RUDOLPH TECHNOLOGIES INC
Form 10-K
February 19, 2016
Table of Contents

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 December 31, 2015

OR

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

For the transition period from to

Commission File No. 001-36226

RUDOLPH TECHNOLOGIES, INC.
(Exact name of registrant as specified in its charter)

Delaware	22-3531208
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

16 Jonspin Road, Wilmington, MA 01887
(Address of principal executive offices) (Zip Code)
Registrant's telephone number, including area code: (978) 253-6200

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Name of Exchange on Which Registered
Common Stock, $0.001 par value per share (including attached Series A Junior Participating Preferred Stock Purchase Rights)	New York Stock Exchange (NYSE)

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 o No x

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 o No x

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 x No o

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

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

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

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

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

The aggregate market value of the voting stock held by non-affiliates of the registrant based on the closing price of the registrant's stock price on June 30, 2015 of $12.01 was approximately $360,777,157.

The registrant had 31,025,779 shares of Common Stock outstanding as of February 12, 2016.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K incorporate by reference information from the definitive proxy statement for the registrant's annual meeting of stockholders scheduled to be held on May 18, 2016.

TABLE OF CONTENTS

Table of Contents

FORWARD LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K are forward-looking statements, including those concerning our business momentum and future growth, the benefit to customers and market acceptance of our products and customer service, our ability to deliver both products and services consistent with our customers' demands and expectations and strengthen our market position, our expectations of the semiconductor market outlook, future revenues, gross profits, research and development and engineering expenses, selling, general and administrative expenses, product introductions, technology development, manufacturing practices, cash requirements and anticipated trends and developments in and management plans for, our business and the markets in which we operate, our anticipated revenue as a result of acquisitions, and our ability to be successful in managing our cost structure and cash expenditures and results of litigation. The statements contained in this Annual Report on Form 10-K that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934, as amended and within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by the words such as, but not limited to, "anticipate," "believe," "expect," "intend," "plan," "should," "may," "could," "will" and words or phrases of similar meaning, relate to our management or us.

The forward-looking statements contained herein reflect our expectations with respect to future events and are subject to certain risks, uncertainties and assumptions. The forward-looking statements reflect our position as of the date of this report and we undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. Actual results may differ materially from those included in such forward-looking statements for a number of reasons including, but not limited to, the following: variations in the level of orders which can be affected, among other factors, by general economic conditions, seasonality , growth rates in the semiconductor manufacturing industry and in the markets served by our customers, the global economic and political climates, difficulties or delays in product functionality or performance, the delivery performance of sole source vendors, the timing of future product releases, failure to respond adequately to either changes in technology or customer preferences, changes in pricing by us or our competitors; our ability to manage growth; changes in management; risk of nonpayment of accounts receivable; changes in budgeted costs; our ability to leverage our resources to improve our position in our core markets, our ability to weather difficult economic environments; our ability to open new market opportunities and target high-margin markets; the strength/weakness of the back-end and /or front-end semiconductor market segments; our ability to successfully integrate acquired businesses, into our business and fully realize, or realize within the expected time frame, the expected combination benefits from any such acquisition; and the "Risk Factors" set forth in Item 1A. You should carefully review the cautionary statements and "Risk Factors" contained in this Annual Report on Form 10-K. You should also review any additional disclosures and cautionary statements and "Risk Factors" we include from time to time in our quarterly reports on Form 10-Q, current reports on Form 8-K and other filings we make with the Securities and Exchange Commission.

PART I

Item 1. Business.

General

Rudolph Technologies, Inc. is a worldwide leader in the design, development, manufacture and support of process control defect inspection and metrology, advanced packaging lithography, and data analysis systems and software used by microelectronics device manufacturers. We provide process and yield management solutions used in both wafer processing and final manufacturing through a family of standalone systems for macro-defect inspection, lithography, probe card test and analysis, and transparent and opaque thin film measurements. All Rudolph systems feature sophisticated software and production-worthy automation. In addition, our advanced process control software portfolio includes powerful solutions to enhance productivity and achieve significant cost savings. Rudolph systems

are backed by worldwide customer service and applications support.

As advanced packaging continues to drive process development in the semiconductor industry, Rudolph experienced increased adoption of its JetStep® W Series advanced packaging lithography stepper in 2015. While the JetStep system first found success with fan-out wafer level packaging ("FOWLP"), an emerging wafer-level electrical

Table of Contents

redistribution method, in 2015 it expanded on that success to include the copper ("Cu") pillar flip-chip wafer bumping application and through silicon vias ("TSV") used in three dimensional integrated circuits ("3DIC").
Semiconductor manufacturers' need for more process insight continues to increase. Many semiconductor software solutions have been developed over the years to address advanced tool monitoring and control for manufacturing, but they are typically focused on either wafer or equipment state information, not both. To this end, Rudolph introduced Equipment Sentinel™ fault detection and classification software that integrates formerly independent data streams into a powerful monitoring and control engine to enable timely actionable information, greatly enhancing optimization capabilities with predictive analytics in the fab.
Wafer dicing is one of the final steps in semiconductor manufacturing when a wafer has completed its processing and the individual die is ready to be packaged. The evolution of semiconductor device materials for advanced packaging has resulted in more stringent dicing process requirements. Process deviations and excursions during die singulation can result in chips and cracks that impact the long-term reliability of devices. In 2015 Rudolph announced a partnership with DISCO Corporation, a leading manufacturer of wafer saw and dicing solutions, to improve the wafer saw process. Rudolph's NSX® inspection system performs post-saw inspection while Rudolph's new Equipment Sentinel™ fault detection and classification (FDC) software allows for real time monitoring and feedback of DISCO's dicing tools. The partnership provides a comprehensive solution to improve device reliability and data reporting, while at the same time lowering costs and decreasing ramp times.
In 2015 Rudolph announced its acquisition of Stella Alliance, LLC, a Massachusetts-based semiconductor inspection technology intellectual property (IP) portfolio company. Stella Alliance's patented illumination, auto-focus and image acquisition technology significantly enhances the ability to identify certain critical defects not visible with current techniques. With this acquisition, Rudolph expects to add a next-generation, high-resolution inspection system to its portfolio of solutions in 2016.

Industry Trends
Advanced Packaging is a key technology that enables the miniaturization of electronic products, such as portable consumer devices, including smartphones and laptops. In electronics manufacturing, integrated circuit packaging is the final stage of semiconductor device fabrication, in which the tiny block of semiconducting material (die) is encased in a supporting package that provides an external electrical connection and prevents physical damage and corrosion. Packaging refers loosely to the conductors and other structures that interconnect the circuits, feed them with electric power, discharge their heat and protect them from damage. Today, the drive to pack more functions into a small space and reduce their power requirements demands that chip packages do much more than ever before. Examples of advanced packaging are varied and include flip-chip bumping, pillar bumping, wafer-level chip scale packaging and 3D packaging.
One solution using advanced packaging is the 3D integration of semiconductors and other devices. The technology involves stacking individual die or wafers in one integrated housing. Through silicon vias (TSV, 3D stacking) allow communication among the individual components. This offers the advantages of shorter signal paths and reduced power consumption, enhanced bandwidths, integration of heterogeneous components such as sub-chips, smaller surface area and reduced expense. The processes required for 3D integration are still being optimized for yield, and to ensure the functioning of individual microchips.
The current and projected adoption of smart mobile devices drives designed-in capability. There are no longer single function devices, but instead, various devices have been combined to provide multiple functions. For example, smart phone users no longer need a GPS, digital camera and PDA. With the addition of a myriad of available "apps," the potential uses seem endless. As a result, advancements in mobile products are driving semiconductor advanced packaging and display manufacturers to implement next-generation technologies to meet the resulting requirements. This technology shift has created multiple opportunities for Rudolph solutions.
Panel Lithography. Scalable technology is rapidly increasing in importance. Advanced packaging facilities looking to improve Cost of Ownership ("COO") and increase productivity are transitioning to large rectangular panels ranging up to Gen 3.5 (approximately 650mm x 720mm). Traditional technology has been limited to standard wafer sizes.

However, with companies progressively moving to fan-out packages, they are no longer limited to operating within the constraints of a round wafer. By responding to market opportunities and addressing the stringent demands

Table of Contents

of customers' technical roadmaps, Rudolph is optimally positioned to capitalize on the emerging market of advanced packaging panel lithography. The JetStep S Series, having emerged from the flat panel display market, is readily capable of processing both glass and organic laminate panels in the semiconductor advanced packaging market.

Technology

We believe that our expertise in engineering and our continued investment in research and development enable us to rapidly develop new technologies and products in response to emerging industry trends. The breadth of our technology enables us to offer a diverse combination of process and process control solutions. Unique features have been designed into our lithography systems to meet our customers' changing process requirements. Our metrology and inspection technologies provide process control for the majority of wafers processed today in semiconductor manufacturing. In front-end processes, thin film metrology and defect detection and classification technologies allow yield enhancement for critical processes such as photolithography, diffusion, etch, CMP and outgoing quality control. Within the final manufacturing (back-end) processes, advanced macro defect inspection provides our customers with critical quality assurance and process information. Defects may be created during probing, bumping, dicing or general handling, and can have a major impact on device and process quality. Lastly, we turn all of the data gathered into useful knowledge for our customers to make yield-enhancing decisions.

Process Control Business

Inspection Systems. Chip manufacturers deploy advanced macro defect inspection throughout the fab to monitor key process steps, gather process-enhancing information and ultimately, lower manufacturing costs. Field-established tools such as the F30™ and NSX inspection systems are found in wafer processing (front-end) and final manufacturing (back-end) facilities around the world. These high-speed tools incorporate features such as waferless recipe creation, tool-to-tool correlation and multiple inspection resolutions. In addition to wafer frontside inspection, Rudolph's innovative Explorer® Platform allows wafer edge and backside inspection in one integrated platform to enhance productivity and continuously improve fab yield. Using Discover® yield management software, the vast amount of data gathered through automated inspection can be analyzed and classified to determine trends that ultimately affect yield.

All-Surface Inspection. All-surface refers to inspection of the wafer frontside, edge, and backside as well as post-fab die. The edge inspection process focuses on the area near the wafer edge, an area that poses difficulty for traditional wafer frontside inspection technology due to its varied topography and process variation. Edge bevel inspection looks for defects on the side edge of a wafer. Edge bead removal and edge exclusion metrology involve a topside surface measurement required exclusively in the photolithography process, primarily to determine if wafers have been properly aligned for the edge exclusion region. The primary reason for wafer backside inspection is to determine if contamination has been created that may spread throughout the fab. For instance, it is critical that the wafer backside be free of defects prior to the photolithography process to prevent focus and exposure problems on the wafer frontside.

Automated Defect Detection and Classification. Automating the defect detection and classification process is best done by a system that can mimic, or even extend, the response of the human eye, but at a much higher speed, with high resolution and more consistency. To do this, our systems capture full-color whole wafer images using simultaneous dark and bright field illumination. The resulting bright and dark field images are compared to those from an "ideal" wafer having no defects. When a difference is detected, its image is broken down into mathematical vectors that allow rapid and accurate comparison with a library of known classified defects stored in the tool's database. Patented and proprietary enhancements of this approach enable very fast and highly repeatable image classification. The system is pre-programmed with an extensive library of default local, global and color defects and can also absorb a virtually unlimited amount of new defect classes. This allows customers to define defects based on their existing defect classification system, provides more reliable automated rework decisions and enables more accurate statistical process control data.

Classification. Classifying defects off-line enables automated inspection systems to maintain their high throughput. Using defect image files captured by automated inspection systems, operators are able to view high-resolution defect images to determine defects that cause catastrophic failure of a device, or killer defects. Classifying defects enables

faster analysis by grouping defects found together as one larger defect, a scratch for example, and defects of similar types across a wafer lot to be grouped based on size, repeating defects and other user-defined specifications. Automatically classifying defects provides far greater yield learning than human classification.

Table of Contents

Yield Analysis. Using wafer maps, charts and graphs, the vast amounts of data gathered through automated inspection can be analyzed to determine trends across bumps, die, wafers and lots. This analysis may determine where in the process a variation is being introduced, allowing for enhancements to be made and yields improved. Defect data analysis is performed to identify, analyze and locate the source of defects and other manufacturing process excursions. Using either a single wafer map or a composite map created from multiple wafer maps, this analysis enables identification of defect patterns and distribution. When combined with inspection data from strategically-placed inspection points, this analysis may pinpoint the source of the defects so corrective action can be taken.

Probe Card Test and Analysis. The combination of Fast 3D-OCM® (optical comparative metrology) Technology with improved testing accuracy and repeatability is designed to reduce total test time for even the most advanced large area probe cards. The 3-D capabilities enable users to analyze probe marks and probe tips in a rapid and information-rich format.

Optical Acoustic Metrology. Optical acoustic metrology involves the use of ultra-fast laser induced sonar for metal and opaque thin film measurement. This technology sends ultrasonic waves into multi-layer opaque films and then analyzes the resulting echoes to simultaneously determine the thickness of each individual layer in complex multi-layer metal film stacks. The echo's amplitude and phase can be used to detect film properties, missing layers and interlayer problems. Since different phenomena affect amplitude and phase uniquely, a variety of process critical interlayer problems can be detected in a single measurement. The use of optical acoustics to measure multi-layer metal and opaque films was pioneered by scientists at Brown University ("Brown") in collaboration with engineers at Rudolph. The proprietary optical acoustic technology in our PULSE™ Technology systems measures the thickness of single or multi-layer opaque films ranging from less than 40 Angstroms to greater than five microns. It provides these measurements at a rate of up to 70 wafers per hour within one to two percent accuracy and typically less than one percent repeatability. This range of thicknesses covers the majority of thick and thin metal films projected by the International Roadmap for Semiconductors to be used through the end of this decade. Our non-contact, non-destructive optical acoustic technology and small spot size enable our PULSE Technology systems to measure film properties directly on product wafers.

Opaque Film Metrology. The MetaPULSE® System gives customers the ability to simultaneously measure the thickness and other properties of up to six metal or other opaque film layers in a non-contact manner on product wafers. PULSE Technology uses an ultra-fast laser to generate sound waves that pass down through a stack of opaque films such as those used in copper or aluminum interconnect processes, sending back to the surface an echo that indicates film thickness, density, and other process critical parameters. We believe we are a leader in providing systems that can non-destructively measure opaque thin-film stacks with the speed and accuracy semiconductor device manufacturers demand in order to achieve high yields with the latest fabrication processes. The technology is ideal for characterizing copper interconnect structures. The MetaPULSE System, used mainly for fast and accurate measurements of metal interconnect in front-end wafer processing applications, has now been chosen by back-end manufacturers to perform system measurements in new process applications, driven by the need for on-product metrology as feature sizes decrease and pattern densities increase.

Thick Film Metrology. SONUS® Technology is designed for measuring thick films and film stacks used in copper pillar bumps and for detecting defects, such as voids, in TSVs. SONUS Technology is a non-contact, non-destructive acoustic metrology and defect detection technique that is designed to be of higher resolution, faster, and less costly than alternative techniques. SONUS Technology meets a critical need for measuring and inspecting the structures used to connect chips to each other and to the outside world. Copper pillar bumps and TSVs are critical interconnect technologies enabling 2.5D and 3D packaging. Plating process control for copper pillar bumping is directly related to the mechanical integrity of the interconnect and final device performance. Likewise, the quality of the TSV fill is critical to the electrical performance of stacked devices. Rudolph's patented SONUS Technology offers the unique ability to measure individual films and film stacks to thicknesses of 100µm and detect voids as small as 0.5µm in TSVs with aspect ratios of 10:1 or greater."

Ellipsometry. Ellipsometry is a non-contact, non-destructive optical technique for transparent thin film measurement. We have been an industry leader in ellipsometry technology for the last three decades. We hold patents on several

ellipsometry technologies, including our proprietary technique that uses four lasers for multiple-angle of incidence, multiple wavelength ellipsometry. Laser ellipsometry technology is intended to enable our transparent film systems to provide the increasingly higher level of accuracy needed as thinner films and newer materials are introduced

Table of Contents

for future generations of semiconductor devices. We extended this same optical technology to characterize the scatterometry signal from patterned surfaces, allowing measurement of critical dimensions.

Reflectometry. For applications requiring broader spectral coverage, some of our ellipsometry tools are also equipped with a reflectometer. Reflectometry uses a white or ultraviolet light source to determine the properties of transparent thin films by analyzing the wavelength and intensity of light reflected from the surface of a wafer. This optical information is processed with software algorithms to determine film thickness and other material properties. By combining data from both the laser ellipsometer and broad spectrum reflectometer, it is possible to characterize films and film stacks that cannot be adequately analyzed by either method individually.

Transparent Film Metrology. Rudolph's patented transparent film technology uses up to four lasers operating simultaneously at multiple angles and multiple wavelengths, providing powerful analysis and measurement capabilities. Unlike the white-light sources used in spectroscopic ellipsometers, laser light sources make our metrology tools inherently stable, increase measurement speed and accuracy, and reduce maintenance costs by minimizing the time required to re-qualify a light source when it is replaced. Rudolph's S3000SX System™ is targeted for transparent films in advanced semiconductor fabrication applications at the 28nm node and below. The S3000 product family uses Rudolph's proprietary Focused Beam Ellipsometry ("FBE") and newly-designed Small Site Measurement Optics ("SSMO") to measure the thickness of single layer and multi-layer films on product wafers including device area at site sizes as small as 30x30 nanometers.

Lithography Business

Step and Repeat Technology. Rudolph steppers use projection optics to expose circuit patterns from a mask or reticle onto a substrate to achieve images with optimal fidelity. These systems employ light from a mercury arc lamp that is transmitted through a mask or reticle containing display circuit patterns. Substrates are aligned on the system and the mask is imaged through a projection lens in photoresist material coated on the substrate. The substrate is then moved, or "stepped," to a second position to expose an adjacent area. Images can be "stitched" together precisely to form larger circuit patterns without any noticeable change in circuit performance. The system repeats the step and exposure process until the entire substrate is patterned. Once the exposure process has been completed, the substrate is developed with an alkali solution to reveal the underlying material. The imaged photoresist serves as a barrier that allows for the processing of the underlying metal or insulating layers. The substrates then continue through the etching, stripping and deposition processes until multi-layer circuits are completed.

Advanced Packaging Lithography Systems. In order to deal with increased Input/Output, enhanced functionality, power efficiency and higher frequency, Integrated Device Manufacturers and Outsourced Semiconductor Assembly and Test facilities ("OSATs") are moving to advanced packaging technologies such as TSV and three Dimensional Integrated Circuits ("3DIC"). However, the associated substrates and processes are significantly different than those used in front-end wafer processing. The added performance requires finer features, but the processes stress the substrates resulting in warped substrates. Since most packaging is an additive process, thick films are used to enable the creation of features. In order for equipment to effectively function in this environment, it must overcome these challenges. Rudolph's JetStep Systems have been specifically designed to meet these challenges head on. The JetStep W Series is designed for wafers and other round substrates while the JetStep S Series is designed for rectangular substrates (panels). Both systems boast a large printable field, which when combined with user-selectable wavelength options, maximizes throughput while not limiting resolution when needed. High fidelity optics are able to image the fine features required while at the same time achieving superior depth of field to minimize non-flatness effects. On-the-fly auto focus and an innovative reticle management system improve yield and utilization. These unique features result in a revolutionary lithography system specifically designed to meet advanced packaging challenges.

Flat Panel Display ("FPD") Lithography. A critical aspect of any leading mobile device is the display. The display serves as the window to the user. Therefore, it must effectively present graphics such as detailed maps, high resolution photos and streaming video in order to meet user expectations. To accomplish this, the display transistor backplane, which is what controls the pixels, must operate at a high frequency and have high pixel resolution. As a result, the transistors must have high mobility and only use a small portion of the pixel aperture. The backplane is manufactured

on a sheet of glass; like the packaging substrate, it is non-flat and tends to distort further during processing. Additionally, the displays are getting larger. Manufacturers are looking to utilize larger sheets of glass, making throughput a challenge for the lithography equipment. To overcome this, Rudolph's JetStep G Series uses high-fidelity optics and the largest

Table of Contents

printable stepper field available enabling more displays per shot. This feature, combined with on-the-fly auto-focus and magnification compensation, maximizes throughput and yield. Finally, our patented grid stage allows the system to be easily scaled to meet the customer desired substrate size.

Integrated Software Solutions

Process Control Software. We provide a wide range of advanced process control solutions, all designed to improve factory profitability, including run-to-run control, fault detection, classification and tool automation. Rudolph is a leading provider of Process Control Software in the semiconductor industry. Advanced process control (APC) employs software to automatically detect or predict tool failure (fault detection) as well as calculate recipe settings for a process that will drive the process output to target despite variations in the incoming material and disturbances within the process equipment. Process control software enables the factory to increase capacity and yield and to decrease rework and scrap. It enables reduced production costs by lowering consumables, process engineering time and manufacturing cycle time.

Yield Management Software. Semiconductor manufacturers use YMS to obtain valuable process yield and equipment productivity information. The data necessary to generate productivity information comes from many different sources throughout the fab: inspection and metrology systems, tool sensors, tool recipes, electrical tests and the fab environment. As the complexity and cost of manufacturing processes increase, the value of faster, better analysis to support critical manufacturing decisions grows too, so customers are demanding robust yield management systems that can analyze large, complex data sets quickly and effectively. Rudolph's fully-integrated YMS are designed to analyze data from disparate sources and multiple sites to maximize productivity across the entire value chain.

Products

Rudolph markets and sells products to major logic, memory, data storage, flat panel and application-specific integrated circuit ("ASIC") device manufacturers. Our customers rely on us for versatile inspection, lithography and metrology systems as well as process control software solutions. These systems are designed for high-volume production facilities and offer automated wafer handling for 200, 300 and 450mm configurations. Our systems operate at high throughput with ultra-clean operation and high reliability.

PROCESS CONTROL SYSTEMS

Product	First Introduced	Functionality	Type of Fab	
			Wafer Processing	Final Manufacturing
AMX™ 6000 Series	2011	— Automated mask blank inspection system	X	
AWX™ Series	2011	— Unpatterned wafer inspection and process monitoring system	X	X
B30™ Inspection Module	2003	— Defect inspection module for the wafer's backside	X	X
E30™ Inspection Module	2003	— Defect inspection module for the wafer's edge	X	X

Table of Contents

PROCESS CONTROL SYSTEMS (continued)

Product	First Introduced	Functionality	Type of Fab: Wafer Processing	Type of Fab: Final Manufacturing
Explorer® Inspection Platform	2009	— Handling platform that supports a family of multi surface inspection tools, using one or more inspection modules	X	
F30™ Inspection Module	2011	— Front-side macro defect inspection system	X	
MetaPULSE® System	1997	— Opaque (metal) thin film metrology system	X	X
NSX® Inspection System	1997	— 2D wafer, die and bump inspection system		X
NSX® Metrology System	2013	— 2D/3D defect detection and metrology system		X
PrecisionWoRx® System	2008	— Probe card test and analysis system		X
Reflex TT™ System	2000	— Manual load bare wafer inspection system	X	
Reflex TT™ MBI System	2004	— Manual load mask inspection system	X	
S3000™ System	2006	— Transparent thin film metrology system	X	
SONUS® System	2014	— Acoustic thick film metrology and defect inspection system		X
Wafer Scanner™ Inspection System	1999	— 2D/3D bump dimensional inspection		X

LITHOGRAPHY SYSTEMS

Product	First Introduced	Functionality	Type of Fab: Flat Panel Display	Type of Fab: Final Manufacturing
JetStep® W Lithography System	2012	— 2x reduction stepper for advanced packaging applications on wafers or round substrates		X
JetStep® S Lithography System	2013	— 2x reduction stepper for advanced packaging lithography on square or rectangular substrates up to Gen 3.5 size		X
JetStep® G35 FPD Photolithography Stepper	2006	— Step and repeat lithography printer for Gen 3.5 substrates	X	
JetStep® G45 FPD Photolithography Stepper	2007	— Step and repeat lithography printer for Gen 4.5 substrates	X	

Table of Contents

INTEGRATED SOLUTIONS SOFTWARE

Product	First Introduced	Functionality	Type of Fab: Wafer Processing	Type of Fab: Final Manufacturing
ARTIST® Software	2003	— Fault detection and classification software	X	X
AutoShell® Software	1998	— Equipment and factory automation software	X	X
ControlWORKS® Software	1994	— Advanced equipment control software	X	
Discover® Software	2007	— Tool-centric yield management system	X	X
Discover® Enterprise Software	2005	— Fabwide yield management system	X	X
Equipment Sentinel™ Software	2015	— Fault detection and classification software	X	X
GateWay™ Software	2003	— Data collection and facilitation to FDC software	X	X
Process Sentinel® Software	2006	— Fabwide spatial process control system	X	
ProcessWORKS® Software	1998	— Run-to-run process control software	X	
RecipeWORKS™ Software	1998	— Factory-level client-server based recipe management system	X	X
TrueADC® Enterprise Software	2007	— Automatic defect classification software	X	X
Yield Optimizer™ Software	2006	— Yield enhancement model software	X	
Genesis® Software	1997	— Off-line yield management system	X	

Table of Contents

Customers

Over 100 microelectronic device manufacturers have purchased Rudolph tools and software for installation at multiple sites. We support a diverse customer base in terms of both geographic location and type of device manufactured. Our customers are located in 20 countries. See Note 14 to our consolidated financial statements in this Annual Report on Form 10-K for information concerning our geographic information.

We depend on a relatively small number of customers and end users for a large percentage of our revenues. In the years 2015, 2014 and 2013, sales to end user customers that individually represented at least five percent of our revenues accounted for 23.3%, 23.9% and 41.6% of our revenues, respectively.

No individual end user customer accounted for more than 10% of our revenue in 2015 and 2014. In 2013, sales to Intel Semiconductor Inc. and STATS ChipPAC Ltd. accounted for 11.4% and 10.3% of our revenues, respectively. We do not have purchase contracts with any of our customers that obligate them to continue to purchase our products.

Research and Development

The markets for equipment and systems for manufacturing semiconductor devices and for performing macro-defect inspection, advanced packaging lithography and thin film transparent and opaque process control metrology are characterized by continuous technological development and product innovations. We believe that the rapid and ongoing development of new products and enhancements to existing products is critical to our success. Accordingly, we devote a significant portion of our technical, management and financial resources to research and development programs. As of December 31, 2015, we employed 188 research and development personnel.

Our research and development expenditures in 2015, 2014 and 2013 were $41.2 million, $40.6 million and $40.0 million, respectively. We expect to continue our strong commitment to new product development and continue to allocate significant resources to these efforts in the future.

Sales, Customer Service and Application Support

We maintain an extensive network of direct sales, customer service and application support offices in the United States, Europe and Asia.

We provide our customers with comprehensive support before, during and after the delivery of our products. For example, in order to facilitate the smooth integration of our tools into our customers' operations, we often assign dedicated, site-specific field service and applications engineers to provide long-term support at selected customer sites. We also provide comprehensive service and applications training for customers at our training facilities in Bloomington, Minnesota and Budd Lake, New Jersey and at customer locations. In addition, we maintain a group of highly skilled applications scientists at strategically located facilities throughout the world and at selected customer locations. As of December 31, 2015, we employed 241 sales and marketing, service and applications support personnel.

Manufacturing

Our principal manufacturing activities include assembly, final test and calibration. These activities are conducted in our manufacturing facilities in Bloomington, Minnesota and Wilmington, Massachusetts. Our core manufacturing competencies include electrical, optical and mechanical assembly and testing, as well as the management of new product transitions. While we use standard components and subassemblies wherever possible, most mechanical parts, metal fabrications and critical components used in our products are engineered and manufactured to our specifications. We continue to rely on subcontractors and turnkey suppliers to fabricate components, build assemblies and perform other non-core activities in a cost-effective manner. As of December 31, 2015, we employed 72 manufacturing personnel.

We rely on a number of limited source suppliers for certain parts and subassemblies. This reliance creates a potential inability to obtain an adequate supply of required components, and reduced control over pricing and time of delivery of components. An inability to obtain adequate supplies would require us to seek alternative sources of supply or might require us to redesign our systems to accommodate different components or subassemblies. To date, we have

not experienced any significant delivery delays. However, if we were forced to seek alternative sources of supply, manufacture such components or subassemblies internally, or redesign our products, this could prevent us from shipping our products to our customers on a timely basis, which could have a material adverse effect on our operations.

Table of Contents

Intellectual Property

We have a policy of seeking patents on inventions governing new products or technologies as part of our ongoing research, development, and manufacturing activities. As of December 31, 2015, we have been granted, or hold exclusive licenses to, 254 U.S. and foreign patents. The patents we own, jointly own or exclusively license have expiration dates ranging from 2016 to 2033. We also have 107 pending regular and provisional applications in the U.S. and other countries. Our patents and applications principally cover various aspects of macro-defect detection and classification, transparent thin film measurement, altered material characterization, lithography techniques and automation.

We have been granted exclusive licenses from Brown University Research Foundation, subject to rights retained by Brown and the United States government for their own non-commercial uses, for several patents relating to the optical acoustic technology underlying our MetaPULSE product family. The terms of these exclusive licenses are equal to the lives of the patents. We pay royalties to Brown based upon a percentage of our revenues from the sale of systems that incorporate technology covered by the Brown patents. We also have the right to support patent activity with respect to new ultra-fast acoustic technology developed by Brown scientists, and to acquire exclusive licenses to this technology. Brown may terminate the licenses if we fail to pay royalties to Brown or if we materially breach our license agreement with Brown.

Our pending patents may never be issued, and even if they are, these patents, our existing patents and the patents we license may not provide sufficiently broad protection to protect our proprietary rights, or they may prove to be unenforceable. To protect our proprietary rights, we also rely on a combination of copyrights, trademarks, trade secret laws, contractual provisions and licenses. There can be no assurance that any patents issued to or licensed by us will not be challenged, invalidated or circumvented or that the rights granted thereunder will provide us with a competitive advantage.

The laws of some foreign countries do not protect our proprietary rights to the same degree as do the laws of the United States, and many U.S. companies have encountered substantial infringement problems in protecting their proprietary rights against infringement in such countries, some of which are countries in which we have sold and continue to sell products. There is a risk that our means of protecting our proprietary rights may not be adequate. For example, our competitors may independently develop similar technology or duplicate our products. If we fail to adequately protect our intellectual property, it would be easier for our competitors to sell competing products.

Competition

The market for semiconductor capital equipment is highly competitive. We face substantial competition from established companies in each of the markets that we serve. We principally compete with KLA-Tencor, Camtek and Ultratech. We compete to a lesser extent with companies such as Nanometrics, Nova Measuring Instruments and Nikon. Each of our products also competes with products that use different metrology and inspection techniques. Some of our competitors have greater financial, engineering, manufacturing and marketing resources, broader product offerings and service capabilities and larger installed customer bases than we do.

Significant competitive factors in the market for inspection and metrology systems include system performance, ease of use, reliability, cost of ownership, technical support and customer relationships. We believe that, while price and delivery are important competitive factors, the customers' overriding requirement is for a product that meets their technical capabilities. To remain competitive, we believe we will need to maintain a high level of investment in research and development and process applications. No assurances can be given that we will continue to be competitive in the future.

Backlog

We schedule production of our systems based upon order backlog and informal customer forecasts. We include in backlog only those orders to which the customer has assigned a purchase order number and for which delivery is anticipated within 12 months. Because shipment dates may be changed and customers may cancel or delay orders with

little or no penalty, our backlog as of any particular date may not be a reliable indicator of actual sales for any succeeding

Table of Contents

period. At December 31, 2015, we had a backlog of approximately $54.0 million compared with a backlog of approximately $37.6 million at December 31, 2014.

Employees

As of December 31, 2015, we had 572 employees. Our employees are not represented by any collective bargaining agreements, and we have never experienced a work stoppage. We believe our employee relations are good.

Available Information

We were incorporated in Delaware in 1999. The Internet website address of Rudolph Technologies, Inc. is http://www.rudolphtech.com. The information on our website is not incorporated into this Annual Report. The Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K (and any amendments to those reports) are made available free of charge, on or through our Internet website, as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission, or SEC. All filings we make with the SEC are also available free of charge via EDGAR through the SEC's website at http://www.sec.gov.

We also make available, free of charge, through the investors page on our corporate website, Rudolph Technologies' corporate summary, Code of Business Conduct and Ethics and Financial Code of Ethics, charters of the committees of our Board of Directors, as well as other information and materials, including information about how to contact our Board of Directors, its committees and their members. To find this information and obtain copies, visit our website at http://www.rudolphtech.com.

Item 1A. Risk Factors.

Risks Related to Rudolph

Our operating results have varied, and will likely continue to vary significantly, from quarter to quarter in the future, causing volatility in our stock price

Our quarterly operating results have varied in the past and will likely continue to vary significantly from quarter to quarter in the future, causing volatility in our stock price. Some of the factors that may influence our operating results and subject our stock to extreme price and volume fluctuations include:

- changes in customer demand for our systems, which is influenced by economic conditions in the semiconductor device industry, demand for products that use semiconductors, market acceptance of our systems and products of our customers and changes in our product offerings;
- seasonal variations in customer demand, including the tendency of European sales to slow significantly in the third quarter of each year;
- the timing, cancellation or delay of customer orders, shipments and acceptance;
- a significant portion of our revenue may be derived from the sale of a relatively small number of systems and accordingly, a small change in the number of systems we sell may cause significant changes in our operating results;
- product development costs, including increased research, development, engineering and marketing expenses associated with our introduction of new products and product enhancements; and
- the levels of our fixed expenses, including research and development costs associated with product development, relative to our revenue levels.

In light of these factors and the cyclical nature of the semiconductor industry, we expect to continue to experience significant fluctuations in quarterly and annual operating results. Moreover, many of our expenses are fixed in the short-term which, together with the need for continued investment in research and development, marketing and customer support, limits our ability to reduce expenses quickly. As a result, declines in net sales could harm our business and the price of our common stock could substantially decline.

Table of Contents

Our largest customers account for a significant portion of our revenues, and our revenues and cash flows could significantly decline if one or more of these customers were to purchase significantly fewer of our systems or they delayed or canceled a large order

Sales to end user customers that individually represent at least five percent of our revenues typically account for, in the aggregate, a considerable amount of our revenues. We operate in the highly concentrated, capital-intensive semiconductor device manufacturing industry. Historically, a significant portion of our revenues in each quarter and year has been derived from sales to relatively few customers, and this trend is expected to continue. If any of our key customers were to purchase significantly fewer of our systems in the future, or if a large order were delayed or canceled, our revenues and cash flows could significantly decline. We expect that we will continue to depend on a small number of large customers for a significant portion of our revenues. In addition, as large semiconductor device manufacturers seek to establish closer relationships with their suppliers, we expect that our customer base will become even more concentrated.

Our customers may be unable to pay us for our products and services

Our customers include some companies that may from time to time encounter financial difficulties, especially in light of the current economic environment and the difficulties in the credit markets. If a customer's financial difficulties become severe, the customer may be unwilling or unable to pay our invoices in the ordinary course of business, which could adversely affect collections of both our accounts receivable balance and unbilled services. The bankruptcy of a customer with a substantial account receivable could have a material adverse effect on our financial condition and results of operations. In addition, if a customer declares bankruptcy after paying us certain invoices, a court may determine that we are not properly entitled to that payment and may require repayment of some or all of the amount we received, which could adversely affect our financial condition and results of operations.

Variations in the amount of time it takes for us to sell our systems may cause fluctuations in our operating results, which could cause our stock price to decline

Variations in the length of our sales cycles could cause our revenues and cash flows, and consequently, our business, financial condition, operating results and cash flows, to fluctuate widely from period to period. This variation could cause our stock price to decline. Our customers generally take a long time to evaluate our inspection and/or film metrology systems and many people are involved in the evaluation process. We expend significant resources educating and providing information to our prospective customers regarding the uses and benefits of our systems in the semiconductor fabrication process. The length of time it takes for us to make a sale depends upon many factors including, but not limited to:

- the efforts of our sales force;
- the complexity of the customer's fabrication processes;
- the internal technical capabilities and sophistication of the customer;
- the customer's budgetary constraints; and
- the quality and sophistication of the customer's current metrology, inspection or lithography equipment.

Because of the number of factors influencing the sales process, the period between our initial contact with a customer and the time when we recognize revenue from that customer and receive payment, if ever, varies widely in length. Our sales cycles, including the time it takes for us to build a product to customer specifications after receiving an order to the time we recognize revenue, typically range from six to twenty-four months. Sometimes our sales cycles can be much longer, particularly with customers in Japan. During these cycles, we commit substantial resources to our sales efforts in advance of receiving any revenue, and we may never receive any revenue from a customer despite our sales efforts. If we do make a sale, our customers often purchase only one of our systems, and then evaluate its performance for a lengthy period before purchasing any more of our systems. The number of additional products a customer purchases, if any, depends on many factors, including the customer's capacity requirements. The period between a customer's initial purchase and any subsequent purchases can vary from six months to a year or longer, and variations in the length of this period could cause further fluctuations in our operating results and possibly in our stock price.

12

Table of Contents

Most of our revenues have been derived from customers outside of the United States subjecting us to operational, financial and political risks, such as unexpected changes in regulatory requirements, tariffs, political and economic instability, outbreaks of hostilities, and difficulties in managing foreign sales representatives and foreign branch operations as well as risks associated with foreign currency fluctuations

Due to the significant level of our international sales, we are subject to a number of material risks, including:

Compliance with foreign laws. Our business is subject to risks inherent in doing business internationally, including compliance with, inconsistencies among, and unexpected changes in, a wide variety of foreign laws and regulatory environments with which we are not familiar, including, among other issues, with respect to employees, protection of our intellectual property, and a wide variety of operational regulations and trade and export controls under domestic, foreign, and international law.

Unexpected changes in regulatory requirements including tariffs and other market barriers. The semiconductor device industry is a high-visibility industry in many of the European and Asian countries in which we sell our products. Because the governments of these countries have provided extensive financial support to our semiconductor device manufacturing customers in these countries, we believe that our customers could be disproportionately affected by any trade embargoes, excise taxes or other restrictions imposed by their governments on trade with United States companies such as ourselves. Any restrictions of these types could result in a reduction in our sales to customers in these countries.

Political and economic instability. We are subject to various global risks related to political and economic instabilities in countries in which we derive sales. If terrorist activities, armed conflict, civil or military unrest or political instability occurs outside of the U.S., these events may result in reduced demand for our products. There is considerable political instability in Taiwan related to its disputes with China and in South Korea related to its disputes with North Korea. In addition, several Asian countries, particularly Japan, have experienced significant economic instability. An outbreak of hostilities or other political upheaval in China, Taiwan or South Korea, or an economic downturn in Japan or other countries, would likely harm the operations of our customers in these countries. The effect of these types of events on our revenues and cash flows could be material because we derive substantial revenues from sales to semiconductor device foundries in Taiwan such as Taiwan Semiconductor Manufacturing Company Ltd., from memory chip manufacturers in South Korea such as Samsung, and from semiconductor device manufacturers in Japan such as Toshiba.

Difficulties in staffing and managing foreign branch operations. During periods of tension between the governments of the United States and certain other countries, it is often difficult for United States companies such as ourselves to staff and manage operations in such countries. Language and other cultural differences may also inhibit our sales and marketing efforts and create internal communication problems among our U.S. and foreign research and development teams, increasing the difficulty of managing multiple, remote locations performing various development, quality assurance, and yield ramp analysis projects.

Currency fluctuations as compared to the U.S. Dollar. A substantial portion of our international sales are denominated in U.S. dollars. As a result, if the dollar rises in value in relation to foreign currencies, our systems will become more expensive to customers outside the United States and less competitive with systems produced by competitors outside the United States. These conditions could negatively impact our international sales. Foreign sales also expose us to collection risk in the event it becomes more expensive for our foreign customers to convert their local currencies into U.S. dollars. Additionally, in the event a larger portion of our revenue becomes denominated in foreign currencies, we would be subject to a potentially significant exchange rate risk.

If we deliver systems with defects, our credibility will be harmed and the sales and market acceptance of our systems will decrease

Our systems are complex and have occasionally contained errors, defects and bugs when introduced. Defects may be created during probing, bumping, dicing or general handling, and can have a major impact on device and process quality. When this occurs, our credibility and the market acceptance and sales of our systems could be harmed. Further, if our systems contain errors, defects or bugs, computer viruses or malicious code as a result of cyber attacks to our computer networks, we may be required to expend significant capital and resources to alleviate these problems.

Defects

13

Table of Contents

could also lead to product liability as a result of product liability lawsuits against us or against our customers. We have agreed to indemnify our customers under certain circumstances against liability arising from defects in our systems. Our product liability policy currently provides $2.0 million of aggregate coverage, with an overall umbrella limit of $20.0 million. In the event of a successful product liability claim, we could be obligated to pay damages significantly in excess of our product liability insurance limits.

If we are not successful in developing new and enhanced products for the semiconductor device manufacturing industry, we will lose sales and market share to our competitors

We operate in an industry that is highly competitive and subject to evolving industry standards, rapid technological changes, rapid changes in consumer demands and the rapid introduction of new, higher performance systems with shorter product life cycles. To be competitive in our demanding market, we must continually design, develop and introduce in a timely manner new lithography, inspection and metrology process control systems that meet the performance and price demands of semiconductor device manufacturers. We must also continue to refine our current systems so that they remain competitive. We expect to continue to make significant investments in our research and development activities. We may experience difficulties or delays in our development efforts with respect to new systems, and we may not ultimately be successful in our product enhancement efforts to improve and advance products or in responding effectively to technological change, as not all research and development activities result in viable commercial products. In addition, we cannot provide assurance that we will be able to develop new products for the most opportunistic new markets and applications. Any significant delay in releasing new systems could cause our products to become obsolete, adversely affect our reputation, give a competitor a first-to-market advantage or cause a competitor to achieve greater market share. In addition, new product offerings that are highly complex in terms of software or hardware may require application or service work such as bug fixing prior to acceptance, thereby delaying revenue recognition.

If new products developed by us do not gain general market acceptance, we will be unable to generate revenues and recover our research and development costs

Inspection, lithography and metrology product development is inherently risky because it is difficult to foresee developments in semiconductor device manufacturing technology, coordinate technical personnel, and identify and eliminate system design flaws. Further, our products are complex and often the applications to our customers' businesses are unique. Any new systems we introduce may not achieve or sustain a significant degree of market acceptance and sales.

We expect to spend a significant amount of time and resources developing new systems and refining our existing systems. In light of the long product development cycles inherent in our industry, these expenditures will be made well in advance of the prospect of deriving revenue from the sale of those systems. Our ability to commercially introduce and successfully market new systems are subject to a wide variety of challenges during the development cycle, including start-up bugs, design defects, and other matters that could delay introduction of these systems. In addition, since our customers are not obligated by long-term contracts to purchase our systems, our anticipated product orders may not materialize, or orders that are placed may be canceled. As a result, if we do not achieve market acceptance of new products, we may be unable to generate sufficient revenues and cash flows to recover our research and development costs and our market share, revenue, operating results or stock price would be negatively impacted.

Even if we are able to develop new products that gain market acceptance, sales of these new products could impair our ability to sell existing products

Competition from our new systems could have a negative effect on sales of our existing systems and the prices that we could charge for these systems. We may also divert sales and marketing resources from our current systems in order to successfully launch and promote our new or next generation systems. This diversion of resources could have a further negative effect on sales of our current systems and the value of inventory.

Table of Contents

If our relationships with our large customers deteriorate, our product development activities could be adversely affected

The success of our product development efforts depends on our ability to anticipate market trends and the price, performance and functionality requirements of semiconductor device manufacturers. In order to anticipate these trends and ensure that critical development projects proceed in a coordinated manner, we must continue to collaborate closely with our largest customers. Our relationships with these and other customers provide us with access to valuable information regarding trends in the semiconductor device industry, which enables us to better plan our product development activities. If our current relationships with our large customers are impaired, or if we are unable to develop similar collaborative relationships with important customers in the future, our product development activities could be adversely affected.

Our ability to reduce costs is limited by our ongoing need to invest in research and development and to provide customer support activities

Our industry is characterized by the need for continual investment in research and development as well as customer service and support. As a result, our operating results could be materially affected if operating costs associated with our research and development as well as customer support activities increase in the future or we are unable to reduce those activities.

We may fail to adequately protect our intellectual property and, therefore, lose our competitive advantage

Our future success and competitive position depend in part upon our ability to obtain and maintain proprietary technology for our principal product families, and we rely, in part, on patent and trade secret law and confidentiality agreements to protect that technology. If we fail to adequately protect our intellectual property, it will give our competitors a significant advantage. We own or have licensed a number of patents relating to our transparent and opaque thin film metrology, lithography and macro-defect inspection systems, and have filed applications for additional patents. Any of our pending patent applications may be rejected, and we may be unable to develop additional proprietary technology that is patentable in the future.

In addition, the patents that we do own or that have been issued or licensed to us may not provide us with competitive advantages and may be challenged by third parties. Further, third parties may also design around these patents. In addition to patent protection, we rely upon trade secret protection for our confidential and proprietary information and technology. We routinely enter into confidentiality agreements with our employees and other third parties. Even though these agreements are in place there can be no assurances that trade secrets and proprietary information will not be disclosed, that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets, or that we can fully protect our trade secrets and proprietary information. Violations by others of our confidentiality agreements and the loss of employees who have specialized knowledge and expertise could harm our competitive position and cause our sales and operating results to decline as a result of increased competition. Costly and time-consuming litigation might be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection might adversely affect our ability to continue our research or bring products to market.

Protection of our intellectual property rights, or the efforts of third parties to enforce their own intellectual property rights against us, may result in costly and time-consuming litigation, substantial damages, lost product sales and/or the loss of important intellectual property rights

We may be required to initiate litigation in order to enforce any patents issued to or licensed by us, or to determine the scope or validity of a third party’s patent or other proprietary rights. Any litigation, regardless of outcome, could be expensive and time consuming, and could subject us to significant liabilities or require us to re-engineer our products or obtain expensive licenses from third parties. There can be no assurance that any patents issued to or licensed by us will not be challenged, invalidated or circumvented or that the rights granted thereunder will provide us with a competitive advantage.

In addition, our commercial success depends in part on our ability to avoid infringing or misappropriating patents or other proprietary rights owned by third parties. From time to time, we may receive communications from third parties

15

Table of Contents

asserting that our products or systems infringe, or may infringe, the proprietary rights of these third parties. These claims of infringement may lead to protracted and costly litigation, which could require us to pay substantial damages or have the sale of our products or systems stopped by an injunction. Infringement claims could also cause product or system delays or require us to redesign our products or systems, and these delays could result in the loss of substantial revenues. We may also be required to obtain a license from the third party or cease activities utilizing the third party's proprietary rights. We may not be able to enter into such a license or such a license may not be available on commercially reasonable terms. Accordingly, the loss of important intellectual property rights could hinder our ability to sell our systems, or make the sale of these systems more expensive. For additional information regarding recent patent litigation, see Item 3. ("Legal Proceedings").

Our efforts to protect our intellectual property may be less effective in certain foreign countries, where intellectual property rights are not as well protected as in the United States

The laws of some foreign countries do not protect our proprietary rights to as great an extent as do the laws of the United States, and many U.S. companies have encountered substantial problems in protecting their proprietary rights against infringement abroad. For example, Taiwan is not a signatory of the Patent Cooperation Treaty, which is designed to specify rules and methods for defending intellectual property internationally. The publication of a patent in Taiwan prior to the filing of a patent in Taiwan would invalidate the ability of a company to obtain a patent in Taiwan. Similarly, in contrast to the United States where the contents of patents remain confidential during the patent application process, in Taiwan the contents of a patent are published upon filing which provides competitors an advance view of the contents of a patent application prior to the establishment of patent rights. Consequently, there is a risk that we may be unable to adequately protect our proprietary rights in certain foreign countries. If this occurs, it would be easier for our competitors to develop and sell competing products in these countries.

Some of our current and potential competitors have significantly greater resources than we do, and increased competition could impair sales of our products or cause us to reduce our prices

The market for semiconductor capital equipment is highly competitive. We face substantial competition from established companies in each of the markets we serve. We principally compete with KLA-Tencor, Camtek and Ultratech. We compete to a lesser extent with companies such as Nanometrics, Nova Measurement Instruments and Nikon. Each of our products also competes with products that use different metrology, inspection or lithography techniques. Some of our competitors have greater financial, engineering, manufacturing and marketing resources, broader product offerings and service capabilities and larger installed customer bases than we do. As a result, these competitors may be able to respond more quickly to new or emerging technologies or market developments by devoting greater resources to the development, promotion and sale of products, which, in turn, could impair sales of our products. Further, there may be significant merger and acquisition activity among our competitors and potential competitors, which, in turn, may provide them with a competitive advantage over us by enabling them to rapidly expand their product offerings and service capabilities to meet a broader range of customer needs.

Many of our customers and potential customers in the semiconductor device manufacturing industry are large companies that require global support and service for their semiconductor capital equipment. We believe that our global support and service infrastructure is sufficient to meet the needs of our customers and potential customers. However, some of our competitors have more extensive infrastructures than we do, which could place us at a disadvantage when competing for the business of global semiconductor device manufacturers. Many of our competitors are investing heavily in the development of new systems that will compete directly with our systems. We have from time to time selectively reduced prices on our systems in order to protect our market share, and competitive pressures may necessitate further price reductions. We expect our competitors in each product area to continue to improve the design and performance of their products and to introduce new products with competitive prices and performance characteristics. These product introductions would likely require us to decrease the prices of our systems and increase the level of discounts that we grant our customers. Price reductions or lost sales as a result of these competitive pressures would reduce our total revenues and could adversely impact our financial results.

16

Table of Contents

Because of the high cost of switching equipment vendors in our markets, it is sometimes difficult for us to win customers from our competitors even if our systems are superior to theirs

We believe that once a semiconductor device manufacturer has selected one vendor's capital equipment for a production-line application, the manufacturer generally relies upon that capital equipment and, to the extent possible, subsequent generations of the same vendor's equipment, for the life of the application. Once a vendor's equipment has been installed in a production line application, a semiconductor device manufacturer must often make substantial technical modifications and may experience production-line downtime in order to switch to another vendor's equipment. Accordingly, unless our systems offer performance or cost advantages that outweigh a customer's expense of switching to our systems, it will be difficult for us to achieve significant sales to that manufacturer once it has selected another vendor's capital equipment for an application.

We must attract and retain experienced senior executives and other key personnel with knowledge of semiconductor device manufacturing and inspection, metrology or lithography equipment to help support our future growth, and competition for such personnel in our industry is high

Our success depends to a significant degree upon the continued contributions of our key executive management, engineering, sales and marketing, customer support, finance and manufacturing personnel. The loss of any of these key personnel through resignations, retirement or other circumstances, each of whom would be extremely difficult to replace, could harm our business and operating results. Although we have employment and noncompetition agreements with key members of our senior management team, these individuals or other key employees may still leave us, which could have a material adverse effect on our business. We do not have key person life insurance on any of our executives. In addition, to support our future growth, we will need to attract and retain additional qualified employees. Competition for such personnel in our industry is intense, and we may not be successful in attracting and retaining qualified employees.

We obtain some of the components and subassemblies included in our systems from a limited group of suppliers, and the partial or complete loss of one of these suppliers could cause production delays and a substantial loss of revenues

We obtain some of the components and subassemblies included in our systems from a limited group of suppliers and do not have long-term contracts with many of our suppliers. Our dependence on limited source suppliers of components and our lack of long-term contracts with many of our suppliers exposes us to several risks, including a potential inability to obtain an adequate supply of components, price increases, late deliveries and poor component quality. Disruption or termination of the supply of these components could delay shipments of our systems, damage our customer relationships and reduce our sales. From time to time in the past, we have experienced temporary difficulties in receiving shipments from our suppliers. The lead-time required for shipments of some of our components can be as long as six months. In addition, the lead time required to qualify new suppliers for lasers and certain optics could be as long as a year, and the lead time required to qualify new suppliers of other components could be as long as nine months. If we are unable to accurately predict our component needs, or if our component supply is disrupted, we may miss market opportunities by not being able to meet the demand for our systems. Further, a significant increase in the price of one or more of these components or subassemblies could seriously harm our results of operations and cash flows.

Any prolonged disruption in the operations of our manufacturing facility could have a material adverse effect on our revenues

Our manufacturing processes are highly complex and require sophisticated and costly equipment and a specially designed facility. As a result, any prolonged disruption in the operations of our manufacturing facility, whether due to technical or labor difficulties, or destruction of or damage as a result of a fire or any other reason, could seriously harm our ability to satisfy our customer order deadlines. If we cannot timely deliver our systems, our results from operations and cash flows could be materially and adversely affected.

Our business is subject to cybersecurity risks

Threats to information technology systems associated with cybersecurity risks and cyber incidents or attacks continue to grow. Cybersecurity attacks could include, but are not limited to, malicious software, viruses, attempts to

17

Table of Contents

gain unauthorized access, whether through malfeasance or error, either from within or outside of our organization, to our data or that of our customers or our customers' customers which may be in our possession, and the unauthorized release, corruption or loss of the data, loss of the intellectual property, theft of the proprietary or licensed technology, whether ours, that of our customers or their customers, loss or damage to our data delivery systems, other electronic security breaches that could lead to disruptions in our critical systems, and increased costs to prevent, respond to or mitigate cybersecurity events. It is possible that our business, financial and other systems could be compromised, which might not be noticed for some period of time. Although we utilize various procedures and controls to mitigate our exposure to such risk, cybersecurity attacks are evolving and unpredictable and we cannot guarantee that any risk prevention measures implemented will be successful. The occurrence of such an attack could lead to financial losses and have a material adverse effect on our reputation, business, financial condition and results of operations.

Failure to adjust our orders for parts and subcomponents in an accurate and timely manner in response to changing market conditions or customer acceptance of our products could adversely affect our financial position and results of operations

Our earnings could be negatively affected and our inventory levels could materially increase if we are unable to predict our inventory needs in an accurate and timely manner and adjust our orders for parts and subcomponents should our needs increase or decrease materially due to unexpected increases or decreases in demand for our products. Any material increase in our inventories could result in an adverse effect on our financial position, while any material decrease in our ability to procure needed inventories could result in an inability to supply customer demand for our products, thus adversely affecting our revenues.

Our ability to fulfill our backlog may have an effect on our long term ability to procure contracts and fulfill current contracts

Our ability to fulfill our backlog may be limited by our ability to devote sufficient financial and human capital resources and limited by available material supplies. If we do not fulfill our backlog in a timely manner, we may experience delays in product delivery which would postpone receipt of revenue from those delayed deliveries. Additionally, if we are consistently unable to fulfill our backlog, this may be a disincentive to customers to award large contracts to us in the future until they are comfortable that we can effectively manage our backlog.

We may choose to acquire new and complementary businesses, products or technologies instead of developing them ourselves, and may be unable to complete these acquisitions or may not be able to successfully integrate an acquired business in a cost-effective and non-disruptive manner

Our success depends on our ability to continually enhance and broaden our product offerings in response to changing technologies, customer demands and competitive pressures. To this end, we have, from time to time, engaged in the process of identifying, analyzing and negotiating possible acquisition transactions, and from time to time acquiring one or more businesses, and we expect to continue to do so in the future. We may choose to acquire new and complementary businesses, products, technologies and/or services instead of developing them ourselves. We may, however, face competition for acquisition targets from larger and more established companies with greater financial resources, making it more difficult for us to complete acquisitions. We cannot provide any assurance that we will be successful in consummating future acquisitions on favorable terms or that we will realize the benefits that we anticipate from one or more acquisitions that we consummate. Integrating any business, product technology or service we acquire could be expensive and time-consuming and/or disrupt our ongoing business. Further, there are numerous risks associated with acquisitions and potential acquisitions, including but not limited to:

- diversion of management's attention from day-to-day operational matters and current products and customers;
- lack of synergy, or the inability to successfully integrate the new business or to realize expected synergies;
- failure to commercialize the new technology or business;
- failure to meet the expected performance of the new technology or business;
- failure to retain key employees and customer or supplier relationships;
- lower-than-expected market opportunities or market acceptance of any new products; and

18

Table of Contents

- unexpected reduction of sales of existing products by new products.

Our inability to consummate one or more acquisitions on such favorable terms or our failure to realize the intended benefits from one or more acquisitions, could have a material adverse effect on our business, liquidity, financial position and/or results of operations, including as a result of our incurrence of indebtedness and related interest expense and our assumption of unforeseen contingent liabilities. In order to finance any acquisitions, we might need to raise additional funds through public or private equity or debt financings. In that event, we could be forced to obtain financing on terms that are not favorable to us and, in the case of equity financing, that result in dilution to our stockholders. In addition, any impairment of goodwill or other intangible assets, amortization of intangible assets, write-down of other assets or charges resulting from the costs of acquisitions and purchase accounting could harm our business and operating results.

If we cannot effectively manage growth, our business may suffer

Over the long-term, we intend to grow our business by increasing our sales efforts and completing strategic acquisitions. To effectively manage growth, we must, among other things:

- engage, train and manage a larger sales force and additional service personnel;
- expand the geographic coverage of our sales force;
- expand our information systems;
- identify and successfully integrate acquired businesses into our operations; and
- administer appropriate financial and administrative control procedures.

Growth of our business will likely place a significant strain on our management, financial, operational, technical, sales and administrative resources. Any failure to effectively manage our growth may cause our business to suffer and our stock price to decline.

Changes in tax rates or tax liabilities could affect results

As a global company, we are subject to taxation in the United States and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future annual and quarterly tax rates could be affected by numerous factors, including changes in the (1) applicable tax laws; (2) composition of earnings in countries with differing tax rates; or (3) recoverability of our deferred tax assets and liabilities. In addition, we are subject to regular examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be materially different from the treatment reflected in our historical income tax provisions and accruals, which could materially and adversely affect our results of operations.

The Organization for Economic Co-operation and Development, or OECD, also recently released guidance covering various topics, including country-by-country reporting, definitional changes to permanent establishment and Base Erosion and Profit Shifting, or BEPS, an initiative that aims to standardize and modernize global tax policy. Depending on the final form of guidance adopted by OECD members and legislation ultimately enacted, if any, there may be significant consequences for us due to our international business activities.

Turmoil or fluctuations in the credit markets and the financial services industry may negatively impact our business, results of operations, financial condition or liquidity

During recent years, global credit markets and the financial services industry have experienced a period of unprecedented turmoil and upheaval characterized by tightening of the credit markets, weakening of the global economy and an unprecedented level of intervention from the United States and other governments. Adverse economic conditions, such as sustained periods of economic uncertainty or a crisis in the financial markets may have a material adverse effect on our liquidity and financial condition if our ability to obtain credit from the capital financial markets or from trade creditors were to be impaired. In addition, a worsening economy or an economic crisis could also adversely impact our

19

Table of Contents

customers' ability to finance the purchase of systems from us or our suppliers' ability to provide us with product, either of which may negatively impact our business and results of operations.

Our debt service obligations may adversely affect our financial condition and cash flows from operations

Our sale of $60.0 million of 3.75% convertible senior notes on July 25, 2011 (the "Notes") resulted in debt, which is due July 15, 2016.

Our maintenance of indebtedness could have important consequences because:

- it may impair our ability to obtain additional financing in the future;
- an increased portion of our cash flows will have to be dedicated towards making semi-annual interest payments and repaying the principal in 2016;
- it may make us more vulnerable to downturns in our business, our industry or the economy in general.

Our ability to generate sufficient cash to pay our expenses and debt obligations, including the Notes, will depend on our future performance, which will be affected by financial, business, economic, regulatory and other factors. We will not be able to control many of these factors, such as economic conditions and governmental regulations. If we are at any time unable to generate sufficient cash to pay our debt obligations, we may be required to attempt to renegotiate the terms of our debt obligations, seek to refinance all or a portion of our debt obligations or obtain additional financing. There can be no assurance that we will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us. Failure to make a payment on our debt obligations, or to fail to satisfy one or more covenants under our debt agreements, could also result in acceleration of all of our debt obligations, including the Notes, which would materially adversely affect our business, financial condition and results of operations.

Regulations related to "conflict minerals" may force us to incur additional expenses, may make our supply chain more complex and may result in damage to our reputation with customers

On August 22, 2012, under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, or the Dodd-Frank Act, the SEC adopted new requirements for companies that use certain minerals and metals, known as conflict minerals, in their products, whether or not these products are manufactured by third parties. These regulations require companies to perform due diligence, disclose and report whether or not such minerals originate from the Democratic Republic of Congo and adjoining countries. The first such report was filed with the SEC on May 29, 2014. The implementation of these new requirements could adversely affect the sourcing, availability and pricing of minerals used in the manufacture of semiconductor devices, including our products. In addition, we have incurred and will continue to incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals and metals used in our products. Since our supply chain is complex, we may not be able to sufficiently verify the origins for these minerals and metals used in our products through the due diligence procedures that we implement, which may harm our reputation. In such event, we may also face difficulties in satisfying customers who require that all of the components of our products are certified as conflict mineral free.

Risks Related to the Semiconductor Industry

Cyclicality in the semiconductor device industry has led to substantial decreases in demand for our systems and may from time to time continue to do so

Our operating results are subject to significant variation due to the cyclical nature of the semiconductor device industry. Our business depends upon the capital expenditures of semiconductor device manufacturers, which, in turn, depend upon the current and anticipated market demand for semiconductors and products using semiconductors. The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. In recent years, the industry has experienced significant downturns, generally in connection with declines in economic conditions. This cyclical nature of the industry in which we operate affects our ability to accurately predict future revenue and, thus, future expense levels. When cyclical fluctuations result in lower than expected revenue levels, operating results may be adversely affected and cost reduction measures may be necessary in order for us to remain

competitive and financially sound. During a down cycle, we must be in a position to adjust our cost and expense structure

Table of Contents

to prevailing market conditions and to continue to motivate and retain our key employees. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand. We can provide no assurance that these objectives can be met in a timely manner in response to industry cycles. If we fail to respond to industry cycles, our business could be seriously harmed.

Our future rate of growth is highly dependent on the development and growth of the market for microelectronic device inspection, lithography and metrology equipment

We target our products to address the needs of microelectronic device manufacturers for defect inspection, metrology and lithography. If for any reason the market for microelectronic device inspection, lithography or metrology equipment fails to grow in the long term, we may be unable to maintain current revenue levels in the short term and maintain our historical growth in the long term. Growth in the inspection market is dependent to a large extent upon microelectronic manufacturers replacing manual inspection with automated inspection technology. Growth in the metrology market is dependent to a large extent upon new chip designs and capacity expansion of microelectronic manufacturers. Growth in the lithography market is dependent on the development of cost-effective packaging with high fine pitch redistribution layers (RDL), ultimately migrating to multi-die, large, form-factor packages. There is no assurance that manufacturers will undertake these actions at the rate we expect.

Risks Related to our Stock

Provisions of our charter documents and Delaware law could discourage potential acquisition proposals and/or delay, deter or prevent a change in control of our company

Provisions of our certificate of incorporation and bylaws may inhibit changes in control of our company not approved by our Board of Directors. These provisions also limit the circumstances in which a premium can be paid for the common stock, and in which a proxy contest for control of our board may be initiated. These provisions provide for:

- a prohibition on stockholder actions through written consent;
- a requirement that special meetings of stockholders be called only by our chief executive officer or Board of Directors;
- advance notice requirements for stockholder proposals and director nominations by stockholders;
- limitations on the ability of stockholders to amend, alter or repeal our by-laws;
- the authority of our board to issue, without stockholder approval, preferred stock with such terms as the board may determine; and
- the authority of our board, without stockholder approval, to adopt a stockholder rights plan. Such a stockholder rights plan was adopted by the Board of Directors on June 27, 2005 and expired on June 28, 2015.

We are also entitled to avail ourselves of the protections of Section 203 of the Delaware General Corporation Law, which could inhibit changes in control of us.

Our stock price is volatile

The market price of our common stock has fluctuated widely. From the beginning of 2009 through the end of 2015, our stock price fluctuated between a high of $15.06 per share and a low of $1.95 per share. Consequently, the current market price of our common stock may not be indicative of future market prices, and we may be unable to sustain or increase the value of an investment in our common stock. Factors affecting our stock price may include:

- variations in operating results from quarter to quarter;
- changes in earnings estimates by analysts or our failure to meet analysts' expectations;
- changes in the market price per share of our public company customers;
- market conditions in the semiconductor and other industries into which we sell products;

Table of Contents

- general economic conditions;
- political changes, hostilities or natural disasters such as hurricanes and floods;
- low trading volume of our common stock; and
- the number of firms making a market in our common stock.

In addition, the stock market has experienced periods of significant price and volume fluctuations. These fluctuations have particularly affected the market prices of the securities of high technology companies like ours. Any such market fluctuations in the future could adversely affect the market price of our common stock.

There are various risks related to the legal and regulatory environments in which we perform our operations and conduct our business that may expose us to risk

We are faced with various risks which may be associated with our compliance with existing, new, different, inconsistent or conflicting laws, regulations and rules enacted by governments and/or their regulatory agencies in the countries in which we operate as well as rules and policies implemented at our customer sites. These laws, regulations, rules and policies could relate to any of an array of issues including, but not limited to, environmental, tax, intellectual property, trade secrets, product liability, contracts, antitrust, employment, securities, import/export and unfair competition. Should we fail to comply with or violate U.S. or foreign laws or regulations or customer policies, we could be subject to civil or criminal claims or proceedings that may result in monetary fines, penalties or other costs against us or our employees that may adversely affect our operating results, financial condition, customer relations and ability to conduct our business.

Item 1B. Unresolved Staff Comments.

None.

Table of Contents

Item 2. Properties.

Our principal executive office building is located at 16 Jonspin Road in Wilmington, Massachusetts. We own and lease facilities for corporate, engineering, manufacturing, sales and service related purposes in the United States and six other countries — China, Japan, South Korea, Singapore, Taiwan and Scotland. The following table indicates the location, the general purpose and the square footage of our principal facilities. The expiration years of the leases covering the leased facilities are also indicated.

Location	Facility Purpose	Approximate Square Footage	Lease Expiration Year, Unless Owned
Flanders, New Jersey	Corporate	20,000	Owned
Budd Lake, New Jersey	Corporate, Engineering and Service	49,000	2023
Bloomington, Minnesota	Engineering, Manufacturing and Service	98,500	2019
Tewksbury, Massachusetts	Engineering and Service	7,000	2017
Wilmington, Massachusetts	Corporate, Engineering, Manufacturing and Service	43,000	2019
Richardson, Texas	Engineering	21,000	Owned
Bohemia, New York	Engineering	6,000	2016
Snoqualmie, Washington	Engineering and Service	27,000	2020
Newbury Park, California	Engineering and Service	3,000	2017
Tianjin, China	Engineering	5,000	2017
Hsin-Chu, Taiwan	Sales and Service	10,500	2016
Takatsu, Japan	Sales and Service	3,500	2017
Sungnam-si, South Korea	Sales and Service	9,000	2017
Shanghai, China	Sales and Service	2,500	2016
Singapore	Sales and Service	2,500	2016
Scotland, United Kingdom	Sales and Service	1,000	2018

We also lease office space for other smaller sales and service offices in several locations throughout the world.

We believe that our existing facilities and capital equipment are adequate to meet our current requirements, and that suitable additional or substitute space is available on commercially reasonable terms if needed.

Table of Contents

Item 3. Legal Proceedings.

From time to time, we are subject to legal proceedings and claims in the ordinary course of business. The following reflects an overview of the material activities with regard to these matters.

Integrated Technology Corporation v. Rudolph Technologies, Inc., No. CV-06-2182 (PHX-ROS): As previously disclosed, in December 2007, we completed the acquisition of specific assets and liabilities of the semiconductor division of Applied Precision LLC ("Applied"). As a result of the acquisition, we assumed certain liabilities of Applied including a lawsuit filed in the United States District Court, District of Arizona, by Integrated Technology Corporation ("ITC") which alleged Applied's PrecisionPoint™, PrecisionWoRx® and ProbeWoRx® products infringed an ITC patent. Prior to trial, the District Court ruled that such products sold prior to August of 2007 (the "pre-August 2007 tools") infringed the ITC patent. At trial in December of 2011, a trial verdict was rendered in which the jury found that while our products manufactured after August of 2007 (the "post-August 2007 tools") did not literally infringe ITC's patent, the products were found to infringe under a rule known as the doctrine of equivalents, a legal principle which expands the language of patent claims to encompass products or processes which may otherwise be found not to literally infringe the patent. The jury awarded $15.5 million to ITC in damages for sales made during the years 2000-2011, of which approximately one-half related to sales for pre-August 2007 tools. The jury found that for the sales of the post-August 2007 tools, the infringement was willful. On July 23, 2012, the District Court issued an Order which affirmed the jury's award, applied treble damages to the portion of the jury award related to post-August 2007 tool sales and granted ITC's motion for attorney's fees and prejudgment interest on the verdict and attorney's fees. At that time, the District Court also enjoined us from future infringement of the ITC patent and from selling or supplying the applicable products with the applicable features from or into the United States. We appealed the injunction, the District Court Order and the damages assessment. In October 2012, the injunction was stayed by the U.S. Federal Court of Appeals and thereafter in June of 2013, the patent expired. On November 4, 2013, the U.S. Federal Court of Appeals issued a ruling which reversed the judgment of infringement against all post-August 2007 tools, reversed the finding of willfulness, vacated the treble damages award, vacated the award of attorney's fees and costs, remanded the issue back to the District Court for further review, and affirmed the award of damages and interest for the pre-August 2007 tools. As a result, the matter is resolved with regard to the alleged infringement of the post-August 2007 tools. With regard to the damages assessment against the pre-August 2007 tools, on March 4, 2014, we filed a Petition for a Writ of Certiorari with the U.S. Supreme Court to appeal the basis of the Federal Court of Appeals' decision affirming the damages award for the pre-August 2007 tools. On June 30, 2014, the Supreme Court denied our Petition and as a result, on July 22, 2014, we paid to ITC $10.6 million which represented only the damages and interest portion of the judgment. Since the patent expired in June of 2013 and payment of the judgment has been made, this matter is fully resolved with the sole exception of the issue of the remanded attorney's fees. On August 8, 2014, the District Court issued an order for setting the attorney's fees award at $3.3 million which we appealed to the U.S. Federal Court of Appeals on September 5, 2014. A hearing regarding our appeal was held on October 6, 2015 and thereafter, the U.S. Federal Court of Appeals issued a ruling that the award was improperly established, vacated the amount of the award and remanded the matter back to the District Court for a determination of a proper fee award. We believe that we have meritorious defenses regarding this issue and intend to continue to vigorously prosecute the matter. The $3.3 million is held in escrow and is recorded in "Prepaid expenses and other current assets" in the Consolidated Balance Sheet at December 31, 2015. The corresponding liability is recorded under the caption, "Other current liabilities," in the Consolidated Balance Sheet at December 31, 2015. We expect this to be the maximum liability reasonably possible for the attorney's fees, excluding interest, for this lawsuit with respect to both the pre-August 2007 and post-2007 August tools.

August Technology Corporation and Rudolph Technologies, Inc. v. Camtek, Ltd., No. 05-CV-01396 (JRT/FLN): Our patent infringement suit against Camtek, Ltd., of Migdal Hamek, Israel, concerning our proprietary continuous scan wafer inspection technology, was initially brought in 2005 by August Technology prior to its merger with us. On

August 22, 2011 the U.S. Federal Court of Appeals issued a decision in which it affirmed multiple rulings from trial at the District Court level including (i) finding our U.S. Patent No. 6,826,298 valid, (ii) the part of the infringement ruling based on the finding that Camtek's Falcon product strobes "based on velocity," and (iii) the dismissal of Camtek's claim against us for inequitable conduct against the U.S. Patent and Trademark Office. The court did, however, revise one claim construction ruling made by the District Court in the original case. As a result, the Appellate Court set aside the verdict delivered by the jury for damages and the District Court's decision to enter an injunction against Camtek's selling Falcon tools in the U.S. and remanded the case back to the District Court for a limited trial on this single

Table of Contents

infringement issue. On March 31, 2014, the District Court ruled in our favor, finding that Camtek's Falcon tools continue to infringe our patent even under the revised claim construction of the patent, obviating the need for the limited trial. On February 9, 2015, the District Court issued an Order granting our Motion for Final Judgment, reinstating the original damages and applying prejudgment interest for a total award of $14.5 million. In addition, the District Court issued a permanent injunction against Camtek from "making, using, selling and offering to sell any of its Falcon machines and any machines that are colorable imitations thereof in the United States, intended for sale and use within the United States, until the expiration of the '6,298 patent [projected to be in 2020]." While, in March of 2015, Camtek filed an appeal with the U.S. Federal Court of Appeals challenging the District Court's ruling the Appeals Court denied Camtek's appeal on February 3, 2016, affirming both the infringement ruling and the damages and interest totaling approximately $14.6 million assessed against Camtek by the District Court.

August Technology Corporation and Rudolph Technologies, Inc. v. Camtek, Ltd., No. 10-CV-2202 (MJD/FLN): A lawsuit against Camtek was filed by us in 2011 alleging infringement of its U.S. Patent No. 7,729,528 which is also related to our proprietary continuous scan wafer inspection technology. Camtek filed an inter partes reexamination petition with the U.S. Patent and Trademark Office on January 19, 2012 asserting that certain claims of the patent are unpatentable. The reexamination of the subject patent is ongoing at this time. During the pendency of the reexamination process, the parties have stipulated that the lawsuit be stayed pending resolution of Camtek's petition.

Rudolph Technologies, Inc. v. Camtek, Ltd., No. 15-CV-1246 (ADM/BRT): On March 12, 2015, we filed and served on Camtek a complaint asserting infringement of Rudolph '6,298 patent by Camtek's Eagle product with the U.S. District Court in Minnesota. On April 21, 2015, we filed a Motion for Preliminary Injunction to enjoin Camtek's sale of the Eagle device in the United States which is currently pending. On or about April 20, 2015, Camtek filed a complaint in the U.S. District Court in New Jersey seeking a declaratory judgment challenging the jurisdiction and venue of the Minnesota District Court and seeking to have the New Jersey District Court find that the '6,298 patent is not infringed and, in the alternative, that the '6,298 patent is invalid. On August 26, 2015, the U.S. District Court in Minnesota ruled that Minnesota jurisdiction was appropriate for this matter while at the same time denying our Motion for Preliminary Injunction. Camtek's complaint filed in the U.S. District Court in New Jersey was subsequently dismissed. This matter is currently ongoing in the U.S. District Court in Minnesota.

Item 4. Mine Safety Disclosures.

None.

Table of Contents

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Our common stock is traded on the New York Stock Exchange ("NYSE") under the symbol "RTEC." Set forth below is a line graph comparing the annual percentage change in the cumulative return to the stockholders of the Company's common stock with the cumulative return of the NYSE Composite Index and a custom peer group for the period commencing on December 31, 2010 and ending on December 31, 2015. The peer group is comprised of capital equipment manufacturers for the semiconductor industry with relatively comparable revenues and market capitalizations to that of the Company. The peer group was recommended by a global management consulting firm. The companies included in the peer group are MKS Instruments, Inc., FEI Company, Brooks Automation, Inc., Veeco Instruments, Inc., Cabot Microelectronics Corporation, FormFactor, Inc., Axcelis Technologies, Inc., Advanced Energy Industries, Inc., Cohu, Inc., EMCORE Corporation, Mattson Technology, Inc., LTX-Credence, Corporation, Nanometrics, Incorporated, Ultratech, Inc., PDF Solutions, Inc. and AXT, Inc.

The information contained in the performance graph shall not be deemed to be "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent that the Company specifically incorporates it by reference into such filing.

The graph assumes that $100 was invested on December 31, 2010 in the Company's common stock in each index, and that all dividends were reinvested. No cash dividends have been declared or paid on the Company's common stock. Stockholder returns over the indicated period should not be considered indicative of future stockholder returns.

	12/10	12/11	12/12	12/13	12/14	12/15
Rudolph Technologies, Inc.	100.0	112.5	163.3	142.7	124.3	172.8
NYSE Composite	100.0	96.4	112.1	141.7	151.4	145.4
Peer Group	100.0	92.6	106.5	141.1	145.8	132.7

Table of Contents

The following table sets forth, for the periods indicated, the high and low sale prices per share of our common stock as reported on the NYSE.

	Price Range of Common Stock	
	High	Low
Year Ended December 31, 2015		
First Quarter	$12.77	$9.71
Second Quarter	$13.84	$10.91
Third Quarter	$13.65	$10.71
Fourth Quarter	$15.06	$11.91
Year Ended December 31, 2014		
First Quarter	$12.32	$10.49
Second Quarter	$11.74	$8.91
Third Quarter	$10.39	$8.97
Fourth Quarter	$10.44	$8.10

As of February 12, 2016, there were 69 stockholders of record of our common stock and approximately 7,157 beneficial stockholders. The closing market value of our common stock on February 12, 2016 was $11.52 per share. We have never declared or paid a cash dividend on our common stock and do not anticipate paying any cash dividends in the foreseeable future. We currently intend to retain our earnings, if any, for the development of our business and the share repurchase of our common stock. Additionally, covenants in the indenture governing the Notes restrict our ability to declare or pay cash dividends. The declaration of any future dividends by us is within the discretion of our Board of Directors and will be dependent on our earnings, financial condition and capital requirements as well as any other factors deemed relevant by our Board of Directors.

In January 2015, the Board of Directors increased our authorization to repurchase shares of our common stock by approximately an additional 1.4 million shares to replenish the shares purchased through December 31, 2014, bringing the total repurchase authorization to 3.0 million shares as of such date. During the twelve months ended December 31, 2015, we repurchased 1.7 million shares of common stock. At December 31, 2015, there were 1.3 million shares available for future stock repurchases under this repurchase authorization. Shares of common stock purchased under the share repurchase authorization are retired. For further information, see Note 16 in the accompanying consolidated financial statements.

In addition to the our share repurchase program, we withhold common stock shares associated with net share settlements to cover tax withholding obligations upon the vesting of restricted stock unit awards and stock option exercises under the Company’s equity incentive program. During the three and twelve months ended December 31, 2015, we withheld one thousand and 0.2 million shares through net share settlements, respectively. For the three and twelve month periods ended December 31, 2015 net share settlements cost ten thousand and $1.9 million, respectively. Please refer to Note 9 of the Notes to Consolidated Financial Statements for further discussion regarding our equity incentive plan.

The following table provides details of common stock purchased during the three month period ended December 31, 2015 (in thousands, except per share data):

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Number of Shares that May Yet Be Purchased Under the Program
October 1, 2015 to October 31, 2015	192	$12.61	191	1,408
November 1, 2015 to November 30, 2015	69	$13.50	69	1,339

December 1, 2015 to December 31, 2015	13	$14.02	13	1,326
Three Months Ended December 31, 2015	274	$12.90	273	1,326

Table of Contents

Item 6. Selected Financial Data.

The following selected financial data should be read in conjunction with our Consolidated Financial Statements and the related Notes thereto appearing elsewhere in this Annual Report on Form 10-K, and under Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The balance sheet data as of December 31, 2015 and 2014 and the statement of operations data for the years ended December 31, 2015, 2014 and 2013 set forth below were derived from our audited consolidated financial statements included elsewhere in this Form 10-K. The balance sheet data as of 2013, 2012 and 2011, and the statement of operations data for the years ended December 31, 2012 and 2011 were derived from our audited consolidated financial statements not included herein.

	Year Ended December 31,				
	2015	2014	2013	2012	2011
	(In thousands, except per share data)				
Statement of Operations Data:					
Revenues	$221,690	$181,218	$176,238	$218,486	$187,196
Cost of revenues	102,284	85,730	85,506	102,811	86,843
Gross profit	119,406	95,488	90,732	115,675	100,353
Operating expenses:					
Research and development	41,233	40,576	39,994	39,331	36,298
Selling, general and administrative	43,235	53,799	41,542	40,225	40,826
Amortization	2,145	2,422	2,592	1,853	1,757
Total operating expenses	86,613	96,797	84,128	81,409	78,881
Operating income (loss)	32,793	(1,309)	6,604	34,266	21,472
Interest expense	(5,688)	(5,317)	(5,079)	(4,377)	(1,925)
Other income (expense)	(293)	(65)	8	(482)	847
Income before provision (benefit) for income taxes	26,812	(6,691)	1,533	29,407	20,394
Provision (benefit) for income taxes	8,856	(2,051)	(1,925)	(14,458)	(4,832)
Net income (loss)	$17,956	$(4,640)	$3,458	$43,865	$25,226
Earnings (loss) per share:					
Basic	$0.57	$(0.14)	$0.11	$1.36	$0.79
Diluted	$0.56	$(0.14)	$0.10	$1.34	$0.78
Weighted average shares outstanding:					
Basic	31,408	33,124	32,783	32,226	31,744
Diluted	32,166	33,124	33,388	32,853	32,256

Table of Contents

	December 31,				
	2015	2014 (1) (2)	2013 (1)(2)	2012 (2)	2011 (2)
Balance Sheet Data:					
Cash and cash equivalents	$44,554	$43,114	$80,790	$104,253	$96,671
Marketable securities	116,924	113,871	86,582	64,963	70,888
Working capital	197,005	246,400	258,592	254,363	236,074
Total assets	379,824	366,637	371,362	364,584	305,911
Convertible senior notes	58,107	54,773	51,751	49,010	46,524
Accumulated deficit	(121,658)	(139,614)	(134,974)	(138,432)	(182,297)
Total stockholders' equity	270,678	267,328	279,003	270,489	221,778

(1) Effective December 31, 2015, we early adopted provisions prescribed by the Financial Account Standards Board (FASB) in Accounting Standards Update (ASU) No. 2015-17, "Income Taxes (Topic 740), Balance Sheet Classification of Deferred Taxes." Consequently, we reclassified net current deferred income tax assets to net long term deferred income tax assets for each period presented.
(2) Working capital data for 2011 through 2014 reflect reclassifications of a portion of deferred revenue to other non-current liabilities.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Overview
We are a worldwide leader in the design, development, manufacture and support of process control, defect inspection and metrology, advanced packaging lithography, and data analysis systems and software used by microelectronic device manufacturers. We provide process and yield management solutions used in both wafer processing and final manufacturing through a family of standalone systems for macro-defect inspection, lithography, probe card test and analysis, and transparent and opaque thin film measurements. All Rudolph systems feature sophisticated software and production-worthy automation. Rudolph systems are backed by worldwide customer support.
In September 2015, we announced that we purchased Stella Alliance, LLC, a Massachusetts-based semiconductor inspection technology intellectual property (IP) portfolio company. The acquired intellectual property portfolio is being integrated into our process control group. The impact of the acquisition was not material to our consolidated financial position or results of operations.
Rudolph's business is affected by the annual spending patterns of our customers on semiconductor capital equipment. The amount that our customers devote to capital equipment spending depends on a number of factors, including general worldwide economic conditions as well as other economic drivers such as personal computer, tablet, cell phone, other personal electronic devices and automotive sales. Current forecasts by industry analysts for the semiconductor device manufacturing industry projects a year-over-year capital spending of flat to down 5% for 2016. Our revenues and profitability tend to follow the trends of certain segments within the semiconductor market. We monitor capital equipment spending through announced capital spending plans by our customers and monthly-published industry data such as the book-to-bill ratio. The book-to-bill ratio is a 3-month running statistic that compares bookings or orders placed with capital equipment suppliers to billings or shipments. A book-to-bill ratio above 1.0 shows that semiconductor device equipment manufacturers are ordering equipment at a pace that exceeds the equipment suppliers' shipments for the period. The three month rolling average North American semiconductor equipment book-to-bill ratio was 1.0 for the month of December 2015, decreasing from the September 2015 book-to-bill ratio of 1.1.
Historically, a significant portion of our revenues in each quarter and year has been derived from sales to relatively few customers, and we expect this trend to continue. For the years ended December 31, 2015, 2014 and 2013, sales to customers that individually represented at least five percent of our revenues accounted for 23.3%, 23.9%, and 41.6% of our revenues, respectively.

29

Table of Contents

We do not have purchase contracts with any of our customers that obligate them to continue to purchase our products, and they could cease purchasing products from us at any time. A delay in purchase or cancellation by any of our large customers could cause quarterly revenues to vary significantly. In addition, during a given quarter, a significant portion of our revenues may be derived from the sale of a relatively small number of systems. The following table presents the average selling price range for our systems in 2015.

System	Average Selling Price Per System
Macro-defect inspection and probe card and test analysis	$250,000 to $1.8 million
Transparent film measurement	$800,000 to $1.2 million
Opaque film measurements	$1.0 million to $1.8 million
Lithography steppers	$3.0 million to $8.0 million

A significant portion of our revenues has been derived from customers outside of the United States. A substantial portion of our international sales are denominated in U.S dollars. We expect that revenues generated from customers outside of the United States will continue to account for a significant percentage of our revenues.

The sales cycle for our systems typically ranges from six to twenty-four months, and can be longer when our customers are evaluating new technology. Due to the length of these cycles, we invest significantly in research and development and sales and marketing in advance of generating revenues related to these investments.

Results of Operations

The following table sets forth, for the periods indicated, our statements of operations data as percentages of our revenues. Our results of operations are reported as one business segment.

	Year Ended December 31,		
	2015	2014	2013
Revenues	100.0 %	100.0 %	100.0 %
Cost of revenues	46.1	47.3	48.5
Gross profit	53.9	52.7	51.5
Operating expenses:			
Research and development	18.6	22.4	22.7
Selling, general and administrative	19.5	29.7	23.6
Amortization	1.0	1.3	1.5
Total operating expenses	39.1	53.4	47.8
Operating income (loss)	14.8	(0.7)	3.7
Interest expense	2.6	(2.9)	(2.9)
Other (expense) income	(0.1)	(0.1)	0.1
Income before provision (benefit) income taxes	12.1	(3.7)	0.9
Provision (benefit) for income taxes	4.0	(1.1)	(1.1)
Net income (loss)	8.1 %	(2.6)%	2.0 %

Results of Operations 2015, 2014 and 2013

Revenues. Our revenues are derived from the sale of our systems, services, spare parts and software licensing. Our revenues were $221.7 million, $181.2 million and $176.2 million for the years ended 2015, 2014 and 2013, respectively. This represents an increase of 22.3% from 2014 to 2015 and an increase of 2.8% from 2013 to 2014. The increase in revenue from, 2014 to 2015 was primarily due to increased capital spending by both the front-end and back-end semiconductor manufacturers, principally by our advanced packaging customers, partially offset by a decline in

Table of Contents

service revenue. The increase in revenue from, 2013 to 2014 was primarily due to increased capital spending by back-end semiconductor manufacturers and the sale of a flat panel display unit in 2014.

The following table lists, for the periods indicated, the different sources of our revenues in dollars (thousands) and as percentages of our total revenues:

	Year Ended December 31,								
	2015			2014			2013		
Systems and software:									
Inspection	$118,925	54	%	$87,818	49	%	$89,089	51	%
Metrology	25,933	12	%	24,590	14	%	26,500	15	%
Data analysis and review	27,291	12	%	24,042	13	%	17,927	10	%
Lithography	14,519	6	%	11,163	6	%	8,548	5	%
Parts	24,072	11	%	20,334	11	%	21,078	12	%
Services	10,950	5	%	13,271	7	%	13,096	7	%
Total revenue	$221,690	100	%	$181,218	100	%	$176,238	100	%

Total systems and software revenue increased for the year ended December 31, 2015 as compared to the year ended December 31, 2014 due to increased demand for our products in advanced packaging and front-end systems. The year-over-year increases in inspection, metrology and lithography systems revenue totaled $31.1 million, $1.3 million and $3.4 million, respectively. The increase in systems revenue was attributed to a greater number of inspection and lithography units sold. The average selling price of similarly configured systems has been consistent and therefore did not have a material impact on our revenue for the same period. Licensing revenue from the data analysis and review software product category increased $3.2 million primarily due to increased licensing revenue from our process control software. Systems revenue generated by our latest product releases and major enhancements in each of our product families amounted to 66% of total revenue for 2015 compared to 61% of total revenue for 2014. The year-over-year increase in parts and service revenues in absolute dollars from 2014 to 2015 was primarily due to increased spending by our customers on repairs of existing systems. Parts and services revenues are generated from part sales, maintenance service contracts, system upgrades, as well as time and material billable service calls.

Total systems and software revenue increased for the year ended December 31, 2014 as compared to the year ended December 31, 2013 due to an increase in licensing and lithography revenue. There was a year-over-year increase in lithography revenue of $2.6 million, however, the number of units sold decreased slightly. Licensing revenue from the data analysis and review software product category increased $6.1 million primarily in increased licensing revenue from our process control software. The year-over-year increase in system and software revenue was partially offset by a decrease in inspection systems revenue of $1.3 million, however, there was a slight increase in the number of inspection units sold. There was a decrease in metrology revenue of $1.9 million due to a decrease in demand for metrology systems. Systems revenue generated by our latest product releases and major enhancements in each of our product families amounted to 61% of total revenue for 2014 compared to 64% of total revenue for 2013. The year-over-year increase in parts and service revenues in absolute dollars from 2013 to 2014 was primarily due to increased spending by our customers on repairs of existing systems. Parts and services revenues are generated from part sales, maintenance service contracts, system upgrades, as well as time and material billable service calls.

Deferred revenues of $6.4 million were recorded in Current liabilities and $1.2 million were recorded in Other non-current liabilities at December 31, 2015. Deferred revenue primarily consisted of $5.2 million for deferred maintenance agreements and $2.4 million for outstanding deliverables.

Gross Profit. Our gross profit has been and will continue to be affected by a variety of factors, including manufacturing efficiencies, provision for excess and obsolete inventory, pricing by competitors or suppliers, new product introductions, production volume, customization and reconfiguration of systems, international and domestic sales mix, and parts and service margins. Our gross profit was $119.4 million, $95.5 million and $90.7 million for the years ended December 31, 2015, 2014 and 2013, respectively. The increase in gross profit as a percentage of revenue from 2014

31

Table of Contents

to 2015 was primarily due to an increase in product and software sales volume and product mix. The increase in gross profit as a percentage of revenue from 2013 to 2014 was primarily due to higher volume of software sales as well as product mix.

Operating Expenses

Our operating expenses consist of:

- Research and Development. The process control defect inspection and metrology, advanced packaging lithography, and data analyisis systems and software market is characterized by continuous technological development and product innovations. We believe that the rapid and ongoing development of new products and enhancements of existing products, including the transition to copper and low-k dielectrics, wafer level packaging, the continuous shrinkage in critical dimensions, and the evolution of ultra-thin gate process control, is critical to our success. Accordingly, we devote a significant portion of our technical, management and financial resources to research and development programs. Research and development expenditures consist primarily of salaries and related expenses of employees engaged in research, design and development activities. They also include consulting fees, the cost of related supplies and legal costs to defend our patents. Our research and development expense was $41.2 million, $40.6 million and $40.0 million in 2015, 2014 and 2013, respectively. The year-over-year dollar increase from 2014 to 2015 was primarily due to increased compensation, litigation and project costs. The year-over-year dollar increase from 2013 to 2014 was primarily due to charges related to our restructuring plan announced in November 2014. We continue to maintain our commitment to investing in new product development and enhancement to existing products.
- Selling, General and Administrative. Selling, general and administrative expense is primarily comprised of salaries and related costs for sales, marketing, and general administrative personnel, as well as commissions and other non-personnel related expenses. Our selling, general and administrative expense was $43.2 million, $53.8 million and $41.5 million in 2015, 2014 and 2013, respectively. In 2014 there was a significant increase to litigation expenses related to the final judgment awarded to Integrated Technology Corporation (“ITC”). For more information on the ITC litigation, See Part I Item 3 of this Form 10-K. There were also restructuring charges in 2014 due primarily to the closure of our facility in Mainz, Germany. These increased charges in 2014 were primarily responsible for the year-over-year decrease in selling, general and administrative expense from 2014 to 2015, as well as the year-over-year increase from 2013 to 2014. The changes were offset slightly by higher share based compensation expenses in 2015 and 2014.
- Amortization of Identifiable Intangible Assets. Amortization of identifiable intangible assets was $2.1 million, $2.4 million and $2.6 million in 2015, 2014 and 2013, respectively. The year-over-year decreases in amortization expense from 2013 to 2015 were due to certain intangible assets becoming fully amortized during the periods. The decrease in 2015 was slightly offset by an increase in amortization for intangibles acquired during the year.

Interest expense,net. In 2015, 2014 and 2013, net interest expense was $5.7 million, $5.3 million and $5.1 million, respectively. The year-over-year increase in net interest expense from 2013 to 2015 was primarily due to increased amortization of the interest discount related to the convertible senior notes.

Income taxes. The following table provides details of income tax (dollars in millions):

	Year Ended December 31,		
	2015	2014	2013
Income (loss) before income taxes	$26.8	$(6.7)	$1.5
Provision (benefit) for income taxes	$8.9	$(2.1)	$(1.9)
Effective tax rate	33.0%	30.7%	(125.6)%

The income tax provision differs from the federal statutory income tax rate of 35% for 2015, primarily due to research and development credits, section 199 manufacturing deduction and a decrease in our valuation allowance, partially offset by taxes accrued in foreign jurisdictions.

Table of Contents

The income tax benefit differs from the federal statutory income tax rate of 35% for 2014, primarily due to an increase in our valuation allowance and taxes accrued in foreign jurisdictions, partially offset by research and development tax credits.

The income tax benefit differs from the federal statutory income tax rate of 35% for 2013, primarily from research and development tax credits which were not available in 2012 as a result of legislation, foreign tax credits, and the reversal of unrecognized tax benefits, offset by $1.3 million of expense related to a correction of prior year income tax balances recognized in the fourth quarter of 2013. The correction of the prior year income tax balance was not considered material to the prior year financial statements.

Litigation. As discussed in Part I, Item 3. “Legal Proceedings”, we are subject to legal proceedings and claims, which include, among other things, our on-going litigation with ITC in a patent infringement action related to the predictive scrub feature of our PrecisionPoint™, PrecisionWoRx® and ProbeWoRx® products in which we were the defendants. See Part I, Item 3 for a discussion of this action and the U.S. Federal Court of Appeals ruling reversing the finding of infringement against products sold after August of 2007 and its order of other relief in this matter. The U.S. Federal Court of Appeals did affirm the jury’s finding of damages against us related to products sold prior to August of 2007 for which we ultimately paid $10.6 million to ITC to satisfy the damages award. The District Court subsequently issued an order awarding ITC $3.3 million in attorney’s fees which we are in the process of pursuing an appeal. In an adverse judgment against us in this matter, the amount identified by the Court will not have a material impact on our results of operations and will also not have a material impact on our liquidity and financial condition.

Liquidity and Capital Resources

At December 31, 2015, we had $161.5 million of cash, cash equivalents and marketable securities and $197.0 million in working capital. At December 31, 2014, our cash, cash equivalents and marketable securities totaled $157.0 million, while working capital amounted to $246.4 million.

Typically during periods of revenue growth, changes in accounts receivable and inventories represent a use of cash as we incur costs and expend cash in advance of receiving cash from our customers. Similarly, during periods of declining revenue, changes in accounts receivable and inventories represent a source of cash as inventory purchases decline and revenue from prior periods is collected.

Net cash and cash equivalents provided by operating activities for the years ended December 31, 2015, 2014 and 2013 totaled $33.8 million, $4.3 million and $6.1 million, respectively. During the year ended December 31, 2015, cash provided by operating activities was primarily due to net income, adjusted to exclude the effect of non-cash charges, of $42.9 million, an increase in accounts payable of $2.3 million, an increase in income tax payable of $2.6 million, an increase in other liabilities of $3.5 million and an a decrease in prepaid expenses and other of $1.0 million, partially offset by an increase in inventory of $12.5 million, an increase in accounts receivable of $4.3 million, and a decrease in deferred revenue of $1.5 million.

During the year ended December 31, 2014, cash provided by operating activities was primarily due to net loss, adjusted to exclude the effect of non-cash charges, of $12.4 million, and an increase in accounts payable of $3.8 million, a decrease in income taxes receivable of $1.2 million, and a decrease in accounts receivable of $1.1 million, partially offset by an increase in inventories of $9.4 million, an increase in prepaid expenses and other of $4.7 million, an increase in other liabilities of $0.5 million, and a decrease in deferred revenue of $0.4 million.

During the year ended December 31, 2013, cash provided by operating activities was primarily due to net income, adjusted to exclude the effect of non-cash charges, of $19.8 million, a decrease in account receivable of $2.6 million, and a decrease in prepaid expenses and other assets of $1.4 million, partially offset by an increase in inventory of $6.8 million, a decrease in other liabilities of $3.8 million, an increase in income taxes receivable of $4.6 million, a decrease in deferred revenue of $1.7 million, and a decrease in accounts payable of $0.9 million.

Net cash and cash equivalents used in investing activities for the years ended December 31, 2015, 2014 and 2013 totaled $9.1 million, $28.5 million and $30.0 million, respectively. During the year ended December 31, 2015, net cash used by investing activities included purchases of marketable securities of $237.1 million, capital expenditures of $3.4 million, and purchase of intangible assets of $2.7 million, which were partially offset by proceeds from sales of

marketable securities of $234.1 million. During the year ended December 31, 2014, net cash used by investing

Table of Contents

activities included purchases of marketable securities of $243.7 million, and capital expenditures of $2.1 million, which were partially offset by proceeds from sales of marketable securities of $217.2 million. During the year ended December 31, 2013, net cash used by investing activities included purchases of marketable securities of $119.1 million, capital expenditures of $4.9 million, and acquisition costs for business combinations of $3.4 million, which were partially offset by proceeds from sales of marketable securities of $97.3 million. Capital expenditures over the next twelve months are expected to be approximately $5.0 million to $7.0 million.

Net cash provided by (used in) financing activities was $(23.0) million, $(12.7) million and $1.4 million in 2015, 2014 and 2013, respectively. In the 2015, financing activities primarily included the purchase of shares under the share repurchase authorization of $20.7 million and tax payments related to shares withheld for share based compensation plans. In 2014, financing activities primarily included the purchase of shares under the share repurchase authorization of $12.8 million. In 2013 net cash provided by financing activities comprised proceeds received from sales of shares through share-based compensation plans and tax benefit from share-based compensation plans.

From time to time we evaluate whether to acquire new or complementary businesses, products and/or technologies. We may fund all or a portion of the purchase price of these acquisitions in cash, stock, or a combination of cash and stock.

In July 2008, our Board of Directors authorized the Company to repurchase up to 3.0 million shares of our common stock with no established end date. The authorization allows for repurchases to be made in the open market or through negotiated transactions from time to time. In January 2015, our Board of Directors increased the Company's authorization to repurchase shares of its common stock by approximately an additional 1.4 million shares to replenish the shares purchased through December 31, 2014, bringing the total repurchase authorization back to 3.0 million shares as of such date. During the twelve months ended December 31, 2015, the Company repurchased 1.7 million shares of common stock. At December 31, 2015, there were 1.3 million shares available for future stock repurchases under this repurchase authorization. Shares of common stock purchased under the share repurchase authorization are retired. For further information, see Note 16 in the accompanying consolidated financial statements.

On July 25, 2011, we issued $60.0 million aggregate principal amount of 3.75% Convertible Senior Notes due 2016 (the “Notes”) at par. The Notes pay interest semi-annually in arrears on January 15 and July 15 of each year at an annual rate of 3.75% and will mature on July 15, 2016, unless earlier converted or repurchased. The Notes may be converted, under certain circumstances, based on an initial conversion rate of 77.241 shares of Company common stock per $1 thousand principal amount of Notes, which represents an initial conversion price of approximately $12.95 per share. Concurrently with the issuance of the Notes, we purchased a convertible note hedge for $14.5 million and sold a warrant for $7.0 million. The separate convertible note hedge and warrant transactions are structured to reduce the potential future economic dilution associated with the conversion of the Notes.

During the fourth quarter of 2015, we entered into a credit agreement with Credit Suisse providing for a $60.0 million committed secured revolving line of credit. The agreement will expire on October 31, 2016. We have not utilized the credit agreement to date.

Our future capital requirements will depend on many factors, including the timing and amount of our revenues and our investment decisions, which will affect our ability to generate additional cash. We expect that our existing cash, cash equivalents, marketable securities and availability under our line of credit will be sufficient to meet our anticipated cash requirements for working capital, capital expenditures and other cash needs for the next twelve months. Thereafter, if cash generated from operations and financing activities is insufficient to satisfy our working capital requirements, we may seek additional funding through bank borrowings, sales of securities or other means. There can be no assurance that we will be able to raise any such capital on terms acceptable to us or at all.

Table of Contents

Contractual Obligations

The following table summarizes our significant contractual obligations at December 31, 2015, and the effect such obligations are expected to have on our liquidity and cash flows in future periods. This table excludes the liability for unrecognized tax benefits that totaled approximately $5.2 million at December 31, 2015. We are currently unable to provide a reasonably reliable estimate of the amount or periods when cash settlement of this liability may occur.

	Payments due by period (In thousands)				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Debt and interest obligations	$62,250	$62,250	$—	$—	$—
Operating lease obligations	12,045	3,153	4,885	2,697	1,310
Open and committed purchase orders	29,579	29,405	174	—	—
Total	$103,874	$94,808	$5,059	$2,697	$1,310

Off-Balance Sheet Arrangements

The Company does not have any significant off-balance sheet arrangements that have or are reasonably likely to have a material effect on our financial condition, results of operations or liquidity and capital resources.

Critical Accounting Policies

Management's discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. We review the accounting policies we use in reporting our financial results on a regular basis. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, accounts receivable, inventories, business acquisitions, intangible assets, share-based payments, income taxes and warranty obligations. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Results may differ from these estimates due to actual outcomes being different from those on which we based our assumptions. These estimates and judgments are regularly reviewed by management on an ongoing basis at the end of each quarter prior to the public release of our financial results. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition. Revenue is recognized provided that there is persuasive evidence of an arrangement, delivery has occurred or services have been rendered, the sales price is fixed or determinable, and collection of the related receivable is reasonably assured. Revenue recognition generally results at the following points: (1) for all transactions where legal title passes to the customer upon shipment, revenue is recognized upon shipment for all products that have been demonstrated to meet product specifications prior to shipment; the portion of revenue associated with certain installation-related tasks is deferred, and that revenue is recognized upon completion of the installation-related tasks; (2) for products that have not been demonstrated to meet product specifications prior to shipment, revenue is recognized at customer technical acceptance; (3) for transactions with multiple elements, such as sales of products that include software and services, the revenue relating to the undelivered elements is deferred using the relative selling price method utilizing vendor-specific objective evidence ("VSOE") or estimated sales prices ("ESP") until delivery of the deferred elements. Third-party evidence is not typically used to determine selling prices as to limited availability of reliable competitor products' selling prices. The ESP is established considering multiple factors including, but not limited to, gross margin objectives, internal costs and competitor pricing strategies.

Revenues from parts sales are recognized at the time of shipment. Revenue from training and service contracts is recognized ratably over the training period and contract period. A provision for the estimated cost of fulfilling

warranty obligations is recorded at the time the related revenue is recognized.

Table of Contents

Revenue from software license fees is recognized upon shipment or customer acknowledgment if collection of the resulting receivable is probable, the fee is fixed or determinable, and VSOE exists to allocate a portion of the total fee to any undelivered elements of the arrangement. License support and maintenance revenue is recognized ratably over the contract period.

Deferred revenue represents undelivered items, prepaid service contract revenue and prepaid license support and maintenance revenue. Deferred revenue is recognized in accordance with our revenue recognition policies described above.

Allowance for Doubtful Accounts. We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. We specifically analyze accounts receivable and analyze historical bad debts, customer concentrations, customer credit-worthiness, current economic trends and changes in our customer payment terms when evaluating the adequacy of the allowance for doubtful accounts. If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, or if our assumptions are otherwise incorrect, additional allowances may be required.

Excess and Obsolete Inventory. We maintain reserves for our excess and obsolete inventory equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future product life-cycles, product demand and market conditions. If actual product life-cycles, product demand and market conditions are less favorable than those originally projected by management, additional inventory write-downs may be required.

Business Acquisitions. We account for acquired or merged businesses using the purchase method of accounting which requires that the assets acquired and liabilities assumed be recorded at the date of acquisition or merger at their respective fair values. The judgments made in determining the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact our consolidated financial position and results of operations. Accordingly, for significant acquisitions, we typically obtain assistance from independent valuation specialists.

There are several methods that can be used to determine the fair value of assets acquired and liabilities assumed. For intangible assets, we typically utilize the “income method.” This method starts with a forecast of all of the expected future net cash flows. These cash flows are then adjusted to present value by applying an appropriate discount rate that reflects the risk factors associated with the cash flow streams. Some of the more significant estimates and assumptions inherent in the income method or other methods include the projected future cash flows (including timing) and the discount rate reflecting the risks inherent in the future cash flows. Determining the useful life of an intangible asset also requires judgment. For example, different types of intangible assets will have different useful lives and certain assets may even be considered to have indefinite useful lives. All of these judgments and estimates can significantly impact our consolidated financial position and results of operations.

Goodwill. Our formal annual impairment testing date for goodwill is October 31st or prior to the next annual testing date if an event occurs or circumstances change that would make it more likely than not that the fair value of a reporting unit is below its carrying amount. We have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, we elect this option and after assessing the totality of events or circumstances, we determine it is not likely that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary. We have not elected this option to date. The goodwill impairment test is a two-step process which requires us to make judgmental assumptions regarding fair value. The first step consists of estimating the fair value of our aggregated reporting unit using the market value of our common stock at October 31st, multiplied by the number of outstanding common shares (market capitalization) and an implied control premium as if it were to be acquired by a single stockholder. We obtain information on completed sales of similar companies in a comparable industry to estimate an implied control premium for us. We compare the estimated fair value of the reporting unit to its carrying value which includes goodwill. If the results of the initial market capitalization test produce results which are below the reporting unit carrying value, we will also consider if the market capitalization is temporarily low and, if so, we may also perform a discounted cash flow test. If the estimated

fair value is less than the carrying value, the second step is completed to compute the impairment amount by determining the “implied fair value” of goodwill. This determination requires the allocation of the estimated fair value of the reporting unit to the assets and liabilities of the reporting unit. Any remaining unallocated fair value represents the “implied fair value” of goodwill

Table of Contents

which is compared to the corresponding carrying value to compute the goodwill impairment amount. We were not required to perform step two during our annual impairment test.

Long-Lived Assets and Acquired Intangible Assets. We periodically review long-lived assets, other than goodwill, for impairment whenever changes in events or circumstances indicate that the carrying amount of an asset may not be recoverable. Assumptions and estimates used in the determination of impairment losses, such as future cash flows and disposition costs, may affect the carrying value of long-lived assets and the impairment of such long-lived assets, if any, could have a material effect on our consolidated financial statements. No such indicators were noted in 2015.

Share-Based Compensation. We are required to estimate the expected forfeiture rate of our share grants and only recognize the expense for those shares expected to vest. If the actual forfeiture rate is materially different from our estimate, our share-based compensation expense could be materially different.

Warranties. We provide for the estimated cost of product warranties at the time revenue is recognized. While we engage in product quality programs and processes, our warranty obligation is affected by product failure rates, material usage and service delivery costs incurred in correcting a product failure. Should actual product failure rates, material usage or service delivery costs differ from our estimates, revisions to the estimated warranty liability would be required.

Accounting for Income Taxes. As part of the process of preparing our consolidated financial statements, we are required to estimate our actual current tax exposure together with our temporary differences resulting from differing treatment of items for tax and accounting purposes. These temporary differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheet. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income and to the extent we believe that recovery is not likely, we must establish a valuation allowance. Significant management judgment is required in determining our provision for income taxes and any valuation allowance recorded against our deferred tax assets. The need for a valuation allowance is based on our estimates of taxable income by jurisdiction in which we operate and the period over which our deferred taxes will be recoverable. In the event that actual results differ from these estimates or we adjust these estimates in future periods, we may need to adjust the valuation allowance, which could materially impact our financial position and results of operations. At December 31, 2015 and 2014, we had valuation allowances of $2.2 million and $2.4 million on certain of our deferred tax assets to reflect, net of valuation allowance, the deferred tax assets at the net amount that is more likely than not to be realized. We evaluated the realizability of the deferred tax assets based on positive earnings from 2013 through 2015 as well as the projected earnings in future years and believe it is more likely than not that the deferred tax asset will be realized in the future years. We will continue to monitor the realizability of the deferred tax assets and evaluate the valuation allowance.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step requires us to determine if the weight of available evidence indicates that the tax position has met the threshold for recognition; therefore, we must evaluate whether it is more likely than not that the position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step requires us to measure the tax benefit of the tax position taken, or expected to be taken, in an income tax return as the largest amount that is more than 50% likely of being realized when effectively settled. This measurement step is inherently difficult and requires subjective estimations of such amounts to determine the probability of various possible outcomes. We reevaluate the uncertain tax positions each quarter based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues, and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision in the period.

Although we believe the measurement of our liabilities for uncertain tax positions is reasonable, no assurance can be given that the final outcome of these matters will not be different than what is reflected in the historical income tax provisions and accruals. If additional taxes are assessed as a result of an audit or litigation, it could have a material effect on our income tax provision and net income in the period or periods for which that determination is made.

Impact of Recent Accounting Pronouncements

In November 2015, the Financial Account Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2015-17, “Income Taxes (Topic 740), Balance Sheet Classification of Deferred Taxes.” This standard requires that deferred tax liabilities and assets be classified as non-current in a classified statement of financial position. The standard is effective for annual periods beginning after December 15, 2017. Early adoption is permitted and we

Table of Contents

adopted this ASU retrospectively in our year ended December 31, 2015 resulting in the reclassification of $9.0 million from net current deferred income tax assets to net long term deferred income tax assets as of December 31, 2014.

In September 2015, the FASB issued ASU No. 2015-16, “Business Combinations (Topic 805), Simplifying the Accounting for Measurement-Period Adjustments.” This standard requires that an acquirer recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. The ASU requires an entity to present separately on the face of the income statement or disclose in the notes the portion of the amount recorded in current-period earnings by line item that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date. The standard is effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. The adoption of ASU 2015-16 is not expected to have a material effect on our consolidated financial position, results of operations, and cash flows.

In July 2015, the FASB issued ASU No. 2015-11, “Inventory (Topic 330), Simplifying the Measurement of Inventory.” This ASU is intended to simplify subsequent measurement of inventory. An entity should measure inventory within a scope of this ASU at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable cost of completion, disposal, and transportation. The standard is effective for annual periods and interim periods within those annual periods beginning after December 15, 2016. The adoption of ASU 2015-11 is not expected to have a material effect on our consolidated financial position, results of operations, and cash flows.

In December 2014, the FASB issued ASU No.2014-12, “Compensation - Stock Compensation (Topic 718), Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period.” The guidance reflects the EITF consensus that an award with a performance target that affects vesting and that could be achieved after an employee completes the requisite service period (i.e., the employee would be eligible to vest in the award regardless of whether the employee is rendering service on the date the performance target could be achieved) should be treated as a performance condition. That is, the performance target is not reflected in the determination of the grant date fair value of the award. Compensation cost attributable to the period for which requisite service has been rendered would be recognized in the period it becomes probable that the performance condition will be achieved. The total amount of compensation cost recognized during and after the requisite service period would reflect the number of awards that are expected to vest and would be adjusted to reflect those awards that ultimately vest. The standard is effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. The adoption of this new standard will not have a material impact on our consolidated financial position, results of operations, and cash flows.

In May 2014, the FASB issued ASU No. 2014-09, “Revenue from Contracts with Customers.” ASU 2014-09 outlines a comprehensive revenue recognition model and supersedes most current revenue recognition guidance. In July 2015, the FASB deferred for one year the effective date of the new revenue standard, but early adoption will be permitted. The new standard will be effective for the Company on January 1, 2018. ASU 2014-09 allows for two methods of adoption: (a) “full retrospective” adoption, meaning the standard is applied to all periods presented, or (b) “modified retrospective” adoption, meaning the cumulative effect of applying ASU 2014-09 is recognized as an adjustment to the 2018 opening retained earnings balance. We are in the process of determining the adoption method as well as the effects the adoption of ASU 2014-09 will have on our consolidated financial position, results of operations, and cash flows.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rate and Credit Market Risk

We are exposed to changes in interest rates and market liquidity including our investments in certain available-for-sale securities and our convertible senior notes. Our available-for-sale securities consist of fixed and variable rate debt investments (municipal notes and bonds). We continually monitor our exposure to changes in interest rates, market liquidity and credit ratings of issuers from our available-for-sale securities. It is possible that we are at risk if interest rates, market liquidity or credit ratings of issuers change in an unfavorable direction. The magnitude of any gain or

loss

Table of Contents

will be a function of the difference between the fixed rate of the financial instrument and the market rate and our financial condition and results of operations could be materially affected. Based on a sensitivity analysis performed on our financial investments held as of December 31, 2015, an immediate adverse change of 10% in interest rates (e.g. 3.00% to 3.30%) would result in an immaterial decrease in the fair value of our available-for-sale securities. The interest rate on our convertible senior notes is fixed. Therefore, any change in interest rates will not have an impact on our consolidated financial position, results of operations or cash flows.

Foreign Currency Risk

We have branch operations in Taiwan, Singapore and South Korea and wholly-owned subsidiaries in Europe, Japan and China. Our international subsidiaries and branches operate primarily using local functional currencies. These foreign branches and subsidiaries are limited in their operations and level of investment so that the risk of currency fluctuations is not material. A hypothetical 10% appreciation or depreciation in the U.S. dollar relative to the reporting currencies of our foreign subsidiaries at December 31, 2015 would have affected the foreign-currency-denominated non-operating expenses of our foreign subsidiaries by approximately $2.0 million. We cannot accurately predict future exchange rates or the overall impact of future exchange rate fluctuations on our business, results of operations and financial condition.

A substantial portion of our international systems sales are denominated in U.S. dollars with the exception of Japan and, as a result, we have relatively little exposure to foreign currency exchange risk with respect to these sales. Substantially all our sales in Japan are denominated in Japanese yen. From time to time, we may enter into forward exchange contracts to economically hedge a portion of, but not all, existing and anticipated foreign currency denominated transactions expected to occur within 12 months. The change in fair value of the forward contracts is recognized in the Consolidated Statements of Operations each reporting period. As of December 31, 2015 and 2014, we had thirteen and five forward contracts outstanding, respectively. The total notional contract value of these outstanding forward contracts at December 31, 2015 and 2014 was $5.4 million and $1.6 million, respectively. We do not use derivative financial instruments for trading or speculative purposes.

Item 8. Financial Statements and Supplementary Data.

The consolidated financial statements and related information required by this item are set forth on the pages indicated in Item 15(a) of this Annual Report on Form 10-K.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934, as amended (the “Exchange Act”) is recorded, processed, summarized and reported within the time period specified in SEC rules and forms. These controls and procedures are also designed to ensure that such information is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating disclosure controls and procedures, we have recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Management is required to apply judgment in evaluating its controls and procedures.

We performed an evaluation under the supervision and with the participation of our management, including our principal executive and principal financial officers, to assess the effectiveness of the design and operation of our disclosure controls and procedures under the Exchange Act as of December 31, 2015. Based on that evaluation, our

39

Table of Contents

management, including our principal executive and principal financial officers, concluded that our disclosure controls and procedures were effective as of December 31, 2015 at the reasonable assurance level.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) ("COSO"). Based on our evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2015.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our consolidated financial statements as of and for the year ended December 31, 2015 have been audited by Ernst & Young LLP, our independent registered public accounting firm, in accordance with the standards of the Public Company Accounting Oversight Board (United States). Ernst & Young LLP has also audited our internal control over financial reporting as of December 31, 2015, as stated in its attestation report included elsewhere in this Annual Report on Form 10-K.

There have been no changes in the Company's internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the Company's quarter ended December 31, 2015 that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting.

Item 9B. Other Information.

None.

Table of Contents

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K because we expect to file a definitive proxy statement within one hundred twenty (120) days after the end of our fiscal year pursuant to Regulation 14A (the "Proxy Statement") for our Annual Meeting of Stockholders currently scheduled for May 18, 2016, and the information included in the Proxy Statement is incorporated herein by reference.

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item with respect to directors and executive officers, is included under the headings "Proposal One: Election of Directors," "Executive Officers" and "Corporate Governance Principles and Practices" in the Proxy Statement, which is incorporated herein by reference. Information regarding compliance with Section 16 of the Securities Exchange Act of 1934, as amended, is incorporated by reference to the information under the heading "Section 16(a) Beneficial Ownership Reporting Compliance" in the Proxy Statement.

Code of Ethics. We have adopted a code of ethics that applies to our principal executive officer, principal financial officer and controller. This code of ethics is posted on our internet website address at http://www.rudolphtech.com. We will post on our website any amendment to or waiver from a provision of our code of ethics as may be required, and within the time period specified, by applicable SEC rules.

Item 11. Executive Compensation.

The information required by this Item, is included under the headings "Executive Compensation," "Compensation of Directors," "Compensation Committee Report on Executive Compensation," "Stock Ownership/Retention Guidelines for Directors" and "Compensation Committee Interlocks and Insider Participation" in the Proxy Statement, which is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item, is included under the headings "Security Ownership" and "Equity Compensation Plan Information" in the Proxy Statement, which is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item, is included under the headings "Related Persons Transactions Policy" and "Board Independence" in the Proxy Statement, which is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this Item, is included under the heading "Proposal 3: Ratification of Appointment of Independent Registered Public Accounting Firm" in the Proxy Statement, which is incorporated herein by reference.

Table of Contents

PART IV

Item 15. Exhibits and Financial Statement Schedule.

(a)The following documents are filed as part of this Annual Report on Form 10-K:

1. Financial Statements

The consolidated financial statements and consolidated financial statement information required by this Item are included on pages F-1 through F-8 of this report. The Reports of Independent Registered Public Accounting Firm appear on pages F-2 through F-3 of this report.

2. Financial Statement Schedule

See Index to financial statements on page F-1 of this report.

3. Exhibits

The following is a list of exhibits. Where so indicated, exhibits, which were previously filed, are incorporated by reference.

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of Registrant, as amended (Conformed Version) (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q (SEC File No. 000-27965) filed on August 2, 2013).
3.2	Restated Bylaws of Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on August 1, 2007).
3.3	Amendment to Restated Bylaws of Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on February 2, 2009).
4.1	Rights Agreement (incorporated by reference to Exhibit 4.1 of the Registrant's Registration Statement on Form 8-A (SEC File No. 000-27965) filed on June 28, 2005).
4.2	August Technology Corporation 1997 Stock Incentive Plan (incorporated by reference to the Appendix to August Technology Corporation's Proxy Statement for its 2004 Annual Shareholders Meeting (SEC File No. 000-30637) filed on March 11, 2004).
4.3	Indenture, dated as of July 25, 2011, by and between The Bank of New York Mellon Trust Company, N.A., as Trustee, and Rudolph Technologies, Inc. (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.1+	License Agreement, dated June 28, 1995, between the Registrant and Brown University Research Foundation (incorporated by reference to Exhibit (10.1) to the Registrant's Registration Statement on Form S-1, as amended (SEC File No. 333-86821), filed on September 9, 1999).
10.2*	Form of Indemnification Agreement (incorporated by reference to Exhibit (10.3) to the Registrant's Registration Statement on Form S-1/A, as amended (SEC File No. 333-86821), filed on October 14, 1999).
10.3*	Form of 1999 Stock Plan (incorporated by reference to Exhibit (10.5) to the Registrant's Registration Statement on Form S-1, (SEC File No. 333-86821) filed on September 9, 1999).

_____

+ Confidential treatment has been granted with respect to portions of this exhibit.

Table of Contents

Exhibit No.	Description
10.4*	Management Agreement, dated as of July 24, 2000, by and between Rudolph Technologies, Inc. and Paul F. McLaughlin as restated and amended on July 29, 2014 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on August 6, 2014).
10.5*	Management Agreement, dated as of July 24, 2000 by and between Rudolph Technologies, Inc. and Steven R. Roth as restated and amended on July 29, 2014 (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on August 6, 2014).
10.6*	Employment Agreement, dated as of November 9, 2015, by and between Rudolph Technologies, Inc. and Michael Plisinski (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 9, 2015). *
10.7*	Executive Change of Control Agreement, dated February 7, 2014, by and between Rudolph Technologies, Inc. and Richard Rogoff (incorporated by reference to Exhibit 10.10 to the Registrant's Annual Report on Form 10-K filed on February 20, 2015.
10.8*	Form of option agreement under 1999 Stock Plan (incorporated by reference to Exhibit 10.12 to the Registrant's Quarterly Report on Form 10-Q (SEC File No. 000-27965) filed on November 5, 2004).
10.9*	Form of Restricted Stock Award pursuant to the Rudolph Technologies, Inc. 1999 Stock Plan (incorporated by reference to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965), filed on June 21, 2005).
10.10*	Rudolph Technologies, Inc. 2009 Stock Plan (incorporated by reference to Appendix A of the Registrant's revised Proxy Statement on Form DEFR14A, filed on May 8, 2009).
10.11*	Rudolph Technologies, Inc. 2009 Employee Stock Purchase Plan, as amended (incorporated by reference to Appendix B of the Registrant's revised Proxy Statement on Form DEFR14A, filed on May 8, 2009).
10.12*	Form of Restricted Stock Unit Agreement pursuant to the Rudolph Technologies, Inc. 2009 Stock Plan (incorporated by reference to exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on November 6, 2014).
10.13	Purchase Agreement, dated July 19, 2011, among Rudolph Technologies, Inc. and Credit Suisse Securities (USA) LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.14	Confirmation of Convertible Note Hedge Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.15	Amendment dated July 22, 2011 to Confirmation of Convertible Note Hedge Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K (EC File No. 000-27965) filed on July 25, 2011).
10.16	Confirmation of Issuer Warrant Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).

* Management contract, compensatory plan or arrangement.

Table of Contents

Exhibit No.	Description
10.17	Amendment dated July 22, 2011 to Confirmation of Issuer Warrant Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
21.1	Subsidiaries.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
31.1	Certification of Michael P. Plisinski, Chief Executive Officer, pursuant to Securities Exchange Act Rule 13a-14(a).
31.2	Certification of Steven R. Roth, Chief Financial Officer, pursuant to Securities Exchange Act Rule 13a-14(a).
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, signed by Michael P. Plisinski, Chief Executive Officer of Rudolph Technologies, Inc.
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, signed by Steven R. Roth, Chief Financial Officer of Rudolph Technologies, Inc.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND
FINANCIAL STATEMENT SCHEDULE

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
of Rudolph Technologies, Inc.

We have audited the accompanying consolidated balance sheets of Rudolph Technologies, Inc. as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2015. Our audits also included the financial statement schedule listed in the Index at Item 15(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Rudolph Technologies, Inc. at December 31, 2015 and 2014, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.
As discussed in Note 2 to the consolidated financial statements, Rudolph Technologies, Inc. changed the classification of all deferred tax assets and liabilities to noncurrent on the consolidated balance sheet as a result of the adoption of the amendments to the FASB Accounting Standards Codification resulting from Accounting Standards Update No. 2015-17," Balance Sheet Classification of Deferred Taxes," effective December 31, 2015.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Rudolph Technologies, Inc's. internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 19, 2016, expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Metropark, New Jersey
February 19, 2016

F-2

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Rudolph Technologies, Inc.

We have audited Rudolph Technologies, Inc.'s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Rudolph Technologies, Inc's. management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Rudolph Technologies, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Rudolph Technologies, Inc. as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2015 of Rudolph Technologies, Inc. and our report dated February 19, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Metropark, New Jersey
February 19, 2016

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share data)

	December 31,	
	2015	2014
ASSETS		
Current Assets:		
Cash and cash equivalents	$44,554	$43,114
Marketable securities	116,924	113,871
Accounts receivable, less allowance of $713 in 2015 and$1,279 in 2014	55,492	51,603
Inventories	71,490	63,344
Income taxes receivable	—	1,458
Prepaid expenses and other current assets	8,137	7,945
Total current assets	296,597	281,335
Property, plant and equipment, net	12,346	12,938
Goodwill	22,495	22,495
Identifiable intangible assets, net	12,593	9,042
Deferred income taxes	34,973	39,334
Other assets	820	1,493
Total assets	$379,824	$366,637
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$9,094	$6,843
Accrued liabilities:		
Payroll and related expenses	10,142	8,831
Royalties	336	499
Warranty	1,894	1,574
Convertible senior notes	58,107	—
Income tax payable	1,163	—
Deferred revenue	6,441	7,045
Other current liabilities	12,415	10,143
Total current liabilities	99,592	34,935
Convertible senior notes	—	54,773
Other non-current liabilities	9,554	9,601
Total liabilities	109,146	99,309
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock, $0.001 par value, 5,000 shares authorized, no shares issued and outstanding at December 31, 2015 and 2014	—	—
Common stock, $0.001 par value, 100,000 shares authorized, 30,949 and 32,093 issued and outstanding at December 31, 2015 and 2014, respectively	31	32
Additional paid-in capital	394,928	409,562
Accumulated other comprehensive loss	(2,623)	(2,652)
Accumulated deficit	(121,658)	(139,614)
Total stockholders' equity	270,678	267,328
Total liabilities and stockholders' equity	$379,824	$366,637

The accompanying notes are an integral part of these consolidated financial statements.

F-4

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Year Ended December 31,		
	2015	2014	2013
Revenues	$221,690	$181,218	$176,238
Cost of revenues	102,284	85,730	85,506
Gross profit	119,406	95,488	90,732
Operating expenses:			
Research and development	41,233	40,576	39,994
Selling, general and administrative	43,235	53,799	41,542
Amortization	2,145	2,422	2,592
Total operating expenses	86,613	96,797	84,128
Operating income (loss)	32,793	(1,309)	6,604
Interest expense, net	5,688	5,317	5,079
Other expense (income)	293	65	(8)
Income (loss) before income taxes	26,812	(6,691)	1,533
Provision (benefit) for income taxes	8,856	(2,051)	(1,925)
Net income (loss)	$17,956	$(4,640)	$3,458
Earnings (loss) per share:			
Basic	$0.57	$(0.14)	$0.11
Diluted	$0.56	$(0.14)	$0.10
Weighted average number of shares outstanding:			
Basic	31,408	33,124	32,783
Diluted	32,166	33,124	33,388

The accompanying notes are an integral part of these consolidated financial statements.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Year Ended December 31,		
	2015	2014	2013
Net income (loss)	$17,956	$(4,640)	$3,458
Other comprehensive income (loss):			
Change in net unrealized gains (losses) on investments, net of tax	(33)	183	(50)
Change in currency translation adjustments	62	(1,040)	(660)
Total comprehensive income (loss)	$17,985	$(5,497)	$2,748

The accompanying notes are an integral part of these consolidated financial statements.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the years ended December 31, 2015, 2014 and 2013
(In thousands)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
	Shares	Amount				
Balance at December 31, 2012	32,367	$32	$409,974	$ (1,085)	$ (138,432)	$270,489
Issuance of shares through share-based compensation plans	586	1	1,011	—	—	1,012
Net income	—	—	—	—	3,458	3,458
Share-based compensation	—	—	4,106	—	—	4,106
Tax benefit for share-based compensation plans	—	—	648	—	—	648
Currency translation	—	—	—	(660)	—	(660)
Unrealized loss on investments	—	—	—	(50)	—	(50)
Balance at December 31, 2013	32,953	33	415,739	(1,795)	(134,974)	279,003
Issuance of shares through share-based compensation plans	493	—	362	—	—	362
Repurchase of common stock	(1,353)	(1)	(12,844)	—	—	(12,845)
Net income	—	—	—	—	(4,640)	(4,640)
Share-based compensation	—	—	6,242	—	—	6,242
Tax benefit for share-based compensation plans	—	—	63	—	—	63
Currency translation	—	—	—	(1,040)	—	(1,040)
Unrealized gain on investments	—	—	—	183	—	183
Balance at December 31, 2014	32,093	32	409,562	(2,652)	(139,614)	267,328
Issuance of shares through share-based compensation plans, net	530	—	330	—	—	330
Repurchase of common stock	(1,674)	(1)	(20,667)	—	—	(20,668)
Net income	—	—	—	—	17,956	17,956
Share-based compensation	—	—	7,603	—	—	7,603
Tax benefit for share-based compensation plans	—	—	16	—	—	16
Share-based compensation plan withholdings	—	—	(1,916)	—	—	(1,916)
Currency translation	—	—	—	62	—	62
Unrealized loss on investments	—	—	—	(33)	—	(33)
Balance at December 31, 2015	30,949	$31	$394,928	$ (2,623)	$ (121,658)	$270,678

The accompanying notes are an integral part of these consolidated financial statements

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2015	2014	2013
Cash flows from operating activities:			
Net income (loss)	$17,956	$(4,640)	$3,458
Adjustments to reconcile net income to net cash and cash equivalents provided by operating activities:			
Depreciation	3,951	4,686	4,150
Amortization of convertible note discount and issuance costs	3,766	3,385	3,044
Amortization of intangibles and other	2,145	2,427	2,786
Foreign currency exchange loss (gain)	293	65	(8)
Change in fair value of contingent consideration	(630)	120	138
Share-based compensation	7,603	6,242	4,106
Provision for doubtful accounts and inventory valuation	3,826	4,064	3,608
Deferred income taxes	3,980	(3,937)	(1,510)
Change in operating assets and liabilities, excluding effects of business combinations:			
Accounts receivable	(4,336)	1,147	2,631
Income taxes	2,610	1,196	(4,605)
Inventories	(12,529)	(9,393)	(6,758)
Prepaid expenses and other assets	953	(4,690)	1,383
Accounts payable	2,254	3,758	(912)
Deferred revenue	(1,535)	363	(1,655)
Other liabilities	3,486	(503)	(3,772)
Net cash and cash equivalents provided by operating activities	33,793	4,290	6,084
Cash flows from investing activities:			
Purchases of marketable securities	(237,127)	(243,656)	(119,068)
Proceeds from sales of marketable securities	234,105	217,212	97,289
Purchases of property, plant and equipment	(3,359)	(2,084)	(4,880)
Purchase of intangible assets	(2,696)	—	—
Purchase of businesses, net of cash acquired	—	—	(3,365)
Net cash and cash equivalents used in investing activities	(9,077)	(28,528)	(30,024)
Cash flows from financing activities:			
Purchases of common stock	(20,668)	(12,845)	—
Tax payments related to shares withheld for share-based compensation plans	(1,916)	—	—
Payment of contingent consideration for acquired business	(731)	(264)	(224)
Issuance of shares through share-based compensation plans	330	362	1,012
Tax benefit for sale of shares through share-based compensation plans	16	63	648
Net cash and cash equivalents (used in) provided by financing activities	(22,969)	(12,684)	1,436
Effect of exchange rate changes on cash and cash equivalents	(307)	(754)	(959)
Net increase (decrease) in cash and cash equivalents	1,440	(37,676)	(23,463)
Cash and cash equivalents at beginning of year	43,114	80,790	104,253
Cash and cash equivalents at end of year	$44,554	$43,114	$80,790

Supplemental disclosure of cash flow information:

Income taxes paid	$2,013	$1,067	$5,492
Interest paid	$2,250	$2,250	$2,250
Litigation settlement paid	$—	$10,613	$—
Non-cash financing and investing activities:			
Purchase of intangible assets	$3,000	$—	$—

The accompanying notes are an integral part of these consolidated financial statements.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(In thousands, except per share data)

1. Organization and Nature of Operations:

Rudolph Technologies, Inc. (the "Company") designs, develops, manufactures and supports high-performance process control defect inspection, advanced packaging lithography, metrology and process control software systems used in semiconductor device manufacturing. The Company has branch sales and service offices in South Korea, Taiwan and Singapore and wholly-owned sales and service subsidiaries in the United States, Europe, Japan and China. The Company operates in a single segment and is a provider of process characterization equipment and software for wafer fabs and advanced packaging facilities.

2. Summary of Significant Accounting Policies:

A. Consolidation:

The consolidated financial statements reflect the accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated.

B. Revenue Recognition:

Revenue is recognized provided that there is persuasive evidence of an arrangement, delivery has occurred or services have been rendered, the sales price is fixed or determinable, and collection of the related receivable is reasonably assured. Revenue recognition generally results at the following points: (1) for all transactions where legal title passes to the customer upon shipment, revenue is recognized upon shipment for all products that have been demonstrated to meet product specifications prior to shipment; the portion of revenue associated with certain installation-related tasks is deferred, and that revenue is recognized upon completion of the installation-related tasks; (2) for products that have not been demonstrated to meet product specifications prior to shipment, revenue is recognized at customer technical acceptance; (3) for transactions with arrangements with multiple elements, such as sales of products that include software and services, the revenue relating to the undelivered elements is deferred using the relative selling price method utilizing vendor-specific objective evidence ("VSOE") or estimated sales prices ("ESP") until delivery of the deferred elements. Third-party evidence is not typically used to determine selling prices as to limited availability of reliable competitor products' selling prices. The ESP is established considering multiple factors including, but not limited to, gross margin objectives, internal costs and competitor pricing strategies.

Revenues from parts sales are recognized at the time of shipment. Revenue from training and service contracts is recognized ratably over the training period and contract period. A provision for the estimated cost of fulfilling warranty obligations is recorded at the time the related revenue is recognized.

Revenue from software license fees is recognized upon shipment or customer acknowledgment if collection of the resulting receivable is probable, the fee is fixed or determinable, and VSOE exists to allocate a portion of the total fee to any undelivered elements of the arrangement. License support and maintenance revenue is recognized ratably over the contract period.

Deferred revenue represents undelivered items, prepaid service contract revenue and prepaid license support and maintenance revenue. Deferred revenue is recognized in accordance with the Company's revenue recognition policies described above.

C. Estimates:

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates made by management include allowance for doubtful accounts, inventory obsolescence, fair value of assets acquired and liabilities assumed in a

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

business combination (including contingent consideration), recoverability and useful lives of property, plant and equipment and identifiable intangible assets, recoverability of goodwill, recoverability of deferred tax assets, liabilities for product warranty, contingencies, including litigation reserves and share-based payments, including forfeitures and liabilities for tax uncertainties. Actual results could differ from those estimates.

D. Cash and Cash Equivalents:

Cash and cash equivalents include cash and highly liquid debt instruments with original maturities of three months or less when purchased.

E. Marketable Securities:

The Company determined that all of its investment securities are to be classified as available-for-sale. Available-for-sale securities are carried at fair value, with the unrealized gains and losses reported in stockholders' equity under the caption "Accumulated other comprehensive loss." Realized gains and losses, interest and dividends on available-for-sale securities are included in interest income and other, net. Available-for-sale securities are classified as current assets regardless of their maturity date if they are available for use in current operations. The Company reviews its investment portfolio to identify and evaluate investments that have indications of possible impairment. Factors considered in determining whether a loss is other-than-temporary include the length of time and extent to which fair value has been less than the cost basis, credit quality and the Company's ability and intent to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. When a decline in fair value is determined to be other-than-temporary, unrealized losses on available-for-sale securities are charged against earnings. The specific identification method is used to determine the gains and losses on marketable securities.

For additional information on the Company's marketable securities, see Note 4 of Notes to the Consolidated Financial Statements.

F. Allowance for Doubtful Accounts:

The Company evaluates the collectability of accounts receivable based on a combination of factors. In the cases where the Company is aware of circumstances that may impair a specific customer's ability to meet its financial obligation, the Company records a specific allowance against amounts due, and thereby reduces the net recognized receivable to the amount management reasonably believes will be collected. For all other customers, the Company recognizes allowances for doubtful accounts based on the length of time the receivables are outstanding, industry and geographic concentrations, the current business environment and historical experience.

G. Inventories:

Inventories are stated at the lower of cost or market, with cost determined on a first-in, first-out basis, and include material, labor and manufacturing overhead costs. The Company reviews and sets standard costs as needed, but at a minimum on an annual basis, at current manufacturing costs in order to approximate actual costs.

The Company evaluates inventories for excess quantities and obsolescence. The Company establishes inventory reserves when conditions exist that suggest that inventory may be in excess of anticipated demand or is obsolete based upon assumptions about historical and future demand for the Company's products and market conditions. In addition, inventories are evaluated for potential obsolescence due to the effect of known and anticipated engineering design changes. Once a reserve has been established, it is maintained until the item to which it relates is scrapped or sold.

H. Property, Plant and Equipment:

Property, plant and equipment are stated at cost. Depreciation of property, plant and equipment is computed using the straight-line method over the estimated useful lives of the assets which are thirty years for buildings, four to seven

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

years for machinery and equipment, seven years for furniture and fixtures, and three years for computer equipment. Leasehold improvements are amortized using the straight-line method over the lesser of the lease term or the estimated useful life of the related asset. Repairs and maintenance costs are expensed as incurred and major renewals and betterments are capitalized.

I. Impairment of Long-Lived Assets:

Long-lived assets, such as property, plant, and equipment, and identifiable acquired intangible assets with definite useful lives, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset exceeds the fair value of the asset, which is generally based on discounted cash flows.

J. Goodwill and Intangible Assets:

Intangible assets with finite useful lives are amortized using the straight-line method over their estimated useful lives. Goodwill and intangible assets with indefinite useful lives are not amortized but are tested for impairment at least annually and when there are indications of impairment. Goodwill impairment is deemed to exist if the net book value of a reporting unit exceeds its estimated fair value. The Company has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, the Company elects this option and after assessing the totality of events or circumstances, the Company determines that it is not likely that the fair value of its reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary. The Company has not elected this option to date. The Company estimates the fair value of its reporting unit using the market value of its common stock at October 31 multiplied by the number of outstanding common shares (market capitalization) and an implied control premium as it were to be acquired by a single stockholder. The Company also obtains information on completed sales of similar companies in the related industry to estimate the implied control premium for the Company. If the results of the initial market capitalization test produce results which are below the reporting unit carrying value, the Company may also perform a discounted cash flow test. The Company tested for goodwill impairment on October 31, 2015. No impairments were noted.

For additional information on the Company’s goodwill and purchased intangible assets, see Note 5 of Notes to the Consolidated Financial Statements.

K. Concentration of Credit Risk:

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist primarily of accounts receivable, cash and cash equivalents and marketable securities. The Company performs ongoing credit evaluations of its customers and generally does not require collateral for sales on credit. The Company maintains allowances for potential credit losses. The Company maintains cash and cash equivalents and marketable securities with higher credit quality issuers and monitors the amount of credit exposure to any one issuer.

L. Warranties:

The Company generally provides a warranty on its products for a period of twelve to fifteen months against defects in material and workmanship. The Company provides for the estimated cost of product warranties at the time revenue is recognized.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

M. Income Taxes:

The Company accounts for income taxes using the asset and liability approach for deferred taxes which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the Company's consolidated financial statements or tax returns. A valuation allowance is recorded to reduce a deferred tax asset to that portion which more likely than not will be realized. The Company does not provide for federal income taxes on the undistributed earnings of its foreign operations as it is the Company's intention to permanently re-invest undistributed earnings.

The impact of an uncertain income tax position is recognized as the largest amount that is more-likely-than-not to be sustained upon audit by the relevant taxing authority and includes consideration of interest and penalties. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. The liability for unrecognized tax benefits is classified as non-current as the Company has early adopted the new ASU No. 2015-17 Balance Sheet Classification of Deferred Taxes to classify all deferred tax assets and liabilities as non-current.

For additional information on the Company's income taxes, see Note 11 of Notes to the Consolidated Financial Statements.

N. Translation of Foreign Currencies:

The Company has branch operations in Taiwan, Singapore and South Korea and wholly-owned subsidiaries in the United States, Europe, Japan and China. Its international subsidiaries and branches operate primarily using local functional currencies. These foreign branches and subsidiaries are limited in their operations and level of investment so that the risk of currency fluctuations is not material. A substantial portion of the Company's international systems sales are denominated in U.S. dollars with the exception of Japan and, as a result, it has relatively little exposure to foreign currency exchange risk with respect to these sales.

Assets and liabilities are translated at exchange rates in effect at the balance sheet date, and income and expense accounts and cash flow items are translated at average monthly exchange rates during the period. Net exchange gains or losses resulting from the translation of foreign financial statements and the effect of exchange rates on intercompany transactions of a long-term investment nature are recorded directly as a separate component of stockholders' equity under the caption, "Accumulated other comprehensive loss." Any foreign currency gains or losses related to transactions are included in operating results. The Company had accumulated exchange losses resulting from the translation of foreign operation financial statements of $2,623 and $2,685 as of December 31, 2015 and 2014, respectively.

O. Share-based Compensation:

The estimation of stock awards that will ultimately vest requires significant judgment. The Company considers many factors when estimating expected forfeitures, including types of awards, employee class, and historical experience. Actual results, and future changes in estimates, may differ substantially from the Company's current estimates. Compensation expense for all share-based payments includes an estimate for forfeitures and is recognized over the expected term of the share-based awards using the straight-line method.

For additional information on the Company's share-based compensation plans, see Note 9 of Notes to the Consolidated Financial Statements.

P. Research and Development and Software Development Costs:

Expenditures for research and development are expensed as incurred. Certain software product development costs incurred after technological feasibility has been established are capitalized and amortized, commencing upon the general release of the software product to the Company's customers, over the economic life of the software product. Annual amortization of capitalized costs is computed using the greater of: (i) the ratio of current gross revenues for the software product over the total of current and anticipated future gross revenues for the software product or (ii) the straight-line basis, typically over seven years. Software product development costs incurred prior to the product

reaching

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

technological feasibility are expensed as incurred and included in research and development costs. At December 31, 2015 and 2014, the Company did not have any capitalized software development costs. During the years ended December 31, 2015, 2014 and 2013, software development cost amortization totaled $0, $5 and $185, respectively.

Q. Shipping and Handling Costs:

Shipping and handling cost are included as a component of cost of revenues.

R. Fair Value of Financial Instruments:

The carrying amounts of the Company's financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their short maturities. The carrying amount of our convertible senior notes was $58,107 and $54,773 as of December 31, 2015 and 2014, respectively. The fair value of our convertible senior notes was $60,630 and $59,916 as of December 31, 2015 and 2014, respectively. The Company's convertible senior notes are not publicly traded. The estimated fair value of these obligations is based, primarily, on a market approach, comparing the Company's interest rates to those rates the Company believes it would reasonably receive upon re-entry into the market. Judgment is required to estimate the fair value, using available market information and appropriate valuation methods.

For additional information on the Company's fair value of financial instruments, see Note 3 of Notes to the Consolidated Financial Statements.

S. Derivative Instruments and Hedging Activities:

The Company, when it considers it to be appropriate, enters into forward contracts to hedge the economic exposures arising from foreign currency denominated transactions. At December 31, 2015 and 2014, these contracts included the future sale of Japanese Yen to purchase U.S. dollars. The foreign currency forward contracts were entered into by the Company's Japanese subsidiary to hedge a portion of certain intercompany obligations. The forward contracts are not designated as hedges for accounting purposes and therefore, the change in fair value is recorded in selling, general and administrative expenses in the Consolidated Statements of Operations. The Company records its forward contracts at fair value in either prepaid expenses and other current assets or other current liabilities in the Consolidated Balance Sheets.

The dollar equivalent of the U.S. dollar forward contracts and related fair values as of December 31, 2015 and 2014 were as follows:

	December 31,	
	2015	2014
Notional amount	$5,423	$1,610
Fair value of (liability) asset	$(85)	$222

In 2015 , 2014 and 2013, the Company recognized gains of $221, $150 and $374 with respect to forward contracts that matured, respectively. The aggregate notional amount of matured contracts was $2,484, $1,456 and $2,922, for 2015, 2014 and 2013, respectively.

T. Contingencies and Litigation

The Company is subject to the possibility of losses from various contingencies, including certain legal proceedings, lawsuits and other claims. The Company accrues for a loss contingency when it concludes that the likelihood of a loss is probable and the amount of the loss can be reasonably estimated. If the Company concludes that loss contingencies that could be material to any one of its financial statements are not probable, but are reasonably possible, or are probable, but cannot be estimated, then the Company discloses the nature of the loss contingencies, together with an estimate of the range of possible loss or a statement that such loss is not reasonably estimable. The

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Company expenses as incurred the costs of defending legal claims against the Company. The Company does not recognize gain contingencies until realized. See Note 8, “Commitments and Contingencies” for a detailed description.

U. Reclassifications:

Certain prior year amounts have been reclassified to conform to the 2015 financial statement presentation. These amounts include reclassification of a portion of deferred revenue to other non-current liabilities in the Consolidated Balance Sheets. These reclassifications were not considered material to the prior year financial statements.

V. Recent Accounting Pronouncements:

In November 2015, the Financial Account Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2015-17, “Income Taxes (Topic 740), Balance Sheet Classification of Deferred Taxes.” This standard requires that deferred tax liabilities and assets be classified as non-current in a classified statement of financial position. The standard is effective for annual periods beginning after December 15, 2017. Early adoption is permitted and the Company adopted this ASU retrospectively in its year ended December 31, 2015 consolidated statement of financial position resulting in the reclassification of $8,986 from net current deferred income tax assets to net long term deferred income tax assets as of December 31, 2014.

In September 2015, the FASB issued ASU No. 2015-16, “Business Combinations (Topic 805), Simplifying the Accounting for Measurement-Period Adjustments.” This standard requires that an acquirer recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. The ASU requires an entity to present separately on the face of the income statement or disclose in the notes the portion of the amount recorded in current-period earnings by line item that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date. The standard is effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. The adoption of ASU 2015-16 is not expected to have a material effect on the Company’s consolidated financial position, results of operations, and cash flows.

In July 2015, the FASB issued ASU No. 2015-11, “Inventory (Topic 330), Simplifying the Measurement of Inventory.” This ASU is intended to simplify subsequent measurement of inventory. An entity should measure inventory within a scope of this ASU at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable cost of completion, disposal, and transportation. The standard is effective for annual periods and interim periods within those annual periods beginning after December 15, 2016. The adoption of ASU 2015-11 is not expected to have a material effect on the Company’s consolidated financial position, results of operations, and cash flows.

In December 2014, the FASB issued ASU No.2014-12, “Compensation - Stock Compensation (Topic 718), Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period.” The guidance reflects the EITF consensus that an award with a performance target that affects vesting and that could be achieved after an employee completes the requisite service period (i.e., the employee would be eligible to vest in the award regardless of whether the employee is rendering service on the date the performance target could be achieved) should be treated as a performance condition. That is, the performance target is not reflected in the determination of the grant date fair value of the award. Compensation cost attributable to the period for which requisite service has been rendered would be recognized in the period it becomes probable that the performance condition will be achieved. The total amount of compensation cost recognized during and after the requisite service period would reflect the number of awards that are expected to vest and would be adjusted to reflect those awards that ultimately vest. The standard is effective for annual periods and interim periods within those annual periods beginning after December 15, 2015. The adoption of this new standard will not have a material impact on the Company’s consolidated financial position, results of operations, and cash flows.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

In May 2014, the FASB issued ASU No. 2014-09, “Revenue from Contracts with Customers.” ASU 2014-09 outlines a comprehensive revenue recognition model and supersedes most current revenue recognition guidance. In July 2015, the FASB deferred for one year the effective date of the new revenue standard, but early adoption will be permitted. The new standard will be effective for the Company on January 1, 2018. ASU 2014-09 allows for two methods of adoption: (a) “full retrospective” adoption, meaning the standard is applied to all periods presented, or (b) “modified retrospective” adoption, meaning the cumulative effect of applying ASU 2014-09 is recognized as an adjustment to the 2018 opening retained earnings balance. The Company is in the process of determining the adoption method as well as the effects the adoption of ASU 2014-09 will have on its consolidated financial position, results of operations, and cash flows.

3. Fair Value Measurements:

The Company applies a three-level valuation hierarchy for fair value measurements. This hierarchy prioritizes the inputs into three broad levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability. Level 3 inputs are unobservable inputs based on management’s assumptions used to measure assets and liabilities at fair value. A financial asset’s or liability’s fair value measurement classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following tables provide the assets and liabilities carried at fair value measured on a recurring basis at December 31, 2015 and December 31, 2014:

		Fair Value Measurements Using		
	Carrying Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2015				
Assets:				
Available-for-sale debt securities:				
Municipal notes and bonds	$116,089	$—	$116,089	$—
Corporate bonds	835	—	835	—
Total Assets	$116,924	$—	$116,924	$—
Liabilities:				
Foreign currency forward contracts	$85	$—	$85	$—
Contingent consideration - acquisitions	3,703	—	—	3,703
Total Liabilities	$3,788	$—	$85	$3,703
December 31, 2014				
Assets:				
Available-for-sale debt securities:				
Municipal notes and bonds	$113,871	$—	$113,871	$—
Foreign currency forward contracts	222	—	222	—
Total Assets	$114,093	$—	$114,093	$—
Liabilities:				

Contingent consideration - acquisitions	$5,064	$—	$—	$5,064
Total Liabilities	$5,064	$—	$—	$5,064

The Company’s investments classified as Level 1 are based on quoted prices that are available in active markets. The Company’s investments classified as Level 2 are valued using observable inputs to quoted market prices, benchmark yields, reported trades, broker/dealer quotes or alternative pricing sources with reasonable levels of price

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

transparency. The foreign currency forward contracts are primarily measured based on the foreign currency spot and forward rates quoted by the banks or foreign currency dealers. Investment prices are obtained from third party pricing providers, which models prices utilizing the above observable inputs, for each asset class.

Level 3 investments consisted of contingent consideration related to an acquisition for which the Company uses a discounted cash flow model to value these investments. The Level 3 assumptions used in the discounted cash flow model for the contingent consideration included projected revenues, estimates of discount rates of 18.0% and timing of cash flows. A significant decrease in the projected revenues or increase in discount rates could result in a significantly lower fair value measurement for the contingent consideration.

This table presents a reconciliation for all liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the year ended December 31, 2015:

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)
Liabilities:	
Balance at December 31, 2014	$5,064
Additions	—
Total gain due to remeasurement included in selling, general and administrative expense	(630)
Payments	(731)
Transfer into (out of) Level 3	—
Balance at December 31, 2015	$3,703

See Note 4 for additional discussion regarding the fair value of the Company’s marketable securities.

Fair Value of Other Financial Instruments

The carrying value of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximates fair value because of the short maturity of these instruments. The estimated fair value of these obligations is based, primarily, on a market approach, comparing the Company’s interest rates to those rates the Company believes it would reasonably receive upon re-entry into the market. Judgment is required to estimate the fair value, using available market information and appropriate valuation methods.

The Company’s convertible senior notes are not publicly traded. The estimated fair value of the Company’s convertible senior notes was valued using a discounted cash flow model. The Level 3 assumptions, based on data available at the valuation date used in preparing the discounted cash flow model included estimates of interest rates, timing and amount of cash flows and expected holding periods of the convertible senior notes. The fair value of the contingent interest associated with the convertible senior notes is valued quarterly using the present value of expected cash flow model incorporating the probabilities of the contingent events occurring.

The following table reflects information pertaining to the Company’s convertible senior notes:

	December 31, 2015	2014
Net carrying value of convertible senior notes	$58,107	$54,773
Estimated fair value of convertible senior notes	$60,630	$59,916
Estimated interest rate used in discounted cash flow model	5.0%	5.0%

Fair value of contingent interest	$—	$—

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

4. Marketable Securities:

The Company has evaluated its investment policies and determined that all of its investment securities are to be classified as available-for-sale. Available-for-sale securities are carried at fair value, with the unrealized gains and losses reported in Stockholders' Equity under the caption "Accumulated other comprehensive loss." Realized gains and losses on available-for-sale securities are included in "Other expense (income)." The Company records other-than-temporary impairment charges for its available-for-sale investments when it intends to sell the securities, it is more-likely-than not that it will be required to sell the securities before a recovery, or when it does not expect to recover the entire amortized cost basis of the securities. The cost of securities sold is based on the specific identification method.

The Company has determined that the gross unrealized losses on its marketable securities at December 31, 2015 and 2014 are temporary in nature. The Company reviews its investment portfolio to identify and evaluate investments that have indications of possible impairment. Factors considered in determining whether a loss is other-than-temporary include the length of time and extent to which fair value has been less than the cost basis, credit quality and the Company's ability and intent to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

At December 31, 2015 and 2014, marketable securities are categorized as follows:

	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
December 31, 2015				
Municipal notes and bonds	$116,086	$18	$(15)	$116,089
Corporate bonds	$838	$—	$(3)	$835
Total marketable securities	$116,924	$18	$(18)	$116,924
December 31, 2014				
Municipal notes and bonds	$113,838	$37	$(4)	$113,871
Total marketable securities	$113,838	$37	$(4)	$113,871

The amortized cost and estimated fair value of marketable securities classified by the maturity date listed on the security, regardless of the Consolidated Balance Sheet classification, is as follows at December 31, 2015 and 2014:

	December 31, 2015		December 31, 2014	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Due within one year	$113,542	$113,549	$107,151	$107,177
Due after one through five years	3,382	3,375	6,687	6,694
Due after five through ten years	—	—	—	—
Due after ten years	—	—	—	—
Total marketable securities	$116,924	$116,924	$113,838	$113,871

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

The following table summarizes the estimated fair value and gross unrealized holding losses of marketable securities, aggregated by investment instrument and period of time in an unrealized loss position at December 31, 2015 and 2014.

	In Unrealized Loss Position For Less Than 12 Months		In Unrealized Loss Position For Greater Than 12 Months	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
December 31, 2015				
Municipal notes and bonds	$52,638	$(15)	$305	$(1)
Corporate bonds	$835	$(3)	$—	$—
Total marketable securities	$53,473	$(18)	$305	$(1)
December 31, 2014				
Municipal notes and bonds	$26,698	$(4)	$—	$—
Total marketable securities	$26,698	$(4)	$—	$—

See Note 3 for additional discussion regarding the fair value of the Company's marketable securities.

5. Goodwill and Purchased Intangible Assets:

Goodwill

The changes in the carrying amount of goodwill are as follows:

Balance at December 31, 2013	$22,553
Goodwill acquired during the period	(58)
Balance at December 31, 2014	22,495
Goodwill acquired during the period	—
Balance at December 31, 2015	$22,495

Purchased Intangible Assets

Purchased intangible assets as of December 31, 2015 and 2014 are as follows:

	Gross Carrying Amount	Accumulated Amortization	Net
December 31, 2015			
Finite-lived intangibles:			
Developed technology	$65,527	$55,110	$10,417
Customer and distributor relationships	9,560	8,170	1,390
Trade names	4,361	3,575	786
Total identifiable intangible assets	$79,448	$66,855	$12,593
December 31, 2014			
Finite-lived intangibles:			
Developed technology	$59,831	$53,417	$6,414
Customer and distributor relationships	9,560	7,818	1,742
Trade names	4,361	3,475	886
Total identifiable intangible assets	$73,752	$64,710	$9,042

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Intangible asset amortization expense amounted to $2,145, $2,422 and $2,592 for the years ended December 31, 2015, 2014 and 2013, respectively. Assuming no change in the gross carrying value of identifiable intangible assets and estimated lives, estimated amortization expense will be $2,321 for 2016, $1,933 for 2017, $1,496 for 2018, $1,496 for 2019, and $1,294 for 2020.

In September 2015, the Company announced that it purchased Stella Alliance, LLC, a Massachusetts-based semiconductor inspection technology intellectual property portfolio company. The acquired intellectual property is being integrated into the Company's process control group. The Company accounted for the transaction as an asset acquisition and assigned a fair value to the intellectual property of $5,696, which is included in the asset class of developed technology. The intellectual property will be amortized on a straight line basis over its estimated useful life of fifteen years.

6. Balance Sheet Details:

Inventories

Inventories are comprised of the following:

	December 31,	
	2015	2014
Materials	$39,022	$29,092
Work-in-process	18,918	20,424
Finished goods	13,550	13,828
Total inventories	$71,490	$63,344

The Company has established reserves of $8,896 and $7,000 at December 31, 2015 and 2014, respectively, for slow moving and obsolete inventory. During 2015, the Company recorded a net charge in cost of revenues of $3,676 for the write-down of inventory for excess parts, for older product lines and for parts that were rendered obsolete by design and engineering advancements. In 2015, the Company disposed of $1,780 of inventory. During 2014, the Company recorded a net charge in cost of revenues of $3,910 for the write-down of inventory for excess parts, for older product lines and for parts that were rendered obsolete by design and engineering advancements. In 2014, the Company disposed of $3,011 of inventory.

Property, Plant and Equipment

Property, plant and equipment, net is comprised of the following:

	December 31,	
	2015	2014
Land and building	$5,024	$5,024
Machinery and equipment	21,683	20,277
Furniture and fixtures	3,414	3,387
Computer equipment	5,304	5,819
Leasehold improvements	7,884	7,774
	43,309	42,281
Accumulated depreciation	(30,963)	(29,343)
Total property, plant and equipment, net	$12,346	$12,938

Depreciation expense amounted to $3,951, $4,686 and $4,150 for the years ended December 31, 2015, 2014 and 2013, respectively.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

In February 2016, the Company consolidated its New Jersey locations into its Budd Lake, NJ facility and vacated its corporate offices in Flanders, NJ. The Flanders, NJ corporate office location will be considered a long-lived asset held for sale and the land and building have a carrying value of $231.

Other current liabilities

Other current liabilities is comprised of the following:

	December 31,	
	2015	2014
Litigation accrual	$3,252	$3,252
Contingent consideration - acquisitions	1,407	1,267
Other	7,756	5,624
Total other current liabilities	$12,415	$10,143

Other non-current liabilities

Other non-current liabilities is comprised of the following:

	December 31,	
	2015	2014
Unrecognized tax benefits (including interest)	$3,152	$3,178
Contingent consideration - acquisitions	2,296	3,797
Deferred revenue	1,206	931
Other	2,900	1,695
Total non-current liabilities	$9,554	$9,601

7. Debt Obligations:

On July 25, 2011, the Company issued $60,000 aggregate principal amount of 3.75% Convertible Senior Notes due 2016 (the “Notes”) at par. The Notes were issued pursuant to an indenture, dated as of July 25, 2011 (the “Indenture”), between the Company and Bank of New York Mellon Trust Company, N.A., as Trustee, which includes a form of Note. The Notes pay interest semi-annually in arrears on January 15 and July 15 of each year, beginning January 15, 2012, at an annual rate of 3.75% and will mature on July 15, 2016, unless earlier converted or repurchased. The Notes may be converted, under certain circumstances, based on an initial conversion rate of 77.241 shares of Company common stock per $1 principal amount of Notes, which represents an initial conversion price of approximately $12.95 per share. The net proceeds to the Company from the sale of the Notes, including the convertible note hedge and warrant discussed below, were $50,249.

The following table reflects the net carrying value of the Notes as of December 31, 2015 and 2014:

	December 31,	
	2015	2014
Convertible senior notes	$60,000	$60,000
Less: Unamortized interest discount	1,893	5,227
Net carrying value of convertible senior notes	$58,107	$54,773

The Notes may be converted at any time prior to the close of business on the business day immediately preceding April 15, 2016, at the option of the holder, upon satisfaction of one or more of the following conditions: 1) during any

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

calendar quarter commencing after September 30, 2011, if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter exceeds 130% of the applicable conversion price on each applicable trading day; 2) during the five business day period after any five consecutive trading-day period (the "measurement period") in which the "trading price" (as defined in the Indenture) per $1 principal amount of the Notes for each trading day of such measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the applicable conversion rate on such trading day; or 3) upon the occurrence of specified corporate events. On and after April 15, 2016, until the close of business on the second scheduled trading day immediately preceding the maturity date of July 15, 2016, holders may convert their notes, in multiples of $1 principal amount, regardless of whether any of the foregoing conditions have been met.

Upon conversion, the Company will deliver to holders in respect of each $1 principal amount of Notes being converted a "settlement amount" equal to the sum of the daily settlement amounts for each of the 40 consecutive trading days during the applicable cash settlement averaging period. The conversion value of each Note will be paid in: 1) cash equal to the principal amount of the Notes to be converted, and 2) to the extent the conversion value exceeds the aggregate principal amount of the Notes being converted, the Company's common stock in respect of the remainder (plus cash in lieu of any fractional shares of common stock). The conversion rate will be subject to adjustment in certain circumstances but will not be adjusted for any accrued and unpaid interest. Upon a "fundamental change" at any time, as defined in the Indenture, the Company will, under certain circumstances, increase the conversion rate for a holder who elects to convert its Notes in connection with a "make whole fundamental change," as defined in the Indenture. In addition, the holders may, subject to certain conditions, require the Company to repurchase for cash all or a portion of their Notes upon a "fundamental change" at a price equal to 100% of the principal amount of the Notes being repurchased plus accrued and unpaid interest, if any.

The Company separately accounts for the liability and equity components of the Notes. The initial debt component of the Notes were valued at $45,493 based on the present value of the future cash flows using a discount rate of 10%, the Company's assumed borrowing rate at the date of issuance for similar debt instruments without the conversion feature. The equity component was valued at $14,507. Total issuance costs were $2,251, of which $544 was allocated to the equity component and $1,707 was allocated to debt issuance costs and will be amortized to interest expense over the term of the Notes.

The following table presents the amount of interest cost recognized relating to the Notes during the years ended December 31, 2015, 2014 and 2013.

	December 31,		
	2015	2014	2013
Contractual interest coupon	$2,250	$2,250	$2,250
Amortization of interest discount	3,334	3,022	2,740
Amortization of debt issuance costs	432	363	303
Total interest cost recognized	$6,016	$5,635	$5,293

The remaining bond discount of the Notes of $1,893, as of December 31, 2015 will be amortized over the remaining life of the Notes.

Concurrently with the issuance of the Notes, the Company purchased a convertible note hedge and sold a warrant. Each of the convertible note hedge and warrant transactions were entered into with an affiliate of the initial purchaser of the Notes (the "Option Counterparty"). The convertible note hedge is intended to reduce the potential future dilution to the Company's common stock associated with the conversion of the Notes. However, the warrant transaction will have a dilutive effect on the Company's earnings per share to the extent that the price of the Company's common stock exceeds the strike price of the warrant. The strike price of the warrant is initially $17.00 per share. Each of these

components is discussed separately below:

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Convertible Note Hedge. The Option Counterparty agreed to sell to the Company up to approximately 4,634 shares of the Company's common stock, which is the maximum number of shares issuable upon conversion of the Notes, at a price of $12.95 per share. The convertible note hedge transaction will be settled in shares of the Company's common stock (and cash in lieu of fractional shares) and will expire on the earlier of the "second scheduled trading day" (as defined in the Indenture) prior to the maturity date of the Notes or the last day any of the Notes remain outstanding. Subject to certain terms and conditions, settlement of the convertible note hedge would result in the Company receiving shares of the Company's common stock equivalent to the number of shares that the Company is obligated to deliver to holders of the Notes upon conversion of the Notes.

The Company will not be required to make any cash payments to the Option Counterparty or its affiliates upon the exercise of the options that are a part of the convertible note hedge transaction, but will be entitled to receive from the Option Counterparty a number of shares of Company common stock generally based on the amount by which the market price per share of Company common stock, as measured under the terms of the convertible note hedge transaction, is greater than the strike price of the convertible note hedge transaction during the relevant valuation period under the convertible note hedge transaction.

The convertible note hedge transaction cost of $14,507 has been accounted for as an equity transaction.

Warrant. The Company received $7,007 from the Option Counterparty from the sale of the warrant to purchase up to approximately 4,634 shares of the Company's common stock at a strike price of $17.00 per share. As of December 31, 2015, the warrant expires between October 13, 2016 and January 9, 2017. As of December 31, 2015, the warrant had not been exercised and remained outstanding. Additionally, if the market price per share of Company common stock, as measured under the terms of the warrant transaction, exceeds the strike price of the warrant during the valuation period at the maturity of the warrant, the Company will owe the Option Counterparty a number of shares of Company common stock in an amount based on the excess of such market price per share of Company common stock over the strike price of the warrant.

The fair value of the warrant was initially recorded in equity and continues to be classified as equity.

The convertible note hedge transaction and the warrant transaction are separate transactions entered into by the Company. Holders of the Notes will not have any rights with respect to the convertible note hedge transaction and the warrant transaction.

8. Commitments and Contingencies:

Intellectual Property Indemnification Obligations

The Company has entered into agreements with customers that include limited intellectual property indemnification obligations that are customary in the industry. These guarantees generally require the Company to compensate the other party for certain damages and costs incurred as a result of third party intellectual property claims arising from these transactions. The nature of the intellectual property indemnification obligations prevents the Company from making a reasonable estimate of the maximum potential amount it could be required to pay to its customers. Historically, the Company has not made any indemnification payments under such agreements and no amount has been accrued in the accompanying consolidated financial statements with respect to these indemnification guarantees.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Warranty Reserves

The Company generally provides a warranty on its products for a period of twelve to fifteen months against defects in material and workmanship. The Company estimates the costs that may be incurred during the warranty period and records a liability in the amount of such costs at the time revenue is recognized. The Company's estimate is based primarily on historical experience. The Company periodically assesses the adequacy of its recorded warranty liabilities and adjusts the amounts as necessary. Settlements of warranty reserves are generally associated with sales that occurred during the 12 to 15 months prior to the year-end and warranty accruals are related to sales during the year.

Changes in the Company's warranty reserves are as follows:

	Year Ended December 31,		
	2015	2014	2013
Balance, beginning of the year	$1,574	$1,551	$2,024
Accruals	2,640	2,048	1,956
Usage	(2,320)	(2,025)	(2,429)
Balance, end of the year	$1,894	$1,574	$1,551

Legal Matters

From time to time, the Company is subject to legal proceedings and claims in the ordinary course of business. The following reflects an overview of the material activities with regard to these matters through December 31, 2015.

Integrated Technology Corporation v. Rudolph Technologies, Inc., No. CV-06-2182 (PHX-ROS): As previously disclosed, in December 2007, the Company completed the acquisition of specific assets and liabilities of the semiconductor division of Applied Precision LLC ("Applied"). As a result of the acquisition, the Company assumed certain liabilities of Applied including a lawsuit filed in the United States District Court, District of Arizona, by Integrated Technology Corporation ("ITC") which alleged Applied's PrecisionPoint™, PrecisionWorx® and ProbeWoRx® products infringed an ITC patent. Prior to trial, the District Court ruled that such products sold prior to August of 2007 (the "pre-August 2007 tools") infringed the ITC patent. At trial in December of 2011, a trial verdict was rendered in which the jury found that while the Company's products manufactured after August of 2007 (the "post-August 2007 tools") did not literally infringe ITC's patent, the products were found to infringe under a rule known as the doctrine of equivalents, a legal principle which expands the language of patent claims to encompass products or processes which may otherwise be found not to literally infringe the patent. The jury awarded $15,475 to ITC in damages for sales made during the years 2000-2011, of which approximately one-half related to sales for pre-August 2007 tools. The jury found that for the sales of the post-August 2007 tools, the infringement was willful. On July 23, 2012, the District Court issued an Order which affirmed the jury's award, applied treble damages to the portion of the jury award related to post-August 2007 tool sales and granted ITC's motion for attorney's fees and prejudgment interest on the verdict and attorney's fees. At that time, the District Court also enjoined the Company from future infringement of the ITC patent and from selling or supplying the applicable products with the applicable features from or into the United States. The Company appealed the injunction, the District Court Order and the damages assessment. In October 2012, the injunction was stayed by the U.S. Federal Court of Appeals and thereafter in June of 2013, the patent expired. On November 4, 2013, the U.S. Federal Court of Appeals issued a ruling which reversed the judgment of infringement against all post-August 2007 tools, reversed the finding of willfulness, vacated the treble damages award, vacated the award of attorney's fees and costs, remanded the issue back to the District Court for further review, and affirmed the award of damages and interest for the pre-August 2007 tools. As a result, the matter is resolved with regard to the alleged infringement of the post-August 2007 tools. With regard to the damages assessment against the pre-August 2007 tools, on March 4, 2014, the Company filed a Petition for a Writ of Certiorari with the U.S. Supreme Court to

appeal the basis of the Federal Court of Appeals' decision affirming the damages award for the pre-August 2007 tools. On June 30, 2014, the Supreme Court denied the Company's Petition and as a result, on July 22, 2014, the Company paid to ITC $10,613 which represented only the damages and interest portion of the judgment. Since the patent expired

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

in June of 2013 and payment of the judgment has been made, this matter is fully resolved with the sole exception of the issue of the remanded attorney's fees. On August 8, 2014, the District Court issued an order for setting the attorney's fees award at $3,252 which the Company appealed to the U.S. Federal Court of Appeals on September 5, 2014. A hearing regarding the Company's appeal was held on October 6, 2015 and thereafter, the U.S. Federal Court of Appeals issued a ruling that the award was improperly established, vacated the amount of the award and remanded the matter back to the District Court for a determination of a proper fee award. The Company believes that it has meritorious defenses regarding this issue and intend to continue to vigorously prosecute the matter. The $3,252 is held in escrow and is recorded in "Prepaid expenses and other current assets" in the Consolidated Balance Sheet at December 31, 2015. The corresponding liability is recorded under the caption, "Other current liabilities," in the Consolidated Balance Sheet at December 31, 2015. The Company expects this to be the maximum liability reasonably possible for the attorney's fees, excluding interest, for this lawsuit with respect to both the pre-August 2007 and post-2007 August tools.

August Technology Corporation and Rudolph Technologies, Inc. v. Camtek, Ltd., No. 05-CV-01396 (JRT/FLN): The Company's patent infringement suit against Camtek, Ltd., of Migdal Hamek, Israel, concerning its proprietary continuous scan wafer inspection technology, was initially brought in 2005 by August Technology prior to its merger with the Company. On August 22, 2011, the U.S. Federal Court of Appeals issued a decision in which it affirmed multiple rulings from trial at the District Court level including (i) finding the Company's U.S. Patent No. 6,826,298 valid, (ii) the part of the infringement ruling based on the finding that Camtek's Falcon product strobes "based on velocity," and (iii) the dismissal of Camtek's claim against the Company for inequitable conduct against the U.S. Patent and Trademark Office. The Appellate Court did, however, revise one claim construction ruling made by the District Court in the original case. As a result, the Appellate Court set aside the verdict delivered by the jury for damages and the District Court's decision to enter an injunction against Camtek's selling Falcon tools in the U.S. and remanded the case back to the District Court for a limited trial on this single infringement issue. On March 31, 2014, the District Court ruled in the Company's favor, finding that Camtek's Falcon tools continue to infringe the Company's patent even under the revised claim construction of the patent, obviating the need for the limited trial. On February 9, 2015, the District Court issued an Order granting the Company's Motion for Final Judgment, reinstating the original damages and applying prejudgment interest for a total award of $14,512. In addition, the District Court issued a permanent injunction against Camtek from "making, using, selling and offering to sell any of its Falcon machines and any machines that are colorable imitations thereof in the United States, intended for sale and use within the United States, until the expiration of the '6,298 patent [projected to be in 2020]." While, in March of 2015, Camtek filed an appeal with the U.S. Federal Court of Appeals challenging the District Court's ruling. The Appeals Court denied Camtek's appeal on February 3, 2016, affirming both the infringement ruling and the damages and interest totaling approximately $14,600 assessed against Camtek by the District Court.

August Technology Corporation and Rudolph Technologies, Inc. v. Camtek, Ltd., No. 10-CV-2202 (MJD/FLN): A lawsuit against Camtek was filed by the Company in 2011 alleging infringement of its U.S. Patent No. 7,729,528 which is also related to the Company's proprietary continuous scan wafer inspection technology. Camtek filed an inter partes reexamination petition with the U.S. Patent and Trademark Office on January 19, 2012 asserting that certain claims of the patent are unpatentable. The reexamination of the subject patent is ongoing at this time. During the pendency of the reexamination process, the parties have stipulated that the lawsuit be stayed pending resolution of Camtek's petition.

Rudolph Technologies, Inc. v. Camtek, Ltd., No. 15-CV-1246 (ADM/BRT): On March 12, 2015, the Company filed and served on Camtek a complaint asserting infringement of Rudolph ‘6,298 patent by Camtek’s Eagle product with the U.S. District Court in Minnesota. On April 21, 2015, the Company filed a Motion for Preliminary Injunction to enjoin Camtek’s sale of the Eagle device in the United States which is currently pending. On or about April 20, 2015, Camtek filed a complaint in the U.S. District Court in New Jersey seeking a declaratory judgment challenging the jurisdiction and venue of the Minnesota District Court and seeking to have the New Jersey District Court find that the ‘6,298 patent is not infringed and, in the alternative, that the ‘6,298 patent is invalid. On August 26, 2015, the U.S. District Court in Minnesota ruled that Minnesota jurisdiction was appropriate for this matter while at the same time

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

denying the Company's Motion for Preliminary Injunction. Camtek's complaint filed in the U.S. District Court in New Jersey was subsequently dismissed. This matter is currently ongoing in the U.S. District Court in Minnesota.

Lease Agreements

The Company rents space for its manufacturing and service operations and sales offices, which expire through 2020. Total rent expense for these facilities amounted to $3,525, $3,716 and $3,794 for the years ended December 31, 2015, 2014 and 2013, respectively.

The Company also leases certain equipment pursuant to operating leases, which expire through 2020. Rent expense related to these leases amounted to $105, $95 and $171 for the years ended December 31, 2015, 2014 and 2013, respectively.

Total future minimum lease payments under noncancelable operating leases as of December 31, 2015 amounted to $3,153 for 2016, $2,558 for 2017, $2,327 for 2018, $1,692 for 2019, $1,005 for 2020 and $1,310 for all periods thereafter.

Royalty Agreements

Under various licensing agreements, the Company is obligated to pay royalties based on net sales of products sold. There are no minimum annual royalty payments. Royalty expense amounted to $813, $819 and $831 for the years ended December 31, 2015, 2014 and 2013, respectively.

Open and Committed Purchase Orders

The Company has open and committed purchase orders of $29,579 as of December 31, 2015.

Debt Obligations

The Company's contractual obligation relating to the principal payment of its convertible senior notes totaling $60,000 is due on July 15, 2016.

Line of Credit

During the fourth quarter of 2015, the Company entered into a credit agreement with Credit Suisse providing for a $60,000 committed secured revolving line of credit. The agreement will expire on October 31, 2016. The Company has not utilized the credit agreement to date.

9. Share-Based Compensation and Employee Benefit Plans:

Share-Based Compensation Plans

The Company's share-based compensation plans are intended to attract and retain employees and to provide an incentive for them to assist the Company to achieve long-range performance goals and to enable them to participate in long-term growth of the Company. The Company settles stock option exercises and restricted stock unit awards with newly issued common shares.

The Company established the 2009 Stock Plan (the "2009 Plan") effective November 1, 2009. The 2009 Plan provides for the grant of 3,300 stock options and other stock awards to employees, directors and consultants at an exercise price equal to or greater than the fair market value of the common stock on the date of grant. Shares of common stock available for future grants of 2,558 from a previous stock plan were carried forward into the allocated balance of the 2009 Plan. Options granted under the 2009 Plan typically grade vest over a five-year period and expire ten years from the date of grant. Restricted stock units granted under the 2009 Plan typically vest over a five-year period for

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

employees and one year for directors, however, other vesting periods are allowable under the 2009 Plan. Restricted stock units granted to employees have time based or performance based vesting. As of December 31, 2015 and 2014, there were shares of common stock available for issuance pursuant to future grants under the 2009 Plan totaling 2,626 and 3,552, respectively.

The following table reflects share-based compensation expense by type of award:

	Year Ended December 31,		
	2015	2014	2013
Share-based compensation expense:			
Stock options	$287	$320	$570
Restricted stock units	7,316	5,922	3,536
Total share-based compensation	7,603	6,242	4,106
Tax effect on share-based compensation	2,767	2,263	1,500
Net effect on net income	$4,836	$3,979	$2,606
Tax effect on:			
Effect on earnings per share—basic	$(0.15)	$(0.12)	$(0.08)
Effect on earnings per share—diluted	$(0.15)	$(0.12)	$(0.08)

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Stock Option Activity
A summary of the Company's stock option activity with respect to the years ended December 31, 2013, 2014 and 2015 follows:

	Shares	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding at December 31, 2012	1,487	$14.15		
Granted	—	—		
Exercised	(96)	8.10		
Expired	(392)	16.60		
Forfeited	(29)	7.88		
Outstanding at December 31, 2013	970	13.94		
Granted	—	—		
Exercised	(25)	6.86		
Expired	(320)	21.51		
Forfeited	(10)	8.30		
Outstanding at December 31, 2014	615	10.39		
Granted	—	—		
Exercised	(25)	8.19		
Expired	(100)	15.56		
Forfeited	—	—		
Outstanding at December 31, 2015	490	$9.46	4.4	$2,357
Vested or expected to vest at December 31, 2015	485	$9.43		
Exercisable at December 31, 2015	420	$9.00	4.0	$2,217

The total intrinsic value of the stock options exercised during 2015, 2014 and 2013 was $108, $101 and $312, respectively.
The options outstanding and exercisable at December 31, 2015 were in the following exercise price ranges:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Shares	Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
$6.80 - $6.80	254	3.6	$6.80	254	$6.80
$7.86 - $7.86	20	3.0	$7.86	20	$7.86
$12.22 - $12.22	171	7.0	$12.22	101	$12.22
$14.46 - $14.81	45	0.1	$14.74	45	$14.74
$6.80 - $14.81	490	4.4	$9.46	420	$9.00

As of December 31, 2015, there was $454 of total unrecognized compensation cost related to stock options granted under the plans. That cost is expected to be recognized over a weighted average remaining period of 2.0 years.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Non-Employee Options

At December 31, 2015 and 2014, the fair value of options granted to non-employees was $198 and $162, respectively.

Restricted Stock Unit Activity

A summary of the Company's restricted stock unit activity with respect to the years ended December 31, 2013, 2014 and 2015 follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2012	1,380	$8.37
Granted	333	$12.37
Vested	(470)	$7.74
Forfeited	(127)	$9.29
Nonvested at December 31, 2013	1,116	$9.73
Granted	631	$10.89
Vested	(836)	$9.20
Forfeited	(106)	$10.57
Nonvested at December 31, 2014	805	$11.07
Granted	967	$10.99
Vested	(563)	$10.25
Forfeited	(40)	$11.05
Nonvested at December 31, 2015	1,169	$11.40

As of December 31, 2015, there was $8,221 of total unrecognized compensation cost related to restricted stock units granted under the plans. That cost is expected to be recognized over a weighted average period of 2.6 years.

Non-Employee Restricted Stock Units

At December 31, 2015 and 2014, the fair value of options granted to non-employees was $43, and $0, respectively.

Employee Stock Purchase Plan

The Company established an Employee Stock Purchase Plan (the "ESPP") effective November 1, 2009. Under the terms of the ESPP, eligible employees may have up to 15% of eligible compensation deducted from their pay and applied to the purchase of shares of Company common stock. The price the employee must pay for each share of stock will be 95% of the fair market value of Company common stock at the end of the applicable six-month purchase period. The ESPP is intended to qualify under Section 423 of the Internal Revenue Code and is a non-compensatory plan as defined by FASB Accounting Standards Codification ("ASC") 718, Stock Compensation. No stock-based compensation expense for the ESPP was recorded for the years ended December 31, 2015, 2014 and 2013. As of December 31, 2015 and 2014, there were 1,677 and 1,394 shares available for issuance under the ESPP, respectively.

401(k) Savings Plan

The Company has a 401(k) savings plan that allows employees to contribute up to 100% of their annual compensation to the Plan on a pre-tax or after tax basis, limited to a maximum annual amount as set periodically by the Internal Revenue Service. The plan provides a 50% match of all employee contributions up to 6 percent of the

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

employee's salary. Company matching contributions to the plan totaled $963, $966 and $957 for the years ended December 31, 2015, 2014 and 2013, respectively.

Profit Sharing Program

The Company has a profit sharing program, wherein a percentage of pre-tax profits, at the discretion of the Board of Directors, is provided to all employees who have completed a stipulated employment period. The Company did not make contributions to this program for the years ended December 31, 2015, 2014 and 2013.

10. Other Expense (Income):

Other expense (income) is comprised of the following:

	Year Ended December 31,		
	2015	2014	2013
Foreign currency exchange losses (gains), net	$293	$65	$(8)
Total other expense (income)	$293	$65	$(8)

11. Income Taxes:

The components of income tax expense (benefit) are as follows:

	Year Ended December 31,		
	2015	2014	2013
Current:			
Federal	$1,012	$(124)	$(1,790)
State	439	198	(122)
Foreign	3,425	1,812	1,497
	4,876	1,886	(415)
Deferred:			
Federal	3,881	(4,285)	(2,378)
State	71	54	938
Foreign	28	294	(70)
	3,980	(3,937)	(1,510)
Total income tax expense (benefit)	$8,856	$(2,051)	$(1,925)

The income (loss) before tax are comprised of the following:

	Year Ended December 31,		
	2015	2014	2013
Domestic operations	$10,596	$(11,985)	$(4,860)
Foreign operations	$16,216	$5,294	$6,393

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

The provision for income taxes differs from the amount of income tax determined by applying the applicable U.S. federal income tax rate of 35% for the years ended December 31, 2015, 2014 and 2013 to income before provision for income taxes as follows:

	Year Ended December 31,		
	2015	2014	2013
Federal income tax provision at statutory rate	$9,384	$(2,342)	$537
State taxes, net of federal effect	370	21	828
Foreign taxes net of federal effect	754	561	(1,514)
Domestic manufacturing benefit	(553)	—	—
Change in valuation allowance for deferred tax assets	(653)	535	(153)
Research tax credit	(694)	(830)	(1,965)
Deferred tax true-up	(23)	(36)	401
Other	271	40	(59)
Provision (benefit) for income taxes	$8,856	$(2,051)	$(1,925)
Effective tax rate	33%	31%	(126)%

The income tax expense of $8,856 in 2015, was impacted by an increase in the Company's taxes accrued in foreign jurisdictions, partially offset by research and development credits, section 199 domestic manufacturing deduction and decrease in the Company's valuation allowance. The income tax benefit of $2,051 in 2014, was impacted by an increase in the Company's valuation allowance and taxes accrued in foreign jurisdictions, partially offset by research and development tax credit. The income tax benefit of $1,925 in 2013 was impacted by benefits related to the reversal of unrecognized tax benefits, foreign tax credits and research and development credits for both 2012 and 2013 recognized in 2013, which were not available in 2012 as a result of legislation, and $1,300 of expense related to a correction of the prior year income tax balances recognized in the fourth quarter of 2013.

The Company's future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax income, the amount of our pre-tax income as business activities fluctuate, non-deductible expenses incurred in connection with acquisitions, research and development credits as a percentage of aggregate pre-tax income and the domestic manufacturing deduction.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

Deferred tax assets and liabilities are comprised of the following:

	December 31,	
	2015	2014
Research and development credit carryforward	$6,647	$7,496
Reserves and accruals not currently deductible	3,357	3,304
Deferred revenue	1,988	2,005
Domestic net operating loss carryforwards	1,302	1,928
Foreign net operating loss and credit carryforwards	4,347	7,533
Intangibles	11,614	12,943
Tax deductible transaction costs	260	296
Share-based compensation	3,396	1,762
Inventory obsolescence reserve	4,026	3,338
Depreciation	484	923
Other	87	776
Gross deferred tax assets	37,508	42,304
Valuation allowance for deferred tax assets	(2,205)	(2,445)
Deferred tax assets after valuation allowance	35,303	39,859
Gross deferred tax liabilities	(330)	(525)
Net deferred tax assets	$34,973	$39,334

At December 31, 2015 and 2014, the Company had valuation allowances of $2,205 and $2,445, respectively, on certain of the Company's deferred tax assets to reflect the deferred tax assets at the net amount that is more likely than not to be realized.

In assessing the realizability of deferred tax assets, the Company uses a more likely than not standard. If it is determined that it is more-likely-than-not that deferred tax assets will not be realized, a valuation allowance must be established against the deferred tax assets. The ultimate realization of the assets is dependent on the generation of future taxable income during the periods in which the associated temporary differences become deductible. Management considers the scheduled reversal of deferred income tax liabilities, projected future taxable income and tax planning strategies when making this assessment. In making the determination that it is more likely than not that the Company's deferred tax assets will be realized as of December 31, 2015, the Company relied primarily on projected future taxable income.

At December 31, 2015, the Company had federal, state and foreign net operating loss carryforwards of $903, $268 and $1,067, respectively. In addition, as of December 31, 2015 the Company had federal AMT carryforwards of $130. The federal, state and foreign net operating loss carryforwards expire on various dates through December 31, 2032, December 31, 2032 and December 31, 2024, respectively. At December 31, 2015, the Company had federal and state research & development credits and foreign tax credit carryforwards of $7,207, $1,814 and $3,318, respectively. The federal research & development credits are set to expire at various dates through December 31, 2035. The state research & development credits are set to expire at various dates through December 21, 2024. The foreign tax credit is set to expire at various dates through December 31, 2025.

A provision has not been made at December 31, 2015 for U.S. or additional foreign withholding taxes on approximately $6,764 of undistributed earnings of the Company's foreign subsidiaries in Europe and Japan because it is the present intention of management to permanently reinvest these undistributed earnings. It is not practical to estimate the amount of tax that might be payable if some or all of such earnings were to be remitted.

F-31

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

The total amount of unrecognized tax benefits were as follows:

	December 31,		
	2015	2014	2013
Unrecognized tax benefits, opening balance	$5,292	$5,706	$9,566
Gross increases—tax positions in prior period	136	150	533
Gross decreases—tax positions in prior period	(755)	(892)	(4,992)
Gross increases—current-period tax positions	563	328	599
Lapse of statute of limitations	—	—	—
Unrecognized tax benefits, ending balance	$5,236	$5,292	$5,706

Included in the balance of unrecognized tax benefits at December 31, 2015 and 2014 are unrecognized tax benefits of $4,613 and $4,499, respectively, which would be reflected as an adjustment to income tax expense if recognized. The year over year decrease from 2013 to 2015 is primarily due to the reversal of unrecognized tax benefits related to federal tax exposures. It is reasonably possible that certain amounts of unrecognized tax benefits may reverse in the next 12 months; however, the Company does not expect such reversals would have a significant impact on its results of operations or financial position.

The Company recognizes accrued interest and penalties related to unrecognized tax benefits in income tax expense. During the years ended December 31, 2015, 2014 and 2013, the Company recognized approximately $71, $60 and $(768), respectively, in interest and penalties expense associated with uncertain tax positions. As of December 31, 2015 and 2014, the Company had accrued interest and penalties expense related to unrecognized tax benefits of $900 and $830, respectively.

The Company is subject to U.S. federal income tax as well as income tax in multiple state and foreign jurisdictions. The Company files U.S. federal, U.S. state and foreign tax returns. For U.S. federal purposes, the Company is generally no longer subject to tax examinations for years prior to 2012. For U.S. state tax returns, the Company is generally no longer subject to tax examinations for years prior to 2011. For foreign purposes, the Company is generally no longer subject to examination for tax periods 2011 and prior. Certain carryforward tax attributes generated in prior years remain subject to examination and adjustment. The Company believes that adequate amounts have been reserved for any adjustments that may ultimately result from any future examinations of these years.

In the normal course of business, the Company is subject to tax audits in various jurisdictions, and such jurisdictions may assess additional income or other taxes against it. Although the Company believes its tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different from the Company’ s historical income tax provisions and accruals. The results of an audit or litigation could have a material adverse effect on the Company’ s results of operations or cash flows in the period or periods for which that determination is made.

12. Restructuring and Asset Impairment Charges:

The table below provides the activity related to restructuring charges and the remaining liability as of December 31, 2015:

Restructuring obligations at December 31, 2014	$764
Restructuring costs incurred	—
Cash payments	(764)
Restructuring obligations at December 31, 2015	$—

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

During 2014, the Company implemented restructuring initiatives designed to reduce the Company's cost structure. In connection with this strategy, the Company reduced its global headcount by approximately 9.0% and closed its facility in Mainz, Germany relocating the operations to its facilities in Snoqualmie, Washington and Bloomington, Minnesota, which was completed as of March 31, 2015.

13. Accumulated Other Comprehensive Loss:

Comprehensive income includes net income, foreign currency translation adjustments, and net unrealized gains and losses on available-for-sale investments. See the Consolidated Statements of Comprehensive Income for the effect of the components of comprehensive income to our net income.
The components of accumulated other comprehensive loss, net of tax, are as follows:

	Foreign currency translation adjustments	Net unrealized losses on available-for-sale investments	Accumulated other comprehensive loss
Beginning Balance, December 31, 2013	$1,645	$150	$1,795
Net current period other comprehensive loss	1,040	(183)	857
Reclassifications	—	—	—
Beginning Balance, December 31, 2014	$2,685	$(33)	$2,652
Net current period other comprehensive loss	(62)	33	(29)
Reclassifications	—	—	—
Ending balance, December 31, 2015	$2,623	$—	$2,623

14. Segment Reporting and Geographic Information:
The Company is engaged in the design, development, manufacture and support of process control defect inspection and metrology, advanced packaging lithography and data analysis systems and software used by microelectronics device manufacturers. The Company and its subsidiaries currently operate in a single operating segment: the design, development, manufacture and support of process control defect inspection and metrology, advanced packaging lithography, and data analysis systems and software used by microelectronics device manufacturers, and therefore have one reportable segment. The Company's chief operating decision maker is the Chief Executive Officer. The chief operating decision maker allocates resources and assesses performance of the business and other activities at the reportable segment level.
The following table lists the different sources of revenue:

	Year Ended December 31,								
	2015			2014			2013		
Systems and software:									
Inspection	$118,925	54	%	$87,818	49	%	$89,089	51	%
Metrology	25,933	12	%	24,590	14	%	26,500	15	%
Data analysis and review	27,291	12	%	24,042	13	%	17,927	10	%
Lithography	14,519	6	%	11,163	6	%	8,548	5	%
Parts	24,072	11	%	20,334	11	%	21,078	12	%
Services	10,950	5	%	13,271	7	%	13,096	7	%
Total revenue	$221,690	100	%	$181,218	100	%	$176,238	100	%

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

The Company's significant operations outside the United States include sales, service and application offices in Europe and Asia. For geographical reporting, revenues are attributed to the geographic location in which the product is shipped. Revenue by geographic region is as follows:

	Year Ended December 31,		
	2015	2014	2013
Revenues from third parties:			
United States	$46,778	$56,963	$40,849
Taiwan	55,548	49,532	54,682
South Korea	14,221	16,690	10,704
Singapore	27,310	14,551	15,804
Austria	3,557	752	898
Japan	13,216	9,449	7,326
Germany	29,378	9,142	5,669
China	17,152	11,521	20,061
Other Europe	11,403	9,362	18,789
Other Asia	3,127	3,256	1,456
Total revenue	$221,690	$181,218	$176,238

No individual end user customer accounted for more than 10% of the Company's revenue in 2015 and 2014. In 2013, sales to Intel Semiconductor Inc. and STATS ChipPAC Ltd. accounted for 11.4% and 10.3% of the Company's revenues, respectively. The Company does not have purchase contracts with any of its customers that obligate them to continue to purchase its products.
At December 31, 2015, one customer, Taiwan Semiconductor Manufacturing Co. Ltd., accounted for more than 10% of net accounts receivable. At December 31, 2014, two customers, Taiwan Semiconductor Manufacturing Co. Ltd. and TriQuint Semiconductor Inc., accounted for more than 10% of net accounts receivable.
Substantially all of the Company's long-lived assets are located within the United States of America.

15. Earnings (Loss) Per Share:
Basic earnings (loss) per share is calculated using the weighted average number of shares of common stock outstanding during the period. Diluted earnings per share is computed in the same manner and also gives effect to all dilutive common equivalent shares outstanding during the period. Potential common shares that would have the effect of increasing diluted earnings per share are considered to be antidilutive. In accordance with U.S. GAAP, these shares were not included in calculating diluted earnings per share.
For the year ended December 31, 2015, the weighted average number of stock options and restricted stock units excluded from the computation of diluted earnings per share were 15 and 190, respectively. For the year ended December 31, 2014, all outstanding restricted stock units of 805 and stock options of 615 were excluded from the computation of diluted loss per shares because the effect in the period would be antidilutive. For the year ended December 31, 2013, the weighted average number of stock options and restricted stock units excluded from the computation of diluted earnings per share were 707 and 3, respectively.
For the year ended December 31, 2015, diluted earnings per share-weighted average shares outstanding included the effect resulting from assumed conversion of the Notes and warrants. For the years ended December 31, 2014 and 2013, diluted earnings per share-weighted average shares outstanding do not include any effect resulting from assumed conversion of the Notes as their impact would be anti-dilutive. See Note 7 for additional discussion regarding the Notes.

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

The computations of basic and diluted income per share for the years ended December 31, 2015, 2014, and 2013 are as follows:

	December 31, 2015	2014	2013
Numerator:			
Net income (loss)	$17,956	$(4,640)	$3,458
Denominator:			
Basic earnings per share - weighted average shares outstanding	31,408	33,124	32,783
Effect of potential diluted securities:			
Employee stock options and restricted stock units - dilutive shares	692	—	605
Convertible senior notes - dilutive shares	66	—	—
Diluted earnings per share - weighted average shares outstanding	32,166	33,124	33,388
Earnings per share:			
Basic	$0.57	$(0.14)	$0.11
Diluted	$0.56	$(0.14)	$0.10

16. Shares Repurchase Authorization:

In July 2008, the Company’s Board of Directors authorized the Company to repurchase up to 3,000 shares of its common stock with no established end date. The authorization allows for repurchases to be made in the open market or through negotiated transactions from time to time. In January 2015, the Company’s Board of Directors increased the Company's authorization to repurchase shares of its common stock by an additional 1,353 shares to replenish the shares purchased through December 31, 2014, bringing the total repurchase authorization back to 3,000 shares as of such date. At December 31, 2015, there were 1,326 shares available for future stock repurchases under this repurchase authorization. Shares of common stock purchased under the share repurchase authorization are retired.
The Company did not repurchase any shares of its common stock during 2013. The following table summarizes the Company’s stock repurchases for December 31, 2015 and 2014:

	Year Ended December 31,		
	2015	2014	2013
Shares of common stock repurchased	1,674	1,353	—
Cost of stock repurchased	$20,668	$12,845	$—
Average price paid per share	$12.35	$9.49	$—

Table of Contents

RUDOLPH TECHNOLOGIES, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
(In thousands, except per share data)

17. Quarterly Consolidated Financial Data (unaudited):

The following tables present certain unaudited consolidated quarterly financial information for the years ended December 31, 2015 and December 31, 2014. In the opinion of the Company's management, this quarterly information has been prepared on the same basis as the consolidated financial statements and includes all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the information for the periods presented. The results of operations for any quarter are not necessarily indicative of results for the full year or for any future period. Year-over-year quarterly comparisons of the Company's results of operations may not be meaningful, as the sequential quarterly comparisons set forth below tend to reflect the cyclical activity of the semiconductor industry as a whole. Other quarterly fluctuations in expenses are related directly to sales activity and volume and may also reflect the timing of operating expenses incurred throughout the year and the purchase accounting effects of business combinations.

	Quarters Ended				
	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015	Total
Revenues	$52,570	$59,466	$58,597	$51,057	$221,690
Gross profit	28,966	31,884	31,912	26,644	119,406
Income before income taxes	3,097	8,656	10,880	4,179	26,812
Net income	1,848	6,027	7,198	2,883	17,956
Income per share:					
Basic	$0.06	$0.19	$0.23	$0.09	$0.57
Diluted	$0.06	$0.19	$0.22	$0.09	$0.56
Weighted average number of shares outstanding:					
Basic	31,928	31,663	31,526	31,016	31,408
Diluted	32,549	32,339	32,204	32,075	32,166

	Quarters Ended				
	March 31, 2014	June 30, 2014	September 30, 2014	December 31, 2014	Total
Revenues	$41,649	$43,018	$46,960	$49,591	$181,218
Gross profit	21,569	23,304	24,960	25,655	95,488
Income (loss) before income taxes	(1,041)	(10,995)	2,835	2,510	(6,691)
Net income	(724)	(4,412)	(998)	1,494	(4,640)
Income per share:					
Basic	$(0.02)	$(0.13)	$(0.03)	$0.05	$(0.14)
Diluted	$(0.02)	$(0.13)	$(0.03)	$0.04	$(0.14)
Weighted average number of shares outstanding:					
Basic	33,092	33,240	33,237	32,882	33,124
Diluted	33,092	33,240	33,237	33,504	33,124

Table of Contents

RUDOLPH TECHNOLOGIES, INC. AND SUBSIDIARIES
SCHEDULE OF VALUATION AND QUALIFYING ACCOUNTS
(In thousands)

Column A	Column B	Column C		Column D	Column E
Description	Balance at Beginning of Period	Charged to (Recovery of) Costs and Expense	Charged to Other Accounts (net)	Deductions	Balance at End of Period
Year 2015:					
Allowance for doubtful accounts	$1,279	$124	$—	$690	$713
Inventory valuation	7,000	3,676	—	1,780	8,896
Warranty	1,574	2,640	—	2,320	1,894
Deferred tax valuation allowance	2,445	(128)	(112)	—	2,205
Year 2014:					
Allowance for doubtful accounts	$1,152	$127	$—	$—	$1,279
Inventory valuation	6,101	3,910	—	3,011	7,000
Warranty	1,551	2,048	—	2,025	1,574
Deferred tax valuation allowance	1,756	838	(149)	—	2,445
Year 2013:					
Allowance for doubtful accounts	$606	$751	$—	$205	$1,152
Inventory valuation	5,620	2,863	—	2,382	6,101
Warranty	2,024	1,956	—	2,429	1,551
Deferred tax valuation allowance	1,361	(153)	548	—	1,756

Table of Contents

SIGNATURES

PURSUANT TO THE REQUIREMENTS OF SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934, THE REGISTRANT HAS DULY CAUSED THIS REPORT TO BE SIGNED ON ITS BEHALF BY THE UNDERSIGNED, THEREUNTO DULY AUTHORIZED.

Rudolph Technologies, Inc.
By: /s/ Michael P. Plisinski
Michael P. Plisinski
Chief Executive Officer
Date: February 19, 2016

PURSUANT TO THE REQUIREMENTS OF THE SECURITIES EXCHANGE ACT OF 1934, THIS REPORT HAS BEEN SIGNED BELOW BY THE FOLLOWING PERSONS ON BEHALF OF THE REGISTRANT AND IN THE CAPACITIES AND ON THE DATES INDICATED.

Signature	Title	Date
/s/ Michael P. Plisinski Michael P. Plisinski	Chief Executive Officer	February 19, 2016
/s/ Steven R. Roth Steven R. Roth	Senior Vice President, Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 19, 2016
/s/ Paul F. McLaughlin Paul F. McLaughlin	Chairman	February 19, 2016
/s/ Jeffrey A. Aukerman Jeffrey A. Aukerman	Director	February 19, 2016
/s/ Leo Berlinghieri Leo Berlinghieri	Director	February 19, 2016
/s/ Daniel H. Berry Daniel H. Berry	Director	February 19, 2016
/s/ Thomas G. Greig Thomas G. Greig	Director	February 19, 2016
/s/ David B. Miller David B. Miller	Director	February 19, 2016
/s/ Richard F. Spanier Richard F. Spanier	Director	February 19, 2016
/s/ John R. Whitten John R. Whitten	Director	February 19, 2016

Table of Contents

EXHIBIT INDEX

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of Registrant, as amended (Conformed Version) (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q(SEC File No. 000-27965) filed on August 2, 2013).
3.2	Restated Bylaws of Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on August 1, 2007).
3.3	Amendment to Restated Bylaws of Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on February 2, 2009).
4.1	Rights Agreement (incorporated by reference to Exhibit 4.1 of the Registrant's Registration Statement on Form 8-A (SEC File No. 000-27965) filed on June 28, 2005).
4.2	August Technology Corporation 1997 Stock Incentive Plan (incorporated by reference to the Appendix to August Technology Corporation's Proxy Statement for its 2004 Annual Shareholders Meeting (SEC File No. 000-30637) filed on March 11, 2004).
4.3	Indenture, dated as of July 25, 2011, by and between The Bank of New York Mellon Trust Company, N.A., as Trustee, and Rudolph Technologies, Inc. (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.1+	License Agreement, dated June 28, 1995, between the Registrant and Brown University Research Foundation (incorporated by reference to Exhibit (10.1) to the Registrant's Registration Statement on Form S-1, as amended (SEC File No. 333-86821), filed on September 9, 1999).
10.2*	Form of Indemnification Agreement (incorporated by reference to Exhibit (10.3) to the Registrant's Registration Statement on Form S-1/A, as amended (SEC File No. 333-86821), filed on October 14, 1999).
10.3*	Form of 1999 Stock Plan (incorporated by reference to Exhibit (10.5) to the Registrant's Registration Statement on Form S-1, (SEC File No. 333-86821) filed on September 9, 1999).
10.4*	Management Agreement, dated as of July 24, 2000, by and between Rudolph Technologies, Inc. and Paul F. McLaughlin as restated and amended on July 29, 2014 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on August 6, 2014).
10.5*	Management Agreement, dated as of July 24, 2000 by and between Rudolph Technologies, Inc. and Steven R. Roth as restated and amended on July 29, 2014 (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on August 6, 2014).
10.6*	Employment Agreement, dated as of November 9, 2015, by and between Rudolph Technologies, Inc. and Michael Plisinski (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 9, 2015). *
10.7*	Executive Change of Control Agreement, dated February 7, 2014, by and between Rudolph Technologies, Inc. and Richard Rogoff (incorporated by reference to Exhibit 10.10 to the Registrant's Annual Report on Form 10-K filed on February 20, 2015.
10.8	Form of option agreement under 1999 Stock Plan (incorporated by reference to Exhibit 10.12 to the Registrant's Quarterly Report on Form 10-Q (SEC File No. 000-27965) filed on November 5, 2004).

+ Confidential treatment has been granted with respect to portions of this exhibit.

* Management contract, compensatory plan or arrangement.

Table of Contents

Exhibit No.	Description
10.9*	Form of Restricted Stock Award pursuant to the Rudolph Technologies, Inc. 1999 Stock Plan (incorporated by reference to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965), filed on June 21, 2005).
10.10*	Rudolph Technologies, Inc. 2009 Stock Plan (incorporated by reference to Appendix A of the Registrant's revised Proxy Statement on Form DEFR14A, filed on May 8, 2009).
10.11*	Rudolph Technologies, Inc. 2009 Employee Stock Purchase Plan, as amended (incorporated by reference to Appendix B of the Registrant's revised Proxy Statement on Form DEFR14A, filed on May 8, 2009).
10.12*	Form of Restricted Stock Unit Agreement pursuant to the Rudolph Technologies, Inc. 2009 Stock Plan (incorporated by reference to exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on November 6, 2014).
10.13	Purchase Agreement, dated July 19, 2011, among Rudolph Technologies, Inc. and Credit Suisse Securities (USA) LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.14	Confirmation of Convertible Note Hedge Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.15	Amendment dated July 22, 2011 to Confirmation of Convertible Note Hedge Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K (EC File No. 000-27965) filed on July 25, 2011).
10.16	Confirmation of Issuer Warrant Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
10.17	Amendment dated July 22, 2011 to Confirmation of Issuer Warrant Transaction dated July 19, 2011, by and between Rudolph Technologies, Inc. and Credit Suisse International (incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K (SEC File No. 000-27965) filed on July 25, 2011).
21.1	Subsidiaries.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
31.1	Certification of Michael P. Plisinski, Chief Executive Officer, pursuant to Securities Exchange Act Rule 13a-14(a).
31.2	Certification of Steven R. Roth, Chief Financial Officer, pursuant to Securities Exchange Act Rule 13a-14(a).
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, signed by Michael P. Plisinski, Chief Executive Officer of Rudolph Technologies, Inc.
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, signed by Steven R. Roth, Chief Financial Officer of Rudolph Technologies, Inc.

* Management contract, compensatory plan or arrangement.

Table of Contents

Exhibit No.	Description
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document