INTEVAC INC
Form 10-K
February 17, 2016
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

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

For the fiscal year ended January 2, 2016

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 0-26946

INTEVAC, INC.

(Exact name of registrant as specified in its charter)

Delaware	**94-3125814**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

3560 Bassett Street

Santa Clara, California 95054

(Address of principal executive office, including Zip Code)

Registrant s telephone number, including area code: (408) 986-9888

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

Title of each class	Name of each exchange on which registered
Common Stock ($0.001 par value)	The Nasdaq Stock Market LLC (NASDAQ Global Select)

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

None.

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). x Yes ¨ No

Indicate by a 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. x

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

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

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

As of July 4, 2015, the aggregate market value of voting and non-voting stock held by non-affiliates of the Registrant was approximately $ 106,155,213 (based on the closing price for shares of the Registrant s Common Stock as reported by the Nasdaq Stock Market for the last trading day prior to that date). Shares of Common Stock held by each executive officer and director have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

On February 17, 2016, 20,649,857 shares of the Registrant s Common Stock, $0.001 par value, were outstanding.

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DOCUMENTS INCORPORATED BY REFERENCE.

Portions of the Registrant s Proxy Statement for the 2016 Annual Meeting of Stockholders are incorporated by reference into Part III. Such proxy statement will be filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain information in this Annual Report on Form 10-K (report or Form 10-K) of Intevac, Inc. and its subsidiaries (Intevac or the Company), including Management s Discussion and Analysis of Financial Condition and Results of Operations in Item 7, is forward-looking in nature. All statements in this report, including those made by the management of Intevac, other than statements of historical fact, are forward-looking statements. Examples of forward-looking statements include statements regarding Intevac s future financial results, operating results, cash flows and cash deployment strategies, business strategies, costs, products, working capital, competitive positions, management s plans and objectives for future operations, research and development, acquisitions and joint ventures, growth opportunities, customer contracts, investments, liquidity, declaration of dividends, and legal proceedings, as well as market conditions and industry trends. These forward-looking statements are based on management s estimates, projections and assumptions as of the date hereof and include the assumptions that underlie such statements. Forward-looking statements may contain words such as may, will, should, could, would, expect, anticipate, believe, estimate, predict, potential and continue, the negative of these terms, or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in Item 1A, Risk Factors, below and elsewhere in this report. Other risks and uncertainties may be disclosed in Intevac s prior Securities and Exchange Commission (SEC) filings. These and many other factors could affect Intevac s future financial condition and operating results and could cause actual results to differ materially from expectations based on forward-looking statements made in this report or elsewhere by Intevac or on its behalf. Intevac undertakes no obligation to revise or update any forward-looking statements.

The following information should be read in conjunction with the Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements included in this report.

PART I

Item 1. ***Business***

Overview

Intevac s business consists of two reportable segments:

Thin-film Equipment: Intevac is a leader in the design and development of high-productivity, thin-film processing systems. Our production-proven platforms are designed for high-volume manufacturing of substrates with precise thin-film properties, such as the hard drive media, display cover panel (DCP), and solar photovoltaic (PV) markets we serve currently.

Photonics: Intevac is a leading developer of advanced high-sensitivity digital sensors, cameras and systems that primarily serve the defense industry. We are the provider of integrated digital night vision imaging systems for the U.S. military.

Intevac was incorporated in California in October 1990 and was reincorporated in Delaware in 2007.

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Thin-film Equipment Segment

Hard Disk Drive Equipment Market

Intevac designs, manufactures, markets and services complex capital equipment used to deposit thin films and lubricants onto substrates to produce magnetic disks that are used in hard disk drives. Disk and disk drive manufacturers produce magnetic disks in a sophisticated manufacturing process involving many steps, including plating, annealing, polishing, texturing, sputtering, etching, stripping and lubrication. Intevac believes its systems represent approximately 60% of the installed capacity for disk sputtering worldwide. Intevac s systems are used by manufacturers of magnetic media such as Seagate Technology, Western Digital, including its wholly-owned subsidiary HGST, Fuji Electric, and Showa Denko.

Hard disk drives are a primary storage medium for digital data including nearline cloud applications and are used in products and applications such as personal computers (PCs), enterprise data storage, video players and video game consoles. Intevac believes that hard disk drive media shipments will continue to grow over time, driven by continued high growth rates in digitally-stored data, by the slowing of areal density improvements, by the increase in demand for nearline drives for cloud storage, an increasing tie ratio (for the average number of hard disks per drive) and by new and emerging applications. In the hard drive industry, the projected growth rates for digitally-stored data exceed the rate of areal density improvements, at the same time as the tie ratio is increasing, which results in demand for magnetic disks outpacing hard disk drive units.

In recent years the hard disk drive business has been negatively impacted by declining PC units, primarily caused as a result of the proliferation of tablets, the transition to centralized storage, and the effects of uncertain macro-economic environment conditions on demand for PCs from consumers and corporations. Although the hard drive industry continues to expect growth in the enterprise data storage market segment, the transition to centralized storage combined with the negative growth in PC shipments has resulted in lower hard drive shipments in recent years. However, Intevac continues to believe that long-term demand for hard disks required for high capacity hard disk drives will increase, driven by growth in demand for digital storage, declining growth rate in areal density improvements, and increased information technology spending to support the transition to cloud storage. The number of disk manufacturing systems needed to support this growth as well as future technology transitions and improvements is expected to vary from year to year depending on the factors noted above.

Intevac expects that hard disk drive manufacturers will extend their utilization of planar perpendicular media with the introduction of Heat Assisted Magnetic Recording (HAMR) expected within the next two to three years. The first HAMR-based hard disk drives are expected to ship to the marketplace in late 2016. Intevac believes that the leading manufacturers of magnetic media are using Intevac Systems for HAMR development, creating a significant market opportunity as HAMR is more widely adopted. Significant market penetration of HAMR-based hard disk drives is expected to occur by 2018. Intevac believes that the transition to HAMR will require disk manufacturers to upgrade their installed base of equipment, which would result in increased demand for equipment technology upgrades to be performed by Intevac.

Solar Market

Intevac designs, manufactures and markets capital equipment for the PV solar manufacturing industry.

A solar cell (also called a PV cell) is a solid state device that converts the energy of sunlight directly into electricity. Assemblies of cells are used to make solar modules, also known as solar panels. Solar panels have broad-based end market applications for utility-scale solar farms; integrated building PV arrays for commercial, retail, and offices;

residential rooftop; and for portable devices.

The cost of electricity generated from solar energy, in many cases, remains higher than that of electricity generated from traditional energy sources. However, deployment of photovoltaics is gaining momentum on a worldwide scale, particularly in Asia, North America and other regions, where solar PV is now increasingly

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competitive with conventional energy sources. Grid parity, whereby solar PV generates power at a levelized cost of electricity (LCOE) less than or equal to the price of power purchased from the electrical grid, has already been reached in about thirty countries. In countries or areas where the cost of solar energy generation remains higher than traditional electricity generation sources, some governments have implemented various tax credits and other financial incentives to promote the growth in solar and in other alternative energy sources. As a result of solar energy costs having favorably declined due to the increased scale and improved manufacturing efficiencies spurred by these incentive policies, many governments have reduced or are planning to reduce their incentives for solar, a trend which is likely to continue. However, the United States Investment Tax Credit (ITC) for solar which was due to expire by the end of 2016, has been extended to continue the proliferation of solar generated energy. As of the beginning of 2015 fourteen U.S. states have reached grid parity, and an additional fourteen more are poised to reach grid parity within this decade.

At the end of 2015, solar amounted to 1% of worldwide electricity generation capacity. For newly added electrical power generation, the mix is quite different; in 2014, fifteen percent of newly added global energy generation was solar, and solar is forecast to increase to as much as 20% of newly added generation capacity by 2017. On a gigawatt basis, the yearly market for solar energy is expected to grow from 59 gigawatts of solar added in 2015 to over 70 gigawatts added in 2019. 2015 also saw manufacturing capacity for the production of solar cells coming into parity with end market demand, ameliorating recent supply-demand imbalances, and resulting in selected new capacity additions being initiated by the PV industry in anticipation of projected future demand for its products.

The PV industry continues to focus on the development of high-efficiency cell technologies aimed at simultaneously boosting PV efficiency and reducing solar energy production costs. New vacuum process technologies and integrated processing steps are expected to become increasingly important as companies search for lower-cost manufacturing solutions for PV cells.

Intevac offers products for wafer-based crystalline silicon (c-Si) solar cell manufacturing processes, the prevailing manufacturing process in the PV industry. Intevac s products for the solar industry are specifically focused on cell designs with the highest energy conversion efficiency, which are based within the n-type mono crystalline portion of the market.

Intevac offers thin-film vacuum process manufacturing solutions for c-Si cell fabrication applications. Intevac offers high-productivity process equipment solutions that enable low-cost solar cell manufacturing with high cell efficiency, consistent with the PV industry s focus and requirements. Intevac has developed two vacuum process application technologies for solar cell manufacturing: one utilizes Physical Vapor Deposition (PVD) technology for the deposition of thin films onto c-Si wafers, and the other utilizes ion implantation, which selectively changes the electrical characteristics of the c-Si solar cell.

PVD is a process used in multiple ways in the manufacturing of solar cells such as for fabricating electrical contacts and conductor layers, depositing reflective layers of various types, and for growing transparent conductive oxide layers, all of which are critical to the efficiency of solar cells.

Ion implantation is a solar cell processing technology whereby an impurity is added to a PV structure to improve its conductivity. In ion implantation, a beam of ions of a desired dopant element such as phosphorus or boron is electrostatically accelerated and directed toward the target material, introducing the impurity. In a subsequent thermal annealing step, the dopant is electrically activated. The ion implant processes enable precision engineering of the dose and of the depth of dopant elements to form emitter structures in working solar cells. Ion implantation is a technique being introduced to solar cell lines as a means to lower the cost per watt to manufacture the cell. Ion implantation can replace existing diffusion processes in existing solar processing lines for present-day PV cell structures, and is also

extendable to new advanced cell structures. In both cases, ion implant-formed emitters are created with fewer processing steps, and therefore at lower cost, than the diffusion processes implant displaces. Intevac s ion implantation products are based upon technology developed by Solar Implant Technologies, Inc. (SIT) which was acquired by Intevac in November 2010.

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Display Cover Panel (DCP) Market

Intevac develops equipment to deposit optically transparent thin-films onto DCPs typically found on consumer and automotive electronic products.

DCPs are found in products including smartphones, tablet PCs, wearable devices, gaming systems, digital cameras, automotive infotainment systems and digital signage. In 2015, approximately 1.4 billion mobile phones, 235 million tablet PCs and 72 million wearable devices were shipped to consumers worldwide. For smartphones alone, it is forecasted that nearly 2 billion units will ship by 2020, representing a CAGR of greater than 7% for the 2015 2020 time period.

The DCP is typically made of tempered glass, such as soda-lime or aluminosilicate, or other materials such as sapphire. The primary function of the DCP is to provide a clear protective interface to the display it protects. In many cases, the DCP is treated with various coatings to enhance its protective performance as well as for clarity, readability and touch sensitivity.

The types of coatings typically found on DCPs of electronic devices include: Scratch Protection (SP) coatings, Anti-Reflection (AR) coatings, and Anti-Finger (AF) coatings.

SP coatings generally consist of hard thin-films deposited onto the surface of the DCP. Their primary function is to provide enhanced protection against the incidence of scratch, but they can also provide greater breakage resistance. SP coatings are gaining in popularity. SP coatings also improve the readability of displays.

AR coatings enable greater light transmission though the DCP by reducing the light reflected by the surface back to the user s eye. This allows the user to more easily read the display and reduces the required power needed to display the image which results in extending the battery life. A significant drawback to using AR coatings is their susceptibility to scratch. AR coatings are typically soft and applied to the surface of the DCP. These coatings generally scratch easily.

AF coatings provide water and oil protection for the surface of the DCP. This coating which prevents fingerprints provides greater aesthetics as well as improving readability. AF coatings allow for greater visual acuity when fingerprints are not visible. The drawback to AF coatings is their relatively low resistance to wear. The coating is soft and usually wears off within a few months of product purchase.

Intevac has developed and is currently marketing a SP coating known as Optical Diamond-like-Carbon (oDLC). This coating provides a hard protective layer which significantly improves the DCP s resistance to scratches and breakage.

Thin-Film Equipment Products

Intevac s Thin-film Equipment product portfolio addressing each of these markets is based around common core technologies and competencies. Intevac believes its Thin-film Equipment product portfolio can be extended to support adjacent markets. Based on its history and market and technology leadership in the hard disk drive industry, Intevac offers superior high-productivity vacuum handling of small substrates at the lowest cost of ownership. Lowest cost of ownership includes various advantages such as high target utilization, high throughput, small footprint, double-sided coating, and reduced materials costs.

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Product Table

The following table presents a representative list of the Thin-film Equipment products that we offered during fiscal 2015, fiscal 2014 and fiscal 2013.

Thin Film Equipment Products	Applications and Features
Hard Disk Drive Equipment Market	
200 Lean ® Disk Sputtering System	Uses PVD and chemical vapor deposition (CVD) technologies. Deposits magnetic films, non-magnetic films and protective carbon-based overcoats. Provides high-throughput for small-substrate processing. Over 150 units installed.
200 Lean Etch and Deposition System	Uses PVD and etch technologies. For use in HAMR and patterned media development.
AccuLuber Disk Lubrication System	Deposits lubricants onto the hard disk s surface to improve durability and reduce surface friction. Lubricates disks while under vacuum. Eliminates the environmentally-hazardous use of solvents.
Upgrades, spares, consumables and services (non-systems business)	Upgrades to the installed base to support the continued growth in areal density or reduce the manufacturing cost per disk.
Solar PV Market	
INTEVAC MATRIX PVD System	Deposits electrical contacts and conductor layers, reflective layers, and transparent conductive oxide layers, all of which are critical to the efficiency of solar cells. Includes patented Linear Scanning Magnetic Array (LSMA) magnetron source, with industry-leading target utilization rate of over 65 percent. Provides high-throughput for small-substrate processing.
INTEVAC MATRIX Implant System	Utilizes the chambers and transport mechanism of the MATRIX platform while using the implant sources from the ENERG*i* system.

	Received an order for the first pilot system as part of a joint development program with a customer.
ENERG*i* Implant System	Supports both phosphorus and boron dopant technologies.
	Extendable to new advanced solar cell structures.
DCP Market	
INTEVAC VERTEX System	Utilizes vertical sputtering for multiple film types.
	Provides high-throughput for small-substrate processing.
	Uses leading target utilization technology.
	Modular design enables expandability.
	Enables low-temperature processing.
Adjacent Markets	
INTEVAC MATRIX System	Incorporates multiple thin-film deposition techniques such as PVD and CVD.
	Consists of high-speed linear transport.
	Flexible design enables handling of various different small substrate sizes and shapes.
	Performs double-sided coating within vacuum.

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Photonics Segment

Photonics Market

Intevac Photonics develops, manufactures and sells compact, cost-effective, high-sensitivity digital-optical products for the capture and display of extreme low-light images. These products incorporate high resolution digital night image sensors operating in the visible and near infrared (NIR) light spectrums and are based on Intevac s proprietary EBAPS® (Electron Bombarded Active Pixel Sensor) technology.

Photonics products primarily address the high performance military night-vision market. Our products provide digital imagery in extremely low-light level conditions. Intevac provides these products for military aircraft including the U.S. Army AH-64 Apache Attack Helicopter and the F-35 Joint Strike Fighter. Additionally, the Company is developing applications to address ground vehicles, and soldier head-mounted and weapon-mounted applications.

Military Products

Intevac s EBAPS sensors are incorporated into custom-designed cameras, modules and goggle products for high performance military applications. Intevac s EBAPS sensors can be integrated at various levels with optics, electronics, software, and displays based upon customer specifications and requirements. Customization typically occurs in the areas of electronics, near-eye micro-displays, and mechanical packaging. Intevac s products by application are:

Rifle Sight

Intevac provides EBAPS modules that are integrated by our customers into a weapon sight attached to weaponry including rifles for night time aiming and targeting. Additionally, Intevac offers micro display optical eyepieces that are mounted on thermal rifle scopes used by the military.

Helicopter Pilotage

Intevac provides a night-vision camera with a 2.0 mega-pixel resolution EBAPS module which is gimbal-mounted on the Apache helicopter. The low-light level digital video is then viewable by the helicopter pilot on a head mounted display enabling the pilot to have enhanced night vision and allowing the aircrew to view multiple aircraft-mounted sensor information. In addition the U.S. Navy has funded a High Resolution Digital Night Vision Goggle development program incorporating a 4.0 mega-pixel resolution EBAPS module for aviation applications.

Fixed Wing Aircraft Pilotage

Intevac provides night-vision cameras with a 2.0 mega-pixel resolution EBAPS module which is integrated with the F-35 fighter pilot s helmet and enables the pilot to have enhanced night vision incorporating navigational and tactical information.

Long-Range Target Identification

Intevac provides the Laser Illuminated Viewing and Ranging (LIVAR®) shortwave-infrared camera for long range military night time surveillance systems that can identify targets at distances of up to twenty kilometers. Photonics LIVAR camera is incorporated into long range target identification systems manufactured by major defense contractors.

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Soldier Mobility

Both the U.S. Army and Special Operations Command sponsored programs to develop binocular night vision goggles incorporating digitally fused low-light level and thermal image sensors. Both head-mounted digital imaging systems will allow low-light level and thermal imagery to be viewed individually or to be overlaid.

Simulation and Training

Near-eye display systems are high-performance, micro-display products for near-eye, portable viewing of video in military and commercial markets. Intevac s eyeglass and helmet-mounted display systems provide high definition and a wide field-of-view in miniaturized light-weight and portable designs. Intevac s I-Port™ helmet-mounted display provides solutions for such diverse markets as medical, industrial, commercial and military, including training and simulation.

Commercial Products

Low-Light Cameras

Photonics MicroVista® product line of commercial compact and lightweight low-light Complementary Metal Oxide Semiconductor (CMOS) cameras provides high sensitivity in the ultraviolet, visible or NIR regions of the spectrum for use in industrial inspection, bio-medical and scientific applications. These cameras are primarily sold through distribution channels and to original equipment manufacturers.

Raman Materials Identification Instruments

Prior to March 2013, Intevac designed, manufactured and marketed Raman spectroscopy systems to the medical, scientific, pharmaceutical and other industrial markets. In March 2013, Intevac divested and sold certain assets comprising its Raman spectroscopy instruments product line, also known as DeltaNu.

Backlog

Intevac s backlog of orders at January 2, 2016 was $51.2 million, as compared to January 3, 2015 of $48.4 million. Backlog at January 2, 2016 consisted of $19.3 million of Thin-film Equipment backlog and $31.8 million of Photonics backlog. Backlog at January 3, 2015 consisted of $17.7 million of Thin-film Equipment backlog and $30.7 million of Photonics backlog. Backlog at January 2, 2016 includes one PV deposition system, two PV implant systems and one PVD DCP coating system. Backlog at January 3, 2015 includes one 200 Lean system, one PV deposition system, one PV implant system and one PVD DCP coating system. Backlog includes only customer orders with scheduled delivery dates.

Customer Concentration

Historically, a significant portion of Intevac s revenue in any particular period has been attributable to sales to a limited number of customers.

The following customers accounted for at least 10 percent of Intevac s consolidated net revenues in fiscal 2015, 2014, and 2013.

	2015	2014	2013
U.S. Government	26%	32%	*
Seagate Technology	22%	15%	37%
HGST	15%	17%	*
Northrop Grumman	*	*	11%

* Less than 10%

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Intevac expects that sales of Intevac s products to relatively few customers will continue to account for a high percentage of Intevac s revenues in the foreseeable future.

Foreign sales accounted for 35% of revenue in fiscal 2015, 21% of revenue in fiscal 2014, and 53% of revenue in fiscal 2013. The majority of Intevac s foreign sales are to companies in Asia or to U.S. companies for use in their Asian manufacturing or development operations. Intevac anticipates that foreign sales will continue to be a significant portion of Intevac s Thin-film Equipment revenues. Intevac s disk sputtering equipment customers include magnetic disk manufacturers, such as Fuji Electric and Showa Denko, and vertically integrated hard disk drive manufacturers, such as Seagate, Western Digital and HGST. Intevac s customers manufacturing facilities are primarily located in California, China, Taiwan, Japan, Malaysia and Singapore.

Competition

The principal competitive factors affecting the markets for Intevac Thin-film Equipment products include price, product performance and functionality, ease of integration, customer support and service, reputation and reliability. Intevac has one major competitor, Canon Anelva, in the hard disk drive equipment market and has historically experienced intense worldwide competition for magnetic disk sputtering equipment. Intevac primarily faces competition from large established global competitors in the PV equipment market including Applied Materials, Centrotherm Photovoltaics, Amtech, Jusung and Von Ardenne. Intevac faces competition in the DCP market from glass manufacturers that may develop scratch resistant glass, from touchscreen manufacturers that may adopt harder substrate materials, or from other equipment companies, chemical companies or the display cover plate manufacturers themselves that may offer competing protective coatings including oDLC. These competitors generally have substantially greater financial, technical, marketing, manufacturing and other resources as compared to Intevac. Furthermore, any of Intevac s competitors may develop enhancements to, or future generations of, competitive products that offer superior price or performance features. In addition, new competitors, with enhanced products may enter the markets that Intevac currently serves.

The principal competitive factors affecting Photonics products include price, extreme low-light level detection performance, power consumption, resolution, size, ease of integration, reliability, reputation and customer support and service. Intevac faces substantial competition for Photonics products, and many competitors have substantially greater resources and brand recognition. In the military market, Harris Corporation and L-3 Communications are large and well-established defense contractors and are the primary U.S. manufacturers of analog image intensifier tubes used in Generation-III night vision devices and their derivative products. Intevac expects that other companies will develop digital night vision products and aggressively promote their sales. Furthermore, Intevac s LIVAR target identification sensors and cameras face competition from CMC Electronics, DRS Technologies, FLIR Systems, Goodrich and Raytheon, established companies that manufacture infrared sensors and cameras which are presently used in long-range target identification systems. Within the near-eye display market, Intevac also faces competition from Rockwell-Collins and Vuzix, both of which can offer cost-competitive products.

Marketing and Sales

Thin-film Equipment sales are made primarily through Intevac s direct sales force. Intevac also sells its products through distributors in Japan and China. The selling process for Intevac s Thin-film Equipment products is multi-level and lengthy, involving individuals from marketing, engineering, operations, customer service and senior management.

Installing and integrating new equipment requires a substantial investment by a customer. Sales of Intevac s systems depend, in significant part, upon the decision of a prospective customer to replace obsolete equipment or to increase manufacturing capacity by upgrading or expanding existing manufacturing facilities or by constructing new

manufacturing facilities, all of which typically involve a significant capital commitment. Intevac s systems have a lengthy sales cycle, during which Intevac may expend substantial funds and management time and effort with no assurance that a sale will result.

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The production of large complex systems requires Intevac to make significant investments in inventory both to fulfill customer orders and to maintain adequate supplies of spare parts to service previously shipped systems. Intevac maintains inventories of spare parts in the United States, Singapore, Malaysia and China to support its Thin-film Equipment customers. Intevac often requires its Thin-film Equipment customers to pay for systems in three installments, with a portion of the system price billed upon receipt of an order, a portion of the price billed upon shipment, and the balance of the price and any sales tax due upon completion of installation and acceptance of the system at the customer s factory.

Intevac provides process and applications support, customer training, installation, start-up assistance and post-installation service support to Intevac s Thin-film Equipment customers. Intevac has field offices in Singapore, China, and Malaysia to support Intevac s customers in Asia.

Warranties for Intevac s Thin-film Equipment products typically range between 12 and 24 months from customer acceptance. During the warranty period any necessary non-consumable parts are supplied and installed without charge.

Sales of Photonics products for military applications are primarily made to the end user through Intevac s direct sales force. Intevac sells to the U.S. government and to leading defense contractors such as Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon, DRS Technologies, BAE and Sagem.

Intevac is subject to long sales cycles in the Photonics segment because many of Intevac s products, such as Intevac s night vision systems, typically must be designed into Intevac s customers products, which are often complex and state-of-the-art. These development cycles are generally multi-year, and Intevac s sales are dependent on Intevac s customer successfully integrating Intevac s product into its product, completing development of its product and then obtaining production orders for its product. Sales of these products are also often dependent on ongoing funding of defense programs by the U.S. government and its allies. Additionally, sales to international customers are contingent on issuance of export licenses by the U.S. government.

Sales of Raman spectroscopy instruments were made through a combination of direct sales, distributors and value added resellers.

Photonics generally invoices its research and development customers either as costs are incurred, or as program milestones are achieved, depending upon the particular contract terms. As a government contractor, Intevac invoices customers using estimated annual rates approved by the Defense Contracts Audit Agency (DCAA).

Research and Development and Intellectual Property

Intevac s long-term growth strategy requires continued development of new products. Intevac works closely with Intevac s customers to design products that meet their planned technical and production requirements. Product development and engineering organizations are located primarily in the United States and Singapore.

Intevac invested $15.7 million (20.8% of net revenue) in fiscal 2015, $15.8 million (24.2% of net revenue) in fiscal 2014, and $21.0 million (30.2% of net revenues) in fiscal 2013 for product development and engineering programs to create new products and to improve existing technologies and products. Intevac has spent an average of 31.5% of net revenues on product development and engineering over the last five years.

Intevac s competitive position significantly depends on Intevac s research, development, engineering, manufacturing and marketing capabilities, and not just on Intevac s patent position. However, protection of Intevac s technological

assets by obtaining and enforcing intellectual property rights, including patents, is important. Therefore, Intevac s practice is to file patent applications in the United States and other countries for inventions that Intevac considers important. Intevac has patents in the United States and other countries, and additional applications are pending for new inventions. Although Intevac does not consider Intevac s business materially dependent upon any one patent, the rights of Intevac and the products made and sold under Intevac s

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patents along with other intellectual property, including trademarks, know-how, trade secrets and copyrights, taken as a whole, are a significant element of Intevac s business.

Intevac enters into patent and technology licensing agreements with other companies when management determines that it is in Intevac s best interest to do so. Intevac pays royalties under existing patent license agreements for use of certain patented technologies in several of Intevac s products. Intevac also receives, from time to time, royalties from licenses granted to third parties. Royalties received from or paid to third parties have not been material to Intevac s consolidated results of operations.

In the normal course of business, Intevac periodically receives and makes inquiries regarding possible patent infringements. In dealing with such inquiries, it may be necessary or useful for us to obtain or grant licenses or other rights. However, there can be no assurance that such licenses or rights will be available to us on commercially reasonable terms, or at all. If Intevac is not able to resolve or settle claims, obtain necessary licenses and/or successfully prosecute or defend Intevac s position, Intevac s business, financial condition and results of operations could be materially and adversely affected.

Manufacturing

Intevac manufactures its Thin-film Equipment products at its facilities in California and Singapore. Intevac s Thin-film Equipment manufacturing operations include electromechanical assembly, vacuum processing, fabrication of sputter sources, and system assembly, alignment and testing.

Photonics products are manufactured at Intevac s facilities in California. Photonics manufactures sensors, cameras, integrated camera systems, and near-eye display systems using advanced manufacturing techniques and equipment. Intevac s operations include vacuum processing, and electromechanical and optical system assembly.

Employees

At January 2, 2016, Intevac had 281 employees, including 22 contract employees.

Compliance with Environmental Regulations

Intevac is subject to a variety of governmental regulations relating to the use, storage, discharge, handling, emission, generation, manufacture, treatment and disposal of toxic or otherwise hazardous substances, chemicals, materials or waste. Intevac treats the cost of complying with government regulations and operating a safe workplace as a normal cost of business and allocates the cost of these activities to all functions, except where the cost can be isolated and charged to a specific function. The environmental standards and regulations promulgated by government agencies in California and Singapore are rigorous and set a high standard of compliance. Intevac believes its costs of compliance with these regulations and standards are comparable to other companies operating similar facilities in these jurisdictions.

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Executive Officers of the Registrant

Certain information about our executive officers as of February 17, 2016 is listed below:

Name	Age	Position
Executive Officers:		
Wendell T. Blonigan	54	President and Chief Executive Officer
James Moniz	58	Executive Vice President, Finance and Administration, Chief Financial Officer, Treasurer and Secretary
Andres Brugal	58	Executive Vice President and General Manager, Photonics
Jay Cho	51	Executive Vice President and General Manager, Thin-Film Equipment
Christopher Smith	56	Vice President, Business Development
Michael Russak	69	Executive Advisor
Other Key Officers:		
Babak Adibi	61	Vice President and General Manager, Solar Implant
Verle Aebi	61	Chief Technology Officer, Photonics
Terry Bluck	56	Vice President, Chief Technology Officer, Thin-film Equipment
Kimberly Burk	50	Vice President, Global Human Resources
Timothy Justyn	53	Senior Vice President of Global Operations

Mr. Blonigan joined Intevac in July 2013 as President and Chief Executive Officer. Prior to joining Intevac, Mr. Blonigan co-founded Orbotech LT Solar in 2009 and served as the company s Chief Executive Officer until 2013. From 2006 until 2009, he was the Chief Operating Officer at Photon Dynamics, Inc. In 1991, Mr. Blonigan joined Applied Materials AKT display subsidiary. During his tenure at AKT, he held various positions. In 2003, he was appointed President and served in this role until 2006; from 1999 through 2003 he was Vice President, and prior to that time he was Director of Engineering and New Product Development. Mr. Blonigan holds a BS in electronic engineering technology from DeVry University Missouri Institute of Technology.

Mr. Moniz joined Intevac as Executive Vice President, Finance and Administration, Chief Financial Officer, Treasurer and Secretary in November 2014. Mr. Moniz previously served as the Chief Financial Officer of Nanometrics, Inc. from 2009 until his retirement in 2011. During 2008, Mr. Moniz was the Chief Financial Officer at Photon Dynamics, Inc. From 2000 until 2008, Mr. Moniz served as the Chief Financial Officer at Nextest Systems Corporation. Prior to Nextest, Mr. Moniz held senior financial management positions at Millennia Vision Corporation, Lockheed Martin Corporation, Loral Corporation and Varian Associates. Mr. Moniz holds an MBA, a BS in accounting and a BS in marketing from San Jose State University.

Mr. Brugal joined Intevac as Executive Vice President and General Manager, Photonics in January 2012. Before joining Intevac, Mr. Brugal was employed at Vision Systems International, a joint venture between Rockwell Collins and Elbit Systems of America, from 2006 to 2012, serving as President and Chief Executive Officer from April 2007 to January 2012. From 2005 to 2006, Mr. Brugal was employed as a consultant for DRS Technologies, a subsidiary of Finmeccanica SPA. Mr. Brugal retired from active service with the U.S. Navy in October 2005 with the rank of Captain. Mr. Brugal holds an MS in strategic studies and security affairs from the U.S. Naval War College and a BS in general engineering from the U.S. Naval Academy.

Mr. Cho joined Intevac in January 2014 and currently serves as Executive Vice President and General Manager, Thin-Film Equipment. Prior to joining Intevac, Mr. Cho was President, Chief Executive Officer and Co-Founder of

REEnewal Corporation. From 2006 to 2011, Mr. Cho served as Vice President / General Manager of the Tester and Repair Business Units of Orbotech LTD. From 2005 to 2006, Mr. Cho served as Vice President, Product Development at Metara Inc. From 1992 to 2005, Mr. Cho held various management positions at Novellus Systems, Inc. Prior to Novellus, Mr. Cho worked for Digital Equipment Corporation and Intermec Corporation. Mr. Cho holds a BS in electrical engineering from Washington State University and an MBA from University of Phoenix.

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Mr. Smith joined Intevac in August 2010 and currently serves as Vice President, Business Development. Prior to joining Intevac, Mr. Smith served as Senior Vice President Sales and Customer Support at Oerlikon Solar, from November 2007 to August 2010. From 2006 to 2007 he served as Senior Vice President of Sales and Service with Cymer. Previously, Mr. Smith was employed by Applied Materials from 1994 to 2006. While at Applied Materials he held a variety of executive-level customer support and operations positions. He also served as product business group general manager for Chemical Mechanical Polishing and was managing director of Global Business Development for the Dielectric and Physical Vapor Deposition Product Business Groups. Mr. Smith earned his BS in Business Administration / Material Management from San Jose State University.

Dr. Russak joined Intevac in July 2008 and currently serves as Executive Advisor. From 2008 to January 2014 he served as Executive Vice President and General Manager, Hard Disk Equipment Products. Before joining Intevac Dr. Russak served as President and Chief Technical Officer of Komag from 2000 to 2007. From 1993 to 2000, Dr. Russak served as Vice President of Research and Development at HMT Technology. Previously, Dr. Russak held management positions in the Research Division of IBM Corporation. Prior to IBM, Dr. Russak worked for Grumman Aerospace Corporation as a contributing scientist. Dr. Russak holds a BS in ceramic engineering and a PhD in materials science from Rutgers University.

Dr. Adibi joined Intevac in November 2010 as Vice President and General Manager, Solar Implant. Prior to joining Intevac, Dr. Adibi was President, Chief Technology Officer and Co-Founder of Solar Implant Technologies. Prior to founding Solar Implant Technologies, Dr. Adibi worked for Silicon Genesis Corporation from 2006 to 2008 as the General Manager of the Solar Equipment Division. From 2003 to 2006 he served as Vice President in the Laser Annealing Product Division of Ultratech. Previously, Dr. Adibi was employed by Applied Materials from 1985 to 2003. While at Applied Materials he held a variety of executive-level engineering positions. Dr. Adibi holds numerous patents in the area of ion implantation, a PhD in ion implantation and semiconductors and a MS in nuclear power from Surrey University in England and a BS in physics from the Imperial College of London.

Mr. Aebi has served as Chief Technology Officer of the Photonics business since August 2006. Previously, Mr. Aebi served as President of the Photonics Division from July 2000 to July 2006 and as General Manager of the Photonics Division since May 1995. Mr. Aebi was elected as a Vice President of the Company in September 1995. From 1988 through 1994, Mr. Aebi was the Engineering Manager of the night vision business Intevac acquired from Varian Associates in 1991, where he was responsible for new product development in the areas of advanced photocathodes and image intensifiers. Mr. Aebi holds a BS in physics and an MS in electrical engineering from Stanford University.

Mr. Bluck rejoined Intevac as Vice President, Chief Technology Officer of the Thin-film Equipment in August 2004. Mr. Bluck had previously worked at Intevac from December 1996 to November 2002 in various engineering positions. The business unit Mr. Bluck worked for was sold to Photon Dynamics in November 2002, and he was employed there as Vice President, Rapid Thermal Process Product Engineering until August 2004. Mr. Bluck holds a BS in physics from San Jose State University.

Ms. Burk joined Intevac in May 2000 and currently serves as Vice President of Global Human Resources. Prior to joining Intevac, Ms. Burk served as Human Resources Manager of Moen, Inc. from 1999 to 2000 and as Human Resources Manager of Lawson Mardon from 1994 to 1999. Ms. Burk holds a BS in sociology from Northern Illinois University.

Mr. Justyn has served as Senior Vice President of Global Operations from February 2015. Mr. Justyn served as Vice President, Photonics from October 2008 to February 2015. Mr. Justyn served as Vice President, Thin-film Equipment Manufacturing from April 1997 to October 2008. Mr. Justyn joined Intevac in February 1991 and has served in various roles in our Thin-film Equipment Products Division and our former night vision business. Mr. Justyn holds a

BS in chemical engineering from the University of California, Santa Barbara.

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Available Information

Intevac's website is *http://www.intevac.com.* Intevac makes available free of charge, on or through its website, its annual, quarterly and current reports, and any amendments to those reports, as soon as reasonably practicable after electronically filing such reports with, or furnishing them to, the SEC. This website address is intended to be an inactive textual reference only and none of the information contained on Intevac's website is part of this report or is incorporated by reference herein.

Trademarks

Intevac's trademarks, include the following: 200 Lean®, AccuLuber, EBAPS®, ENERGi, I-Port®, LIVAR, INTEVAC MATRIX, MicroVista®, NightVista®, Night Port and INTEVAC VERTEX.

Item 1A. *Risk Factors*

The following factors could materially affect Intevac's business, financial condition or results of operations and should be carefully considered in evaluating the Company and its business, in addition to other information presented elsewhere in this report.

The industries we serve are cyclical, volatile and unpredictable.

A significant portion of our revenue is derived from the sale of equipment used to manufacture commodity technology products such as disk drives, PV solar cells and cell phones. This subjects us to business cycles, the timing, length and volatility of which can be difficult to predict. When demand for commodity technology products exceeds production capacity, then demand for new capital equipment such as ours tends to be amplified. Conversely, when supply of commodity technology products exceeds demand, then demand for new capital equipment such as ours tends to be depressed. For example, sales of systems for magnetic disk production were depressed from late 2007 through 2009. The number of new systems delivered increased in 2010 as customers increased their production capacity in response to increased demand for data storage, but decreased in 2011 through 2015 as the hard disk drive industry did not add the same level of capacity that it did in 2010. We cannot predict with any certainty when these cycles will begin or end. We believe that our sales of systems for magnetic disk production will continue to be depressed through 2016.

Our equipment represents only a portion of the capital expenditure that our customers incur when they upgrade or add production capacity. Accordingly, our customers generally commit to making large capital expenditures far in excess of the cost of our systems alone when they decide to purchase our systems. The magnitude of these capital expenditures requires our customers to have access to large amounts of capital. Our customers generally reduce their level of capital investment during downturns in the overall economy or during a downturn in their industries.

We must effectively manage our resources and production capacity to meet rapidly changing demand. Our business experiences rapid growth and contraction, which stresses our infrastructure, internal systems and managerial resources. During periods of increasing demand for our products, we must have sufficient manufacturing capacity and inventory to meet customer demand; attract, retain and motivate a sufficient number of qualified individuals; and effectively manage our supply chain. During periods of decreasing demand for our products, we must be able to align our cost structure with prevailing market conditions; motivate and retain key employees and effectively manage our supply chain.

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Sales of our equipment are primarily dependent on our customers upgrade and capacity expansion plans and whether our customers select our equipment.

We have no control over our customers upgrade and capacity expansion plans, and we cannot be sure they will select, or continue to select, our equipment when they upgrade or expand their capacity. The sales cycle for our equipment systems can be a year or longer, involving individuals from many different areas of Intevac and numerous product presentations and demonstrations for our prospective customers. Our sales process also commonly includes production of samples and customization of our products. We typically do not enter into long-term contracts with our customers, and until an order is actually submitted by a customer there is no binding commitment to purchase our systems.

Sales of new manufacturing systems are also dependent on obsolescence and replacement of the installed base of our customers existing equipment with newer, more capable equipment. If upgrades are developed that extend the useful life of the installed base of systems, then we tend to sell more upgrade products and fewer new systems, which can significantly reduce total revenue. For example, some of our 200 Lean customers continue to use legacy systems for the production of perpendicular media, which delayed the replacement of such systems with new 200 Lean systems.

Our 200 Lean customers also experience competition from companies that produce alternative storage technologies like flash memory, which offer smaller size, lower power consumption and more rugged designs. These storage technologies are being used increasingly in enterprise applications and smaller form factors such as tablets, smart-phones, ultra-books, and notebook PCs instead of hard disk drives. Tablet computing devices and smart-phones have never contained, nor are they likely in the future to contain, a disk drive. Products using alternative technologies, such as flash memory, optical storage and other storage technologies are becoming increasingly common and could become a significant source of competition to particular applications of the products of our 200 Lean customers, which could adversely affect our results of operations. If alternative technologies, such as flash memory, replace hard disk drives as a significant method of digital storage, then demand for our hard disk manufacturing products would decrease.

The Photonics business is also subject to long sales cycles because many of its products, such as our military imaging products, often must be designed into the customers end products, which are often complex state-of-the-art products. These development cycles are typically multi-year, and our sales are contingent on our customers successfully integrating our product into their product, completing development of their product and then obtaining production orders for their product from the U.S. government or its allies.

We operate in an intensely competitive marketplace, and our competitors have greater resources than we do.

In the market for our disk sputtering systems, we experience competition primarily from Canon Anelva, which has sold a substantial number of systems worldwide. In the PV equipment market, Intevac faces competition from large established competitors including Applied Materials, Centrotherm Photovoltaics, Amtech, Jusung and Von Ardenne. In the market for our military imaging products we experience competition from companies such as Harris Corporation and L-3 Communications. Some of our competitors have substantially greater financial, technical, marketing, manufacturing and other resources than we do, especially in the PV equipment market. Our competitors may develop enhancements to, or future generations of, competitive products that offer superior price or performance features, and new competitors may enter our markets and develop such enhanced products. Moreover, competition for our customers is intense, and our competitors have historically offered substantial pricing concessions and incentives to attract our customers or retain their existing customers.

Our growth depends on development of technically advanced new products and processes.

We have invested heavily, and continue to invest, in the development of new products, such as our 200 Lean and other PVD systems, our solar systems for PV applications, our digital night-vision products and our near-eye display products. Our success in developing and selling new products depends upon a variety of factors,

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including our ability to: predict future customer requirements, make technological advances, achieve a low total cost of ownership for our products, introduce new products on schedule, manufacture products cost-effectively including transitioning production to volume manufacturing; commercialize and attain customer acceptance of our products; and achieve acceptable and reliable performance of our new products in the field. Our new product decisions and development commitments must anticipate continuously evolving industry requirements significantly in advance of sales. In addition, we are attempting to expand into new or related markets, including the PV and cell phone cover glass markets. Our expansion into the PV market is dependent upon the success of our customers development plans. To date we have not recognized material revenue from such products. Failure to correctly assess the size of the markets, to successfully develop cost effective products to address the markets or to establish effective sales and support of the new products would have a material adverse effect on future revenues and profits. In addition, if we invest in products for which the market does not develop as anticipated, we may incur significant charges related to such investments.

Rapid technological change in our served markets requires us to rapidly develop new technically advanced products. Our future success depends in part on our ability to develop and offer new products with improved capabilities and to continue to enhance our existing products. If new products have reliability or quality problems, our performance may be impacted by reduced orders, higher manufacturing costs, delays in acceptance and payment for new products and additional service and warranty expenses.

We are exposed to risks associated with a highly concentrated customer base.

Historically, a significant portion of our revenue in any particular period has been attributable to sales of our disk sputtering systems to a limited number of customers. This concentration of customers, when combined with changes in the customers specific capacity plans and market share shifts can lead to extreme variability in our revenue and financial results from period to period.

The concentration of our customer base may enable our customers to demand pricing and other terms unfavorable to Intevac, and makes us more vulnerable to changes in demand by a given customer. Orders from a relatively limited number of manufacturers have accounted for, and will likely continue to account for, a substantial portion of our revenues. The loss of one of these large customers, or delays in purchasing by them, could have a material and adverse effect on our revenues.

Our operating results fluctuate significantly from quarter to quarter, which can lead to volatility in the price of our common stock.

Our quarterly revenues and common stock price have fluctuated significantly. We anticipate that our revenues, operating margins and common stock price will continue to fluctuate for a variety of reasons, including: (1) changes in the demand, due to seasonality, cyclicality and other factors in the markets for computer systems, storage subsystems and consumer electronics containing disks as well as cell phones and PV solar cells our customers produce with our systems; (2) delays or problems in the introduction and acceptance of our new products, or delivery of existing products; (3) timing of orders, acceptance of new systems by our customers or cancellation of those orders; (4) new products, services or technological innovations by our competitors or us; (5) changes in our manufacturing costs and operating expense; (6) changes in general economic, political, stock market and industry conditions; and (7) any failure of our operating results to meet the expectations of investment research analysts or investors.

Any of these, or other factors, could lead to volatility and/or a rapid change in the trading price of our common shares. In the past, securities class action litigation has been instituted against companies following periods of volatility in the market price of their securities. Any such litigation, if instituted against Intevac, could result in substantial costs and

diversion of management time and attention.

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We may not be able to obtain export licenses from the U.S. government permitting delivery of our products to international customers.

Many of our products, especially Photonics products, require export licenses from U.S. government agencies under the Export Administration Act, the Trading with the Enemy Act of 1917, the Arms Export Act of 1976 or the International Traffic in Arms Regulations. These regulations limit the potential market for some of our products. We can give no assurance that we will be successful in obtaining all the licenses necessary to export our products. Heightened government scrutiny of export licenses for defense related products has resulted in lengthened review periods for our license applications. Exports to countries that are not considered by the U.S. government to be allies are likely to be prohibited, and even sales to U.S. allies may be limited. Failure to comply with export control laws, including identification and reporting of all exports and re-exports of controlled technology or exports made without correct license approval or improper license use could result in severe penalties and revocation of licenses. Failure to obtain export licenses, delays in obtaining licenses, or revocation of previously issued licenses would prevent us from selling the affected products outside the United States and could negatively impact our results of operations.

The Photonics business is dependent on U.S. government contracts, which are subject to fixed pricing, immediate termination and a number of procurement rules and regulations.

We sell our Photonics products and services directly to the U.S. government, as well as to prime contractors for various U.S. government programs. The U.S government is considering significant changes in the level of existing, follow-on or replacement programs. We cannot predict the impact of potential changes in priorities due to military transformations and/or the nature of future war-related activities. A shift of government priorities to programs in which we do not participate and/or reductions in funding for or the termination of programs in which we do participate, unless offset by other programs and opportunities, could have a material adverse effect on our financial position, results of operations, or cash flows.

Funding of multi-year government programs is subject to congressional appropriations, and there is no guarantee that the U.S. government will make further appropriations, particularly given the U.S. government s recent focus on spending in other areas and spending reductions. Sales to the U.S. government and its prime contractors may also be affected by changes in procurement policies, budget considerations and political developments in the United States or abroad. For example, if the U.S. government is less focused on defense spending or there is a decrease in hostilities, demand for our products could decrease. The loss of funding for a government program would result in a loss of future revenues attributable to that program. The influence of any of these factors, which are beyond our control, could negatively impact our results of operations.

A significant portion of our U.S. government revenue is derived from fixed-price development and production contracts. Under fixed-price contracts, unexpected increases in the cost to develop or manufacture a product, whether due to inaccurate estimates in the bidding process, unanticipated increases in material costs, reduced production volumes, inefficiencies or other factors, are borne by us. We have experienced cost overruns in the past that have resulted in losses on certain contracts, and may experience additional cost overruns in the future. We are required to recognize the total estimated impact of cost overruns in the period in which they are first identified. Such cost overruns could have a material adverse effect on our results of operations.

Generally, government contracts contain provisions permitting termination, in whole or in part, without prior notice at the government s convenience upon the payment of compensation only for work done and commitments made at the time of termination. We cannot ensure that one or more of the government contracts under which we, or our customers, operate will not be terminated under these circumstances. Also, we cannot ensure that we, or our customers, would be able to procure new government contracts to offset the revenues lost as a result of any

termination of existing contracts, nor can we ensure that we, or our customers, will continue to remain in good standing as federal contractors.

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As a U.S. government contractor we must comply with specific government rules and regulations and are subject to routine audits and investigations by U.S. government agencies. If we fail to comply with these rules and regulations, the results could include: (1) reductions in the value of our contracts; (2) reductions in amounts previously billed and recognized as revenue; (3) contract modifications or termination; (4) the assessment of penalties and fines; and (5) suspension or debarment from government contracting or subcontracting for a period of time or permanently.

Changes to our effective tax rate affect our results of operations.

As a global company, we are subject to taxation in the United States, Singapore and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future effective tax rate could be affected by: (1) changes in tax laws; (2) the allocation of earnings to countries with differing tax rates; (3) changes in worldwide projected annual earnings in current and future years: (4) accounting pronouncements; or (5) changes in the valuation of our deferred tax assets and liabilities. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be different from the treatment reflected in our historical income tax provisions and accruals, which could result in additional payments by Intevac.

Beginning in 2007, Intevac benefitted from tax incentives in Singapore which were scheduled to expire at the end of 2015. These tax incentives required that Intevac meet certain thresholds of business investment and employment levels in Singapore. Intevac was granted an early termination of this tax benefit arrangement effective January 1, 2013 by the Singapore tax authority. The terms of the early termination include meeting certain agreed upon future annual business spending and staffing levels in Singapore. Failure to meet the terms of the early termination could result in a claw back by the Singapore government of tax benefits received in previous years. A claw back of all or part of these tax benefits would adversely affect our results of operations and cash flows.

Our success depends on international sales and the management of global operations.

In previous years, the majority of our revenues have come from regions outside the United States. Most of our international sales are to customers in Asia, which includes products shipped to overseas operations of U.S. companies. We currently have manufacturing facilities in California and Singapore and international customer support offices in Singapore, China, and Malaysia. We expect that international sales will continue to account for a significant portion of our total revenue in future years. Certain of our suppliers are also located outside the United States.

Managing our global operations presents challenges including, but not limited to, those arising from: (1) global trade issues; (2) variations in protection of intellectual property and other legal rights in different countries; (3) concerns of U.S. governmental agencies regarding possible national commercial and/or security issues posed by growing manufacturing business in Asia; (4) fluctuation of interest rates, raw material costs, labor and operating costs, and exchange rates; (5) variations in the ability to develop relationships with suppliers and other local businesses; (6) changes in the laws and regulations of the United States, including export restrictions, and other countries, as well as their interpretation and application; (7) the need to provide technical and spares support in different locations; (8) political and economic instability; (9) cultural differences; (10) varying government incentives to promote development; (11) shipping costs and delays; (12) adverse conditions in credit markets; (13) variations in tariffs, quotas, tax codes and other market barriers; and (14) barriers to movement of cash.

We must regularly assess the size, capability and location of our global infrastructure and make appropriate changes to address these issues.

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We may be subject to additional impairment charges due to potential declines in the fair value of our assets.

As a result of our acquisitions, we have significant intangible assets and had significant goodwill on our balance sheet. We test these assets for impairment on a periodic basis as required, and whenever events or changes in circumstances indicate that the carrying value may not be recoverable. The events or changes that could require us to test our intangible assets for impairment include: a significant reduction in our stock price, and as a result market capitalization, changes in our estimated future cash flows, as well as changes in rates of growth in our industry or in any of our reporting units. In the fourth quarter of 2012, as a result of a decline in our market capitalization and a reduction in our revenue expectations we recorded a goodwill impairment charge in the amount of $18.4 million. We will continue to evaluate the carrying value of our intangible assets and if we determine in the future that there is a potential further impairment, we may be required to record additional charges to earnings which could materially adversely affect our financial results and could also materially adversely affect our business.

Our success is dependent on recruiting and retaining a highly talented work force.

Our employees are vital to our success, and our key management, engineering and other employees are difficult to replace. We do not maintain key person life insurance on any of our employees. The expansion of high technology companies worldwide has increased demand and competition for qualified personnel, and has made companies increasingly protective of prior employees. It may be difficult for us to locate employees who are not subject to non-competition agreements and other restrictions.

The majority of our U.S. operations are located in California where the cost of living and of recruiting employees is high. Our operating results depend, in large part, upon our ability to retain and attract qualified management, engineering, marketing, manufacturing, customer support, sales and administrative personnel. Furthermore, we compete with industries such as the hard disk drive, semiconductor, and solar industries for skilled employees. Failure to retain existing key personnel, or to attract, assimilate or retain additional highly qualified employees to meet our needs in the future, could have a material and adverse effect on our business, financial condition and results of operations.

We are dependent on certain suppliers for parts used in our products.

We are a manufacturing business. Purchased parts constitute the largest component of our product cost. Our ability to manufacture depends on the timely delivery of parts, components and subassemblies from suppliers. We obtain some of the key components and subassemblies used in our products from a single supplier or a limited group of suppliers. If any of our suppliers fail to deliver quality parts on a timely basis, we may experience delays in manufacturing, which could result in delayed product deliveries, increased costs to expedite deliveries or develop alternative suppliers, or require redesign of our products to accommodate alternative suppliers. Some of our suppliers are thinly capitalized and may be vulnerable to failure.

Our business depends on the integrity of our intellectual property rights.

The success of our business depends upon the integrity of our intellectual property rights, and we cannot ensure that: (1) any of our pending or future patent applications will be allowed or that any of the allowed applications will be issued as patents or will issue with claims of the scope we sought; (2) any of our patents will not be invalidated, deemed unenforceable, circumvented or challenged; (3) the rights granted under our patents will provide competitive advantages to us; (4) other parties will not develop similar products, duplicate our products or design around our patents; or (5) our patent rights, intellectual property laws or our agreements will adequately protect our intellectual property or competitive position.

From time to time, we have received claims that we are infringing third parties intellectual property rights or seeking to invalidate our rights. We cannot ensure that third parties will not in the future claim that we have

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infringed current or future patents, trademarks or other proprietary rights relating to our products. Any claims, with or without merit, could be time-consuming, result in costly litigation, cause product shipment delays or require us to enter into royalty or licensing agreements. Such royalty or licensing agreements, if required, may not be available on terms acceptable to us.

We could be involved in litigation.

From time to time we may be involved in litigation of various types, including litigation alleging infringement of intellectual property rights and other cl