

EMAGIN CORP  
Form 10-K  
March 30, 2018

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

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

For the fiscal year ended December 31, 2017

or

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 001-15751

eMAGIN CORPORATION

(Exact name of registrant as specified in its charter)

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

2070 Route 52, Hopewell Junction, NY 12533

(Address of principal executive offices)

(845) 838-7900

(Registrant's telephone number, including area code)

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

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer                      Accelerated filer                      Non-accelerated filer                      (Do not check if a smaller reporting company)

Smaller Reporting Company                      Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined by Rule 12b-2 of the Exchange Act)

Yes      No

As of June 30, 2017, the last business day of the registrant's most recently completed second quarter, 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 \$2.45 was approximately \$64.0 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.

The number of shares of common stock outstanding as of March 1, 2018 was 45,031,332

#### DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Report, to the extent not set forth herein, is incorporated herein by reference from the registrant's definitive proxy statement relating to the Annual Meeting of Stockholders to be held in 2018, which definitive proxy statement shall be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this Report relates.

eMAGIN CORPORATION

FORM 10-K

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2017

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## STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, or Report, contains forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our 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 these forward-looking statements.

In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could materially affect our results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed in the section entitled "Risk Factors" and elsewhere in this Report. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this Report and the documents that we reference in this Report and have filed with the Securities and Exchange Commission, or the SEC, as exhibits to this Report, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

In particular, forward-looking statements in this Report include statements about:

- 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, including the consumer market;
- Our potential exposure to product liability claims; our ability to manufacture suitable products at competitive cost;
- Our ability to manufacturer our products at a competitive cost;
- Our ability to successfully launch new equipment on our manufacturing line;
- Market pricing for our products and for competing products;
- Increasing competition;
- Provisions in certain of our commercial agreements and our military business that may prevent or delay an acquisition of, partnership with, or investment in, our Company and our ability to develop OEM and mass production partnerships;
- Technological developments in our target markets and the development of alternate, competing technologies in them;
- Our anticipated cash needs and our estimates regarding our capital requirements;
- Our needs for additional financing, as well as our ability to obtain such additional financing on reasonable terms and the interest rate and expense we incur on any debt financing.

The forward-looking statements in this Report represent our views as of the date of this Report. We anticipate that subsequent events and developments may cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. Therefore, these forward-looking statements do not represent our views as of any date other than the date of this Report.

In this Report, references to “eMagin Corporation,” “eMagin,” “the Company,” “we,” “us,” and “our company” refer to eMagin Corporation and our wholly owned subsidiary, Virtual Vision, Inc.

## PART I

### ITEM 1. BUSINESS

#### Introduction

We are a leader in the manufacture of microdisplays using organic light emitting diode (OLED) technology. We design, develop, manufacture and market OLED miniature displays, which we refer to as OLED on silicon microdisplays, virtual imaging products that 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 which, when viewed through a magnifying headset, 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 can experience immersive forms of communications and entertainment. We believe that a key growth area for us is the consumer electronic OEM market. Our potential channels to this market include licensing our direct patterning technology and partnering for the mass production of microdisplays. We believe that our direct patterning (dPd) technology is a key differentiator for enabling next generation augmented reality/virtual reality AR/VR hardware for the consumer and enterprise segments because of the brightness and the pixel density afforded by the technology. We also develop and manufacture night vision products for the consumer electronics, recreational, law enforcement and first responder markets, including a smart phone attachment and a wearable device.

We believe that our OLED microdisplays offer a number of significant advantages over comparable liquid crystal microdisplays, including higher contrast, greater power efficiency, less weight, more compact size, and negligible image smearing. 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 and power efficient systems. Already proven in military and commercial systems, our product portfolio of OLED microdisplays deliver high resolution, flicker free virtual images that perform effectively even in extreme temperatures and high vibration conditions. We also believe that our direct patterning technology gives us a substantial advantage over other OLED microdisplays because it allows us to produce microdisplays with the high brightness required for VR and AR. Traditional OLED microdisplays utilize white emitting OLED with color filters that lessen the intensity of emitted light by as much as 85%, significantly reducing brightness. Microdisplays manufactured by direct patterning do not require color filters to achieve color variations and allow for the application of more efficient OLED structures which achieve high brightness.

We have developed our own intellectual property portfolio that includes 34 U.S. patents and 28 U.S. patent applications, over 15 years of manufacturing know how and proprietary technologies to create high performance OLED microdisplays. We believe our technology, intellectual property portfolio and position in the marketplace give us a leadership position in OLED and OLED on silicon microdisplay technology. We believe that we are one of only a few companies to market and produce significant quantities of high resolution, small molecule OLED on silicon microdisplays.

We derive the majority of our revenue from sales of our OLED microdisplay products. We also earn revenue from commercial and consumer product and government development contracts that may complement and support our internal research and development programs. In addition, we generate sales from optics and microdisplays combined



with optics. Beginning in the first quarter of fiscal 2017, we introduced two consumer night vision products, BlazeSpark and BlazeTorch, although revenue from these products to date has been minimal as ongoing development of these products continues.

We were formed through the merger of Fashion Dynamics Corporation, which was organized on January 23, 1996 under the laws of the State of Nevada, and FED Corporation, 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. We are incorporated in the state of Delaware.

## Our Industry

A microdisplay generally has a screen size that is less than two inches in diagonal. The miniature size enables them to be used in a wide variety of applications that require a screen that takes up small space, such as head mounted displays (HMDs) and viewfinders of digital cameras. Microdisplays are used across various industries including consumer electronics, enterprise/industrial, military, defense, aerospace, and healthcare. Microdisplays provide many advantages over other displays where small size is a requirement. Benefits include compact size, high brightness and resolution, low power consumption, and high contrast. Devices incorporating microdisplays include HMDs, smart glasses and headset products. Sales of AR and VR gear, which include HMD, smart glasses and headsets, are estimated to exceed \$26 billion by 2021, according to Technavio.

Display quality is widely accepted as a key performance driver for ensuring the optimal user experience. We believe that this requirement for better display quality will result in next generation products in consumer electronics, defense, aviation, medical and industrial/enterprise segments of the market which utilize microdisplays.

## Our Technology Platforms

### Small Molecule, Top Emitting Active Matrix OLED Technology

Our microdisplays are currently based upon active matrix small molecule OLED technology, which we refer to as active matrix OLED (AMOLED). 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 a compact, integrated system 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 means that 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 deliver much higher contrast and fuller color than liquid crystal microdisplays. Unlike liquid crystal displays which use crossed polarizers to generate black level, OLED displays exhibit an extremely high contrast ratio which results in very vivid images. 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.

Our technology is based on integrating a proprietary OLED device with a specially designed silicon backplane to produce efficient and high performance AMOLED microdisplays. Our OLED displays incorporate a proprietary, 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 (white) light that is isolated with color filters to create 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 processes and device improvements, such as our OLED XLS technology, offer even better expected performance for brightness, efficiency, and lifespan. We have developed extremely bright OLED microdisplays using our patented dPd technology and have demonstrated color high resolution 2K x 2K and WUXGA microdisplays with brightness in excess of 5,000 nits, which we believe is the world's highest resolution and brightness. In addition to our AMOLED 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 markets. We believe these key advantages include:

- High brightness
- Sharp contrast
- Low power consumption for improved battery life and longer system life;
- High speed performance resulting in clear video images;
- Compact form factor and light weight;
- Wide angle light emission resulting in large apparent screen size and more immersive experience;
- Wide operating temperature range;
- Good environmental stability (vibration and humidity); and
- Anticipated low manufacturing cost at higher volumes.

### Prism Optics

We sell high quality, large viewing angle prism optics with a wide range for eye positioning, both of which are essential for using our displays in immersive near eye systems. We have developed advanced molded plastic prism lenses that permit our AMOLED microdisplays to provide -realistic images that can be viewed for extended periods with reduced eye fatigue. We have developed an additional prism optic for a project that will pair with our SXGA096 display.

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## Our Market Opportunities

We target the military, aviation, industrial/medical, and consumer markets although many of our products cater to multiple markets. Within each of these market sectors we believe that our OLED microdisplays, when combined with compact optic lenses, can become a key component for a variety 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 HMDs or headsets. Head wearable displays may block out visual surroundings for a fully immersive experience, or be designed to “see through” or “see around” to the user’s surroundings. They may contain one (monocular) or two (binocular) displays. We have leveraged our experience developing military and commercial aviation helmets and believe this experience will allow us to more rapidly introduce displays suitable for specialized/high end mass market consumer AR/VR applications than our competitors.

### Consumer

We believe that the most significant driver of the longer term near eye virtual imaging microdisplay market is the growing consumer demand for mobile access to larger volumes of information and entertainment in smaller and more affordable packages. This desire for mobility has resulted in the development of mobile video personal viewer products in three general categories: (1) immersive VR headset application platforms such as accessories for gaming computers, portable digital optical disc (DVD) systems and wearable telepresence systems; (2) AR electronic viewers incorporated in products such as data glasses and personal viewers for cell phones; and (3) low cost thermal and low light imaging and scopes for hunting and other outdoor activities.

When we are able to manufacture our OLED displays in higher volumes at reduced costs and capitalize on our direct patterning technology, we believe that our products will be increasingly well positioned to compete with and displace liquid crystal displays and cell phone size displays in the rapidly growing consumer market, particularly as demand expands for sophisticated mobile personal viewers offering higher resolution and better image quality for VR and AR applications. Users of VR HMD’s are demanding a fully immersive experience. We believe our direct patterning technology addresses the critical performance parameters for next generation VR HMDs, including higher brightness, sharper resolution, lower power consumption, elimination of motion artifacts and longer life. Our strategy for addressing the consumer mass market includes developing partnerships with both Tier One consumer companies and high volume production manufacturing companies.

Potential applications for these personal viewers include handheld personal computers and mobile devices, such as smartphones, whose small, direct view screens limit the amount of information that can be displayed but which are now capable of running more complex software applications. Examples encompass applications where hands free viewing is desired such as entertainment and gaming video headset systems; night time or thermal imaging devices for hunting, camping, and other outdoor activities; and maintenance applications. In addition, in late 2015, we entered into a HMD technology licensing agreement with a Tier One consumer electronics company which includes the use of our 2K x 2K displays in its consumer headsets. In first quarter 2017, we entered into an agreement with a Tier One company interested in incorporating our proprietary direct patterning technology into potential headset products. Also during first quarter 2017, we performed tests for a Tier One consumer electronics company demonstrating our dPd technology as a path for AR and VR. We also entered into agreements with Tier One companies to develop a new display design for Virtual Reality and scale our dPd technology. In the first quarter 2017, we introduced two night vision products, BlazeSpark and BlazeTorch. These products are designed for recreational use as well as hobbyists, and outdoor enthusiasts. Additionally, the products can be used by utilities and law enforcement agencies to expand or enhance their night time activities.

### Military/Aviation

We believe that head mounted systems incorporating our microdisplays increase the user’s effectiveness by allowing hands free operation and increasing situational awareness with sufficient brightness for use in daylight, yet controllable

for nighttime light security. As a COTS (commercial off the shelf) component, OLED microdisplays possess 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 design features and performance characteristics of our OLED microdisplays reduce the size, weight, and power required by current and future military systems, while also providing a wide operating temperature range. 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 low power consumption reduces battery weight and, for military applications, reduces constraints on mission length due to battery life. The OLED's wide operating temperature 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 such as in desert conditions. We believe that 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. Incorporating OLED microdisplays into aviation helmets has been made possible in part by the high brightness and other performance features of the OLED technology that we have developed.

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Our products' military applications primarily fall into three broad areas: (1) helmet mounted and handheld displays for situational awareness and data; (2) night vision/thermal imaging goggles, rifles and targeting sights, and handheld viewers; and (3) training and simulation devices. These systems are also well suited for demanding operations such as urban security, homeland defense, and fire and rescue.

**Situational Awareness.** Our OLED microdisplays have been incorporated into a broad range of U.S. and foreign military situational awareness programs. Situational awareness products include head mounted displays that are used to display images, including digital map, sensor imagery and pilot aviation information. In addition, handheld imagers provide improved situational awareness on the battlefield, as well as in training and simulation. These products can also be combined with a weapon system to give the user the capability to select targets without direct exposure.

**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 generally use some combination of the two technologies. 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. 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. We believe the power efficiency and environmental ruggedness of our products are strong competitive advantages, particularly for smaller handheld non cooled systems. Fielded products incorporating our OLED microdisplays include Harris' and L3 Insight's Enhanced Night Vision Goggle II, the Enhanced Night Vision Goggle III, Family of Weapons Sights—Individual and Crew Served for the U.S. Army, L 3's Javelin medium range anti tank missile system, Northrop Grumman's Lightweight Laser Designator Rangefinders, Thales' SOPHIE™ handheld thermal imagers, and Thales' MINIE™, LUCIE™, and MONIE™ night vision goggles.

**Training and Simulation.** Our OLED microdisplays are purchased by OEMs for use with their simulation and training products. The companies that incorporate our OLEDs into their training and simulation applications include Quantum 3D, Rockwell Collins, Intevac Vision Systems, and Sensics, among others. Our displays have been commercialized and prototyped for situational awareness and night vision/thermal imaging applications by military systems integrators, including Elbit, L 3 Communications, Intevac Vision Systems, Nivisys, BAE Systems Technology, DRS, Harris (formerly Excelsis/ITT), Intevac Vision Systems, Qioptiq, Rockwell Collins, SA Photonics, Saab, Sagem DS, and Thales, among others.

#### 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 workplace environments and due to the benefit of mobile displays to enhance visual performance. Examples of existing and potential microdisplay applications include enhanced visualization for ocular surgery, mobile ultrasound, mobile nondestructive testing, enhanced vision for those with visual impairments, immediate access to inventory or maintenance and construction manuals, routine quality assurance inspection, and real time viewing of images and data for a variety of applications. As an example, a user wearing an HMD while operating test equipment, such as an oscilloscope, 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 BCF, Liteye, FLIR Systems, Nordic NeuroLab, VRmagic GmbH, and Sensics, among others.

#### Our Products

Our first commercial microdisplay, the SVGA+ OLED, was introduced in 2001. In 2008, we introduced engineering samples of our SXGA120 OLED microdisplays and began selling significant quantities of the product in 2010. In late 2011, we began selling pre production samples of the WUXGA OLED microdisplay which is now qualified and in production. In 2014, we released our Digital SVGA, and in 2015, we released our smaller pixel pitch digital SXGA and SXGA096, as well as an upgrade to the SXGA120 and WUXGA. Our OLED display products are being designed 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 complete systems. We also offer engineering support to enable customers to quickly integrate our products into their own product development programs and design customized displays with resolutions or features to meet specific customer requirements. In 2015, we announced the development of a prototype immersive headset that uses our prototype 2K × 2K display. During 2016, we demonstrated what we believe to be the world's first highest brightness (~4,500 cd/m<sup>2</sup>) and highest resolution (1920x1200 pixels) microdisplay using our proprietary direct patterning method. During 2017, we developed prototype displays of our 2K x 2K display with an advanced backplane design and brightness exceeding 5,000 cd/m<sup>2</sup>. With the addition of these new displays, we now offer a wide variety of OLED microdisplay options to our customers.

#### SVGA+ OLED Microdisplay Series (Super Video Graphics Array of 852x600)

The SVGA+ OLED Microdisplay Series is a 0.62 inch diagonal microdisplay that 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. The 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 for thermal imaging applications, and lower than 175 mW at 200 cd/m<sup>2</sup> for full color video.

#### Digital SVGA OLED XL

The Digital SVGA or DSVGA OLED XL was released for production in 2014. This is an 800 × 600 display with 15 micron pixels and a 0.6 inch diagonal. It has all the benefits of our other digital displays, including lower power (100 mW monochrome and 135 mW color), high (10,000 to 1) contrast, and also features a digital composite signal interface, enabling a minimal physical interface for color applications.

#### SXGA096 OLED XL/XLS (Super eXtended Graphics Array, 1280 x 1024)

The SXGA096 display was introduced in 2015. It features a 9.6 micron color pixel and was designed with the same level of feature integration as the DSVGA microdisplay, as well as a low pin count, high speed LVDS (Low Voltage Differential Signaling) data interface. The compactness and high information content of the SXGA096 makes it ideal for small form factor applications such as commercial headsets and smart weapon sights. This microdisplay incorporates OLED XLS technology more than doubling the OLED XL brightness. This expands the range of optical solutions that can be used with this display to result in smaller and lighter display modules.

#### 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 pixel array comprises triads of vertical sub pixels stacked side by side to make up each 12 × 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 × 960 pixel doubling), and both frame sequential and field sequential stereovision.

#### VGA OLED XL (Video Graphics Array, 640 x 480)

The VGA OLED XL microdisplay was introduced to our product line in 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.

#### 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 WUXGA design features our 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 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 our proprietary motion enhancement technology which smooths 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.

#### Lens and Design Reference Kits

We offer a 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.

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## 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.

## Headsets

In 2014, we developed and demonstrated a new Immersive Head Mounted Display (IHMD) with a different look and superior performance than other VR HMDs. Compared to other VR HMDs, it has four times the resolution, no pixelization, and a much smaller form factor. It incorporated our earlier 2K by 2K high resolution OLED microdisplay prototype and patented optics, giving it significantly sharper resolution than a cell phone display and conventional optics. The field of view (FOV) of the IHMD exceeds one hundred (100) degrees and it has a resolution of four (4) megapixels per eye. We entered into a nonexclusive license agreement in 2015 to allow an undisclosed company to use the technology in this IHMD for their own applications and may incorporate our 2K x 2K displays in headsets that use the technology. The retrofit of our latest 2K x 2K microdisplay prototypes into the original design of this IHMD is being considered as a means to showcase their superior performance and higher resolution.

We are subject to certain 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. Most of our ITAR products are custom displays developed for a specific military program or purpose. 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.

## Night Vision Smartphone Camera Attachment and Goggles

In 2016, we announced night vision products for the consumer markets and began limited sales in the first quarter of 2017. A smartphone camera attachment allows consumers to see clear, high resolution images in the dark. A companion application allows users to record and live stream content directly to our social media sites and share with other sites. We also developed a wearable device that utilizes our OLED microdisplay technology to provide hands free operation for night time activities with the capability to record and upload content. We are completing the development of these products and pursuing channels of distribution.

## Government Contract Funding

We derive a portion of our revenue from funding that we receive pursuant to research contracts or subcontracts funded by various agencies of the U.S. government.

In 2014, we were awarded a \$5 million contract to develop and produce an ultra high resolution, high brightness, high contrast, full color OLED microdisplay at a low unit cost. This Defense wide Manufacturing Science & Technology award, also known as ManTech, is funded by the Undersecretary of Defense for Acquisition, Technology, and Logistics and is administered by the U.S. Army RDECOM CERDEC Night Vision and Electronic Sensors Directorate Science and Technology Division. We earned a substantial portion of our R&D contract revenue in 2016 from this project and we expect to complete it by May 2018.

In 2015, we were awarded two new development programs that continued into 2016. The first program is a Small Business Technology Transfer program with the Air Force Research Laboratory and the second is a Small Business Innovation Research program with the United States Special Operations Command. Both programs were for investigating improved OLED micro display design and performance and were completed in 2016.

Our contracts with the U.S. government 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.

## 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 consumer, military and commercial electronics industry by capitalizing on our experience and expertise in active matrix OLED technology and silicon wafer design. We also plan to continue our participation in U.S. government funded Contract Research and Development programs which allows us to continue to enhance our technology. We aim to provide microdisplays and complementary accessories to enable OEM customers serving a variety of markets, including commercial, military and medical, to develop and manufacture new and enhanced electronic products. With the announcement of our

BlazeSpark and BlazeTorch consumer night vision products, we have also entered the consumer electronics, recreational, law enforcement and first responder markets. Some key elements of our strategy to achieve these objectives include the following:

- Develop OEM and mass production partnerships in the consumer HMD market. As the consumer AR/VR market matures, we believe our eMagin technology is positioned well to address the requirements of this segment. Developing customer partners is key to establishing eMagin as the market leader for next generation displays for the consumer HMD market. In addition, executing on mass production partnerships should allow us to be well positioned in a market predicted to experience significant growth through the 2020s.
- Strengthen our technology leadership. As the first to exploit AMOLED microdisplays and the only participant in U.S. government contract research and development programs for OLED 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 and partner with large volume manufacturers to bring our technology into high volume production. We intend to reduce our production costs primarily by improving manufacturing yields 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 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. In order to address emerging high volume consumer electronics OLED microdisplay requirements, we are actively seeking manufacturing partners who can help us realize that objective.
- Build and maintain strong design capabilities. We employ in house design capabilities supplemented by outsourced design services. Building and maintaining this capability allows us to reduce engineering costs, accelerate the design process and enhance design accuracy to respond to our customers' needs as new markets develop. 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, we continue to look for opportunities to add value to our displays to increase revenue.
- Leverage strategic relationships. External relationships serve 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 help us develop new ideas and solutions. In addition, we participate in industry associations such as the Society for Information Display; SPIE, the international society for optics and photonics; the Army Aviation Association of America; and the National Defense Industrial Association; among others. We believe that strategic relationships allow us to determine better the demands of the marketplace and, as a result, allow us to focus our research and development activities on satisfying our customers' evolving requirements.
- Enter consumer and commercial electronics markets. We announced the launch of our consumer/commercial night vision products, the BlazeSpark smart phone accessory and BlazeTorch night vision goggles in late 2016 and began limited sales in the first quarter of 2017. We are continuing our development efforts and building relationships with commercial, law enforcement and first responder customers who have expressed interest in our products.

#### Sales and Marketing

We primarily provide our OLED display and optics components to 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 at our Hopewell Junction, NY facilities. We also have distributors in China and Korea.

An OEM design cycle typically requires between six 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

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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.

Our consumer/commercial night vision products, which became available for sale in the first quarter of 2017, are marketed to the consumer and commercial segments through a growing network of distributors and retailers leveraging social media, trade shows, coverage by industry and consumer publications, and through our web site.

## 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. The following table estimates net product revenues in the market sectors.

Market	For the Years Ended December 31,	
	2017	2016
Commercial	27 %	29 %
Military	50 %	47 %
Commercial and Military	23 %	24 %

The following table represents the domestic and international revenues as a percentage of total net revenues:

Geographic Location	For the Years Ended December 31,	
	2017	2016
United States	54 %	58 %
International	46 %	42 %

In 2017, there was one customer that accounted for 11% of total revenues. In 2016, there was one customer that accounted for 11% of total revenues.

## Backlog

As of December 31, 2017, we had a backlog of approximately \$9.8 million in comparison to a backlog of approximately \$6.4 million as of December 31, 2016. This backlog primarily consists of non-binding customer purchase orders and purchase agreements with expected delivery dates through 2018, but does not include expected revenue from research and development contracts or expected NRE (non-recurring engineering) programs under development. Most purchase orders are subject to rescheduling or cancellation by the customer with no or limited penalties. 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 about 70 miles north of New York City in Hopewell Junction, NY. We lease approximately 42,000 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 testing space, assembly space and administrative offices.

Facilities services provided by the lessor 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 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 \$1.4 million and \$1.4 million in 2017 and 2016, respectively, of additional equipment mainly related to manufacturing and we plan to add additional equipment in 2018 to increase capacity and yield and to meet expected demand for our microdisplays.

Our consumer/commercial night vision products are manufactured at contract manufacturing facilities located in Singapore and China and incorporate displays manufactured at our facilities in Hopewell Junction, NY, and components and subassemblies manufactured by domestic and foreign suppliers.

## Competition

The industry in which we operate is highly competitive. We face competition from legacy technologies such as transmissive liquid crystal displays and liquid crystal on silicon displays as well as from alternative 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.

There are a few manufacturers of high resolution OLED microdisplays that produce microdisplays that compete with our microdisplay products. They are Yunnan OLIGHTECK Opto Electronic Technology Co., Ltd. in China 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 and is now selling microdisplays to some commercial customers. In addition, in early 2017, Kopin Corporation announced a 2K × 2K microdisplay which includes OLEDs sourced from an existing manufacturer.

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, although we believe that our progress to date in this area gives us a significant advantage.

We believe that competition will come from liquid crystal on silicon displays, small transmissive liquid crystal displays, and OLED microdisplays manufactured by competitors. While we believe our OLED technology is technically superior by 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. Competition can also come from inorganic micro LEDs, a technology still in the development stage but which could become a major competitor if all the technological hurdles are overcome.

Our consumer night vision products may face competition from a variety of electronics manufacturers that primarily offer thermal imaging cameras and monoculars. These include manufacturers of thermal imaging video cameras and monoculars. These devices are traditionally more expensive, heavier and larger than our BlazeSpark and BlazeTorch night vision products and are primarily designed for commercial users.

Our BlazeSpark and BlazeTorch products rely on a less expensive digital CMOS sensor and software image processing to produce viewable images through either smart phone displays or our proprietary OLED display and prism technology. While we believe our digital process technology, compact size, appealing designs, and streaming platforms offer advantages for serving consumer markets, it is possible that existing manufacturers of military and tactical night vision systems may offer consumer products, or other manufacturers may develop innovative technologies, that create increased competition.

## Intellectual Property

We believe we have developed our own intellectual property portfolio of patents, trade secrets and manufacturing know how. Our intellectual property includes 34 U.S. patents and 28 U.S. patent applications. 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 its 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;

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- Wearable Computer Interface Methodology;
- Legacy Field Emission and General Display Technologies; and
- Head Mounted Display Technology.

We believe that, in addition to patent protection, our success is dependent upon trade secrets, technical expertise and know how. 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, 2018, we had a total of 100 employees, of which 97 were full time. 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](http://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 Exchange Act of 1934, as amended, after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission (the "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, 2070 Route 52, Hopewell Junction, NY 12533.

We also post on our website the charters of our Audit, Compensation, Governance and Nominating committees, our Code of Ethics and any amendments of or waiver to such code 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, should they materialize, and you may lose part or all of your investment.

### RISKS RELATED TO OUR FINANCIAL POSITION

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

Our accumulated deficit is approximately \$227 million as of December 31, 2017. We can give no assurances that we will be profitable in the future. We cannot assure you that if we become profitable that we will be able to sustain profitability or that we will not continue to incur operating losses in the future.

If we are unable to meet our obligations as they become due over the next twelve months, we may not be able to continue our current operations.

Our ability to continue current operations and to execute on our plans is dependent on our ability to generate sufficient cash flows from operations, raise additional capital or refinance our indebtedness to meet our obligations. If adequate funds are not available to us on a timely basis, or at all, we may have to reduce current operations and delay capital expenditures in order to conserve cash.

Based on our current operating plan, we anticipate that, given our current working capital levels, our current financial projections and our ability to borrow under our working capital facility, we will be able to meet our financial obligations as they become due over the next twelve months. We have no additional committed external sources of funds and additional financing may not be available when we need it or may not be available on terms that are favorable to us. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

We cannot provide assurance that we would be able to take any of these actions or that any effort to sell additional equity securities or borrow additional funds would be successful or would generate sufficient funds to meet our financial obligations, allow us to continue current operations or that these actions would be permitted under the terms of our existing or future debt agreements. If additional financing is not available when required or is not available on acceptable terms, we may need to delay, modify or abandon our current operations and we may be unable to take advantage of business opportunities or respond to competitive pressures which would likely have a material adverse effect on our product offerings, revenue, results of operations and financial condition.

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;
- changes due to quarterly fair value adjustments of our warrant liability;
- 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

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- 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.

We may incur substantial indebtedness which could adversely affect our business and limit our ability to plan for or respond to changes in our business.

Our ability to make payments on our debt obligations and to fund planned capital expenditures depends on our ability to generate cash from our future operations. This, to a certain extent, is subject to financial, competitive, legislative, regulatory and other factors that are beyond our control. In addition, if we cannot service our indebtedness, we may have to take actions such as selling assets, seeking additional equity or reducing or delaying capital expenditures, strategic acquisitions, investments and alliances, any of which could impede the implementation of our business strategy, prevent us from entering into transactions that would otherwise benefit our business and/or negatively affect our financial condition and results of operations. We may not be able to refinance our indebtedness or take such other actions, if necessary, on commercially reasonable terms, or at all.

Our ABL Facility contains various covenants limiting the discretion of our management in operating our business, which could prevent us from capitalizing on business opportunities and taking some corporate actions.

On December 21, 2016 we entered into an asset based lending agreement with Rosenthal & Rosenthal, Inc., which is referred to herein as the ABL Facility. The ABL Facility imposes operating and financial restrictions on us. These restrictions will limit or restrict, among other things, our ability to:

- incur additional indebtedness;
- make restricted payments (including paying dividends on, redeeming, repurchasing or retiring our capital stock);
- make investments;
- create liens;
- sell assets;
- engage in transactions with affiliates; and
- consolidate, merge or sell all or substantially all of our assets.

In addition, the ABL Facility also requires us to maintain compliance with certain financial covenants. These covenants are subject to important exceptions and qualifications. Our ability to comply with these covenants may be affected by events beyond our control, including those described in this “Risk Factors” section. A breach of any of the covenants contained in the ABL Facility could result in an event of default under one or more of the documents governing such obligations which would allow the lenders under the ABL Facility to declare all borrowing outstanding to be due and payable. In the event of an acceleration of payment obligations, we would likely be unable to pay our outstanding indebtedness with our cash and cash equivalents then on hand. We could be required to seek alternative sources of funding, which may not be available on commercially reasonable terms, or terms as favorable as our current agreement or at all. If we are unable to provide alternative means of financing our operations, we may be required to reduce our operations or take other actions that are inconsistent with our current business practices or strategy.

Our debt is variable rate debt, and increases in interest rates could adversely affect us by causing us to incur higher interest costs with respect to such variable rate debt.

The ABL Facility subjects us to interest rate risk. The rate at which we pay interest on amounts borrowed under such facility fluctuates with changes in interest rates. Accordingly, with respect to any amounts from time to time outstanding under the ABL Facility, we are and will be exposed to changes in interest rates. If we are unable to adequately manage our debt structure in response to changes in the market, our interest expense could increase, which would negatively affect our financial condition and results of operations. The outstanding borrowings under the ABL Facility, net of capitalized debt issuance costs, as of December 31, 2017 were \$3.8 million.



## Risks Related To Manufacturing

The manufacture of active matrix OLED microdisplays encompasses several complex processes resulting in irregular production schedules, including production delays and interruptions, which could adversely affect our operating results.

Our product technology and manufacturing processes are evolving which can result in production challenges and difficulties. 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.

Several steps of our production processes are dependent upon certain critical machines and tools which could result in delivery interruptions and foregone revenues.

We currently have little equipment redundancy in our manufacturing facility. 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 in a timely manner. Interruptions in our manufacturing could be caused by 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, testing, repair and maintenance of manufacturing equipment can be extensive. We have experienced production interruptions in the past and no assurance can be given that we will not lose potential sales or be unable to meet production orders due to future 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 silicon wafers, 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 to us due to performance, quality, support, delivery, capacity, or price considerations (or a combination thereof). 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 materially and adversely affect our operating results. We do not manufacture the silicon integrated circuits on which we incorporate our OLED technology. Instead, we provide the design layouts to semiconductor contract manufacturers 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.

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 or enter into relationships with high volume manufacturers. We are continually taking steps to address our manufacturing capacity needs for our products. If we are not able to expand our manufacturing capacity or enter into relationships with high volume manufacturers, 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, building finished goods, and scheduling contract manufacturer production for our consumer products based on forecasts

exposes us to numerous risks, including potential inability to service customer demand within an acceptable timeframe, holding excess inventory or having unabsorbed manufacturing overhead.

Variations in our production yields impact our ability to reduce our 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 manufacturing process and repeatability;
- changes in manufacturing personnel due to turnover or employee absences;
- contamination of the manufacturing environment or equipment;

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- equipment failure, power outages, or modification to our manufacturing processes;
- lack of consistency and adequate quality and quantity of piece parts and other raw materials;
- defects in packaging either within or without our control;
- any transitions or changes in our production process, planned or unplanned; and
- certain customer requirements outside of our normal specifications.

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

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 (or a combination thereof). 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 would harm our operating results. Further, we utilize single source contract manufacturers to assemble our night vision consumer products. Inadequate line capacity or production capacity commitments to other products could affect our ability to build sufficient quantities of products to meet demand.

#### 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 we may bring against third parties based on our intellectual property could have a material adverse effect on our business. Any such claims could be time consuming to assert, result in costly litigation, divert management's attention and resources, or result in our entering into royalty or licensing agreements. Protection of intellectual property has historically been a large yearly expense for us. 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. Some of our commercial agreements may limit our ability to enforce certain of our intellectual property rights against certain parties.

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.

Third parties may assert claims against us which could harm our business.

We may face third party claims from competitors, non-practicing entities, and others that our business practices or products infringe adversely held intellectual property rights. We may face third party claims that our employees or contractors have misappropriated and unlawfully disclosed to us for our benefit third party trade secrets or other proprietary information. Furthermore, we have agreed to indemnify customers, licensees and partners for certain intellectual property claims brought against them. Defending any such claims, whether or not meritorious, would cause us to incur costs and may divert the attention of management and technical personnel. Resolution of any such claims by litigation or settlement may entail payment of damages, entry into license agreements, changes to our business practices or products, and changes in our relationships with our customers, employees, licensees, partners or contractors.

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## Risks Related To The Microdisplay Industry

The success of the commercial and consumer microdisplay industry is dependent upon widespread acceptance of microdisplay systems products, including their incorporation into AR and VR systems and products.

The market for microdisplays is still emerging. Our long term success will depend on widespread consumer acceptance of microdisplays as well as the success of the commercialization of the microdisplay market for consumer applications. As an OEM supplier, our customers' 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.

Procurement of microdisplays for military systems is subject to changes in federal budget priorities and if government funding is discontinued or reduced, our ability to develop or enhance products could be limited and our business results, operations and financial conditions could be adversely affected.

Historically, a large portion of our revenue is from military contracts. Procurement of microdisplays for military systems is subject to changes in federal budget priorities. Government programs are subject to authorization, appropriation and allocation of funding on an annual basis. Additionally, funding can be shifted to other programs if the government changes budget priorities, such as in a time of war or for other reasons. Government contracts are also subject to the risk that the government may not appropriate and allocate all funding contemplated by the contract. Government contracts generally permit the contracting authority to terminate the contract for the convenience of the government and in the event of a premature termination of a contract, the full value of such contract will not be realized.

The research and development and product procurement contracts of the customers we supply may be similarly impacted by government budget decisions. If the government funding is discontinued or reduced, our ability to develop or enhance products could be limited and our business results, operations and financial conditions could be adversely affected.

In addition, we must comply with certain laws and regulations relating to the administration and performance of federal government contracts. These laws and regulations affect how we conduct business under our federal government contracts, including in our role 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.

The microdisplay market is highly competitive with several competing technologies.

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

- our success in designing, manufacturing and delivering expected new products, including those implementing new technologies on a timely basis;
- our ability to address the needs of our customers;
- 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 OEM customers incorporate our product solutions into their own products;
- the market acceptance of our customers' products; and

- product or technology introductions by our competitors.

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.

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The display industry may be subject to cyclical demand and overcapacity.

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 in demand could cause significant harm to our business. The OLED microdisplay sector may experience overcapacity if additional capacity comes on line which could lead to pricing pressures and 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 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 also 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 successfully, our results of operations could be materially and adversely affected.

#### Risks Related To The Consumer Night Vision Products Industry

The commercial success of the consumer night vision industry depends on the widespread market acceptance of consumer night vision products.

The commercial market, if any, for consumer night vision products is still emerging. The success of our BlazeTorch and BlazeSpark night vision products may depend on the consumer acceptance of these products as well as the success of the commercialization of the night vision market. The existing nonmilitary night vision market is more narrowly focused on tactical, hunting, law enforcement and first responder markets. In order to achieve the sales levels necessary to achieve our plans in this area, we need to expand beyond these existing markets into broader based consumer acceptance, including hobbyists, outdoor sports enthusiasts, and social media users interested in capturing

nighttime activities, who may not exist in sufficient numbers to make the consumer market viable for us.

The Company has limited experience in the consumer electronics industry and this is a highly competitive industry.

With the introduction of the consumer night vision products, we are seeking to do business in intensely competitive consumer focused markets that are characterized by rapid technological change, changes in market requirements, price erosion and competition from other manufacturers and distributors. This intense competition is likely to result in pricing pressures, lower sales, reduced margins, and lower market share. Our ability to compete successfully will depend on a number of factors, both within and outside our control. We expect these factors to include the following:

- our success in designing, manufacturing and delivering expected new products, including those implementing new technologies on a timely basis;
- our ability to address the needs of our customers and the quality of our customer services;

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- the ability to effectively market and advertise our products;
- the quality, performance, reliability, features, ease of use and pricing of our products;
- the ability to market successfully to law enforcement, utility and first responder customers
- the capacity of our outsourced production facilities, and ability to manufacture and ship products on time;
- our ability to comply with country specific regulatory certifications for consumer products; and
- product or technology introductions by our competitors.

#### 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, including salaries, 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 effect 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 phase. Even when we successfully complete a research and development effort with respect to a particular product or technology, it may fail to gain market acceptance. The successful development and introduction of these products depends on a number of factors, including the following:

- achievement of technology advances 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, U.S. 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 adapt 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, depending on the circumstances, can be cancelled or revised without penalty. 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 market price of our shares 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 high volume manufacturers and 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 into will realize their objectives. Failure to do so could have a material and adverse effect on our business.

Our business depends to some extent on international transactions.

We purchase needed materials and subcontract manufacturing processes 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 as is customary in those countries. 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.

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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.

Provisions in certain of our commercial agreements and our military business may prevent or delay an acquisition of, partnership with, or investment in our Company, and our ability to develop OEM and mass production partnerships, which could decrease the market value of our common stock.

Provisions in certain of our commercial agreements may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable. In addition, as a contractor and subcontractor to the U.S. federal government, we are subject to and must comply with various government regulations that impact our operating costs, profit margins and the internal organization and operation of our business. As a result, these provisions and business may prevent or delay an acquisition of, partnership with, or investment in, our Company and our ability to develop OEM and mass production partnerships and could limit the price that strategic investors may be willing to pay in the future for shares of our common stock. They could also deter potential partners or acquirers of our company, thereby reducing the likelihood that you could receive a premium for your common stock in an acquisition.

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, including the Export Administration Regulations (EAR) and the International Traffic in Arms Regulations (ITAR). These laws and regulations affect how we conduct business under 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 EAR and 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's Directorate of Defense Trade Controls (DDTC) under the ITAR. We believe certain of our products will be classified as 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.

Economic conditions may adversely impact our business, operating results and financial condition.

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.

We may be affected by recent tax legislation.

On December 22, 2017, the President signed into law an extensive overhaul of the U.S. federal tax code called the Tax Cuts and Jobs Act, or the Tax Legislation. The Tax Legislation makes significant changes to the taxation of individuals and corporations, which could significantly affect our business, our operations, our financial condition, or the taxation of our stockholders and warrant holders. Potential investors should consult their tax advisors about the Tax Legislation and its potential impact on making an investment in the Company.

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## Risks Related To Our Stock

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 high of \$2.85 in January 2017 to a low of \$1.55 in December 2017. 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, commercial partnerships, 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.

The market price of our common stock may be adversely affected by market conditions affecting the stock markets in general, including price and trading fluctuations on the NYSE American.

Market conditions may result in volatility in the level of, and fluctuations in, market prices of stocks generally and, in turn, our common stock and sales of substantial amounts of our common stock in the market, in each case being unrelated or disproportionate to changes in our operating performance. Concerns over global stability and economic conditions in the United States and abroad have contributed to the extreme volatility of the markets which may have an effect on the market price of our common stock.

Future issuances of our common stock could lower our stock price and dilute the interests of existing stockholders.

We may issue additional shares of our common stock in the future, including shares of our common stock in connection with acquisitions, strategic partnerships or joint ventures that we believe will allow us to complement our growth strategy, increase market share in our current markets and expand into adjacent markets, broaden our technology and intellectual property, and strengthen our relationships with distributors and OEMs. Any future issuances of shares of our common stock, including in connection with any future acquisition, partnership or joint venture, may result in the dilution of existing stockholders to the extent we are required to issue equity securities.

The issuance of a substantial amount of common stock could have the effect of substantially diluting the interests of our current stockholders. In addition, the sale of a substantial amount of common stock in the public market, either in the initial issuance or in a subsequent resale by investors who acquired such common stock in a private placement, could have a material adverse effect on the market price of our common stock.

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

As of December 31, 2017, Stillwater Holdings LLC (f/k/a Stillwater LLC) owned approximately 16% 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, owned approximately 10% of our outstanding voting stock, Stillwater Trust LLC owned 5% of our outstanding voting stock and the sole member of Stillwater Holdings LLC is the investment manager of Rainbow Gate Corporation, which owned approximately 4% of our outstanding voting stock. Together such stockholders owned approximately 35% of our outstanding voting stock. As a result, these

stockholders, if they act together, may be able to exert a significant degree of influence over matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. Further, if these stockholders act together with another stockholder, Ginola Limited, which has common directors with Mount Union Corp., Chelsea Trust Company and Crestflower Corporation, as of December 31, 2017, they would collectively have represented approximately 40% 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 stockholders. Nevertheless, the ability to influence the election of our Board of Directors or otherwise have influence does not modify the fiduciary duties of our Board of Directors to represent the interests of all stockholders.

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We do not intend to pay cash dividends. We last paid a dividend on our capital stock in 2012 and we do not anticipate paying any dividends in the foreseeable future. Consequently, any gains from an investment in our securities will likely depend on whether the price of our common stock increases.

We have not paid dividends on any of our capital stock since 2012. We currently intend to retain our future earnings, if any, to fund the development and growth of our business. In addition, our ABL Facility prohibits us from paying cash dividends on our common stock. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future. Consequently, in the foreseeable future, you will likely only experience a gain from your investment in our securities if the price of our common stock increases.

A provision in our certificate of incorporation and by laws may prevent or delay an acquisition of our Company, which could decrease the market value of our common stock.

Provisions of Delaware law, our certificate of incorporation and our by laws may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable. These provisions may also prevent or delay attempts by stockholders to replace or remove our current management or members of our Board of Directors. These provisions include:

- limitations on the removal of directors;
- advance notice requirements for stockholder proposals and nominations;
- the inability of stockholders to act by written consent or to call special meetings;
- the ability of our Board of Directors to make, alter or repeal our by laws; and
- the authority of our Board of Directors to issue preferred stock with such terms as our Board of Directors may determine.

In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, which limits business combination transactions with stockholders of 15% or more of our outstanding voting stock that our Board of Directors has not approved. These provisions and other similar provisions make it more difficult for stockholders or potential acquirers to acquire us without negotiation. These provisions may apply even if some stockholders may consider the transaction beneficial to them. As a result, these provisions could limit the price that investors are willing to pay in the future for shares of our common stock. These provisions might also discourage a potential acquisition proposal or tender offer, even if the acquisition proposal or tender offer is at a premium over the then current market price for our 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 remediate any such weakness; our failure to do so would prevent our management from concluding that our internal control over financial reporting as of the end of our fiscal year is effective. 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.





## ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

## ITEM 2. PROPERTIES

Our manufacturing facility and corporate headquarters are located in Hopewell Junction, NY, where we lease approximately 42,000 square feet. The NY facility houses our equipment for OLED microdisplay fabrication, assembly operations, research and development, and product development functions. The lease expires in 2024. We lease approximately 2,000 square feet of office space for design and product development in Santa Clara, CA and the lease expires in 2019.

We believe our facilities are adequate for our current and near-term needs. We believe we will be able to renew these leases or obtain alternative spaces or additional spaces as necessary under acceptable terms. See Note 12 to the Consolidated Financial Statements for more information about lease commitments.

## ITEM 3. LEGAL PROCEEDINGS

During 2015, the Company received a letter from an attorney representing a former employee claiming damages for age discrimination and wrongful termination. In September 2016, this former employee commenced action against the Company in Superior Court for the State of Washington. In February 2017, the former employee's counsel sent a discovery request to the Company. In December 2017, the parties reached a settlement, upon signature of a related agreement, the expiration of a revocation period and payment of an amount not material to the Company.

## ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.



## 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 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
2017:		
First quarter	\$ 2.85	\$ 2.10
Second quarter	\$ 2.80	\$ 2.30
Third quarter	\$ 2.60	\$ 2.00
Fourth quarter	\$ 2.30	\$ 1.55
2016:		
First quarter	\$ 2.08	\$ 1.31
Second quarter	\$ 2.03	\$ 1.68
Third quarter	\$ 3.07	\$ 1.97
Fourth quarter	\$ 2.79	\$ 1.95

As of January 31, 2018, there were 137 holders of record of our common stock. This does not include persons whose stock is in nominee or "street name" accounts through brokers.

## Dividends

There were no declared dividends in 2017 and 2016. Future decisions to pay cash dividends are at the discretion of our Board of Directors. It is our intention to retain any future profits for use in the development and expansion of our business and for general corporate purposes.

## Recent Issuances of Unregistered Stock

In a private placement, concurrent to a registered public offering of 9,807,105 share of Company Common Stock and 3,922,842 Warrants, certain of our directors and officers purchased an aggregate of 203,708 shares of Common Stock, together with warrants to purchase up to 81,487 shares of Common Stock at the public offering price of \$1.35 per fixed combination consisting of one share of Common Stock and associated Warrant to purchase four tenths of one share of Common Stock. The Warrants have an initial exercise price of \$1.55. The sale of these shares of common stock and warrants was not registered under the Securities Act and is subject to a 180-day lock-up. The private placement closed on February 15, 2018, and the Company received net proceeds of \$0.3 million

## Purchases of Equity Securities by the Issuer

There were no repurchases of our common stock during the year ended December 31, 2017.

## Equity Compensation Plan Information

The following table sets forth the aggregate information of our equity compensation plans in effect as of December 31, 2017:

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 compensations plans subject to approval by security holders - 2017 Incentive Stock Plan	493,804	\$ 2.55	1,506,196
Equity compensation plans approved by security holders - 2013 Incentive Stock Plan	1,276,503	\$ 2.41	84,168
Equity compensation plans approved by security holders - 2011 Incentive Stock Plan	1,173,088	\$ 3.44	22,882
Equity compensation plans not approved by security holders - 2008 Incentive Stock Plan	568,524	\$ 1.70	1,378
Equity compensation plans approved by security holders - Amended and Restated 2003 Employee Stock Option Plan	1,256,919	\$	-
	4,768,838		1,614,624

## 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 our 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 changes in external factors or in our internal budgeting process which might impact trends in our results of operations; unanticipated working capital or other cash requirements; changes in our business strategy or an inability to execute our strategy due to unanticipated changes in the industries in which we operate; and various competitive market factors that may prevent us from competing successfully in the marketplace.

### Overview

We design, develop, manufacture and market organic light emitting diode (OLED) 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 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 higher contrast, lower power requirements, less weight, fast video speed without flicker, wide range of operating temperatures 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 also believe that our direct patterning technology (dPd) gives us a substantial advantage over other OLED microdisplays because it allows us to produce microdisplays with the high brightness required for VR and AR. Traditional OLED microdisplays utilize white emitting OLED with color filters that lessen the intensity of emitted light by as much as 85%, significantly reducing brightness. Microdisplays manufactured by direct patterning do not require color filters to achieve color variations and allow for the application of more efficient OLED structures which achieve high brightness.

We have devoted significant resources to the development and commercial launch of our OLED microdisplay products into military, aviation, consumer, enterprise, industrial and medical applications. 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 (High Definition) resolution.

We introduced new products throughout 2014, including a digital SVGA microdisplay and in 2015, a smaller pixel SXGA 096 display that provides for higher resolutions and increased functionality at the same compact size as the SVGA+ microdisplay. In 2016 and 2017, other products such as the SXGA120 and WUXGA have also undergone upgrades improving image quality and manufacturability while remaining directly compatible with their earlier

generation microdisplays.

These products are being applied or considered for near eye and headset applications in products such as thermal imagers, night vision goggles, aviation helmets, virtual reality and augmented reality devices to be manufactured by original equipment manufacturer (OEM) customers. In addition to marketing OLED on silicon microdisplays as components, we also offer microdisplays as an integrated package, which we call microviewer that includes a compact lens for viewing the microdisplay and electronic interfaces to convert the signal from our customer's product into a viewable image on the microdisplay.

We have developed our own intellectual property portfolio that includes patents, over 15 years of manufacturing know how and proprietary technologies to create high performance OLED on silicon. We believe our technology, intellectual property portfolio and position in the marketplace give us a leadership position in OLED and OLED on silicon microdisplay technology. We believe that we are one of only a few companies to market and produce significant quantities of high resolution, small molecule OLED on silicon microdisplays.

We believe that a key growth opportunity for us is the consumer electronic OEM market. Our strategy for this segment is to secure channels to this market, including licensing of our direct patterning technology and partnering in the mass production of microdisplays. We believe that our dPd technology is a key differentiator for enabling next generation AR/ VR hardware for the consumer and enterprise segments because of the brightness and the pixel density afforded by the technology.

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Our dPd technology is being optimized and improvements were achieved during 2017, including lowering the power consumption by 20 percent for the same brightness and also demonstrating a maximum brightness of more than 5,300 cd/m<sup>2</sup> on a new advanced backplane 2K x 2K microdisplay. We believe that this high brightness OLED on silicon technology is gaining attention in the AR/VR industry, which requires high brightness, and has contributed to our signing agreements with multiple Tier One consumer product and electronics companies.

During 2016, we developed handheld and wearable products that provide consumers' night vision capability at prices we believe are attractive to the mass market. Two products, BlazeSpark and BlazeTorch, were introduced in 2017. To produce the products, we have established a supply chain utilizing a variety of domestic and international suppliers and two contract manufacturers located in Asia.

We continue to make progress on our multi-year yield improvement initiative as we strengthen production resources, make key managerial and process engineering hires, and implement production equipment. We believe this initiative will enable us to increase production capacity, lower unit costs and achieve greater operating efficiencies, positioning us to meet expanding customer demand and earning higher gross profits. As part of our yield improvement initiative, we made capital equipment acquisitions over the past several quarters which we are currently implementing and qualifying. We expect that these additions will reduce our dependency on critical equipment at key stages of the production process and provide greater operating flexibility which we believe will permit us to address the increasingly demanding needs of our customers without compromising throughput volumes or unit profitability.

#### New Business

During 2017, we made progress towards our goals of securing new U.S. military programs while expanding our presence in foreign military, commercial and industrial markets. Under the U.S. Army's Enhanced Night Vision Goggle III (ENVG III) and Family of Weapon Sight Individual (FWS I) programs, we began delivery of displays for the Low Rate Initial Production (LRIP) phase of both programs throughout 2017 with the expectation of full rate production commencing in 2018. ENVG III is scheduled to be in production through 2021 with follow on sustaining orders through 2032. FWS I is scheduled to be in production through 2020 with follow on sustaining orders through 2031. We also delivered displays for prototype systems for FWS Crew Served program to two defense prime contractors.

During 2017, we achieved the following:

- Completed a Critical Design Review (CDR) in October 2017 with a major aviation prime contractor for an OLED upgrade to a production helmet for a multi-service fixed wing aircraft. Additional displays and supporting hardware were delivered to the prime contractor in January 2018 for pre-production testing. This program is anticipated to generate revenues beginning in the second half of 2018 as our OLED microdisplays continue to receive praise during flight testing.
- Supplied to consumer and commercial customers our largest microdisplay design, the 2k x 2k full color RGB during 2017. This expands our product offerings for the consumer and commercial marketplaces. In concert with this effort, we advanced a compact interface for the 2K x 2K microdisplay that will facilitate the integration of the display into optical solutions. This hardware is targeted to be introduced to the market during the second quarter 2018.
- Delivered displays for the Low Rate Initial Production (LRIP) phase of both the U.S. Army's Enhanced Night Vision Goggle III (ENVG III) and Family of Weapon Sight Individual (FWS I) programs. Awarded follow on contracts worth over \$3.7 million for the ENVG III and FWS-I programs. Also delivered displays for prototype systems for the FWS Crew Served program to two defense prime contractors.
- Received a multi-year \$1.7 million order from a European military prime contractor to provide displays for see through, head mounted displays to support airborne and ground missions' requirements.
- Received a \$1.5 million order to support the Light Weight Thermal Sight (LWTS) program with deliveries that began in December 2017 and continuing through 2018.

- Continued to support a major U.S. Army helicopter helmet upgrade program to retrofit high brightness microdisplays into the current fielded helmet. CDR was completed in August of 2017 and Testing Readiness Review (TRR) was completed in December 2017. Additional OLED display, taper, and lens assemblies were delivered for integration and testing in December 2017.
- Received a production order from a foreign aviation prime contractor to supply high brightness microdisplays to upgrade an existing fixed wing helmet. It is expected that this will be a multi year program with initial displays delivered in November 2017 and continuing through the fourth quarter of 2018.

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- Delivered high brightness 2K × 2K microdisplays to another major foreign contractor for use in a prototype aviation helmet scheduled for initial tests in May 2018.
- Begun commercialization of two night vision products for the consumer and commercial markets: BlazeSpark, a smart phone camera attachment that allows consumers to see clear, high resolution images in the dark, and BlazeTorch, a wearable device that utilizes our OLED microdisplay technology to provide hands free operation for night time activities with the capability to record and upload content.

Our development work under the Defense Manufacturing, Science and Technology program progressed during 2017. We have met all milestones for the Office of Secretary of Defense sponsored program and believe we are on track to complete the program in May 2018.

During 2017, we made progress in our negotiations with multiple major consumer electronics companies to develop displays for these companies' next generation AR/VR applications. We are pursuing OEM and mass production partnerships which we believe is the most cost-effective way to commercialize our direct patterning technology and establish ourselves as the industry leader in microdisplays for the consumer market.

Our goal is to partner with industry leaders in consumer electronics who can help us capitalize on our technology to meet the needs of end users from a cost and performance standpoint. These initiatives encompass scaling our product technology, entering into mass production agreements with manufacturing companies which possess capital resources and high volume production capability to enable us to manufacture the volumes required for the consumer market, and securing sales and distribution channels to end users.

During 2017, we experienced an improvement in booking activity as we made progress towards our goals of securing new, and expanding existing, U.S. and foreign military programs while expanding our presence in foreign military, commercial and industrial markets. As of December 31, 2017, we had a backlog of approximately \$9.8 million in products ordered for delivery through December 31, 2018, an increase of 53% from our backlog of \$6.4 million at December 31, 2017. Backlog consists of non binding purchase orders and purchase agreements.

#### New Technology Development

We are continuing to make progress in our development of very high brightness full color microdisplays incorporating our proprietary dPd technology. Recent improvements in the equipment and further optimization of the processes have led to brightness levels that surpass the threshold requirements for AR/VR applications for Tier One companies. Our demonstration of more than 5,300 cd/m<sup>2</sup> brightness was a milestone towards the application of eMagin's microdisplays to AR/VR headsets. We are currently targeting a brightness of 10,000 nits in full color which puts us on track to satisfy the requirements of several pending military programs. We are also in the process of designing further improvements to our dPd equipment that will improve our production yields and expand the lifetime of the devices. We hope to have these changes completed by the fourth quarter 2018.

In conjunction with our development work, we have upgraded our production equipment to further improve display performance and achieve higher production volumes. The upgraded equipment is currently being used to produce parts for various customers. The process based on this equipment is currently under development and we expect it to be fully functional by the end of the second quarter 2018.

During 2017, we developed and implemented a lens-taper-display assembly process that was used to support initial deliveries later that year to a defense contractor. This process requires precise alignment and robustness over a large temperature range and can be scaled to accommodate production quantities. We are in the midst of expanding the assembly process to other display formats.

#### New Product Development

We continue to develop both small pixel and large area microdisplay architectures for wearable consumer applications. These efforts are being driven by consumer electronics companies and are aimed at leveraging our direct patterning technology for cost effective, large volume production systems.

Our product development efforts on the 2K × 2K full color RGB microdisplay project that was initiated in 2015 produced functional samples which were delivered to a leading consumer product company for evaluation in December 2016. This is our largest microdisplay design and expands our product offerings for the consumer and commercial marketplaces. We supplied these 2K × 2K displays to multiple Tier One customers during 2017.

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In concert with this effort, we are developing a compact interface for the 2K × 2K microdisplay that will facilitate the integration of the display into optical solutions. This hardware is targeted to be completed and introduced to the market during the second quarter 2018.

## Results of Operations

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

### Revenues

	Twelve Months Ended December 31,		
	2017	2016	Change
	(in thousands)		
Product	\$ 18,685	\$ 17,265	\$ 1,420
Contract	\$ 3,346	\$ 3,132	\$ 214
License	\$ —	\$ 1,000	\$ (1,000)
Total revenue, net	\$ 22,031	\$ 21,397	\$ 634

Revenues increased approximately \$0.6 million to revenues of approximately \$22.0 million for the year ended December 31, 2017 from approximately \$21.4 million for the year ended December 31, 2016, representing a 3% increase.

Product revenues are comprised primarily of sales of displays, as well as sales of other hardware. In 2017, product revenues increased approximately \$1.4 million to revenues of approximately \$18.7 million for the year ended December 31, 2017 from approximately \$17.3 million for the year ended December 31, 2016, representing an 8% increase. The increase in product revenues in 2017 was primarily due to increased demand from newer military programs in 2017 compared to reduced demand from maturing programs in 2016.

Contract revenues are comprised of revenues from research and development (“R&D”) or non-recurring engineering (“NRE”) contracts. In 2017, contract revenues increased \$0.2 million to revenues of approximately \$3.3 million for the year ended December 31, 2017 from approximately \$3.1 million for the year ended December 31, 2016, representing a 7% increase. The increase in contract revenues in 2017 was a result of an increase in the number of commercial R&D contracts and the work completed on such contracts, partially offset by a decrease in revenues from a US

Government R&D contract as it nears completion.

License revenues for 2016 was comprised of revenue from a \$1.0 million non-exclusive intellectual property license for our virtual reality headset technology. In connection with the license agreement, we provided in late 2016 the licensee engineering samples of our 2K x 2K pixel full-color displays for evaluation in their next generation headset development efforts. We had no license revenues in 2017.

#### Cost of Revenues

	Twelve Months Ended December 31,		
	2017	2016	Change
	(in thousands)		
Product	\$ 15,195	\$ 12,988	\$ 2,207
Contract	\$ 1,712	\$ 1,967	\$ (255)
License	\$ —	\$ —	\$ —
Total cost of revenues	\$ 16,907	\$ 14,955	\$ 1,952

Total cost of revenues are comprised of costs of product revenues and contract revenues. Cost of product revenue includes materials, labor and manufacturing overhead, warranty costs and depreciation related to our products. Cost of contract revenue includes direct and allocated indirect costs associated with performance on the contracts. Total cost of revenues for the year ended December 31, 2017 was \$16.9 million as compared to \$15.0 million for the year ended December 31, 2016, an increase of \$1.9 million primarily due to the increase in product and contract revenues. Cost of goods sold as a percentage of revenues was 77% for the year ended December 31, 2016 which increased from 70% for the year ended December 31, 2016, primarily reflecting the product mix and the absence of cost of revenues in 2016 associated with the license revenues.

The following table outlines product, contract and total gross profit and related gross margins for the years ended December 31, 2017 and 2016 (dollars in thousands):

	Twelve Months Ended			
	December 31,			
	2017		2016	
	(\$ in thousands)			
Product revenues gross profit	\$	3,490	\$	4,277
Product revenues gross margin		19 %		25 %
Contract revenues gross profit	\$	1,634	\$	1,165
Contract revenues gross margin		49 %		37 %
License revenues gross profit	\$	—	\$	1,000
License revenues gross margin		— %		100 %
Total gross profit	\$	5,124	\$	6,442
Total gross margin		23 %		30 %

In 2017, total gross profit decreased approximately \$1.3 million or 20%. Total gross margin was 23% for the year ended December 31, 2017 a decrease from 30% for the year ended December 31, 2016, primarily due to \$1.0 million in license revenue that had no associated cost.

Product gross profit decreased approximately \$0.8 million, during 2017 reflecting a slight decrease in average display selling prices, an increase of \$0.3 million in inventory obsolescence reserves and increased production costs primarily related to headcount and production equipment issues experienced in the third quarter.

As a result of the above, product gross margin decreased from 25% in 2016 to 19% in 2017.

Contract gross profit in 2017 increased approximately \$0.5 million compared to 2016 because of higher incremental profit margins on commercial contracts. Contract gross margin increased from 37% in 2016 to 49% in 2017. Contract gross margin is dependent upon the mix of internal versus external third party costs and materials,

with the external third party costs and materials causing a lower gross margin and reducing the contract gross profit.

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## Operating Expenses

	Twelve Months Ended		Change
	December 31,		
	2017	2016	
	(\$ in thousands)		
Research and development expense	\$ 5,175	\$ 6,362	\$ (1,187)
Percentage of net revenue	23 %	30 %	
Selling, general and administrative expense	\$ 8,682	\$ 8,411	\$ 271
Percentage of net revenue	39 %	39 %	
Total operating expenses	\$ 13,857	\$ 14,773	\$ (916)
Percentage of net revenue	63 %	69 %	

## Research and Development Expenses

Research and development (“R&D”) expenses include salaries, development materials and other costs specifically allocated to the development of new microdisplay products, OLED technologies and production processes. Research and development expenses for the year ended December 31, 2017 were \$5.2 million as compared to \$6.4 million for the year ended December 31, 2016, a decrease of \$1.2 million. The decrease in company-funded R&D expenses in 2017 was primarily due to the decrease in expenses incurred for the development of our night vision consumer products which we introduced in the first quarter of 2017.

## Selling, General and Administrative Expenses

Selling, general and administrative expenses (“SG&A”) consist primarily of personnel expenses, professional services fees, as well as other marketing, general corporate and administrative expenses. Selling, general and administrative expenses for the year ended December 31, 2017 were \$8.7 million as compared to \$8.4 million for the year ended December 31, 2016, an increase of approximately \$0.3 million. The increase in SG&A for 2017 was primarily due to higher spending on professional services, legal, and travel expenses associated with our negotiations with prospective consumer electronics and manufacturing partners.

## Other Income (Expense)

Other income (expense), net primarily consists of interest expense, interest income on cash balances and other adjustments. Other expense for 2017 reflects an expense of \$158 thousand related to a write off of issuance costs associated with the unsecured financing commitment in May 2017 upon the termination of this facility and interest expense on borrowing under our ABL facility.

Income related to the change in fair value of warrant liability was \$1.1 million for 2017. This non-cash income is associated with the decrease of a liability related to registered warrants issued in May 2017. We are required to revalue warrants classified on our balance sheet as a liability at the end of each reporting period and reflect a gain or loss from the change in fair value in the period in which the change occurred. We calculate the fair value of the warrants outstanding using the Black-Scholes model.

Other income for 2016 is comprised of interest expense of \$30 thousand, interest income on cash balances of \$13 thousand, a reversal of a \$271 thousand liability and other adjustments of \$29 thousand. During the fourth quarter of 2016, we determined the statute of limitation had expired for potential claims related to liquidated damages payable under a 2008 registration rights agreement and reversed a related liability of \$271 thousand.

#### Income Tax Expense (Benefit)

For the years ended December 31, 2017 we recorded a benefit of \$0.2 million because we expect to file a claim for a federal tax refund of approximately \$0.2 million for its Alternative Minimum Tax ("AMT") credit carryforward in tax years 2018 to 2021 pursuant to the applicable provisions of the Tax Cuts and Jobs Act of 2017 ("TCJA"). For the year ended December 31, 2016, there was no income tax expense. We have a full valuation allowance as we have determined that it was not more likely than not that we would generate sufficient future taxable income to realize the deferred tax assets.

Other than the \$0.2 million AMT credit, our income tax expense for 2017 was not impacted by changes resulting from the TCJA because the full valuation allowance offset any changes to deferred tax balances resulting from the lowering of tax rates.

## Net Loss

As a result of the above, net loss was approximately \$7.8 million and \$8.0 million for the years ended December 31, 2017 and 2016, respectively.

## Off-Balance Sheet Arrangements

We have no off balance sheet arrangements that are expected 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, 2017, we had \$3.5 million of cash, cash equivalents, and investments as compared to \$5.2 million at December 31, 2016. The \$1.7 million decrease in cash was primarily due to cash used in operating activities of \$8.1 million and investing activities of \$1.4 million, partially offset by cash provided by financing activities of \$7.8 million.

For the year ended December 31, 2017, operating activities used \$8.0 million in cash, which was attributable to our net loss of \$7.8 million and changes in operating assets and liabilities of \$2.0 million primarily related to increases in inventory and accounts receivable, partially offset by the change in net non-cash expenses of \$1.9 million. For the year ended December 31, 2016, operating activities used \$8.6 million in cash, which was attributable to our net loss of \$8.0 million offset by approximately \$2.4 million from the net non-cash expenses and changes in operating assets and liabilities.

For the years ended December 31, 2017 and 2016, investing activities used \$1.4 million in cash for equipment purchases primarily for upgrading our production line.

For the year ended December 31, 2017, financing activities provided \$7.8 million in cash of which \$5.9 million were from the net proceeds from a public offering of our common stock, \$1.9 million were from borrowings under a credit facility and \$140 thousand were from the exercise of stock options. For the year ended December 31, 2016, financing activities provided approximately \$6.0 million in cash of which approximately \$4.3 million were from the net proceeds from the exercise of warrants to purchase common stock, \$1.7 million from net borrowings under a new credit facility, net of debt issuance costs, and \$45 thousand of proceeds were from the exercise of stock options.

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. In January 2018, we received net cash proceeds of \$12.2 million from a public offering and private placement of our common stock and warrants. We anticipate that our cash needs to fund these requirements as well as other operating or capital spending 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 from the date of this filing. If unanticipated events arise during the next twelve months, we believe we can borrow under our revolving credit facility and implement cost reductions and restrict operations to maintain our liquidity.

#### Underwritten Public Offerings

On May 24, 2017, we completed an underwritten offering of 3,300,000 shares of our common stock at an offering price of \$2.00 and warrants to purchase up to 1,650,000 shares of common stock and realized net proceeds of \$5.8 million dollars after underwriting discounts and offering expenses. The shares and warrants were purchased by a single institutional investor and by Stillwater, LLC, an affiliate. The Warrants have an exercise price of \$2.45 per common share and a term of five years.

The underlying shares of common stock and warrants issued in this offering completed the allotment of shares allowable for issuance pursuant to a shelf registration statement filed in 2014. In June 2017, we filed a replacement shelf registration statement that will provide us with the flexibility, subject to certain limitations as a result of our current unaffiliated market capitalization, to raise capital over the next three years from the offering of common stock, preferred stock, warrants, units and debt securities, or any combination of these securities, in one or more future offerings.

On January 29, 2018, we completed an underwritten offering of 9,807,105 shares of our common stock together with warrants to purchase 3,922,842 shares of our common stock with an exercise price of \$1.55 per share and a five year term. (at a public offering price of \$1.35 per fixed combination consisting of one share of Common Stock and associated warrant to purchase four-tenths of one share of Common Stock). We received net proceeds after underwriting discounts and expenses of approximately \$11.9 million.

In a concurrent private placement, certain of our directors and officers purchased an aggregate of 203,708 shares of Common Stock, together with warrants to purchase up to 81,487 shares of Common Stock at the public offering price per fixed combination. The sale of these shares of common stock and warrants was not registered under the Securities Act and is subject to a 180-day lock-up. The

private placement closed on February 15, 2018, and the Company received net proceeds of \$0.3 million.

#### Warrant Transaction

On August 18, 2016, we entered into letter agreements with certain of our warrant holders pursuant to which they agreed to exercise warrants to purchase a total of 2,216,500 shares of our common stock, at an exercise price of \$2.05 per share, which they acquired in December 2015.

On August 24, 2016, in consideration for the exercise of the 2,216,500 warrant shares, we issued new common stock purchase warrants (the "New Warrants") to purchase 2,947,949 shares of our common stock or 1.33 New Warrant share for each warrant share exercised, with an exercise price of \$2.60 per share, the approximate market price of the Company's shares at the date of the letter agreement. The terms of the warrants are substantially similar to the warrants issued in December 2015. Similar to the earlier warrants, they are not exercisable for six months from the date of issuance; and have a term of five and a half years from the issuance date.

We raised approximately \$4.3 million in net proceeds from the transaction, which was used for general corporate purposes.

#### ABL Facility

On December 21, 2016, we entered into an asset based revolving credit facility with a lender that provides for up to a maximum amount of \$5 million based on a borrowing base equivalent of 85% of eligible accounts receivable plus the lesser of \$2 million or 50% of eligible inventory. The interest on the ABL Facility is equal to the Prime Rate plus 3% but may not be less than 6.5% with a minimum monthly interest payment of \$2,000. We are obligated to pay the lender a monthly administrative fee of \$1,000 and an annual facility fee equal to 1% of the maximum amount borrowable under the facility. The ABL Facility will automatically renew on December 31, 2019 for a one-year term unless written notice to terminate the Financing Agreement is provided by either party.

The ABL Facility is secured by a lien on all receivables, property and the proceeds thereof, credit insurance policies and other insurance relating to the collateral, books, records and other general intangibles, inventory and equipment, proceeds of the collateral and accounts, instruments, chattel paper, and documents. The ABL Facility contains customary representations and warranties, affirmative and negative covenants and events of default, including a provision that we maintain a minimum tangible net worth of \$13 million and a minimum working capital balance of \$4 million. As of December 31, 2017, we had borrowings of \$3.8 million outstanding under the Financing Agreement, the interest rate was 7.5% and had unused borrowing availability of \$1.0 million. We were in compliance with all debt covenants.

#### Unsecured financing arrangement

On March 24, 2017, we entered into an unsecured debt financing arrangement with Stillwater Trust LLC, an investor who with affiliates collectively control approximately 46% of our outstanding common stock. Under the financing agreement, we may borrow, through June 30, 2018, up to \$2 million for general working capital purposes and up to an additional \$3 million should our lender not provide borrowing availability under its normal terms and conditions through its ABL facility. The agreement expires and borrowings become due upon the earlier of June 30, 2020; the completion of one or a series of equity financings which raise collectively \$5 million or greater; or an event of default, as defined in the agreement. Amounts borrowed under the financing agreement, once repaid, cannot be reborrowed. In accordance with the terms of the agreement, this arrangement expired on May 24, 2017, upon the completion of an equity offering. Upon termination of this facility, the Company wrote off \$158 thousand of related debt issuance costs, and recorded a charge to interest expense in the second quarter of 2017.

The amounts drawn on the line accrue interest at 6% per annum payable at maturity, and are subject to an upfront drawdown fee of 2% of the amount drawn and a quarterly interest surcharge of 2% paid upfront and due commencing on the 180-day anniversary of each draw regardless of whether the draw is still outstanding and then a 2% quarterly interest surcharge until the draws are repaid. In connection with the financing commitment, the investor received a \$50,000 commitment fee and a warrant to purchase 100,000 shares of common stock at an exercise price of \$2.25 per share, the closing market price of our common stock on the date the arrangement was executed. In the event we do not raise at least \$5 million in proceeds from an equity offering within 180 days of the first draw on the facility, we will be required to file a registered rights offering with the Securities and Exchange Commission within 45 days of the 180-day period to all holders of securities of the Company. In connection with the facility, we, our lender and the investor entered into an intercreditor agreement.

Mr. Christopher Brody, a member of our board of directors, is also the President and Managing Director of Stillwater Holdings LLC and is the Vice President of Stillwater Trust LLC, which is our largest stockholder. The decision of Stillwater Trust LLC to enter into the financing arrangement was made independently of Mr. Brody and the financing was not required or suggested by Mr. Brody. The terms of the financing were determined solely by negotiation among us and Stillwater Trust LLC. Mr. Brody did not participate in the deliberations of our board or the special committee of our board formed to review the terms of the financing with respect to the approval of the financing and abstained from voting thereon.

#### Change in Control Agreements

On November 8, 2017, the Company entered into change in control agreements with certain of its executive officers, non-executive officers and managers. The change in control agreements provide that if the executive's employment is terminated within the twelve-month period following a change in control of the Company, each executive officer will be entitled to receive a lump sum cash payment equal to their annual base salary and that the Company will pay the Executive's monthly COBRA health continuation premiums for up to twelve months subsequent to the termination date. The change in control agreements signed with certain non-executive officers and managers are on similar terms, but upon an event of termination, provide for one half of annual base salary and payment of monthly Cobra health continuation payment for up to six months.

#### Dividends and Stock Repurchase Plan

In the years ended December 31, 2017 and 2016, no dividends were declared or paid. It is our intention to retain any future profits for use in the development and expansion of our business and for general corporate purposes. Future decisions to pay cash dividends are at the discretion of our Board of Directors.

In August 2011, our Board of Directors approved a stock repurchase plan authorizing us to repurchase our common stock not to exceed \$2.5 million in total value. No shares were repurchased subsequent September 2012. As of December 31, 2017, authorization to repurchase \$2.0 million in value of our common stock remained under this plan.

#### Contractual Obligations

The following chart describes the outstanding contractual obligations of eMagin as of December 31, 2017 (in thousands):

	Payments Due by Period				
	Total	1 Year	2-3 Years	4-5 Years	Thereafter
Operating lease obligations	\$ 6,566	\$ 1,050	\$ 2,052	\$ 2,016	\$ 1,448
Revolving credit facility (a)	4,113	63	4,050	-	-
Equipment purchase obligations	5	5	-	-	-
Purchase obligations (b)	8,848	8,848	-	-	-
Total	\$ 19,532	\$ 9,966	\$ 6,102	\$ 2,016	\$ 1,448

- (a) The company's revolving credit facility matures in 2019 and is classified as a current liability
- (b) The majority of purchase orders outstanding contain no cancellation fees except for minor re-stocking fees or reimbursements due to contract manufacturers for components purchased in anticipation of a scheduled production run that are subsequently cancelled.

#### 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.



Revenues from research and development activities relating to firm fixed-price contracts and cost-type contracts are generally recognized on the proportional performance 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. Any changes in estimate related to contract accounting are accounted for prospectively over the remaining life of the contract

Revenues from sales or licenses of intellectual property is recognized when transferred to the customer, provided the license has stand-alone value and the contract provides the right to use the intellectual property as it exists at the point the license is granted, without further obligations by the Company to update the intellectual property after the license is transferred. If the license does not have standalone value, then the license is combined with other deliverables, such as R&D or manufacturing services into a single unit of account. Revenue from the single unit of account is recognized when earned, typically as the R&D or manufacturing services are performed over the life of the contract.

See “Recently issued accounting standards” in Note 2 of Notes to Consolidated Financial Statements for a discussion of revenue recognition in future periods.

#### 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, fair value of financial instruments, 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, accounts payable are stated at cost which approximates fair value due to the short-term nature of these instruments. The fair value of our ABL credit facility approximates our carrying value because the interest rate moves with a market based rate plus a margin. The fair value of the liability for common stock purchase warrants is estimated using the Black Scholes option pricing model based on the market value of the underlying common stock at the measurement date, the contractual term of the warrant, risk-free interest rates, expected dividends and expected volatility of the price of the underlying common stock.

#### Stock-based Compensation

We maintain several stock equity incentive plans.

The 2008 Incentive Stock Plan (the "2008 Plan") adopted and approved by the Board of Directors on November 5, 2008 provides for grants 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 million shares. In 2016, there were 221,024 options granted from this plan.

The 2011 Incentive Stock Plan adopted and approved by the shareholders on November 3, 2011 provides for grants of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. On June 7, 2012, at our Annual Meeting, the shareholders approved an Amended and Restated 2011 Incentive Stock Plan (the “2011 Plan”). The 2011 Plan has an aggregate of 1.4 million shares. In 2016, there were 458,000 options granted from this plan.

The 2013 Incentive Stock Plan (the “2013 Plan”) adopted and approved by the shareholders on May 17, 2013 provides for grants of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. The 2013 Plan has an aggregate of 1.5 million shares. In 2016, there were 635,097 options granted from this plan.

During 2016, the Company also granted 125,000 options under the 2017 Incentive Stock Plan that was subject to shareholder approval. As approved in May 2017, the plan provides for grants of up to 2,000,000 common stock and options to purchase shares of common stock to employees, officers, directors and consultants.

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

#### Derivative Financial Instruments

We evaluate all of our financial instruments, including issued stock purchase warrants, to determine if such instruments are derivatives or contain features qualifying as embedded derivatives. For derivative financial instruments accounted for as liabilities, the derivative instrument is initially recorded at its fair value and is then re-valued at each reporting date, with changes in the fair value reported in the consolidated statement of operations. We use the Black-Scholes option-pricing model to value the derivative instruments at inception and subsequent valuation dates. The classification of derivative instruments, including whether such instruments should be recorded as liabilities or as equity, is re-assessed at the end of each reporting period. We do not use derivative instruments to hedge exposures to cash flow, market, or foreign currency risks.

#### 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 realized from future taxable income, and to the extent we believe that realization 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 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, with respect to which there is uncertainty as to the timing.

In assessing the realizability 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. At December 31, 2017 and 2016, we have provided a full valuation allowance against its deferred tax assets as we have determined that it is more likely than not that none of the deferred tax assets will be realized.

Our effective income tax rate was 0% in 2017 and 2016.

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act (“TCJA”). This legislation makes broad and complex changes to the U.S. tax code, including, but not limited to, (i) reducing the U.S. federal statutory tax rate from 35% to 21%; (ii) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (iii) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017, and (iv) modifying the officer’s compensation limitation. The Company recognizes the effects of changes in tax law, including the TCJA, in the period the law is enacted. Accordingly, the effects of the TCJA have been recognized in the financial statements for the year ended December 31, 2017.

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 and certificates of deposits. We do not hold derivative financial instruments or equity securities. At December 31, 2017, we had \$3.8 million in borrowings under our revolving line of credit. A hypothetical 10% increase in borrowing interest rates for the year ended December 31, 2017 would not have had a material effect on our consolidated financial position, results of operations, or cash flows in the year ended December 31, 2017.

Foreign currency exchange rate risk

We do not have any material foreign currency exchange rate risk because the majority of our transactions are denominated in US dollars.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The report of the independent registered public accounting firm and financial statements are included in Item 15 of this Annual Report on Form 10-K.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

Our management, with the participation of the principal executive and principal financial officers, have evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a – 15(e) and 15d – 15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as of the end of the period covered by this Annual Report. They have concluded that, based on such evaluation, our disclosure controls and procedures were effective as of December 31, 2017.

(b) Management’s Annual Report on Internal Control Over Financial Reporting

Overview

Internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) refers to the process designed by, or under the supervision of, our principal executive officer and principal financial officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America. Management is responsible for establishing and maintaining adequate internal control over financial reporting for eMagin.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Management has used the framework set forth in the report entitled “Internal Control -- Integrated Framework (2013)” published by the Committee of Sponsoring Organizations (“COSO”) of the Treadway Commission to evaluate the effectiveness of eMagin’s internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

#### Management’s Assessment

As of December 31, 2017, our management has assessed the effectiveness of our internal control over financial reporting and has determined that our internal control over financial reporting was effective.

#### (c) Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during our last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. These conclusions were communicated to the Audit Committee.

#### ITEM 9B. OTHER INFORMATION

None.



PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item will be included in the Company's 2018 Proxy Statement to be filed with the U.S. Securities and Exchange Commission ("SEC") in connection with the solicitation of proxies for the Company's 2018 Annual Meeting of Shareholders ("2018 Proxy Statement") and is incorporated herein by reference. Such Proxy Statement will be filed with the SEC within 120 days after the end of the fiscal year to which this report relates.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item will be included in the Company's 2018 Proxy Statement and is incorporated herein by reference.

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

The information required by this Item will be included in the Company's 2018 Proxy Statement and is incorporated herein by reference.

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

The information required by this Item will be included in the Company's 2018 Proxy Statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item will be included in the Company's 2018 Proxy Statement and is incorporated herein by reference.

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PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements and Schedules

1. Financial Statements

The following consolidated financial statements are filed as part of this report under Item 8 of Part II “Financial Statements and Supplementary Data:

F-2 Consolidated Balance Sheets at December 31, 2017 and 2016.

F-3 Consolidated Statements of Operations for the Years Ended December 31, 2017 and 2016.

F-4 Consolidated Statements of Changes in Shareholders’ Equity for the Years Ended December 31, 2017 and 2016.

F-5 Consolidated Statements of Cash Flows for the Years Ended December 31, 2017 and 2016.

F-6 Notes to the Consolidated Financial Statements

2. Financial Statement Schedules

Financial statement schedules not included herein have been omitted because they are either not required, not applicable, or the information is otherwise included herein.

(b) Exhibits

The exhibits listed in the accompanying Index to Exhibits on pages 45 to 47 are filed or incorporated by reference as part of this Annual Report on Form 10-K.

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SIGNATURES

In accordance with Section 13 or 15(d) of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 29th day of March 2018.

eMAGIN CORPORATION

By: /s/ Andrew G. Sculley  
Andrew G. Sculley  
Chief Executive Officer

In accordance with the Exchange Act, this report has been signed below by the following persons on March 29, 2018, on behalf of the registrant and in the capacities indicated.

Signature	Title
/s/ Andrew G. Sculley Andrew G. Sculley	President and Chief Executive Officer, Director (Principal Executive Officer)
/s/ Jeffrey P. Lucas Jeffrey P. Lucas	Chief Financial Officer (Chief Accounting Officer and Principal Financial Officer)
/s/ Jill J. Wittels Jill J. Wittels	Chair of the Board
/s/ Ellen Richstone Ellen Richstone	Director
/s/ Christopher Brody Christopher Brody	Director
/s/ Paul Cronson Paul Cronson	Director
/s/ Leslie Polgar Leslie Polgar	Director
/s/ Stephen Seay Stephen Seay	Director



eMAGIN CORPORATION

INDEX TO EXHIBITS

Exhibit Number	Description
<u>2.1</u>	<u>Agreement and Plan of Merger between Fashion Dynamics Corp., FED Capital Acquisition Corporation and FED Corporation dated March 13, 2000 (incorporated by reference to exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed on March 17, 2000).</u>
<u>3.1</u>	<u>Amended and Restated Certificate of Incorporation (incorporated by reference to an appendix to the Registrant's Definitive Proxy Statement filed on September 21, 2006).</u>
<u>3.2</u>	<u>Certificate of Amendment of Amended and Restated Certificate of Incorporation (incorporated by reference to an appendix to the Registrant's Definitive Proxy Statement filed on October 26, 2010).</u>
<u>3.3</u>	<u>Bylaws of the Registrant (incorporated by reference to exhibit 99.3 to the Registrant's Definitive Proxy Statement filed on June 14, 2001).</u>
<u>3.4</u>	<u>Certificate of Designations of Series B Convertible Preferred Stock (incorporated by reference to Exhibit 4.2 of the Registrant's current report on Form 8-K filed on December 23, 2008).</u>
<u>4.1</u>	<u>Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's current report on Form 8-K filed on December 23, 2008).</u>
<u>4.2</u>	<u>Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's current report on Form 8-K filed on December 18, 2015).</u>
<u>4.3</u>	<u>Form of Letter Agreement (incorporated by reference to exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on August 24, 2016).</u>
<u>4.4</u>	<u>Form of Common Stock Purchase Warrant (incorporated by reference to exhibit 4.2 of the Registrant's Current Report on Form 8-K filed on August 24, 2016).</u>
<u>10.1</u>	<u>Form of Agreement for Stock Option Grant pursuant to 2000 Stock Option Plan (incorporated by reference to exhibit 99.1 to the Registrant's Registration Statement on Form S-8 filed on March 14, 2000).*</u>
<u>10.2</u>	<u>Nonexclusive Field of Use License Agreement relating to OLED Technology for miniature, high resolution displays between the Eastman Kodak Company and FED Corporation dated March 29, 1999 (incorporated by reference to exhibit 10.6 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2000 filed on March 30, 2001).</u>
<u>10.3</u>	<u>Amendment Number 1 to the Nonexclusive Field of Use License Agreement relating to the LED Technology for miniature, high resolution displays between the Eastman Kodak Company and FED Corporation dated March 16, 2000 (incorporated by reference to exhibit 10.7 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2000 filed on March 30, 2001).</u>

- 10.4 Lease between International Business Machines Corporation (“IBM”) and FED Corporation dated May 28, 1999 (incorporated by reference to exhibit 10.9 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2000 filed on March 30, 2001).
- 10.5 Amendment Number 1 to the Lease between IBM and FED Corporation dated July 9, 1999 (incorporated by reference to exhibits 10.8 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2000 filed on March 30, 2001)
- 10.6 Amendment Number 2 to the Lease between IBM and FED Corporation dated January 29, 2001 (incorporated by reference to exhibit 10.11 to the Registrant’s Annual Report on Form 10-K for the year ended December 31, 2000 filed on March 30, 2001).
- 10.7 Amendment Number 3 to Lease between IBM and FED Corporation dated May 28, 2002 (incorporated by reference to exhibit 10.8 to the Company’s Form S-1/A as filed November 12, 2008).

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- 10.8 Amendment Number 4 to Lease between IBM and FED Corporation dated December 14, 2004 (incorporated by reference to exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on December 20, 2004).
- 10.09 Amended and Restated 2003 Stock Option Plan, filed September 1, 2005, as filed in the Registrant's Definitive Proxy Statement, incorporated herein by reference.\*
- 10.10 2005 Employee Stock Purchase Plan, filed September 1, 2005, as filed in the Registrant's Definitive Proxy Statement, incorporated herein by reference.\*
- 10.11 2004 Amended and Restated Non-Employee Compensation Plan, filed September 21, 2006, as filed in the Registrant's Definitive Proxy Statement incorporated herein by reference.\*
- 10.12 Securities Purchase Agreement, dated December 18, 2008 (incorporated by reference to exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on December 23, 2008).
- 10.13 Registration Rights Agreement, dated December 18, 2008 (incorporated by reference to exhibit 99.2 of the Registrant's Current Report on Form 8-K filed on December 23, 2008).
- 10.14 Exchange Agreement, dated December 18, 2008 (incorporated by reference to exhibit 99.3 of the Registrant's Current Report on Form 8-K filed on December 23, 2008).
- 10.15 Amendment Number 6 to the lease between IBM and eMagin Corporation dated May 27, 2009 (incorporated by reference to exhibit 99.1 to the Registrant's Current Report on Form 8-k filed on June 19, 2009).
- 10.16 Lease between Northup Building LLC and eMagin dated May 28, 2009 (incorporated by reference to exhibit 99.2 to the Registrant's Current Report on Form 8-K filed on June 19, 2009).
- 10.17 Amended and Restated Employment Agreement between the Company and Andrew G. Sculley dated January 1, 2014 (incorporated by reference to exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on January 3, 2014).
- 10.18 Amended and Restated Employment Agreement between the Company and Paul Campbell dated as January 1, 2014 (incorporated by reference to exhibit 99.2 of the Registrant's Form 8-K filed on January 3, 2014).
- 10.19 2011 Incentive Stock Plan (incorporated by reference to exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on November 8, 2011).\*
- 10.20 2013 Incentive Stock Plan, filed April 2, 2013, as filed in the Registrant's Definitive Proxy Statement incorporated herein by reference.\*
- 10.21 Employment Agreement, dated as of April 30, 2013, by and between the Company and Gabriel G. Matus (incorporated by reference to exhibit 99.1 of the Registrant's Form 8-K filed on May 6, 2013).
- 10.22 Amendment Number 7 to the lease between IBM and eMagin Corporation dated May 2, 2014 (incorporated by reference to exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on May 8, 2014).
- 10.23 Amended and Restated Employment Agreement between the Company and Jerome T. Carollo dated as of May 13, 2014 (incorporated by reference to exhibit 10.1 of the Registrant's Form 8-K filed on May 16, 2014).
- 10.24 At the Market Offering Agreement, dated as of September 3, 2015, by and between the Company and Craig-Hallum Capital Group LLC (incorporated by reference to exhibit 10.1 of the Registrant's Current

Report on Form 8-K filed on September 4, 2015).

- 10.25 Lucas Offer Letter, dated as of September 9, 2015, by and between the Company and Jeffrey P. Lucas (incorporated by reference to exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on September 17, 2015).
- 10.26 Separation Agreement and General Release, dated as of September 16, 2015, by and between the Company and Paul C. Campbell (incorporated by reference to exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on September 17, 2015).

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- 10.27 Securities Purchase Agreement, dated as of December 17, 2015 (incorporated by reference to exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on December 18, 2015).
- 10.28 Placement Agency Agreement, dated as of December 17, 2015 (incorporated by reference to exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on December 18, 2015).
- 10.29 8th Lease Amendment between International Global Foundries U.S. 2 LLC and eMagin Corporation, effective as of March 21, 2016 (incorporated by reference to exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on May 9, 2016).
- 10.30 Executive Employment Agreement, dated as of July 1, 2016, by and between the Company and Andrew G. Sculley, Jr. (incorporated by reference to exhibit 99.1 of the Registrant's Current Report on Form 8-K filed on July 7, 2016).
- 10.31 Financing Agreement, dated as of March 24, 2017, by and between the Company and Rosenthal & Rosenthal, Inc. (incorporated by reference to exhibit 10.31 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 filed on March 29, 2017).
- 10.32 Letter Agreement re: Line of Credit, dated as of March 24, 2017, by and between the Company and Stillwater Trust LLC (incorporated by reference to exhibit 10.32 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 filed on March 29, 2017).
- 10.33 Promissory Note, dated as of March 24, 2017, by and between the Company and Stillwater Trust LLC (incorporated by reference to exhibit 10.33 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 filed on March 29, 2017).
- 10.34 Subordination Agreement, dated as of March 24, 2017, by and among the Company, Stillwater Trust LLC and Rosenthal & Rosenthal, Inc. (incorporated by reference to exhibit 10.34 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 filed on March 29, 2017).
- 21.1 Subsidiaries of the Company (filed herewith).
- 23.1 Consent of Independent Registered Public Accounting Firm (filed herewith).
- 31.1 Certification by Chief Executive Officer pursuant to Sarbanes Oxley Section 302 (filed herewith).
- 31.2 Certification by Chief Financial Officer pursuant to Sarbanes Oxley Section 302 (filed herewith).
- 32.1 Certification by Chief Executive Officer pursuant to 18 U.S.C. Section 1350 furnished herewith).
- 32.2 Certification by Chief Financial Officer pursuant to 18 U.S.C. Section 1350 (furnished herewith).
- 101.INS XBRL Instance Document (filed herewith).
- 101.SCH XBRL Taxonomy Extension Schema Document (filed herewith).
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document (filed herewith).
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document (filed herewith).
- 101.LAB XBRL Taxonomy Extension Label Linkbase Document (filed herewith).

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document (filed herewith).

\* Each of the Exhibits noted by an asterisk is a management compensatory plan or arrangement.

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of eMagin Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of eMagin Corporation and its subsidiary (the Company) as of December 31, 2017 and 2016, the related consolidated statements of operations, changes in shareholders' equity and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting 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.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ RSM US LLP

We have served as the Company's auditor since 2011.

Stamford, Connecticut

March 29, 2018

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## eMAGIN CORPORATION

## CONSOLIDATED BALANCE SHEETS

(In thousands, except share and per share data)

	December 31, 2017	December 31, 2016
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 3,526	\$ 5,241
Accounts receivable, net	4,528	2,834
Unbilled accounts receivable	406	1,401
Inventories	8,640	7,435
Prepaid expenses and other current assets	1,328	1,040
Total current assets	18,428	17,951
Equipment, furniture and leasehold improvements, net	8,553	8,980
Intangibles and other assets	326	282
Total assets	\$ 27,307	\$ 27,213
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 1,714	\$ 1,432
Accrued compensation	1,557	1,528
Revolving credit facility, net	3,808	1,689
Common stock warrant liability	784	—
Other accrued expenses	719	1,068
Deferred revenue	765	445
Other current liabilities	469	591
Total current liabilities	9,816	6,753
Commitments and contingencies (Note 12)		
Shareholders' equity:		
Preferred stock, \$.001 par value: authorized 10,000,000 shares:		
Series B Convertible Preferred stock, (liquidation preference of \$5,659) stated value \$1,000 per share, \$.001 par value: 10,000 shares designated and 5,659 issued and outstanding as of December 31, 2017 and December 31, 2016	—	—
Common stock, \$.001 par value: authorized 200,000,000 shares, issued 35,182,589 shares, outstanding 35,020,523 shares as of December 31, 2017 and issued	35	32

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31,788,582 shares, outstanding 31,626,516 shares as of December 31, 2016		
Additional paid-in capital	244,726	239,915
Accumulated deficit	(226,770)	(218,987)
Treasury stock, 162,066 shares as of December 31, 2017 and December 31, 2016	(500)	(500)
Total shareholders' equity	17,491	20,460
Total liabilities and shareholders' equity	\$ 27,307	\$ 27,213

See notes to Consolidated Financial Statements.

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## eMAGIN CORPORATION

## CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except share and per share data)

	Twelve Months Ended December 31,	
	2017	2016
Revenues:		
Product	\$ 18,685	\$ 17,265
Contract	3,346	3,132
License	—	1,000
Total revenues, net	22,031	21,397
Cost of revenues:		
Product	15,195	12,988
Contract	1,712	1,967
License	—	—
Total cost of revenues	16,907	14,955
Gross profit	5,124	6,442
Operating expenses:		
Research and development	5,175	6,362
Selling, general and administrative	8,682	8,411
Total operating expenses	13,857	14,773
Loss from operations	(8,733)	(8,331)
Other income (expense):		
Change in fair value of common stock warrant liability	1,089	—
Interest expense, net	(363)	(30)
Other income, net	12	313
Total other income	738	283
Loss before provision for income taxes	(7,995)	(8,048)
(Provision) benefit for income taxes	212	(1)
Net loss	\$ (7,783)	\$ (8,049)
Loss per share, basic	\$ (0.23)	\$ (0.27)
Loss per share, diluted	\$ (0.23)	\$ (0.27)

Weighted average number of shares outstanding:

Basic	33,661,727	30,172,927
Diluted	33,661,727	30,172,927

See notes to Consolidated Financial Statements.

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## eMAGIN CORPORATION

## CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

(In thousands, except share data)

	Preferred Shares	Preferred Stock	Common Shares	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Treasury Stock	Total Shareholders' Equity
Balance, December 31, 2015	5,659	\$ —	29,550,170	\$ 30	\$ 234,814	\$ (210,938)	\$ (500)	\$ 23,406
Exercise of common stock options	—	—	21,912	—	45	—	—	45
Stock based compensation	—	—	—	—	771	—	—	771
Exercise of Warrants	—	—	2,216,500	2	4,285	—	—	4,287
Net loss	—	—	—	—	—	(8,049)	—	(8,049)
Balance, December 31, 2016	5,659	—	31,788,582	32	239,915	(218,987)	(500)	20,460
Exercise of common stock options	—	—	94,007	—	140	—	—	140
Public offering of common shares, net of offering costs	—	—	3,300,000	3	4,043	—	—	4,046
Stock based compensation	—	—	—	—	628	—	—	628
Net loss	—	—	—	—	—	(7,783)	—	(7,783)
Balance, December 31, 2017	5,659	\$ —	35,182,589	\$ 35	\$ 244,726	\$ (226,770)	\$ (500)	\$ 17,491

See notes to Consolidated Financial Statements.

## eMAGIN CORPORATION

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Twelve Months Ended December 31,	
	2017	2016
Cash flows from operating activities:		
Net loss	\$ (7,783)	\$ (8,049)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	2,070	1,641
Change in fair value of common stock warrant liability	(1,089)	—
Increase in inventory reserve	290	185
Stock-based compensation	628	771
Loss on sale of asset	—	1
Changes in operating assets and liabilities:		
Accounts receivable	(1,694)	674
Unbilled accounts receivable	995	44
Inventories	(1,495)	(3,719)
Prepaid expenses and other current assets	(288)	(551)
Deferred revenues	320	(51)
Accounts payable, accrued expenses, and other current liabilities	(100)	438
Net cash used in operating activities	(8,146)	(8,616)
Cash flows from investing activities:		
Purchase of equipment	(1,355)	(1,437)
Net cash used in investing activities	(1,355)	(1,437)
Cash flows from financing activities:		
Proceeds from warrant exercise, net	—	4,287
Borrowings under revolving line of credit, net	1,885	1,689
Proceeds from public offering, net	5,919	—
Payment of debt issuance costs	(158)	—
Proceeds from exercise of stock options	140	45
Net cash provided by financing activities	7,786	6,021
Net decrease in cash and cash equivalents	(1,715)	(4,032)
Cash and cash equivalents, beginning of year	5,241	9,273
Cash and cash equivalents, end of year	\$ 3,526	\$ 5,241
Cash paid for interest	\$ 146	\$ 29
Cash paid for income taxes	\$ —	\$ 1

See notes to Consolidated Financial Statements.

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eMAGIN CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 – Nature Of Business

eMagin Corporation and its wholly owned subsidiary, Virtual Vision, Inc. (the “Company”), designs, manufactures and supplies OLED-on-silicon microdisplays and virtual imaging products which utilize OLED microdisplays. The Company’s products are sold mainly in North America, Asia, and Europe.

Note 2 – Significant Accounting Policies

Basis of presentation

The accompanying consolidated financial statements include the accounts of eMagin Corporation and its wholly owned subsidiary. All intercompany transactions have been eliminated in consolidation. The Company manages its operations on a consolidated, integrated basis in order to optimize its equipment and facilities and to effectively service its global customer base, and concludes that it operates in a single business segment.

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.

## Revenue and cost recognition

Revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred, selling price is fixed or determinable and collection is reasonably assured. Product revenue consists of sales of our microdisplays pursuant to purchase orders received from customers. Our shipping terms are FOB our factory, and accordingly revenue is recognized when products are shipped to customers.

The Company also earns revenues from certain research and development (“R&D”) activities (contract revenues) under both firm fixed-price contracts and cost-type contracts. Revenues from research and development activities relating to firm fixed-price contracts and cost-type contracts are generally recognized on the proportional performance 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. Any changes in estimate related to contract accounting are accounted for prospectively over the remaining life of the contract.

See “Recently issued accounting standards” below for discussion of revenue recognition in future periods.

## Product warranty

The Company offers a one-year product replacement warranty. In general, the standard policy is to repair or replace the defective products. The Company accrues for estimated returns of defective products at the time revenue is recognized based on historical experience as well as for specific known product issues. The determination of these accruals requires the Company 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.

The following table provides a summary of the activity related to the Company's warranty liability, included in other current liabilities, during the years ended December 31, 2017 and 2016 (in thousands):

	Twelve Months Ended December 31, 2017    2016	
Beginning balance	\$ 584	\$ 599
Warranty accruals	136	375
Warranty claims	(252)	(390)
Ending balance	\$ 468	\$ 584

#### Research and development expenses

Research and development costs are expensed as incurred.

#### Cash and cash equivalents

All highly liquid instruments with an original maturity of three months or less at the date of purchase are considered to be cash equivalents.

#### Accounts receivable

The majority of the Company's commercial accounts receivable are due from Original Equipment Manufacturers ("OEM's"). Credit is extended based on an evaluation of a customer's financial condition and, generally, collateral is not required. Accounts receivable are payable in U.S. dollars, are due within 30-90 days and are stated at amounts due from customers net of an allowance for doubtful accounts. Any account outstanding longer than the contractual payment terms is considered past due.

#### Unbilled accounts receivable



Unbilled receivables principally represent revenues recorded under the percentage-of-completion method of accounting that have not been billed to customers in accordance with the contractual terms of the arrangement. We anticipate that the majority of the balance at December 31, 2017 will be collected during the 2018 fiscal year. As of December 31, 2017 and 2016, unbilled accounts receivable was \$0.4 million and \$1.4 million, respectively.

#### Allowance for doubtful accounts

The allowance for doubtful accounts reflects an estimate of probable losses inherent in the accounts receivable balance. The allowance is determined based on a variety of factors, including the length of time receivables are past due, historical experience, the customer's current ability to pay its obligation, and the condition of the general economy and the industry as a whole. The Company will record a specific reserve for individual accounts when the Company becomes aware of a customer's inability to meet its financial obligations, deterioration in the customer's operating results or financial position, or deterioration in the customer's credit history. If circumstances related to customers change, the Company would further adjust estimates of the recoverability of receivables. Account balances, when determined to be uncollectible, are charged against the allowance.

#### Inventories

Inventories are stated at the lower of cost or market. Cost is determined using the first-in first-out method. Cost includes materials, labor, and manufacturing overhead related to the purchase and production of inventories. The Company regularly reviews inventory quantities on hand, future purchase commitments with the Company's suppliers, and the estimated utility of the inventory. If the Company review indicates a reduction in utility below carrying value, the inventory is reduced to a new cost basis.

#### Equipment, furniture and leasehold improvements

Equipment, furniture and leasehold improvements are stated at cost. Depreciation on equipment is calculated using the straight-line method of depreciation over the estimated useful life ranging from three to 10 years. Amortization of leasehold improvements is calculated by using the straight-line method over the shorter of their estimated useful lives or lease terms. Expenditures for maintenance and repairs are charged to expense as incurred.

The Company performs impairment tests on its long-lived assets when circumstances indicate that their carrying amounts may not be recoverable. If required, recoverability is tested by comparing the estimated future undiscounted cash flows of the asset or asset group to its carrying value. Impairment losses, if any, are recognized based on the excess of the assets' carrying amounts over their estimated fair values.

#### Intangible assets

Included in the Company's intangible assets are patents that are recorded at purchase price as of the date acquired and amortized over the expected useful life which is generally the remaining life of the patent. In 2014, the Company purchased several patents for \$290 thousand which are being amortized over their remaining useful life. As of December 31, 2017 and 2016, intangible assets were \$355 thousand less accumulated amortization of \$220 thousand and \$166 thousand, respectively. As of December 31, 2017, the weighted average remaining useful life of the patents was approximately 5.8 years.

Total intangible amortization expense was approximately \$54 thousand for each of the years ended December 31, 2017 and 2016, respectively. Estimated future amortization expense as of December 31, 2017 is as follows (in thousands):

Fiscal Years Ending December 31,	Total Amortization
2018	\$ 54
2019	32
2020	9
2021	8
2021	8
Later years	24
	\$ 135

#### Advertising

Costs related to advertising and promotion of products are charged to sales and marketing expense as incurred. There was no advertising expense for the years ended December 31, 2017 and 2016.

## Shipping and handling fees

The Company includes costs related to shipping and handling in cost of goods sold.

## Income taxes

The Company accounts for income taxes under an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the Company's financial statements or tax returns. The effect on deferred tax assets and liabilities of changes in tax rates will be recognized as income or expense in the period that the change occurs. A valuation allowance for deferred tax assets is recorded when it is more likely than not that some or all of the benefit from the deferred tax asset will not be realized. Changes in circumstances, assumptions and clarification of uncertain tax regimes may require changes to any valuation allowances associated with the Company's deferred tax assets.

Due to the Company's operating loss carryforwards, all tax years remain open to examination by the major taxing jurisdictions to which the Company is subject. In the event that the Company is assessed interest or penalties at some point in the future, it will be classified in the financial statements as tax expense.

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act ("TCJA"). This legislation makes broad and complex changes to the U.S. tax code, including, but not limited to, (i) reducing the U.S. federal statutory tax rate from 35% to 21%; (ii) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (iii) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017, and (iv) modifying the officer's compensation limitation. The Company recognizes the effects of changes in tax law, including the TCJA, in the period the law is enacted. Accordingly, the effects of the TCJA have been recognized in the financial statements for the year ended December 31, 2017.

For additional details regarding our accounting for income taxes, see Note 8 in the accompanying consolidated financial statements.

## Income (loss) per common share

Basic income (loss) per share (“Basic EPS”) is computed by dividing net income (loss) by the weighted average number of common shares outstanding during the reporting period. Diluted income (loss) per share (“Diluted EPS”) is computed by dividing the net income (loss) by the weighted average number of common shares outstanding during the reporting period while also giving effect to all potentially dilutive common shares that were outstanding during the reporting period.

In accordance with Accounting Standards Codification (“ASC”) 260, entities that have issued securities other than common stock that participate in dividends with the common stock (“participating securities”) are required to apply the two-class method to compute basic EPS. The two-class method is an earnings allocation method under which EPS is calculated for each class of common stock and participating security as if all such earnings had been distributed during the period. On December 22, 2008, the Company issued Convertible Preferred Stock – Series B which participates in dividends with the Company’s common stock and is therefore considered to be a participating security. The participating convertible preferred stock is not required to absorb any net loss. The Company uses the more dilutive method of calculating the diluted earnings per share, either the two class method or “if-converted” method. Under the “if-converted” method, the convertible preferred stock is assumed to have been converted into common shares at the beginning of the period.

For the years ended December 31, 2017 and 2016, the Company reported a net loss and as a result, basic and diluted loss per common share are the same. Therefore, in calculating net loss per share amounts, shares underlying the potentially dilutive common stock equivalents were excluded from the calculation of diluted net income per common share because their effect was anti-dilutive.

The following is a table of the potentially dilutive common stock equivalents for the years ended December 31, 2017 and 2016 that were not included in diluted EPS as their effect would be anti-dilutive:

	Twelve Months Ended December 31,	
	2017	2016
Options	4,768,838	5,010,993
Warrants	5,081,449	3,331,449
Convertible preferred stock	7,545,333	7,545,333
Total potentially dilutive common stock equivalents	17,395,620	15,887,775

## Comprehensive income (loss)

Comprehensive income (loss) refers to net income (loss) and other revenue, expenses, gains and losses that, under generally accepted accounting principles, are recorded as an element of shareholders' equity but are excluded from the calculation of net income (loss).

The Company's operations did not give rise to any material items includable in comprehensive income (loss), which were not already in net income (loss) for the years ended December 31, 2017 and 2016. Accordingly, the Company's comprehensive income (loss) is the same as its net income (loss) for the periods presented.

## Fair Value of Financial Instruments

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. The ABL credit facility is also stated at cost, which approximates fair value because the interest rate is based on a market based rate plus a margin.

We have categorized our assets and liabilities that are valued at fair value on a recurring basis into three-level fair value hierarchy in accordance with GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1) and lowest priority to unobservable inputs (Level 3).

Assets and liabilities recorded in the balance sheets at fair value are categorized based on a hierarchy of inputs as follows:

Level 1 – Unadjusted quoted prices in active markets of identical assets or liabilities.

Level 2 – Quoted prices for similar assets or liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

Level 3 – Unobservable inputs for the asset or liability.



The common stock warrant liability discussed in Note 9 is currently the only financial assets or liability recorded at fair value on a recurring basis, and is considered a Level 3 liability. The fair value of the common stock warrant liability is included in current liabilities on the accompanying financial statements as of December 31, 2017, as the warrants are currently exercisable.

The following table shows the reconciliation of the Level 3 warrant liability measured and recorded at fair value on a recurring basis, using significant unobservable inputs (in thousands):

	Estimated Fair Value
Balance as of January 1, 2017	\$ -
Fair value of warrants at issuance (May 24, 2017)	1,873
Change in fair value of warrant liability, net	(1,089)
Balance as of December 31, 2017	\$ 784

The fair value of the liability for common stock purchase warrants at inception and at December 31, 2017 was estimated using the Black Scholes option pricing model based on the market value of the underlying common stock at the measurement date, the five year contractual term of the warrants, risk-free interest rates ranging from 1.77% to 2.13%; no expected dividends and expected volatility of the price of the underlying common stock ranging from 46.9% to 49.7%.

#### Stock-based compensation

The Company uses the fair value method of accounting for share-based compensation arrangements. The fair values of stock options are estimated 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.

#### Derivative Financial Instruments

We evaluate all of our financial instruments, including issued stock purchase warrants, to determine if such instruments are derivatives or contain features qualifying as embedded derivatives. For derivative financial

instruments accounted for as liabilities, the derivative instrument is initially recorded at its fair value and is then re-valued at each reporting date, with changes in the fair value reported in the consolidated statement of operations. We use the Black-Scholes option-pricing model to value the derivative instruments at inception and subsequent valuation dates. The classification of derivative instruments, including whether such instruments should be recorded as liabilities or as equity, is re-assessed at the end of each reporting period. We do not use derivative instruments to hedge exposures to cash flow, market, or foreign currency risks.

#### Concentration of credit risk

The majority of eMagin's products are sold throughout North America, Asia, and Europe. Sales to the Company's recurring customers are generally made on open account while sales to occasional customers are typically made on a prepaid basis. eMagin performs periodic credit evaluations on its recurring customers and generally does not require collateral. An allowance for doubtful accounts is maintained for credit losses.

Financial instruments which potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents and short-term investments. The Company's cash and cash equivalents are deposited with financial institutions which, at times, may exceed federally insured limits. The Company invests surplus cash in a government money market fund that consists of U.S Government obligations and repurchase agreements collateralized by U.S. Government Obligations, which is not insured. To date, the Company has not experienced any loss associated with this risk.

#### Recently issued accounting standards

In January 2017, the Financial Accounting Standards Board ("FASB") issued guidance that narrows the application of when an integrated set of assets and activities is considered a business and provides a framework to assist entities in evaluating whether both an input and a substantive process are present to be considered a business. It is expected that the new guidance will reduce the number of transactions that would need to be further evaluated and accounted for as a business. The guidance is required to be applied by the Company in the first quarter of 2018, although early adoption is permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In March 2016, the FASB issued guidance which simplifies the accounting for share-based payment transactions including the income tax consequences, classification of awards as either equity or liabilities, financial statement presentation of excess tax benefits or





deficiencies, and classification in the Consolidated Statement of Cash Flows. The guidance is effective for interim and annual reporting periods beginning after December 15, 2016, although early adoption is permitted. The Company elected to early adopt this guidance on a prospective basis as of December 31, 2016. The adoption of the new accounting guidance did not have a material impact on the company's financial statements.

In February 2016, the FASB issued guidance which changes the accounting for leases. The guidance requires lessees to recognize a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term and, a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis for all leases (with the exception of short-term leases). Under the new guidance, leases previously defined as operating leases will be presented on the balance sheet. As a result, these leases will be recorded as an asset and a corresponding liability at the present value of the total lease payments. The asset will be decremented over the life of the lease on a pro-rata basis resulting in lease expense while the liability will be decremented using the interest method (i.e. principal and interest). Although the Company is still evaluating and quantifying the impact, the new guidance will effect the asset and liability balances of the Company's financial statements and related disclosures at the time of adoption. The new guidance is effective January 1, 2019.

In November 2015, the FASB issued guidance which requires deferred tax liabilities and assets be classified as noncurrent in the statement of financial position. This guidance requires entities with a classified balance sheet to present all deferred tax assets and liabilities as non-current. The guidance is effective for annual and interim periods beginning after December 15, 2016 and can be applied prospectively or retrospectively to adjustments with early adoption permitted at the beginning of an interim or annual reporting period. The adoption of the new accounting guidance did not have a material impact on the Company's financial statements.

In July 2015, the FASB issued guidance on the measurement of inventory, which requires that inventory be measured at the lower of cost or net realizable value. The updated standard was adopted prospectively and is effective for annual reporting periods (including interim periods therein) beginning after December 15, 2016 with early adoption permitted. The adoption of the new accounting guidance did not have a material impact on the Company's financial statements.

In August 2014, the FASB issued guidance which defines management's responsibility to assess an entity's ability to continue as a going concern; and to provide related footnote disclosures if there is substantial doubt about its ability to continue as a going concern. The pronouncement was effective for annual reporting periods ending after December 15, 2016 with early adoption permitted.

In May 2014, the FASB issued guidance on the recognition of revenue from contracts with customers, which will require an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The updated standard will replace most existing revenue recognition guidance when it becomes effective. The guidance is effective for fiscal years and interim periods within those years, beginning after December 15, 2017.

The Company analyzed its revenue recognition for sale of products, service revenue and licenses for contracts that started prior to January 1, 2018, continued into 2018, and determined that the adoption of ASU 2014-09 will not have a material impact on revenue recognized through December 31, 2017. The Company has chosen to use the modified retrospective approach for adoption with the cumulative effect of initially applying the guidance recognized at the date of initial application. Further, the Company analyzed its revenue recognition policies under ASC 606 and current revenue recognition policies and determined that the performance obligations, transaction price, allocation of transaction price, recognition of contract costs and timing of revenue recognition will not be materially impacted by adopting ASC 606. Accordingly, there will be no modified retrospective adoption adjustment necessary at the date of initial application. The Company also evaluated whether any contracts had any variable component and warranty component that should be separately identified and determined that there was no variable component to contracts as of January 1, 2018 and that the warranties issued were standard warranties for technical performance with no continuing obligation and are not sold separately. The ASU also required expanded disclosures relating to the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. Additionally, qualitative and quantitative disclosures are required for customer contracts, significant judgments and changes in judgments, and assets recognized from the costs to obtain or fulfill a contract.

### Note 3 – Accounts Receivable, net

Accounts receivable consisted of the following (in thousands):

	December 31, 2017	December 31, 2016
Accounts receivable	\$ 4,643	\$ 2,961
Less allowance for doubtful accounts	(115)	(127)
Accounts receivable, net	\$ 4,528	\$ 2,834

## Note 4 – Inventories, net

The components of inventories were as follows (in thousands):

	December 31, 2017	December 31, 2016
Raw materials	\$ 4,054	\$ 3,619
Work in process	1,352	1,576
Finished goods	5,024	3,740
Total inventories	10,430	8,935
Less inventory reserve	(1,790)	(1,500)
Total inventories, net	\$ 8,640	\$ 7,435

## Note 5 – Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following (in thousands):

	December 31,	
	2017	2016
Vendor prepayments	\$ 755	\$ 601
Other prepaid expenses	573	439
Total prepaid expenses and other current assets	\$ 1,328	\$ 1,040

## Note 6 – Equipment, Furniture and Leasehold Improvements

Equipment, furniture and leasehold improvements consist of the following (in thousands):

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	December 31,	
	2017	2016
Computer hardware and software	\$ 693	\$ 1,471
Lab and factory equipment	15,678	16,369
Furniture, fixtures and office equipment	47	344
Assets under capital leases	66	66
Construction in progress	1,672	1,180
Leasehold improvements	-	473
Total equipment, furniture and leasehold improvements	18,156	19,903
Less: accumulated depreciation	(9,603)	(10,923)
Equipment, furniture and leasehold improvements, net	\$ 8,553	\$ 8,980

Depreciation expense was \$1.8 million and \$1.6 million for the years ended December 31, 2017 and 2016. Assets under capital leases are fully amortized.

Note 7– Debt

	2017	2016
Revolving credit facility	\$ 3,974	\$ 1,852
Less: unamortized debt issuance costs	(166)	(163)
Revolving credit facility, net	\$ 3,808	\$ 1,689

On December 21, 2016, the Company entered into a revolving credit facility with a lender that provides for up to a maximum amount of \$5 million based on a borrowing base equivalent of 85% of eligible accounts receivable plus the lesser of \$2 million or 50% of eligible inventory, (the “ABL facility”). The interest on the ABL facility is equal to the Prime Rate plus 3% but may not be less than 6.5% with a minimum monthly interest payment of \$2 thousand. The Company shall pay the lender a monthly administrative fee of \$1 thousand and an annual facility fee equal to 1% of the maximum amount borrowable under the facility. As of December 31, 2017, the interest rate on outstanding borrowings was 7.5%. The ABL facility will automatically renew on December 31, 2019 for a one-year term unless written notice to terminate the agreement is provided by either party. In conjunction with entering into the financing, the Company incurred \$242 thousand of debt issuance costs including lender and legal costs that will be amortized over the life of the ABL facility. In accordance with recently issued accounting guidance, the revolving credit facility balance is presented net of these unamortized debt issuance costs on the accompanying Consolidated Balance Sheet.

The ABL facility agreement contains certain lenders remedies that upon events of default, give the bank the ability to terminate the facility before the scheduled maturity date. Accordingly, the Company classifies borrowing under the ABL facility as current liabilities on the accompanying balance sheets.

The ABL facility is secured by a lien on all receivables, property and the proceeds thereof, credit insurance policies and other insurance relating to the collateral, books, records and other general intangibles, inventory and equipment, proceeds of the collateral and accounts, instruments, chattel paper, and documents. Collections received on accounts receivable are directly used to pay down the outstanding borrowings on the credit facility.

The ABL facility contains customary representations and warranties, affirmative and negative covenants and events of default. The Company is required to maintain a minimum tangible net worth of \$13 million and a minimum working capital balance of \$4 million at all times. As of December 31, 2017, we had unused borrowing availability of \$1.0 million and were in compliance with all financial debt covenants.

For the years ended December 31, 2017 and 2016, interest expense includes interest paid, or accrued, and amortization or write-off of debt issuance costs of approximately \$363 thousand and \$30 thousand, respectively, on outstanding debt.

On March 24, 2017, the Company entered into an unsecured debt financing arrangement with Stillwater Trust LLC, an investor who, with affiliates, collectively control approximately 46% of the Company’s outstanding common stock. Mr. Christopher Brody, a member of the Company’s board of directors, is also the President and Managing Director of Stillwater Holdings LLC and is the Vice President of Stillwater Trust LLC, which is the Company’s largest stockholder. Under the financing agreement, the Company may borrow, through June 30, 2018, up to \$2 million for general working capital purposes and up to an additional \$3 million should the Company’s lender not provide borrowing availability under its normal terms and conditions through its ABL facility. The agreement expires and borrowings become due upon the earlier of June 30, 2020; the completion of one or a series of equity financings which raise collectively \$5 million or greater of gross proceeds; or an event of default, as defined in the agreement. Amounts borrowed under the financing agreement, once repaid, cannot be reborrowed. In accordance with the terms of the agreement, this arrangement expired on May 24, 2017, upon the completion of an equity offering. Upon termination of this facility, the Company wrote off \$158 thousand of related debt issuance costs, and recorded a charge to interest expense in the second quarter of 2017.

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## Note 8 – Income Taxes

## New Tax Legislation

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act (“TCJA”). This legislation makes broad and complex changes to the U.S. tax code, including, but not limited to, (i) reducing the U.S. federal statutory tax rate from 35% to 21%; (ii) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (iii) modifying the officer’s compensation limitation, and (iv) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017. Specifically, the TCJA limits the amount the Company is able to deduct for net operating loss carryforwards generated in taxable years beginning after December 31, 2017 to 80% of taxable income however these net operating loss carryforwards can be carried forward indefinitely. The Company recognizes the effects of changes in tax law, including the TCJA, in the period the law is enacted. Accordingly, the effects of certain provisions of the TCJA have been recognized in the financial statements for the year ended December 31, 2017. As a result of the change in law, the Company recorded a reduction to its deferred tax assets of \$19.0 million and a corresponding reduction to its valuation allowance due to the reduction in the U.S. federal statutory rate from 35% to 21%. In addition, the Company expects to file a claim for a federal tax refund of approximately \$0.2 million for its AMT credit carryforward in tax years 2018 to 2021 pursuant to the applicable provisions of the TCJA.

The Company’s preliminary estimate of the effects of the TCJA, including the remeasurement of deferred tax assets and liabilities and the recognition of an income tax benefit related to AMT tax credit carryforwards, is subject to the finalization of management’s analysis related to certain matters, such as developing interpretations of the provisions of the TCJA and the filing of the Company’s tax returns. U.S. Treasury regulations, administrative interpretations or court decisions interpreting the TCJA may require further adjustments and changes in our estimates. The final determination of the effects of the TCJA will be completed as additional information becomes available, but no later than one year from the enactment of the TCJA. In all cases, we will continue to make and refine our calculations as additional analysis is completed. In addition, our estimates may also be affected as we gain a more thorough understanding of the tax law.

Net loss before income taxes consists of the following (in thousands):

	For the Years Ended December 31,	
	2017	2016
Domestic, current	\$ (7,995)	\$ (8,048)
Total	\$ (7,995)	\$ (8,048)

The tax effects of significant items comprising the Company’s deferred taxes as of December 31 are as follows (numbers are in thousands):



	For the Years Ended December 31,	
	2017	2016
Deferred tax assets:		
Federal and state net operating loss carryforwards	\$ 28,399	\$ 43,083
Research and development tax credit carryforwards	2,338	2,196
Stock based compensation	3,017	4,438
Other provision and expenses not currently deductible	877	1,335
Total deferred tax assets	34,631	51,052
Deferred tax liabilities:		
Depreciation and amortization	(721)	(1,141)
Prepaid expenses	(94)	(95)
Total deferred liabilities	(815)	(1,236)
Less valuation allowance	(33,816)	(49,816)
Net deferred tax asset	\$ —	\$ —

The Company accounts for income taxes under an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the Company's financial statements or tax returns. The effect on deferred tax assets and liabilities of changes in tax rates will be recognized as income or expense in the period that the change occurs. A valuation allowance for deferred tax assets is recorded when it is more likely than not that some or all of the benefit from the deferred tax asset will not be realized. Changes in circumstances, assumptions and clarification of uncertain tax regimes may require changes to any valuation allowances associated with the Company's deferred tax assets.

As of December 31, 2017, the Company's deferred tax assets were generated primarily from the federal and state net operating loss, stock based compensation and research and development tax credits. In assessing the realizability of deferred tax assets, management determined that it is more likely than not that none of the deferred tax assets will be realized. Therefore, the Company has provided a full valuation allowance against the deferred tax assets at December 31, 2017 and 2016.

As of December 31, 2017 and 2016, the Company had net deferred tax assets before its valuation allowance of approximately \$35 million and \$51 million, respectively.

During the year ended December 31, 2017, the Company did not utilize its prior years' net operating loss carryforwards. As of December 31, 2017, eMagin has federal and state net operating loss carryforwards of approximately \$133.5 million and \$8.3 million, respectively. The federal research and development tax credit carryforwards are approximately \$2.3 million. The federal net operating losses and tax credit carryforwards will expire as follows:

	Net Operating Losses (in thousands)	Research and Development Tax Credits
2018-2020	\$ 44,639	\$ 809
2021-2024	42,814	-
2025-2037	46,054	1,529
	\$ 133,507	\$ 2,338

The utilization of net operating losses is subject to a limitation due to the change of ownership provisions under Section 382 of the Internal Revenue Code and similar state provisions. Such limitation may result in the expiration of the net operating losses before their utilization. The Company has done an analysis regarding prior year ownership changes, and it has been determined that the Section 382 limitation on the utilization of net operating losses will currently not materially affect the Company's ability to utilize its net operating losses.

The difference between the statutory federal income tax rate on the Company's pre-tax loss and the Company's effective income tax rate is summarized as follows:

	For the Years			
	Ended			
	December 31,			
	2017		2016	
U.S. Federal income tax benefit at federal statutory rate	34	%	34	%
Change in valuation allowance as a result of TCJA	(212)		-	
Change in valuation allowance	179		(37)	
Other, net	(1)		3	
Effective tax rate	-	%	-	%

The Company did not have unrecognized tax benefits at December 31, 2017 and 2016. The Company recognizes interest accrued and penalties related to unrecognized tax benefits in tax expense. During the years ended December 31, 2017 and 2016, the Company recognized no interest and penalties.

The Company files income tax returns in the U.S. federal jurisdiction, California, Florida, New York and Massachusetts. Due to the Company's operating losses, all tax years remain open to examination by major taxing jurisdictions to which the Company is subject.

#### Note 9 – Warrant Liability

We account for common stock warrants pursuant to applicable accounting guidance contained in ASC 815 "Derivatives and Hedging - Contracts in Entity's Own Equity" and make a determination as to their treatment as either equity instruments or a warrant liability. In conjunction with a registered equity offering in May 2017, the Company issued warrants that were immediately exercisable, to purchase 1,650,000 shares of common stock at an exercise price of \$2.45 all of which remain outstanding as of December 31, 2017. The warrants have alternative settlement provisions at the option of the holder which provide for physical settlement or if, at the time of settlement there is no effective registration statement, a cashless exercise, as defined in the warrant agreement.

Based on analysis of the underlying warrant agreement, the company came to the understanding that in compliance with applicable securities laws, these registered warrants require the issuance of registered securities upon exercise and do not sufficiently preclude an implied right to net cash settlement. Accordingly, as of May 2017, we classified these warrants on the consolidated balance sheet as a current liability, which is revalued at each subsequent balance sheet date.

The fair value of the liability for common stock purchase warrants is estimated using the Black Scholes option pricing model based on the market value of the underlying common stock at the measurement date, the contractual term of the warrant, risk-free interest rates, expected dividends and expected volatility of the price of the underlying common stock.

We determined that the based on our Black Sholes methodology, the liability for the May 2017 common stock warrants had an initial fair value of \$1.9 million and a fair value as of December 31, 2017, of \$0.8 million. This \$1.1 million change in fair market value during 2017 was reflected as income from change in the fair market value of common stock warrant liability in the consolidated statement of operations.

#### Note 10 – Shareholders’ Equity

##### Preferred Stock - Series B Convertible Preferred Stock (“the Preferred Stock – Series B”)

The Company has designated 10,000 shares of the Company’s preferred stock as Preferred Stock – Series B at a stated value of \$1,000 per share. The Preferred Stock – Series B is convertible into common stock at a conversion price of \$0.75 per share. The holders of the Preferred Stock – Series B are not entitled to receive dividends unless the Company’s Board of Directors declare a dividend for holders of the Company’s common stock and then the dividend shall be equal to the amount that such holder would have been entitled to receive if the holder converted its Preferred Stock – Series B into shares of the Company’s common stock. In the event of a liquidation, dissolution, or winding up of the Company, the Preferred Stock – Series B is entitled to receive liquidation preference before the Common Stock. The Company may at its option redeem the Preferred Stock – Series B by providing the required notice to the holders of the Preferred Stock – Series B and paying an amount equal to \$1,000 multiplied by the number of shares for all of such holder’s shares of outstanding Preferred Stock – Series B to be redeemed.

As of December 31, 2017 and 2016, there were 5,659 shares of Preferred Stock – Series B issued and outstanding.

##### Common Stock

During the year ended December 31, 2017, options to purchase 94,007 shares were exercised for proceeds of \$140 thousand.

#### Underwritten Public Offering

On May 24, 2017, the Company completed an underwritten offering of 3,300,000 shares of its common stock at an offering price of \$2.00 and warrants to purchase up to 1,650,000 shares of common stock and realized net proceeds of \$5.9 million dollars after underwriting discounts and offering expenses. The shares and warrants were purchased by a single institutional investor and by Stillwater, LLC, an affiliate of the Company. The Warrants have an exercise price of \$2.45 per common share and a term of five years.

In August 2011, our Board of Directors approved a stock repurchase plan authorizing us to repurchase our common stock not to exceed \$2.5 million in total value. No shares were repurchased subsequent September 2012. As of December 31, 2017, authorization to repurchase \$2.0 million in value of our common stock remained under this plan.

#### Warrant Transactions

On August 18, 2016, we entered into letter agreements with certain of our warrant holders pursuant to which such warrant holders agreed to exercise warrants to purchase 2,216,500 shares of our common stock, at an exercise price of \$2.05 per share, which they acquired in December 2015.

On August 24, 2016, in consideration for the exercise of the 2,216,500 warrant shares, we issued new common stock purchase warrants (the "New Warrants") to purchase 2,947,949 shares of our common stock which is equal to 133% of the 2,216,500 warrant shares exercised. The New Warrants have an exercise price of \$2.60 per share, and are not exercisable for six months from the date of issuance, and have a term of five and a half years from the issuance date.

We raised approximately \$4.3 million in net proceeds from the transaction, which was used for general corporate purposes.

At December 31, 2017, there were New Warrants outstanding to purchase 2,947,949 shares of Company's common stock at an exercise price of \$2.60, which expire in February 2023. Warrants to purchase 383,500 shares remaining from the December 2015



issuance were outstanding at December 31, 2017 at an exercise price of \$2.05, which expire in June 2021.

In addition, on March 24, 2017 a warrant to purchase 100,000 shares of common stock at an exercise price of \$2.25 per share, was issued in conjunction with an unsecured line of credit as described in Note 7: Line of Credit, all of which remain outstanding as of December 31, 2017.

On May 24, 2017, as described above, the Company issued warrants to purchase up to 1,650,000 shares of common stock at an exercise price of \$2.45 in conjunction with a public offering, all of which remain outstanding as of December 31, 2017. As described above, in Note 9. Warrant Liability, the Company determined that these warrants are subject to liability accounting.

Based on applicable accounting guidance contained in ASC 815 "Derivatives and Hedging - Contracts in Entity's Own Equity", the Company has determined that all of its outstanding warrants qualify as equity instruments, with the exception of the May 2017 Warrants described above.

#### Note 11 – Stock Compensation

##### Employee stock purchase plan

In 2005, the shareholders approved the 2005 Employee Stock Purchase Plan (“ESPP”). The ESPP provides the Company’s 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. At December 31, 2016, the number of shares of common stock available for issuance was 300,000. As of December 31, 2017, the plan had not been implemented.

##### Incentive compensation plans

The Amended and Restated 2003 Employee Stock Option Plan (the “2003 Plan”) provided for grants of shares of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. The 2003 Plan terminated July 2, 2013. No additional options can be granted from the plan though options granted before the 2003 Plan terminated may be exercised until the grant expires.

The 2008 Incentive Stock Plan (the “2008 Plan”) adopted and approved by the Board of Directors on November 5, 2008 provides for grants 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 million shares. In 2017, there were no options granted from the 2008 Plan.

The 2011 Incentive Stock Plan (the “2011 Plan”) was approved by the Company’s shareholders on November 3, 2011. The 2011 Plan provides for grants of common stock and options to purchase common stock to employees, officers, directors and consultants. The Board of Directors reserved 1.4 million shares of common stock for issuance under the 2011 Plan. On June 7, 2012, at the Company’s Annual Meeting, the shareholders approved an Amended and Restated 2011 Incentive Stock Plan which eliminated the evergreen provision and prohibits the repricing or exchange of stock options without shareholder approval. In 2017, there were no options granted from the 2011 Plan.

The 2013 Incentive Stock Plan (the “2013 Plan”) adopted and approved by the shareholders on May 17, 2013 provides for grants of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. The 2013 Plan has an aggregate of 1.5 million shares. In 2017, there were no options granted from this plan.

The 2017 Incentive Stock Plan (the “2017 Plan”) adopted and approved by the shareholders on May 25, 2017 provides for grants of common stock and options to purchase shares of common stock to employees, officers, directors and consultants. The 2017 Plan has an aggregate of 2.0 million shares. In 2017, there were 498,803 options granted from this plan. Vesting terms of the options range from immediate vesting to a ratable vesting period of 5 years. Option activity for the year ended December 31, 2017 is summarized as follows:

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	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (In Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2016	5,055,741	\$ 3.00		
Options granted	498,803	2.25		
Options exercised	(94,007)	1.49		
Options forfeited	(192,281)	2.39		
Options cancelled or expired	(499,418)	2.51		
Outstanding at December 31, 2017	4,768,838	\$ 3.02	3.64	\$ 321,597
Vested or expected to vest at December 31, 2017 (1)	4,756,470	\$ 3.02	3.63	\$ 321,597
Exercisable at December 31, 2017	4,150,476	\$ 3.03	3.41	\$ 321,597

(1) The expected to vest options are the result of applying the pre-vesting forfeiture rate assumptions to total unvested options.

At December 31, 2017, there were 1,614,624 shares available for grant under the 2017, 2013, 2011, and 2008 Plans.

The aggregate intrinsic value in the table above represents the difference between the exercise price of the underlying options and the quoted price of the Company's common stock on December 31, 2017 for the options that were in-the-money. As of December 31, 2017 there were 1,369,286 options that were in-the-money. The Company's closing stock price was \$1.65 as of December 31, 2017. The Company issues new shares of common stock upon exercise of stock options. The intrinsic value of the 2017 options exercised was \$7 thousand.

#### Stock- based compensation

The Company uses the fair value method of accounting for share-based compensation arrangements. The fair value of stock options is estimated 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.

The following table summarizes the allocation of non-cash stock-based compensation to the Company's expense categories for the years ended December 31, 2017 and 2016 (in thousands):

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Twelve  
Months Ended  
December 31,  
2017 2016

Cost of revenues	\$ 24	\$ 25
Research and development	97	164
Selling, general and administrative	507	582
Total stock compensation expense	\$ 628	\$ 771

At December 31, 2017, total unrecognized compensation costs related to stock options was approximately \$[1.0] million, net of estimated forfeitures. Total unrecognized compensation cost will be adjusted for future changes in estimated forfeitures and is expected to be recognized over a weighted average period of approximately 2.7 years.

The following key assumptions were used in the Black-Scholes option pricing model to determine the fair value of stock options granted:

Twelve Months Ended  
December 31,  
2017 2016

Dividend yield	0	%	0	%
Risk free interest rates	0.71-1.65	%	0.84-1.56	%
Expected volatility	45.3 to 59.4	%	51.2 to 63.9	%
Expected term (in years)	3.5 to 5.0		3.5 to 5.0	

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The weighted average fair value per share for options granted in 2017 and 2016 was \$0.86 and \$1.00, respectively.

There were no dividends declared or paid in 2017 or 2016. Though the Company paid a special one-time dividend in 2012, the Company does not expect to pay dividends in the near future; therefore, it used an expected dividend yield of 0%. The risk-free interest rate used in the Black-Scholes option pricing model is based on the implied yield at the time of grant available on U.S. Treasury securities with an equivalent term. Expected volatility is based on the weighted average historical volatility of the Company's common stock for the equivalent term. The expected term of options represents the period that the Company's stock-based awards are expected to be outstanding and was determined based on historical experience and vesting schedules of similar awards.

#### Note 12 – Commitments and Contingencies

##### Operating Leases

The Company leases office facilities and office, lab and factory equipment under operating leases. Certain leases provide for payments of monthly operating expenses. The Company currently has lease commitments for space in Hopewell Junction, New York, and Santa Clara, California.

The Company's corporate headquarters and manufacturing facilities are located in Hopewell Junction, New York. The Company leases approximately 42,000 square feet to house its equipment for OLED microdisplay fabrication, for research and development, and for administrative offices. The lease expires in May 2024. The Company leases approximately 2,000 square feet of office space for design and product development in Santa Clara, California and the lease expires in October 2019.

Rent expense was approximately \$1.0 million and \$1.0 million for each of the years ended December 31, 2017 and 2016. The future minimum lease payments for the years 2018 through 2024 are \$1.0 million annually.

##### Equipment Purchase Commitments

The Company has committed to equipment purchases of approximately \$5 thousand at December 31, 2017.

#### Employee benefit plans

eMagin has a defined contribution plan (the 401(k) Plan) under Section 401(k) of the Internal Revenue Code, which is available to all employees who meet established eligibility requirements. Employee contributions are generally limited to 15% of the employee's compensation. Under the provisions of the 401(k) Plan, eMagin may match a portion of the participating employees' contributions. For the years ended December 31, 2017 and 2016, there was no employer match.

#### Change in Control agreements

On November 8, 2017, the Company entered into change in control agreements with certain of its executive officers, non-executive officers and managers. The change in control agreements provide that if the executive's employment is terminated within the twelve-month period following a change in control of the Company, each executive officer will be entitled to receive a lump sum cash payment equal to their annual base salary and that the Company will pay the Executive's monthly COBRA health continuation premiums for up to twelve months subsequent to the termination date. The change in control agreements signed with certain non-executive officers and managers are on similar terms, but upon an event of termination, provide for one-half of annual base salary and payment of monthly Cobra health continuation payment for up to six months.

#### Litigation

From time to time, the Company is subject to various legal proceedings and claims that arise in the ordinary course of business. The Company accrues for losses related to litigation when a potential loss is probable and the loss can be reasonably estimated. Significant judgment is required to determine the probability that a liability has been incurred and whether such liability is reasonably estimable. All estimates are based on the best information available at the time which can be highly subjective.

During 2015, the Company received a letter from an attorney representing a former employee claiming damages for age discrimination and wrongful termination. In September 2016, this former employee commenced action against the Company in Superior Court for the State of Washington. In February 2017, the former employee's counsel sent a discovery request to the Company. In December 2017, the parties reached a settlement, upon signature of a related agreement, the expiration of a revocation period and payment of an amount not material to the Company.



## Note 13 – Concentrations

The following is a schedule of revenue by geographic location (in thousands):

	Twelve Months Ended	
	December 31,	
	2017	2016
North and South America	\$ 11,834	\$ 12,664
Europe, Middle East, and Africa	7,299	7,293
Asia Pacific	2,898	1,440
Total	\$ 22,031	\$ 21,397

	Twelve Months	
	Ended	
	December 31,	
	2017	2016
Domestic	54 %	58 %
International	46 %	42 %

The Company purchases principally all of its silicon wafers from two suppliers located in Taiwan and Korea, respectively.

In 2017, there was one customer that accounted for 11% of total revenues and 4% of accounts receivable as of December 31, 2017. In 2016, there was one customer that accounted for 11% of total revenues and 4% of accounts receivable as of December 31, 2016.

At December 31, 2017 and 2016, there were ten customers who comprised 63% and 65%, respectively, of accounts receivable. At December 31, 2017, the Company had two customers that accounted for 12% and 9% of accounts receivable and, at December 31, 2016, the Company had two customers that accounted for 17% and 12% of accounts receivable

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## Note 14 – Quarterly Financial Information (Unaudited)

Summarized quarterly financial information for 2017 and 2016 are as follows (in thousands except share data):

	Quarters Ended			
	March 31, 2017	June 30, 2017 (1)	September 30, 2017 (1)	December 31, 2017
Revenues	\$ 6,069	\$ 5,260	\$ 4,280	\$ 6,422
Gross profit	\$ 1,818	\$ 1,249	\$ 278	\$ 1,779
Net loss before income tax	\$ (1,999)	\$ (2,322)	\$ (2,587)	\$ (1,087)
Net loss	\$ (1,999)	\$ (2,322)	\$ (2,587)	\$ (875)
Net loss per share - basic	\$ (0.06)	\$ (0.08)	\$ (0.09)	\$ (0.03)
Net loss per share - diluted	\$ (0.06)	\$ (0.08)	\$ (0.09)	\$ (0.03)
Weighted average number of shares outstanding - basic	31,628,997	33,019,478	34,972,589	34,989,530
Weighted average number of shares outstanding - diluted	31,628,997	33,019,478	34,972,589	34,989,530

	Quarters Ended			
	March 31, 2016	June 30, 2016	September 30, 2016	December 31, 2016
Revenues	\$ 7,001	\$ 5,533	\$ 4,305	\$ 4,558
Gross profit	\$ 3,335	\$ 1,335	\$ 1,282	\$ 490
Net (loss) income before income tax	\$ 14	\$ (2,164)	\$ (2,430)	\$ (3,468)
Net (loss) income	\$ 14	\$ (2,164)	\$ (2,431)	\$ (3,468)
Net loss per share - basic	\$ -	\$ (0.07)	\$ (0.08)	\$ (0.11)
Net loss per share - diluted	\$ -	\$ (0.07)	\$ (0.08)	\$ (0.11)
Weighted average number of shares outstanding - basic	29,388,104	29,388,104	30,292,166	31,623,334
Weighted average number of shares outstanding - diluted	29,637,804	29,388,104	30,292,166	31,623,334

(1) During preparation of its 2017 audited financial statements, the Company determined that common stock purchase warrants issued in May 2017, which were originally classified as equity instruments, should have been accounted for as a liability with subsequent changes in fair value reflected in the consolidated statement of operations. The unaudited results for the quarters ended June 30, and September 30, 2017 presented above, reflect an expense of \$51 thousand and income of \$405 thousand, respectively, related to changes in the fair value of this liability. Accordingly, the second and third quarter 2017 results presented above differ from the unaudited results originally filed for these periods.

## Note 15 – Subsequent Events



On January 25, 2018 we entered into an underwriting agreement to issue and sell 9,807,105 shares of Company Common Stock, together with warrants to purchase 3,922,842 shares of Common Stock with an initial exercise price of \$1.55 per share (at a public offering price of \$1.35 per fixed combination consisting of one share of Common Stock and associated warrant to purchase four tenths of one share of Common Stock). These share and warrant amounts include the exercise of an overallotment option by the underwriter to purchase 1,279,187 additional shares of Common Stock and additional warrants to purchase 511,674 shares of Common Stock. The Common Stock and Warrants were registered on a Form S-1. The offering closed on January 29, 2018 and the Company received net proceeds after underwriting discounts and expenses of \$11.9 million.

In a concurrent private placement, certain of our directors and officers purchased an aggregate of 203,708 shares of Common Stock, together with warrants to purchase up to 81,487 shares of Common Stock at the public offering price per fixed combination. The sale of these shares of common stock and warrants was not registered under the Securities Act and is subject to a 180-day lock-up. The private placement closed on February 15, 2018, and the Company received net proceeds of \$0.3 million