OLED technology, many computer and electronic system functions can be built directly into the OLED microdisplay silicon backplane, resulting in compact, high resolution, power efficient systems. Already proven in 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 We have developed our own intellectual property and accumulated over 10 years of manufacturing know-how to create high performance OLED microdisplays.

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. In addition we earn revenue from both government and commercial development contracts that in some cases complement and support our internal research and development programs.

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 onto 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 lower 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, our OLED microdisplays 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 microdisplays 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 certain of our own systems.

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Our Market Opportunities

The markets we target 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. Many of these products employ head-wearable displays that 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.

Military

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 of special 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 microdisplay products provide 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 that are used to display such things as digital maps or sensor imagery. Handheld imagers also provide improved situational awareness for surveillance 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 been incorporated into both U.S. and foreign military situational awareness programs.

Night Vision/Thermal Imaging. Night vision goggles allow the user to see in low light conditions. Most versions 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 are used 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. The companies that incorporate our OLEDs in their training and simulation products include: Quantum 3D, Rockwell Collins, Intevac Vision Systems, and Sensics.

Our displays have been commercialized or prototyped for situational awareness and night vision/thermal imaging applications by military systems integrators including Elbit, L-3 Communications, Intevac Vision Systems, Nivisys, BAE Oasys Technology, Qioptiq, Rockwell Collins, Saab, Sagem DS, and Thales, among many others, 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, Nordic NeuroLab, VRmagic GmbH, Sensics and Total Fire Group, among others.

The Company is exploring opportunities in the digital cinema Electronic View Finder ("EVF") market. These are similar to those found in consumer video cameras but are of significantly higher performance in the area of resolution and overall image quality.

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, like smartphones, 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.

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Our Products

Our first commercial microdisplay was the SVGA+ OLED microdisplay, which was introduced in 2001. In 2008 we introduced engineering samples of our SXGA OLED microdisplays and began selling significant quantities of the SXGA product in 2010. In the fourth quarter of 2011 we began selling pre-production samples of the WUXGA OLED microdisplays. eMagin OLED display 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 852x600). This 0.62 inch diagonal microdisplay has a resolution of 852x600 triad pixels (1.53 million picture elements). The display also has an internal NTSC monochrome video decoder for low power night vision systems. SVGA+ Rev3 OLED-XL microdisplay is a power efficient OLED display solution for near-eye personal viewer applications which, 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 microdisplay has simpler calibration over temperature and is ideal for demanding binocular luminance and color matching.

SXGA OLED-XL (Super eXtended Graphics Array, 1280 x 1024). Our SXGA OLED microdisplay with a 0.77 inch diagonal active area provides 3,932,160 sub-pixels in an active area. The display’s 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 digital signal processing, requiring less than 200mW under typical operation. The supported video formats are SXGA, 720p, DVGA (through 1280 x 960 pixel doubling), and both frame sequential and field sequential stereovision.

WUXGA OLED-XL (Widescreen Ultra eXtended Graphics Array, 1920 x 1200). Our WUXGA OLED-XL microdisplay provides higher resolution than most HD (High Definition) flat screen televisions. With a triad sub-pixel structure this display is built of 7,138,360 active dots at 3.2 microns each. The WUXGA OLED-XL is built upon the voltage pixel drive approach first developed for the SXGA OLED-XL which provides improved uniformity, ultra-high contrast (measured at greater than 100,000:1) and lower power. The advanced of the WUXGA design features eMagin’s proprietary “Deep Black” architecture that ensures that off-pixels are truly black, automatically optimizes contrast under all conditions, and delivers better pixel to pixel uniformity. The WUXGA OLED-XL includes a very low-power, low-voltage-differential-signaling (LVDS) serial interface and the overall display power requirement is typically less than 350 mW running standard video. Also included is eMagin’s proprietary motion enhancement technology which smoothes video display and virtually eliminates unwanted artifacts. Like the SXGA, the WUXGA provides a FPGA driver design available on a separate, lower power driver board, or as source code for integration into end product electronics giving OEM developers maximum versatility and flexibility. On-board circuitry ensures consistent color and brightness over a wide range of operating temperatures.

VGA OLED-XL (Video Graphics Array, 640 x 480). The VGA OLED-XL microdisplay was added to eMagin’s product line in April 2011 and is our smallest (0.5 inches) and lowest powered (<60 mW monochrome/<100 mW color). The VGA OLED-XL utilizes the same voltage pixel drive architecture and “Deep Black” technology as the SXGA and WUXGA designs and includes motion artifact reduction technology like the WUXGA. Also like the SXGA and WUXGA, the VGA provides a FPGA driver design for maximum flexibility and versatility. The VGA interface is 30-bit digital RGB.

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.

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 United States Government. The revenue that we recognize from these contracts represents reimbursement by various government entities. In 2007, we were awarded a contract for the development of power efficient microdisplays for the United States Army Night Vision and Electronic Sensors Directorate ("NVESD"). In 2008, this agreement was renewed through 2010; it was renewed again though 2011. In 2010 we were awarded a Cooperative Research and Development Agreement by NVESD for the Development, Evaluation and Characterization of Active Matrix Organic Light Emitting Diode (AMOLED) for use in Head Mounted Displays.

In 2007, we were awarded a contract for the development of an ultra-high resolution display for United States Army Telemedicine and Advanced Technology Research Center ("TATRC"). In 2008 and 2009, this agreement was renewed through the first quarter of 2012. In February of 2012, we were awarded a Small Business Innovation Research contract by the United States Special Operations Command to optimize our WUXGA (1920x1200) microdisplay for mass production for dual use applications.

The U.S. Navy awarded eMagin a contract in 2011 for research and development of microdisplays using Silicon on Insulator technology. In 2012, we were awarded a follow-on contract for development of a high-brightness, high resolution microdisplay to be used for head-mounted avionics applications. Work on this contract will continue in 2013.

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 are subject to authorization, 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 13% of 2012 revenue was related to research contracts funded by the U.S. Government as compared to 14% in 2011.

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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. We believe that 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. Given these capabilities the company continues to look for opportunities to add value to our displays to increase revenue.

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. We believe that this approach positions us to achieve 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.

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 2012, we estimate 16% of our net product revenues were to firms in the commercial market, 61% to firms in the military market, and 23% to firms in both military and commercial markets as compared to 2011, where 13% were to firms in the commercial market, 54% to firms in the military market, and 33% to firms in both military and commercial markets. During 2012, 67% of our net revenue was to firms based in the United States and 33% was to international firms as compared to 63% domestic revenue and 37% international revenue during 2011. In 2012, we had 10 customers that accounted for approximately 53% of our total revenue as compared to 10 customers that accounted for approximately 48% of our total revenue in 2011. In 2012, we had 1 customer that accounted for more than 10% of our total revenue and in 2011, we did not have any customer that accounted for more than 10% of our total revenue.

Backlog

As of January 31, 2013, we had a backlog of approximately $13.4 million for purchases through December 2013. 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.

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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 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 purchased $2.5 million and $2.9 million in 2012 and 2011, respectively, of additional equipment mainly related to manufacturing and we plan to add $3.2 million of equipment in 2013 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 transmissive liquid crystal microdisplays (LCDs) as well as from alternative flat panel display technologies such as virtual scanning retinal displays. There are many large and small companies that manufacture or have in development products based on these technologies. Kopin Corporation manufactures both transmissive and reflective LCDs and is currently our principal competitor.

There are a few manufacturers of high resolution OLED microdisplays that produce microdisplays that compete with our microdisplay products. They are Yunnan North OLEiD Opto-Electronic Technology Co., Ltd., in China (also known as Olightek), and MicroOLED, in France. Both are shipping OLED microdisplays into the market. Sony Mobile Display Corp., in Japan, produces OLED microdisplays for integration into Sony’s own higher-level systems such as digital cameras and HMDs. In the near-term we do not expect these companies to affect our military business however we anticipate some affect from this competition on our international and commercial business.

Sony has developed and released a 3D consumer HMD that utilizes their OLED microdisplays and was specifically designed for the consumer with their typical electrical interfaces. We do not expect the introduction of this product to significantly affect sales of our Z800 in our historical markets. The Z800 has an established OEM base and has more flexible interfaces for ease of integration into the training and simulation market (largest market segment), where the Sony HMD was specifically designed for the consumer. However, even though the Z800 represents a very small part of our business, we have experienced a decline in Z800 sales. We believe that the Z800 needs to be updated. We plan on updating a version of the product to digital from analog and increasing the resolution.

We may also compete with potential licensees of Universal Display Corporation or Global OLED Technology LLC 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 additional competition, though we believe that our progress to date in this area gives us a significant head start.

In the future, we believe that competition will come from LCOS (“liquid crystal on silicon”), small transmissive LCDs, and OLED microdisplays manufactured by competitors. While we believe that OLED technology is technically superior providing higher quality images, greater environmental ruggedness, reduced electronics cost and complexity, and improved power efficiency microdisplays, there is no assurance that we will continue to be the dominant OLED microdisplay supplier.

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. The U.S. Government holds licenses to much of our technology as a result of their funding a significant portion of our research and development.

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

OLED Devices, Architecture, 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 31, 2013, we had a total of 101 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.

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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.

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 $188 million as of December 31, 2012. We achieved profitability for three consecutive quarters in 2012. We have been EBITDA positive every quarter for 19 consecutive quarters since the second quarter of 2008. 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.

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 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, installation and testing 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.

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 long term contracts or written agreements with our source suppliers, but instead operate on the basis of short term purchase orders.

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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 changes, and as we enter new markets which may require higher volume mass production, 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 expand or if we increase our capacity too quickly, our prospects may be limited and 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. For a period prior to 2008, we were not 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 commercial market for microdisplays is still 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:

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- 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 who may be subsidized by their governments. 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:

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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 or companies 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 and display product 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.

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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 international sales and operations are subject to export laws and regulations.

We must comply with all applicable export control laws including the Export Administration Regulations ("EAR") and the International Traffic in Arms Regulations ("ITAR"). Certain of our products may be deemed to be controlled for export by the U.S. Commerce Department's Bureau of Industry and Security under the EAR or by the U.S. State Department's Directorate of Defense Trade Controls ("DDTC") under the ITAR. We believe certain of our new products with both high brightness and high resolution will be classified as a defense articles and licenses from the DDTC will be required for exports. Failure to comply with these export control laws 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, 2013, we have outstanding common shares of 23,674,541 plus (i) options to purchase 4,685,434 shares, (ii) warrants to purchase 1,000,000 shares and (iii) convertible preferred stock to purchase 7,545,333 shares of common stock.

We are subject to significant corporate regulation as a public company and failure to comply with all applicable regulations could subject us to liability or negatively affect our stock price.

As a publicly traded company, we are subject to a significant body of regulation, including the Sarbanes-Oxley Act of 2002. While we have developed and instituted a corporate compliance program based on what we believe are the current best practices in corporate governance and continue to update this program in response to newly implemented or changing regulatory requirements, we cannot provide assurance that we are or will be in compliance with all potentially applicable corporate regulations. For example, we cannot provide assurance that, in the future, our management will not find a material weakness in connection with its annual review of our internal control over

financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. We also cannot provide assurance that we could correct any such weakness to allow our management to assess the effectiveness of our internal control over financial reporting as of the end of our fiscal year in time to enable our independent registered public accounting firm to state that such assessment will have been fairly stated in our Annual Report on Form 10-K or state that we have maintained effective internal control over financial reporting as of the end of our fiscal year. If we fail to comply with any of these regulations, we could be subject to a range of regulatory actions, fines or other sanctions or litigation. If we must disclose any material weakness in our internal control over financial reporting, our stock price could decline.

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 a low of $2.70 on April 9, 2012 to a high of $4.83 on September 10, 2012. 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.

Concentration of ownership of our stock may enable one shareholder or a small number of shareholders to significantly influence matters requiring shareholder approval.

As of January 31, 2013, Stillwater Holdings LLC (f/k/a Stillwater LLC) owned approximately 18.13% of our outstanding voting stock, Flat Creek Fiduciary Management, as trustee of a trust which the sole member of Stillwater Holdings LLC has investment control, currently owned approximately 13.61% of our outstanding voting stock and the sole member of Stillwater Holdings LLC is the investment manager of Rainbow Gate Corporation, which owned approximately 5.51% of our outstanding voting stock. Together such shareholders owned approximately 37.25% of our outstanding voting stock. As a result, these shareholders, if they act together, may be able to exert a significant degree of influence over matters requiring shareholder approval, including the election of directors and approval of significant corporate transactions. Further, if these shareholders act together with another shareholder, Ginola Limited, which has common directors with Mount Union Corp., Chelsea Trust Company and Crestflower Corporation, as of January 31, 2013, they would collectively have represented approximately 46.29% of our outstanding voting stock. This concentration of ownership may facilitate or hinder a change of control and might affect the market price of our common stock. Furthermore, the interests of this concentration of ownership may not always coincide with our interests or the interests of other shareholders. Nevertheless, the ability to influence the election of the Board of Directors or otherwise have influence does not modify the fiduciary duties of the Board of Directors to represent the interests of all shareholders.

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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. In addition, the Company leases approximately 2,400 square feet of office space for design and product development in Santa Clara, California and the lease expires in 2015.

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 11 to the Consolidated Financial Statements for more information about lease commitments.

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

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PART II

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

Our common stock trades on the NYSE MKT under the symbol “EMAN”. The following table shows the quarterly high and low closing sale prices per share of our common stock for each period indicated and the cash dividend declared per share of our common stock.

	High	Low	Cash Dividends Declared
2012:			
First quarter	$4.74	$2.93	
Second quarter	$3.34	$2.70	
Third quarter	$4.98	$2.80	
Fourth quarter	$4.84	$3.06	$0.10
2011:			
First quarter	$9.31	$5.91	
Second quarter	$8.94	$4.41	
Third quarter	$6.49	$2.60	
Fourth quarter	$4.94	$2.28	

As of January 31, 2013, there were 305 holders of record of our common stock. This does not include persons whose stock is in nominee or “street name” accounts through brokers.

Dividends

On December 10, 2012, eMagin’s Board of Directors declared a special dividend of $0.10 per share to all common shares and preferred shares (on an as-converted basis) outstanding. The dividend in the aggregate amount of approximately $3.1 million was paid in cash on December 26, 2012 to all shareholders of record on December 20, 2012. Future decisions to pay cash dividends are at the discretion of our Board of Directors. It is eMagin’s intention to retain future profits for use in the development and expansion of our business and for general corporate purposes.

Recent Issuances of Unregistered Stock

None.

Purchases of Equity Securities by the Issuer

There were no repurchases of eMagin’s common stock during the three month period ended December 31, 2012.

Equity Compensation Plan Information

The following table sets forth the aggregate information of our equity compensation plans in effect as of December 31, 2012:

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
Equity compensation plans approved by security holders – 2011 Incentive Stock Plan	1,260,068	$ 3.70	139,932
Equity compensation plans approved by security holders – Amended and Restated 2003 Employee Stock Option Plan	2,648,350	$ 4.18	1,316,953
Equity compensation plans not approved by security holders – 2008 Incentive Stock Plan	777,014	$ 2.81	19,778
Totals	4,685,432		1,476,663

ITEM 6. SELECTED FINANCIAL DATA

Not applicable.

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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.

Overview

We design, manufacture and supply 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.

We have devoted significant resources to the development and commercial launch of our OLED microdisplay products into military, industrial and medical applications world-wide. First sales of our SVGA+ microdisplay began in May 2001 and we launched the SVGA-3D microdisplay in February 2002. In 2008 the SXGA microdisplay became our first digital display, and in 2011 we introduced the VGA OLED-XL, our lowest powered microdisplay, and the WUXGA OLED-XL which exceeds 1080p HD resolution. As of January 31, 2013, we had a backlog of approximately $13.4 million in products ordered for delivery through December 31, 2013 as compared to a backlog of $11.5 million as of January 31, 2012. 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 continued to ship 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 also expanded our design and production activities to include display/optical subsystem assemblies for both military and commercial end-use products. We have developed a strong intellectual property portfolio that includes patents, manufacturing know-how and unique proprietary technologies to create high performance OLED-on-silicon

microdisplays and related optical systems. We believe our technology, intellectual property portfolio and position in the marketplace, gives us a leadership position in OLED and OLED-on-silicon microdisplay technology. We are one of only a few companies in the world to market and produce significant quantities of high resolution full-color small molecule OLED-on-silicon microdisplays.

In 2010 we announced the award from ITT Night Vision for design and development of a display/optical assembly for the U.S. Army Enhanced Night Vision Goggle. We began deliveries to ITT Exelis under this program in 2012. In 2011, we opened additional avenues of growth by securing R&D contracts with ITT, the Department of Energy, the U.S. Navy and others while completing contracts with TATRC and other government agencies. We continued display shipments under the FELIN soldier program, Javelin program, U.S. Army thermal weapon sight remote viewer program, the Viper II thermal sight program and others.

In 2012, we developed a new XGA microdisplay, working with an important new customer, for the electronic view finder market. We were awarded a follow-on contract by the U.S. Navy for development of a high brightness, high resolution microdisplay to be used for head-mounted avionics applications. We were also awarded a contract by the U.S. Special Operations Command to optimize our WUXGA (1920 x 1200) microdisplay for mass production and dual use applications.

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 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). Progress is generally based on a cost-to-cost approach however an alternative method may be used such as physical progress, labor hours or others depending on the type of contract. Physical progress is determined as a combination of input and output measures as deemed appropriate by the circumstances. Contract costs include all direct material, labor and subcontractor 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.

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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

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 measured 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, 2012, the number of shares of common stock available for issuance was 300,000. As of December 31, 2012, 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 2012, there were no 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 2012, there were no options granted from this plan.

The 2011 Incentive Stock Plan ("the 2011 Plan") adopted and approved by the shareholders on November 3, 2011 provides for shares of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. The 2011 Plan has an aggregate of 1,400,000 shares. In 2012, there were 800,203 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 10 of the Consolidated Financial Statements – Stock Compensation for a further discussion on stock-based compensation.

Income Taxes

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.

In assessing the realizabiliy of deferred tax assets, we evaluate both positive and negative evidence that may exist and consider whether it is more likely than not that some portion or all of the deferred tax assets will be realized. From inception through 2009, 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. In 2010, we determined that based on all available evidence, both positive and negative, and based on the weight of the available evidence, including our cumulative taxable income over the past three years and expected profitability in 2011 through 2013 that certain of our deferred tax assets were more likely than not realizable through future earnings. Accordingly, we reduced our valuation allowance by $9.1 million and recorded a corresponding tax benefit of $9.1 million. At December 31, 2011, we determined based on the weight of the available evidence, both positive and negative, it was more likely than not that $8.2 million of its deferred tax asset will be realized and no additional valuation allowance was released.

In 2012, we determined that based on all available evidence, both positive and negative, and based on the weight of the available evidence, including our continued profitability and our forecasted earnings in 2013 through 2017 that certain of our deferred tax assets were more likely than not realizable through future earnings. Accordingly, we increased our deferred tax asset to $8.8 million by recording a $0.7 million reduction of our deferred tax asset valuation allowance and recorded a corresponding tax benefit of $0.7 million.

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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.

Our effective income tax rate was a benefit of 37% in 2012, compared to a provision of 14% in 2011. The year over year change in our effective tax rate was primarily due to the recognition of a $0.7 million benefit in 2012 due to the reduction of our deferred tax asset 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,	
	2012	2011
Consolidated Statements of Operations Data:		
Revenue	100%	100%
Cost of goods sold	51	47
Gross profit	49	53
Operating expenses:		
Research and development	16	11
Selling, general and administrative	28	31
Total operating expenses	44	42
Income from operations	5	11
Other income (expense), net	—	9
Income before (benefit from) provision for income taxes	5	20
Income tax (benefit) expense	(2)	3
Net income	7%	17%

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

Revenues

Revenues increased approximately $1.4 million to a total of approximately $30.6 million for the year ended December 31, 2012 from approximately $29.2 million for the year ended December 31, 2011, a 5% increase. In 2012, there was a 12% increase in display revenue as a result of a 17% increase in the number of displays sold however it was offset by a 4% decrease in the average selling price which was a result of changes in product and customer mix as compared to 2011. The increase in display revenue was offset by a 22% decrease in headset revenue as we allocated our production capacity to our customers' display products and reduced the production of our 3D displays. In 2012, contract revenue decreased 22% as a result of a reduction in funding of research and development contracts.

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, 2012 was approximately $15.6 million as compared to approximately $13.7 million for the year ended December 31, 2011, an increase of approximately $1.9 million. Cost of goods sold as a percentage of revenues was 51% for the year ended December 31, 2012 up from 47% for the year ended December 31, 2011 which is a result of increased labor and material costs as 17% more displays were produced in 2012 as compared to 2011.

The following table outlines product, contract and total gross profit and related gross margins for the years ended December 31, 2012 and 2011 (dollars in thousands):

	For the Year ended December 31,	
	2012	2011
Product revenue gross profit	$ 12,586	$ 12,427
Product revenue gross margin	48%	53%
Contract revenue gross profit	$ 2,359	$ 3,047
Contract revenue gross margin	53%	54%
Total gross profit	$ 14,945	$ 15,474
Total gross margin	49%	53%

In 2012, total gross profit decreased approximately $0.5 million or 3% as product revenue gross profit increased approximately $0.2 million offset by a decrease in contract revenue gross profit of $0.7 million as compared to 2011. Gross margin was 49% for the year ended December 31, 2012 down from 53% for the year ended December 31, 2011. Product gross margin decreased from 53% in 2011 to 48% in 2012 due to a decrease in the average selling price, a result of changes in our product and customer mix and an increase in cost of goods sold due to increased production and production inefficiencies. Contract gross margin remained relatively steady at 53% in 2012 as compared to 54% in 2011. 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.

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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, 2012 were approximately $4.7 million as compared to approximately $3.1 million for the year ended December 31, 2011, an increase of approximately $1.6 million. The increase was primarily related to increases in personnel costs and related expenses to support research and development activities.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist principally of personnel costs, professional services fees, as well as other marketing, general corporate and administrative expenses. Selling, general and administrative expenses for the year ended December 31, 2012 were approximately $8.6 million as compared to approximately $9.1 million for the year ended December 31, 2011, a decrease of approximately $0.5 million. The decrease is primarily related to a decrease in non-cash compensation and professional fees offset by an increase in personnel costs.

Other Income (Expense)

Other income (expense), net consists primarily of interest income earned on investments, interest expense and income applicable to the change in the fair value of the warrant liability. For the year ended December 31, 2012, interest expense decreased approximately $74 thousand as compared to 2011 due to lower interest payments related to our line of credit offset by the capitalization of interest and no interest on liquidated damages expenses related to registration payment arrangements. We have no debt upon which we are incurring interest expense however we pay fees to keep our line of credit available. Other income for the year ended December 31, 2012 increased $2 thousand as compared to 2011 primarily due to interest earned on investments.

Change in Fair Value of Warrant Liability.

For the year ended December 31, 2012, the change in the fair value of the warrant liability was $0 as we had no warrants that are accounted for as a liability. For the year ended December 31, 2011, the change in fair value of the warrant liability was income of $2.5 million primarily due to the change in the common stock price of eMagin period over period. The change in fair value of the warrant liability had no impact on our cash balances, operations, or operating income. The warrant was modified to remove the anti-dilution provisions therefore there will be no change in the fair value of the existing warrant after Q3 2011.

Income Tax (Benefit) Expense

For the year ended December 31, 2012, income tax benefit was approximately $0.6 million as compared to an income tax provision of approximately $0.8 million for the year ended December 31, 2011. In 2012, we incurred income tax of approximately $0.1 million related to alternative minimum tax of approximately $0.07 million which is not offset by operating loss carryforwards and approximately $0.03 million related to state taxes. Due to our continued profitability and projected operating results, we determined that it was more likely than not that we would continue to generate sufficient taxable income to utilize the benefit from a portion of the net operating loss carryforwards. Therefore, we recorded a $0.7 million reduction of our deferred tax asset valuation allowance and a corresponding income tax benefit.

Net Income

Net income totaled approximately $2.3 million and $5.0 million for the years ended December 31, 2012 and 2011, respectively.

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, 2012, we had approximately $13.4 million of cash, cash equivalents, and investments as compared to $14.3 million at December 31, 2011. As of December 31, 2012, we had approximately $4.4 million of cash and cash equivalents as compared to $7.6 million as of December 31, 2011, a decrease of $3.2 million. The decrease in cash was primarily due to cash provided by operations of approximately $4.8 million offset by cash used in investing activities of approximately $4.8 million and financing activities of approximately $3.2 million.

For the year ended December 31, 2012, operating activities provided $4.8 million in cash, which was attributable to our net income of approximately $2.3 million, approximately $2.1 million from the net non-cash expenses and the change in operating assets and liabilities of $0.4 million. For the year ended December 31, 2011, operating activities provided $3.5 million in cash, which was attributable to our net income of approximately $5.0 million and approximately $1.3 million from the net non-cash expenses and offset by the change in operating assets and liabilities of $2.8 million.

For the year ended December 31, 2012, investing activities used approximately $4.8 million in cash of which approximately $2.5 million purchased investments and approximately $2.3 million purchased equipment primarily for upgrading our production line. For the year ended December 31, 2011, investing activities used approximately $5.0 million in cash, which was primarily the result of approximately $2.1 million in purchases of CDs and approximately $2.9 million for equipment purchases primarily for upgrading our production line.

For the year ended December 31, 2012, financing activities used approximately $3.2 million in cash of which approximately $3.1 million was used for dividend payments and approximately $0.4 million was for the purchase of treasury stock offset by proceeds from the exercise of stock options of approximately $0.3 million. For the year ended December 31, 2011, financing activities provided approximately $1.2 million in cash which was the result of proceeds from the exercise of stock options and warrants of $1.3 million offset by the purchase of treasury stock of $0.1 million.

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Credit Facility

At December 31, 2012, 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 5% but may not be less than 8.25% with a minimum monthly interest payment of $1 thousand. The credit facility will automatically renew on September 1, 2013 for a one year term unless written notice to terminate the credit facility is provided by either party. We did not draw on our credit facility in 2012 or at any time since its inception in September 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, 2012.

We expect our business to experience growth which 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.

Dividends and Stock Repurchase Plan

In December 2012, eMagin's Board of Directors declared a special dividend of $0.10 per share to all common shares and preferred shares (on an as-converted basis) outstanding. The dividend in the aggregate amount of approximately $3.1 million was paid in cash on December 26, 2012 to all shareholders of record on December 20, 2012. This was a one-time special dividend. It is our intention to retain future profits for use in the development and expansion of our business and for general corporate purposes. Future decision to pay cash dividends are at the discretion of our Board of Directors.

In August 2011, eMagin's Board of Directors approved a stock repurchase plan authorizing the Company to repurchase common stock not to exceed $2.5 million in total value. As of December 31, 2012, approximately $2.0 million remained under the stock repurchase plan.

We anticipate that cash used for future dividends, if any, and the repurchase plan will come primarily from cash generated from operating activities.

Contractual Obligations

The following chart describes the outstanding contractual obligations of eMagin as of December 31, 2012 (in thousands):

		Payments due by period		
	Total	1 Year	2-3 Years	4-5 Years
Operating lease obligations	$ 1,843	$ 1,273	$ 570	$ —
Line of credit	8	8	—	—
Equipment purchase obligations	263	263	—	—
Purchase obligations (a)	2,528	2,528	—	—
Total	$ 4,642	$ 4,072	$ 570	$ —

(a) The majority of purchase orders outstanding contain no cancellation fees except for minor re-stocking fees.

Effect of Recently Issued Accounting Pronouncements

See Note 2 of the Consolidated Financial Statements in Item 8 for a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on results of operations and financial condition.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market rate risk

We are exposed to market risk related to changes in interest rates.

Interest rate risk

We hold our cash in cash and cash equivalents, certificates of deposits and corporate bonds. We do not hold derivative financial instruments or equity securities. At December 31, 2012, we have not withdrawn any funds under our revolving line of credit and therefore do not have any related interest rate risk. A change in interest rates would not have had a material effect on our consolidated financial position, results of operations, or cash flows in the year ended December 31, 2012.

Foreign currency exchange rate risk

We do not have any material foreign currency exchange rate risk.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholder
eMagin Corporation
Bellevue, Washington

We have audited the accompanying consolidated balance sheets of eMagin Corporation and subsidiary as of December 31, 2012 and 2011, and the related consolidated statements of operations, shareholders' equity and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of eMagin Corporation and subsidiary as of December 31, 2012 and 2011, and the results of their operations and their cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

Seattle, Washington
March 11, 2013

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eMAGIN CORPORATION
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2012	2011
	(In thousands, except share and per share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4,385	$ 7,571
Investments	8,520	5,745
Accounts receivable, net	5,154	5,576
Inventories, net	3,223	2,760
Prepaid expenses and other current assets	653	1,008
Total current assets	21,935	22,660
Long-term investments	500	1,000
Equipment, furniture and leasehold improvements, net	8,099	5,980
Other assets	124	127
Deferred tax asset	8,881	8,165
Total assets	$ 39,539	$ 37,932
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 955	$ 961
Accrued compensation	1,188	1,283
Other accrued expenses	1,360	963
Advance payments	72	177
Deferred revenue	60	138
Other current liabilities	277	299
Total current liabilities	3,912	3,821
Commitments and contingencies (Note 11)		
Shareholders' equity:		
Preferred stock, $.001 par value: authorized 10,000,000 shares:		
Series B Convertible Preferred stock, (liquidation preference of $5,659,000) stated value $1,000 per share, $.001 par value: 10,000 shares designated and 5,659 issued and outstanding as of December 31, 2012 and 2011	—	—
Common stock, $.001 par value: authorized 200,000,000 shares, issued and outstanding, 23,674,541 shares as of December 31, 2012 and 23,513,978 shares as of December 31, 2011	24	24

Additional paid in capital		223,575		220,838
Accumulated deficit		(187,509)		(186,656)
Treasury stock, 150,000 shares as of December 31, 2012 and 25,000 shares as of December 31, 2011		(463)		(95)
Total shareholders' equity		35,627		34,111
Total liabilities and shareholders' equity	$	39,539	$	37,932