

Vuzix Corp  
Form 10-K  
March 30, 2016

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

**FORM 10-K**

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

**For the fiscal year ended December 31, 2015**

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

**Commission file number: 001-35955**

**Vuzix Corporation**

*(Exact name of registrant as specified in its charter)*

**Delaware**

*(State of incorporation)*

**25 Hendrix Road, Suite A**

**West Henrietta, New York**

*(Address of principal executive office)*

**04-3392453**

*(I.R.S. employer identification no.)*

**14586**

*(Zip code)*

**(585) 359-5900**

*(Registrant's telephone number including area code)*

**Securities registered pursuant to Section 12(b) of the Act:** common stock, par value \$0.001 per share

**Securities registered pursuant to Section 12(g) of the Act:**

warrants to purchase common stock

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting

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company” in Rule 12b-2 of the Exchange Act. (Check one):

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

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

The aggregate market value of the voting and non-voting common equity of the registrant held by non-affiliates as of June 30, 2015 was approximately \$74,461,000 (based on the closing price of the common stock of \$5.99 per share on that date, as reported on the NASDAQ Capital Market and, for purposes of this computation only, the assumption that all of the registrant’s directors and executive officers are affiliates and that beneficial holders of 10% or more of the outstanding common stock are affiliates).

As of March 30, 2016, there were 16,097,951 shares of the registrant’s common stock outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Part III of this Form 10-K incorporates by reference portions of the registrant’s proxy statement for its 2016 annual meeting of stockholders.

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## FORWARD-LOOKING STATEMENTS

This annual report includes forward-looking statements. These statements are based on our management's beliefs and assumptions and on information currently available to our management. The forward-looking statements are contained principally under the headings "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business." Forward-looking statements include statements concerning:

- our possible or assumed future results of operations;
- our business strategies;
- our ability to attract and retain customers;
- our ability to sell additional products and services to customers;
- our cash needs and financing plans;
- our competitive position;
- our industry environment;
- our potential growth opportunities;
- expected technological advances by us or by third parties and our ability to leverage them;
- the effects of future regulation; and
- the effects of competition.

All statements in this annual report that are not historical facts are forward-looking statements. We may, in some cases, use terms such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "projects," "should," "will," "would" or similar expressions that convey uncertainty of future events or outcomes to identify forward-looking statements.

Forward-looking statements are made based on management's beliefs, estimates and opinions on the date the statements are made and we undertake no obligation to update forward-looking statements if these beliefs, estimates and opinions or other circumstances should change, except as may be required by applicable law. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by applicable law, including the securities laws of the United States, we do not intend to update any of the forward-looking statements to conform these statements to actual results.

## PART I

### Item 1. *Business*

## **Company Overview**

We are engaged in the design, manufacture, marketing and sale of wearable display and smart glasses devices known commercially as Video Eyewear (also referred to as head mounted displays (or HMDs), Smart Glasses, wearable displays, video glasses, personal viewers, near-eye virtual displays, and near-eye displays or NEDs). These devices are worn like eyeglasses and feature built-in video screens and in some cases a computer, that enable the user to view and interact with video and digital content, such as movies, computer data, the Internet or video games. Our Video Eyewear products provide virtual large high-resolution screens, fit in a user's pocket or purse and can be viewed practically anywhere, anytime. They can also be used for virtual and augmented reality applications, in which the wearer is either immersed in a computer generated world or has their real world view augmented with computer generated information or graphics as is typical in enterprise applications. In early 2014, we started selling Smart Glasses, a new category of Video Eyewear that is currently aimed at enterprise customers. Our Smart Glasses include a wearable computer and has much of the capabilities of a smartphone including wireless internet access, GPS, Android OS and more, and are literally worn like a pair of glasses. We produce both monocular and binocular Video Eyewear devices. Video Eyewear are designed to work with mobile electronic devices, such as cell phones, laptop computers, tablets, portable media players and gaming systems.

Historically, we have focused on three markets: the consumer markets for gaming, entertainment and mobile video, smart glass products for enterprise, and rugged mobile displays for defense markets. In June 2012, we sold the assets that sold products and provided services, directly and indirectly, to military organizations and defense organizations. Accordingly, we now focus primarily on the consumer entertainment and enterprise markets.

Users of mobile devices, like tablets and smartphones, sometimes use such devices to replace their personal computer or console game systems. We believe the displays currently used in these mobile devices do not always work ideally for this purpose because they are either too small, which makes it difficult to view the detail of the images that they display, or too large, making them heavy and difficult to carry. In contrast, our Video Eyewear products enable users of many mobile devices to effectively view the entire screen on a small, eyeglass-like device. Our Smart Glasses, although designed to work as a peripheral to the smartphone, have many of the same capabilities of the smartphone itself, allowing them to be used as a hands free wearable computer. Our products can be used as a wearable substitute for large-screen televisions or desktop computer monitors and with the Smart Glasses, allow users to utilize many smartphone applications while keeping their smartphones in a pocket or purse.

Our Video Eyewear products employ microdisplays that are smaller than one-inch diagonally, with some as small as one-quarter of an inch. They currently can display an image with a resolution of up to 1280x720 pixels (High Definition or HD). Users view the display through our proprietary optics and projection engines. Using these optics and displays, our Video Eyewear provides a virtual image that appears similar to the image ranging from laptop PC at normal working distances up to wall sized home theatre screens. For example, when viewed through our optics, a high-resolution 0.24-inch diagonal microdisplay can provide a viewing experience comparable to that on a 125-inch diagonal television screen viewed at ten feet.

We believe one of the most promising future uses of wearable displays are Smart Glasses and Augmented Reality (AR) glasses where virtual 3D computer-generated objects and information is superimposed to enhance their real world views. This see-through capability is accomplished using a see-through optic, such as our waveguide optics.

In the past, see-through HMDs displayed the real world using semi-transparent mirrors placed in front of the user's eyes. These HMDs were large and bulky and so they had little mass market appeal. We have developed thin optics, called waveguides that enable miniature display engines to be mounted in the temples of the HMD, which allows the form factor of the Smart Glasses to be comparable to conventional eyeglasses.

We believe that with a hands free wearable computer like our M100 Smart Glasses that can support AR applications, you have the capability to merge virtual information with the real world. With this capability we have the potential to penetrate many new markets in the consumer and enterprise markets. An example of AR is the yellow "first down" line seen in television broadcasts of American football games, in which the line the offensive team must cross to receive a first down is superimposed on the field itself. The real-world elements are the football field and players; the virtual

element is the yellow line. We believe see-through Video Eyewear will enable this kind of experience on smartphones or on Smart Glasses running their own native AR applications, virtually anywhere and anytime. Our Smart Glasses product line runs these kinds of applications natively as they have much of the capabilities of a smartphone built into them; including running full operating systems like Google, Inc.'s Android.

### **Overall Strategy**

Our goal is to establish and maintain a leadership position as a worldwide supplier of Video Eyewear and Smart Glasses solutions. We intend to offer our technologies across major markets, platforms and applications. We will strive to be an innovator in designing near-eye wearable display devices that can enable new mobile video viewing, general entertainment and VR and AR applications.



To maintain and enhance our position as a leading provider of Video Eyewear and Smart Glasses solutions, we intend to:

- improve brand name recognition;
- provide excellent products and service;
- develop products based on our unique technology for both specialized and large enterprise and consumer markets;
- broaden and develop strategic relationships and partnerships;
  - offer to sell our products or license our technology to third party companies that would incorporate and sell them as a new product with their own brand name (OEM partners);
- promote and enhance development of third party software that can take advantage of our products;
  - reduce production and overhead costs by further outsourcing while moving to higher margin product offerings;
- extend our proprietary technology leadership;
- enhance and protect our intellectual property portfolio;
- establish multiple revenue sources;
- invest in highly qualified personnel; and
- build and maintain strong product design capabilities.

## **The Market**

Current mobile display technology is almost universally based on direct view screens. These displays for mobility purposes are designed to be small and make portability easy. At the same time these displays must be held by the user and depending on their size, it can be difficult for these displays to produce human readable high resolution content without magnification, which reduces screen resolution, or being held at a reasonably close reading distance. Our products are aimed at solving these problems by creating hands-free large screens that are interactive and fit in tiny packages (eyeglasses).

The wireless and entertainment industry has evolved considerably, and continues to do so. The mobile phone, once simply a means to communicate by voice while “on-the-go,” has evolved into a ubiquitous, location-aware, smart mobile computing device. Mobile products such as smartphones and tablet computers have become the leading computing platforms with an installed base surpassing that of PCs. Mobile technology is redefining the way people interact with their world and has become an essential lifestyle management and entertainment tool personalized to users’ unique needs. We believe that interactive AR content will significantly change the way mobile products are used. We believe wearable near-eye displays that can provide the equivalent of a high resolution wired internet experience at home or office will be a key component in advanced wearable wireless devices as these systems provide high resolution images without compromising the portability of the product or requiring the users of the product to hold it in their hands.

Our business focuses on the mobile consumer entertainment and gaming markets and the mobile commercial, enterprise and industrial markets. The demand for wearable displays in these markets is being driven by such factors as:

- Increasing demand for Internet access “anywhere, anytime”.

An increasing number of hands-free enterprise, commercial and medical applications for which our products are well suited and when wearable display products are employed for these use cases a significant ROI is typically achieved.

Video gaming around the world continues to grow even as more users migrate a greater portion of their game time to mobile devices. We believe that our high resolution Virtual Display technologies can significantly increase user satisfaction with gaming applications by engaging the user with a large high resolution mobile screen that also enables stereoscopic imagery and interactive head tracking. Our Virtual Reality and Augmented Reality Video Eyewear products provide this capability.

We believe the growing use of augmented reality applications on smartphones will drive the need for a wearable display solution to replace the need to hold up the smartphones to use the application.

The continued expansion of 3D and 360<sup>0</sup> virtual video content ranging from Hollywood movies, to games, and to immersive virtual experiences is creating a need for methods to play and interact with this content. We believe that Video Eyewear, with its dual display design and built in tracking sensors, is well suited for the playback of 3D and 360<sup>0</sup> virtual video content and avoids many of the drawbacks such as flicker, image cross talk and color separation, commonly encountered by shutter or color anaglyph glasses.

## **Target Markets**

Our target markets and applications by major sector are:

### ***Enterprise***

Our Smart Glasses products are currently focused on the enterprise, industrial and medical markets. These Smart Glasses products run native Android applications within the glasses that allow them to stream video in real-time which is very useful for many applications. Within the short period of time we have been selling M100s they are being used for many applications including remote camera viewfinder displays and wearable computer displays, viewing of wireless sensor data, providing hands-free access to manuals and other information and for on-site, in-the-field maintenance, warehouse pick and place, servicing, training and education.

### ***Consumer***

*Media and Entertainment.* We believe that there is an increasing demand for convenient, high-resolution, interactive 3D displays to enjoy content such as VR 360 videos, movies, entertainment and the Internet in mobile environments and as a secondary display in the home.

*Gaming.* We believe that there is a need for high-resolution, interactive, stereoscopic 3D display devices for use with desktop computers, consoles, tablets and other gaming products. We believe that gaming on mobile devices that have graphics and processing capabilities closely equivalent to laptop computers and consoles but with small, direct view screens is not a satisfactory experience for many consumers. Our Video Eyewear products are designed to significantly enhance a consumer's experience by providing larger-appearing, high-resolution images with stereoscopic 3D capabilities. We anticipate that VR and AR will become increasingly popular entertainment applications. Both VR and AR are difficult to implement using traditional desktop computer monitors and televisions but can be successfully implemented with Video Eyewear. Our technologies and products enable a user to use those applications.

*Augmented Reality for all Markets*

We offer smart wearable display products that enable development and deployment of AR applications. AR Smart Glasses enable its wearer to see computer-generated information, graphics or images projected into the real world environment or upon an object that the user is observing. Thus, whether in the warehouse, on the factory floor, or in-the-field, users may access a manual, tutorial, or image that will assist them in completing a task or locating an item, while also viewing their current surroundings and nearby objects.

We anticipate AR applications will include the following areas:

- Field service, warehousing, and maintenance;
- Task support for industrial, manufacturing and medical applications;
  - Advanced navigation both for the enterprise and consumer markets;
- Social networking;
- Location and scene based entertainment and education applications;
- Mobile commerce and visual search applications; and
- Real time language translation.

Additional possible applications of AR-enabled Smart Glasses include hands free alerts, messaging, location and context sensitive information and social interaction.

## **Products**

We now produce and sell two main types of wearable display products: Video Eyewear (for on-the-go users as mobile displays for entertainment, gaming and VR for stepping into virtual worlds, simulations & gaming); and Smart Glasses with Augmented Reality (AR) (for overlaying virtual information from the cloud onto the real world). Our products are available with varying features, including with and without computers, and are offered as either monocular or binocular display systems. Our Smart Glasses have many of the capabilities of a smartphone such as cameras and computer processors that can allow applications to be run directly in the Smart Glasses, enabling cloud connected applications through a wireless link directly with the glasses. We believe we provide one of the broadest range of Video Eyewear and Smart Glass product offerings available in the market and that our products contain some of the most advanced electronics and optics for their target markets and uses. Our products include:

### ***Binocular Video Eyewear Products***

We have won Consumer Electronics Show (CES) awards for innovation for the past 11 consecutive years (2005 to 2016) for our series of Binocular Video Eyewear. Our binocular Video Eyewear products have included several models with differing native resolutions and virtual screen sizes. Our binocular Video Eyewear products contain two microdisplays (a separate display for each eye), typically mounted in a frame attached to eyeglass-style temples or stereo headphones. These products enable mobile and hands-free private viewing of video content on screens that simulate home theater-sized screens, all of which support 3D video applications. These products can be employed as mobile high-resolution displays with products such as smartphones with video output capability, laptop computers, tablet computers, portable DVD/Blu-Ray players, and personal digital media/video players (such as video iPods).

The Wrap series of binocular Video Eyewear, introduced in the fall of 2009, was the fourth generation of Video Eyewear products that we have produced since 2005. It was discontinued in early 2015 due to its lower resolution capabilities in anticipation of our new higher resolution models.

At recent CES shows we introduced a new binocular Video Eyewear concept, “video headphones” that have won awards in the last two years in the wearable technology categories. Video headphones are effectively noise isolating audio headphones with an HD video visor that slides down in front of the user’s eyes to create a wearable home theater experience. These first video headphones model, iWear are for the mobile video and VR gaming markets. This model will include 720p HD displays, HDMI 1.4a 3D video support. The iWear Video Headphones commenced shipping in

December 2015.

At CES 2016 we presented a new line of Video Eyewear called the VidWear® B3000 which allows for full see-through capabilities in fashion glasses. Several models of this technology will ultimately be available, including the VidWear B3000 HDMI based video viewer, the VidWear B3000 wireless smart glasses, which allow users to experience cloud connected information and entertainment everywhere they go and the powerful AR3000 Augmented Reality glasses. Both the B3000 and AR3000 are expected to be released in the first half of 2017. We expect this advanced line of products will utilize extremely thin and light weight optics employed in fashion wear eyeglass frames.

### *Monocular Video Eyewear Products*

From 2003 to 2009, we sold a line of monocular (single eye) Video Eyewear Products called the M920, which were discontinued in 2009 and replaced with a monocular high-resolution Video Eyewear model called Tac-Eye. This product is ruggedized and designed to clip onto a pair of ballistic sunglasses, helmets or conventional safety goggles. The Tac-Eye product line was sold as part of the sale of our defense division in June 2012.

Monocular products, due to their single eye display are best used for “information snacking”. Other monocular eyewear issues can include possible visual rivalry problems for eye dominance and focus for the user wearing them. Typically monocular products have smaller fields of view that result in less information display capability and no stereoscopic 3D or depth information. Binocular Video Eyewear products overcome these issues and are the best choice in many applications. For the industrial research sector in the fourth quarter of 2013 we began selling our first waveguide based HMD that is fully enabled for AR use. The M2000AR has tracking sensors, hi-resolution camera, HDMI interface, and see through waveguide based optics that can be mounted to hardhats or goggles.

In early 2014 we began selling our first monocular pair of Smart Glasses, the M100. Designed for the enterprise, industrial and commercial markets, our focus has been on the developer community and customers in the enterprise and medical markets. We have been attempting to create an eco-system around the M100 developer community. Major corporate partners like SAP, AT&T, NTT Docomo, HP, DHL and others have been particularly active. We also created an M100 app store with a growing list of applications and tools to enable application development. Future versions will include increased resolutions, more powerful computers and our thin waveguide see-through optics.

Two new models of our monocular Smart Glasses products were introduced and prototype models shown at the January 2016 CES. The M300 and the M3000 Monocular Waveguide Smart Glasses. The M300 is an updated design with enhanced functionality and wearability to follow on the popular Vuzix M100. The new Vuzix M300 is not a departure from the M100 product, but rather a next generation model with significantly improved ergonomics and technical features, such as hot swappable batteries, Intel Atom processor running Android 6.0, and much more, all in a ruggedized form designed specifically for enterprise and industrial use. The second model, the M3000 was honored at CES 2016 for its innovative design and engineering, and is our next-generation waveguide based wearable eyewear for the enterprise sector. The M3000 features improved display resolution and employs our advanced waveguide optics that allow see through operation for more advanced augmented reality applications. Both of these smart glasses can connect to the cloud to deliver digital content directly to and from the job site and connecting it “overlaid” onto the real world.

### ***Virtual Reality Products***

Virtual Reality (VR) Video Eyewear products provide a user with 3D computer simulated environments that can simulate the real or an imaginary world. By definition, VR Products are binocular so they can provide an immersive 3D world view for the user. Our prior VR product, the Wrap 1200DX VR, was the fourth generation of our VR Video Eyewear. These Virtual Reality products contain “three degrees of freedom” head tracking technology, which enables the user to look around the environment being viewed by moving his or her head. Today VR is primarily used for game playing, interactive 360 videos, training and simulations.

In December 2015, we began shipments of the Vuzix iWear Video Headphones which includes support for VR applications. It was the winner of four CES 2015 awards. The iWear features dual HD Displays and revolutionary nano-optics that provide the equivalent experience of a 125" home television from 10 feet and allow the wearer to play games, interact with apps, watch 2D, 3D and 360°VR movies and even fly drones. iWear is completely portable and battery-driven so that the user can enjoy it at home or on-the-go and it delivers a one-of-a-kind experience.

At CES 2016, a wireless version of the iWear Video Headphones was demonstrated. The product was awarded as the Winner of the "Best of" in Gaming and Virtual Reality. The iWear Wireless requires no cable, runs Android 5.0 and is compatible with thousands of applications and was viewed as the ultimate in wearable video entertainment and gaming system at the CES show.

### ***Augmented Reality Products***

Augmented Reality Products provide a user a live, direct or indirect, view of a physical, real-world environment whose elements are augmented by computer generated sensory input such as sound, video, graphics or GPS data. It is designed to plug into a computer's USB and HDMI video port. It also contains head tracking technology, which enables the user to look around the environment being viewed by moving his or her head which in turn sends that information back to the computer which then adjusts the computer generated AR image accordingly. Our prior AR products included the Wrap 1200DX-AR and STAR 1200DX, both of which were phased out in the second quarter of 2015.



The STAR 1200DX is our second AR Video Eyewear product with see-through technology that enables the user to see the real world directly through and around its transparent WVGA widescreen video displays. With the built in sensors and a high performance HD camera, computer content, such as text, images and video can be overlaid and connected to the real world with the see through displays in full color 2D or 3D. This product was primarily used by individual researchers and AR software developers. A new replacement see-through AR product should be available in late 2016 that will incorporate our see-through waveguide optics and a built-in computer that will eliminate the need for an external computing device to create the virtual AR objects.

Our M100 Smart Glasses, are an intelligent wearable computing systems specifically designed to enable computing and augmented reality cloud connected information to the real world. We received an Innovations Design and Engineering Award for the M100 Smart Glasses at the January 2014 Consumer Electronics Show. The M100 is a wearable “hands free display” designed for the enterprise markets. The M100 Smart Glasses include a small display, camera, compass, motion-tracker, GPS and audio system for wirelessly connecting via Bluetooth or Wi-Fi. The embedded camera in the Smart Glasses are used for recording and/or seeing the real world. Additionally the camera enables a variety of AR applications. Input and control of the M100 consists of using the wirelessly connected smartphone, gesture sensor, and speech recognition voice control or gesture sensor. Finally, as the M100 runs the standard Android OS, Ice Cream Sandwich version, it is compatible with thousands of existing titles “out of the box” and it allows for fast and easy third party applications to be developed, sold and downloaded to run directly in the M100 Smart Glasses. We are building an eco-system of developers around these smart glasses and anticipate that most of the software being developed can be used on future generations of our smart glasses.

At the January 2016 Consumer Electronics trade show, we also won an innovation award for the prototype of our B3000 series of binocular Smart Glasses technology. This new technology, based on our proprietary see-through waveguide optics and HD display technology, is designed to fit into the frames of designer-styled glasses. We intend to introduce binocular Smart Glasses within the next 12 months using this technology. These new smart glasses will allow users to see and augment the real world as if looking through a conventional pair of fashionable eyeglasses. Again, because this product will run the Android operating system and is built upon the eco-system we are building for the M100, a significant base of applications should already exist for them when we launch and newly developed applications will be easily enabled using these advanced AR functions.

Cloud or internet-connected Smart Glasses applications are being created for manufacturing, medical, field maintenance and repair, training, gaming and social media uses for both our monocular and binocular smart glasses product lines.

### ***Custom Solutions and Engineering Solutions***

We have in the past provided full optics systems, including head mounted displays, human computer interface devices, near-eye display related engineering services and wearable computers to commercial, industrial and defense customers. As a result of the sale our defense division in June 2012, we no longer pursue general engineering services work with defense or security organizations. In early 2015, we completed our last U.S. Navy Research labs waveguide engineering contract and have no active programs with the U.S. Department of Defense.

## **Technology**

We believe that it is important to make substantial investments in research and development to maintain our competitive advantage. The development and procurement of intellectual property rights relating to our technologies is a key aspect of our business strategy. We believe that it is now technologically feasible to improve upon the weight, ergonomics, optical performance, see-through capabilities, luminance, power efficiency, compactness, field of view and resolution of the current generation of virtual displays and display components. “Early technology adopters” have been the majority of the purchasers of our consumer Video Eyewear products to date. However, our near-to-eye virtual display technology has been gradually improving in performance and we believe will soon meet the high expectations of both the enterprise and the consumer mass markets with respect to screen resolution, computer power, image size and ergonomics. We expect to continue to improve our products through our ongoing research and development and advancements made by our third party suppliers of key components.

We also develop intellectual property through our ongoing performance under engineering service contracts. We intend to continue to pursue select development contracts for applications that enhance our waveguide optics and other display technology. Our policy is to retain our proprietary rights with respect to the principal commercial applications of our technology under any engineering services work we perform, whenever possible.

During 2015 and 2014, we spent \$3,595,437 and \$1,752,560, respectively, on research and development activities. We expect to increase our research and development expenditures in the future as our revenues grow. We have also acquired and licensed technologies developed by third parties and we may do so in the future.

We believe that the range of our proprietary technologies gives us a significant competitive advantage. Our technologies relate to advanced optics systems including passive and active see-through imaging waveguides; micro-projection display engines; high resolution scanning displays; motion tracking systems; and specialized software drivers and applications for video eyewear displays. We also have a portfolio of trade secrets and expertise in nano-imprinting using quartz mold substrates, Nano structure UV (ultra violet) embossing, and engineering tool sets for the design and manufacturing of diffractive waveguide optics.

We believe that display engines are also important for commercializing wearable displays. We are developing proprietary micro DLP based engines and laser modulated engines designed specifically for our waveguide optics solutions. These engines will allow fuller vertical integration of our supply chain which we believe will help us obtain a strong competitive advantage. We completed the commercialization of the waveguide technologies for our first product, the M2000 in 2014. We have since been focusing our efforts on the next generation waveguides and display engines that will shrink the entire assembly to a module that will fit in typical off-the-shelf sports sunglasses. We anticipate launching several new waveguide based products in 2016 and 2017.

In August 2011, we entered into a technology license agreement with Nokia Corporation for their Exit Pupil Expanding (EPE) optics technology. Under the agreement, we perform on-going research and development on the EPE optics and are expected to manufacture and bring to market components and products containing the licensed technology. In addition, we will provide Nokia with the ability to purchase products and components which incorporate the licensed technology.

Major technologies that we employ in our products include:

### ***Hardware Technology***

*Virtual Display Technology (including Lens Technology and Optics Assemblies)*

*Microdisplay* optics represent a significant cost of goods for both us and our competitors. This cost is a function of the physical size of the microdisplay and the cost of the supporting optics. Smaller microdisplays are less expensive to produce but they require larger and more sophisticated optics to make near-eye systems that have no user adjustments, large fields of view and very low distortion specifications. Larger displays require less magnification and less complex optics, but the optics become very bulky and the displays are significantly more expensive to manufacture. To improve our Video Eyewear's fashion and ergonomics, we are developing thin and lightweight optics that can be integrated with very small microdisplays that we expect will match conventional eyewear frames in size and weight. These new optics and displays provide what we believe are significantly improved ergonomics compared to competing wearable virtual displays.

*See-Through Waveguides:* We are developing both passive and dynamic waveguide optics that are the basis for our future slim wearable Video Eyewear displays. Our dynamic waveguides use index modulated liquid crystal material to switch beam steering gratings built in a thin glass window to scan an image into the user's eye. We are also developing passive optical display engine that uses a 1.4 mm thick see-through blade of glass or plastic with an ultra-compact micro display engine to magnify and focus the light from a display into a user's eye. We have established that this technology performs to HD standards but thus far sold only limited quantities of products that incorporate waveguides. We will introduce new waveguide based products in 2016. We are now on a path to improve the waveguide's performance to provide larger fields of view and better optical efficiency. Wearable Video Eyewear incorporating these engines will appear to others as practically indistinguishable from today's conventional sunglasses by most every measure, including comfort, size, weight and ergonomics. We have filed patent applications with respect to this technology. We have also entered into a technology license agreement with Nokia Corporation for their Exit Pupil Expanding (EPE) optics technology.

*Custom Display Engines:* We have patents and patents pending on modulated laser based display engines and IP around micro DLP display engines. The micro DLP engine is one of the smallest volume engines built around DLPs and the laser engine is being design for use with next generation waveguides capable of 90 plus degree fields of view. Both the display engine and waveguide optic combine into a single monolithic design that we believe will enable us to produce low cost, HD resolution displays in a form factor that will be integrated into frames similar in size to ordinary sunglasses. We have successfully prototyped both monochrome and color versions of the DLP engine and our upcoming M3000 Smart Glasses will use this engine.

*Nanoimprinting:* We continue to develop a portfolio of trade secrets and expertise in nanoimprinting. From quartz substrate molds with unique nano-structured grating surfaces built into them to ultra violet (UV) embossing, and engineering tool sets for the design of diffractive waveguide optics. These trade secrets deal with the manufacture of molds through to volume production UV embossing. We believe these technologies are essential to the production of our 1.4 mm thick see through lenses which we believe are the cornerstone to making fashionable eyeglass styled Smart Glasses.

### ***Patents and other Intellectual Property***

We have an intellectual property policy which has as its objectives: (i) the development of new intellectual property to further our intellectual property position in relation to personal display technology; and (ii) the maintenance and protection of our valuable trade secrets and know-how. We seek to further achieve these objectives through the education and training of our engineering staff and the adoption of appropriate systems, policies and procedures for the creation, identification and protection of intellectual property.

Our general practice is to file patent applications for our technology in the United States, Europe and Japan, and in additional countries, including Canada, Russia and China for inventions which we believe have the greatest potential. We file and prosecute our patent applications in pursuit of the most extensive fields of protection possible including, where appropriate, the application of the relevant technology to the broader display industry.

We believe that our intellectual property portfolio, coupled with our key supplier relationships and accumulated experience in the personal display field, gives us an advantage over potential competitors. We also believe our copyrights, trademarks, and patents are critical to our success, and we intend to maintain and protect these. We also rely on proprietary technology, trade secrets, and know-how, which are not patented. To protect our rights in these areas, we require all employees and, where appropriate, contractors, consultants, advisors and collaborators, to enter into confidentiality, invention assignment and non-competition agreements.

Our technologies enable us to provide low-cost, small form factor, high-resolution Video Eyewear products. To protect our technologies, we have developed a patent portfolio which currently consists of 40 issued U.S. and foreign patents and 23 pending U.S. and foreign patent applications. We are also currently preparing several invention disclosures for the purposes of submitting design and utility patent applications. Our U.S. and foreign patents will expire on various dates from May 13, 2017 to October 13, 2031. In addition, in connection with our sale of our defense division in 2012, we received a worldwide, royalty free, assignable grant-back license to all the patents and other intellectual property sold for use in the manufacture and sale of products in the consumer markets.

In addition to our various patents, we have eight registered U.S. trademarks, 42 trademark registrations worldwide and two pending international trademark applications.

### **Competitors and Competitive Advantage**

The personal display industry in which we operate is highly competitive. We compete against both direct view display technology and near-eye display technology. We believe that the principal competitive factors in the personal display industry include image size, image quality, image resolution, power efficiency, manufacturing cost, weight and dimension, feature implementation, ergonomics and, finally, the interactive capabilities of the overall display system.

Most of our competitors' products for mobile use are based on direct view display systems in which the user views the display device, or screen, directly without magnification. These products have several disadvantages compared to near-eye virtual displays and our wearable Video Eyewear products. If the screens are large enough to read a full conventional internet page or HD video without external magnification or image zooming, the products must be large and bulky, such as laptops, tablets, personal computers. If the displays are small, such as those incorporated in smartphones and smart watches, the screens can be difficult to read when displaying higher resolution content. Despite the limitations of direct view personal displays, smartphones and now smart watches are being produced in ever increasing volumes by a number of manufacturers, including Google (Alphabet), Nokia Corporation, Sony Ericsson Mobile Communications AB, Blackberry, Samsung Electronics Co., Ltd., LG Electronics Apple Inc. (Apple), Pebble, Qualcomm, Chinese based and focused firms, and others. We expect that these large and well-funded companies, as well as newer entrants into the marketplace, will make products that are competitive with ours based on improvements to their existing direct view display technologies or on new technologies. Examples of new display technology include foldable displays, e-ink, flexible OMLEDs and Qualcomm's mirasol reflective technology called IMOD. The displays on the latest smart phone and tablets provide very high resolution and are proving effective as mobile direct view personal displays for a variety of applications, including many that were once considered applications where Video Eyewear was superior. Additionally the introduction of smart phone holders in goggle worn systems like the Samsung Gear VR, provide yet another view for users to get a very large screen experience from a 5 to 6" smart phone screen.

Aside from direct view displays, we also have competitors who produce near eye personal displays, or Video Eyewear. For the past decade most of such products were mainly low-resolution, bulky in size, poor ergonomically, costly, and heavy in their power requirements. We believe that most of our competitors' near eye products have had inferior optics, marginal electronics and poor industrial design and that, as a result, our Video Eyewear products are superior to many of our competitors' in both visual performance and ergonomics.

### ***Competition - Binocular Video Eyewear Products***

Today, there are few companies that compete with Vuzix in the binocular Video Eyewear space using microdisplays; they include Carl Zeiss, Seiko Epson (Epson), Sony, and Acupix. Carl Zeiss introduced its first model called the Cinemizer several years ago and has updated to OLED displays but has restricted its sales primarily to Germany thus far. It was discontinued by that firm in mid-2015. Epson and Sony are both selling products that look like the larger head mounted displays from 10 to 15 years ago. Epson ships their "Moverio" HMD and Sony introduced their "HMZ" HMD late in 2011 for home or fixed location use. Sony decided in the spring of 2015 to discontinue their HMZ product line and has moved its focus to developing a VR goggle system for its PlayStation 4 game console, which will ship commercially in October 2016. We believe neither of these competitive products were received well in the market place due to their bulky and non-user-friendly designs. Brother International also began marketing a see-through HMD on a very limited basis in Japan in late 2011. In the fall of 2012, Acupix of Korea introduced a WVGA video eyewear model with HDMI inputs, but it lacks support for legacy video devices and user optical adjustments. In early January 2014, TDG Acquisition Company, LLC (the purchaser of our defense division, now operating as Six-15 Technologies) announced its new Tac-Eye AR line of see-through AR products for its target marketplaces. A new entity, Oculus has been shipping developer kits for its large field of view VR goggle HMD

called the Oculus Rift and has announced that a new model will be available for consumers in 2016. Further there are head worn goggle attachments for smart phones, like the Samsung Gear VR and the Carl Zeiss VR One which can offer an inexpensive way for owners of compatible smart phones to experience virtual reality. We believe all these unit are very bulky relative to the wearer's head, offer only limited resolution to each eye, and often have less than clear optical performance across their viewing area. We expect that, as the market grows and matures and as the technology becomes more refined, more companies may compete with us.

There are a number of smaller companies that have products that compete with our Video Eyewear products. In the past they have generally used binocular display module (BDM) produced by Kopin Corporation. Kopin offers binocular display modules of varying resolutions to original equipment manufacturers (or OEMs). Those modules are designed for easy customization by OEMs and include microdisplays, backlights, optics and optional drive electronics. Similar products are offered by other microdisplay manufacturers. The availability of those BDMs has greatly reduced the investment required for new competitors to enter the business. Currently, Kopin BDMs are primarily used by Asian-based Video Eyewear manufacturers. There are also several Chinese companies offering what we believe are inferior solutions in this market, but we believe their distribution in North America and Europe is limited. Other microdisplay manufacturers may also introduce BDM modules built around their products. We believe that the products produced by those manufacturers have one or more of the deficiencies described above. Kopin does not currently compete with Vuzix at the retail level. Kopin is also our primary supplier of microdisplays.



In 2010, our previous largest competitor, MyVu, ceased operations. Its intellectual property assets were sold to unnamed parties in Asia. Other companies that have stated their intention to enter this market when their product development is complete are Lumus and Microvision Corporation. At recent CES tradeshows, Lumus demonstrated a see-through HD optics engine in a pair of Video Eyewear. They have not yet announced a product that is production ready. Microvision has also announced that they are currently focused on the Pico projection markets, as described below, and that they are not planning to introduce a wearable display solution.

Another product incorporating recently developed technology is a handheld projector that utilizes micro-displays and optics to project digital images onto any nearby viewing surface, such as a wall. These devices are referred to as pocket projectors or pico projectors and are designed to overcome the limitations of the native small screen on smartphones and other mobile devices. Pico projectors use either liquid crystal on silicon displays (LCOS) or color lasers to create their image. We believe pico projectors have had higher unit sales to date than Video Eyewear primarily because of their cost advantage and higher resolutions.

In the VR and AR markets, there are few competitors in the consumer space with effectively no competition in all but the very high-end researcher market. Oculus is still just selling a developers' kit of its fully immersive VR head mounted display, and both Cinemizer and Sony have announced their intent to offer upgrades to their new products for virtual reality applications. Seiko Epson added a camera to their see-through Moverio BT-200 smart glasses in 2015 which now allows it to be used and for AR purposes. And while today's VR applications are primarily PC based entertainment applications, Sony has demonstrated a fully immersive VR HMD for its PlayStation 4 game console with an expected release date in mid-2016. HTC in conjunction with the software developer Valve, have announced their full immersive VIVE virtual reality system for use with Valve's Steam VR system. This product is expected to be available in 2016.

Further, industry bloggers have speculated that companies such as Apple and Microsoft may offer or support AR Video Eyewear products in the near future. In January 2015 Microsoft publicly demonstrated its HoloLens AR system, but no specific product launch details have been officially announced.

### ***Competition - Monocular Video Eyewear Products***

Although several companies produce monocular Video Eyewear, we believe that sales of their products to date have been limited. To date, the market opportunity for monocular products other than night vision products has been limited primarily to trial tests rather than commercial volume purchases for industrial applications. Current competitors in these markets are Liteye Systems, Inc., Lumus, Shimadzu Corporation, Kopin, Zebra Technologies (inclusive of business unit formerly part of Motorola), Creative Display Systems, Brother, Google, LLC, Garmin BAE Systems, Six-15 Technologies, LLC (the purchaser of our defense division), Rockwell Collins, Inc.. Kopin has begun to aggressively promote its upcoming Golden-i that combines a speech recognition controlled head mounted computer

with a monocular near-eye display and recently demonstrated several new monocular reference designs that they claim they are only licensing to OEM customers. The Motorola Solutions group introduced Golden-i in late 2012. Google has developed a wearable display device named Google Glass which is a headset product with similar form and function to our M100 Smart Glasses. In January 2015, Google stopped selling its first version of Glass. And while not officially announced, industry rumors indicate a second generation of Google Glass is now in limited test with developers. Several Japanese electronics companies including Hitachi, Toshiba, Murata, Sony and Olympus have announced monocular smart glass systems for industry and have commenced marketing and sales of these systems. We expect that we will encounter competition in the future from major consumer electronics companies and suppliers of imaging and information products for defense applications.

There is competition in all classes of products manufactured by us, including from divisions of large companies and many small companies. Our sales do not represent a significant share of the market for any class of products. The principal points of competition for these products include, among other factors: price, product performance, the availability of supporting applications, the experience and brand name of the particular company and history of its dealings in such products. We believe that most of the monocular Video Eyewear products currently offered by our competitors are inferior to ours because they are bulky, have smaller image sizes with lesser performing optics and/or are currently priced higher than our products.

## **Sales and Marketing**

### *Sales*

We have two distinct strategies for the sales of our products.

In the smart glasses and AR markets we are focused on the enterprise space and as such are building strategic marketing relationships with software firms to address and support enterprise customers. We are in parallel developing a value added reseller (VAR) network with leading companies in various vertical markets from warehousing to field service to medical. As these VARs finish their value added software and services offerings we expect them to roll out their finished solutions to their customer base. We are also supporting select larger key accounts with our in-house direct sales team. For our smart glasses we are also developing a rich eco system with application developers from around the world. We have introduced our own hosted application store where our smart glasses customers can download and purchase applications and software developer kits. We are also hosting many developer hackathon events with partners companies like NTT docomo and AT&T.

On the consumer side, our products are targeted at applications including video viewing, gaming and Virtual Reality. In 2005, as our products and technology evolved, we began to sell standard Video Eyewear products for the consumer markets and have since built a multi-national sales channel with offices out of the UK and Japan that has spanned sales into over 50 countries. In 2007, we introduced Virtual Reality products and in 2010 we introduced our first Augmented Reality products. We are either currently or intending to selling our iWear Video Headphones directly to consumers and intend to expand that to select distributors, and online retailers worldwide once we are able to efficiently mass produce this product in the second quarter of 2016.

As we broaden our markets we will continue to expand on these strategies for each of our target application areas and markets. Finally, we regularly attend industry trade shows in our application markets.

***Marketing***

Our marketing group is responsible for product management, planning, advertising, marketing communications, and public relations. We have an internal public relations effort in the U.S. and have retained two external public relations firms for the U.S. market. One for our consumer focused products and the other for our enterprise smart glass products. In the UK we employ a public relations firm part-time. We also employ two marketing firms to help prepare brochures, packaging, tradeshow messaging and advertising campaigns, again focused on either the consumer or enterprise markets. All our products are currently sold under the Vuzix brand name. We intend Vuzix to become known as one of the premier supplier of Video Eyewear products for video viewing and Virtual and Augmented Reality enabled Smart Glasses. We plan to undertake specific marketing activities as needed, including, but not limited to:

- product reviews, case studies and promotions in trade publications;
  
- enhancement and maintenance of our Website, Web Store and Social Media sites;
  
- internet and web page advertising and targeted emails;
  
- public relations;
  
- print advertising, catalogs and point of purchase displays; and

·trade shows and event sponsorships.

### *Engineering Services*

We primarily solicit sales of our engineering services programs directly. We believe we have established a solid reputation for quality, performance and innovation for near-eye virtual display systems that will be attractive to many types of commercial users that want to leverage our services and products within their businesses. Attendance at industry trade shows, conferences and application white papers are tools we use to generate customer interest. In regard to defense and security markets, due to the sale of our defense division in June 2012, we no longer are performing engineering work or selling products into these markets, except through the purchaser of our defense division assets.

### *Consumer*

We engage in a variety of marketing efforts that are intended to drive customers to our products and to grow awareness of our AR Smart Glasses, VR products and Video Eyewear in general. Public relations are an important aspect of our marketing and we intend to continue to distribute samples of our products to key industry participants. We intend to focus our marketing efforts for the next 12 months on:

·distinguishing our Video Eyewear and Smart Glasses product categories from current competitors and by offering products with superior performance and optics to that of our competitors;

·working with third party software developers to support the unique capabilities of our new products; and

·creating brand awareness with the press and general public of Vuzix and its products, with particular emphasis on our new forthcoming waveguide based products.

Our Video Eyewear products are currently primarily sold directly to consumers and at times through select specialty retailers, online retailers such as Amazon, through catalogue offerings and through third party North American distributors including D&H. Our website, [www.vuzix.com](http://www.vuzix.com) is an important part of our direct sales efforts. For resellers with physical retail locations in the United States, we have in the past offered point of purchase systems that include a video frame running a slide show presentation about the products and an integrated fully functional Video Eyewear product that allows potential customers to use our products. Where and when applicable we will create and offer new point of purchase systems for select products.

We currently sell our products internationally through distributors, resellers, online stores and various Vuzix operated web stores in Europe and Japan. Our international focus is currently on Japan and the EU. In Japan, we have a branch sales and service office in Tokyo, and a small warehouse outside of Tokyo. We employ two full-time staff in Japan. In spring 2008, we created a wholly owned subsidiary, Vuzix (Europe) Limited, through which to conduct our business in the EU and Middle Eastern markets. Resellers in 50 countries placed orders with us during the last two years. We maintain a small European sales office in Oxford, England. We have also retained a sales consultant (who acts as our European Director of Operations), and a UK public relations firm. For customer support and warehousing, we have contracted with a third-party end user technical support firm and fulfillment center to service our customers in the EU.

### *Manufacturing*

Currently, we purchase product components from our suppliers, engage third party contract manufacturing firms to perform electronic circuit board and cable assemblies, and have the final assembly of our products done primarily in China at our contract manufacturer there. In the past we have built products ourselves in our Rochester, New York based facility. We are experienced in the successful production of our products in moderate volumes. We expect to only perform, at most final assembly of our new Video Eyewear products ourselves on a test basis however we expect to manufacture all our waveguide optics at our West Henrietta, New York facility.

We currently purchase almost all of the microdisplays used in our products from Kopin and Microvision. Our relationship with these microdisplay suppliers is generally on a purchase order basis and neither firm has a contractual obligation to provide adequate supply or acceptable pricing to us on a long-term basis. We procure a small percentage of our microdisplays from other sources such as Syndiant and Texas Instruments. While we do not manufacture our components, we own the tooling that is used to make our custom components with the exception of certain authentication chips and connectors that may be required to support industry standard device connectivity. We believe that we are not dependent on our relationships with any supplier other than Kopin or Microvision. Kopin before we sold the defense divisions had also been a significant customer of our night vision display electronics modules and owns just under 3% of our common stock. Some of our accessory products are sourced from third parties as finished goods. We typically have them print our Vuzix brand name on these products if they are co-branded. Such third party products represented less than 5% of our sales in 2015.

We generally procure our other non-microdisplay components and products from our vendors on a purchase order basis without any long-term commitments. We currently use several Asian manufacturing sources, where we have located some of our tooling. Over time, we expect to globally source almost all of our components which we believe will minimize product costs. We anticipate that procuring assembled products from third parties will result in decreased labor force requirements, capital equipment costs, component inventories, and the cost of maintaining inventories of work in progress.

## **Employees**

As of March 27, 2015, we had 39 full-time employees in North America: 7 in sales and marketing, distribution, and customer service; 20 in research and development and engineering services support; 5 in manufacturing, operations and purchasing; 1 in quality assurance; and 6 in accounting, management, IT, and administration. We also work with a group of sub-contractors, mainly for industrial and mechanical design assistance in the Rochester, New York area. To further our waveguide research development we work with various commercial and academic researchers in the United States and Finland. In Japan, we have 2 full-time employees and in the UK we have 2 full-time and 1 part-time contractor to manage our European sales and marketing activities.

## **History**

We were incorporated in Delaware in 1997 as VR Acquisition Corp. In 1997, we acquired substantially all of the assets of Forte Technologies, Inc. (Forte), which was engaged in the manufacture and sale of Virtual Reality headsets and the development of related technologies. Forte was originally owned and controlled by Kopin, our main current microdisplay supplier. Most of the technologies developed by Forte are now owned and used by us.

In 1997 we changed our name to Kaotech Corporation. In 1998 we changed our name to Interactive Imaging Systems, Inc. In 2004 we changed our name to Vicuity Corporation and then to Icuiti Corporation. In 2007, we changed to our current name, Vuzix Corporation. None of these name changes were the result of a change in our ownership control.

Reference in this report to “Vuzix”, the “Company”, “we,” “us,” “our” and similar words refer to Vuzix Corporation and its wholly-owned subsidiaries.

**Item 1A Risk Factors**

*An investment in our securities involves a high degree of risk. An investor should carefully consider the risks described below, together with all of the other information included in this annual report, before making an investment decision. Our business, financial condition or results of operations*