Ultra Clean Holdings, Inc.
Form 10-K
March 14, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 29, 2017

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number 000-50646

Ultra Clean Holdings, Inc.

(Exact name of Registrant as specified in its charter)

Delaware	61-1430858
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

26462 Corporate Avenue

Hayward, California	94545
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code:

(510) 576-4400

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value	The NASDAQ Global Market LLC

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 No

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

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

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

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

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

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

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

The aggregate market value of the voting and non-voting stock held by non-affiliates of the Registrant, based on the closing sale price of the Registrant's common stock on June 30, 2017 as reported on the NASDAQ Global Market, was approximately $615.2 million. Shares of common stock held by each executive officer and director have been excluded from this computation. The determination of affiliate status for this purpose is not necessarily a conclusive determination for other purposes.

Number of shares of the registrant's common stock outstanding as of February 23, 2018: 38,469,724

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement to be delivered to stockholders in connection with the 2018 annual meeting of stockholders are incorporated by reference in Part III of this Form 10-K where indicated. Such proxy statement will be filed with the Securities and Exchange Commission within 120 days of the registrant's fiscal year ended December 29, 2017.

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This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “expects,” “anticipates,” “targets,” “goals,” “projects,” “intends,” “plans,” “beli “seeks,” “estimates,” “continues,” “may,” “will be,” “will continue,” “will likely results,” variations of such words, and similar expressions are intended to identify such forward-looking statements, but the absence of these words does not necessarily mean that a statement is not forward-looking. These forward-looking statements include, but are not limited to, statements concerning the following: projections of our financial performance, our anticipated growth and trends in our business, levels of capital expenditures, the adequacy of our capital resources to fund operations and growth, our ability to compete effectively with our competitors, our strategies and ability to protect our intellectual property, future acquisitions, customer demand, our manufacturing and procurement process, employee matters, supplier relations, foreign operations (including our operations in China and Singapore), the legal and regulatory backdrop (including environmental regulation), our exposure to market risks and other characterizations of future events or circumstances described in this Annual Report. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict, including those identified below, under “Risk Factors,” and elsewhere herein. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. We undertake no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Item 1. Business

Overview

Ultra Clean Holdings, Inc. (“UCT”, the “Company” or “We”) was founded in November 2002 for the purpose of acquiring Ultra Clean Technology Systems and Services, Inc. a US-based company founded in 1991 by Mitsubishi Corporation and operated as a subsidiary of Mitsubishi. UCT became a publicly traded company in March 2004. In 2006, we acquired Sieger Engineering, Inc. to better position ourselves as a subsystem supplier primarily to the semiconductor and display capital equipment industries. Sieger Engineering merged into Ultra Clean Technology Systems and Service, Inc. in July of 2016. To facilitate operations in Asia, Ultra Clean Technology (Shanghai) Co., Ltd (“UCTS”) and Ultra Clean Micro-Electronics Equipment (Shanghai) Co., Ltd. (“UCME”) were established in China in 2005 and 2007, respectively, and Ultra Clean Asia Pacific, Pte, Ltd. was established in Singapore in 2008. UCTS merged into UCME in December of 2015. Our July 2012 acquisition of American Integration Technologies LLC (“AIT”) added to our existing customer base in the semiconductor and medical spaces and provided additional manufacturing capabilities. In 2014, we launched Prototype Asia, our 3D printing business in Singapore, to develop additive manufacturing capabilities for our customer base. In February 2015, we acquired Marchi Thermal Systems, Inc. (“Marchi”) and in July 2015, we acquired MICONEX s.r.o (“Miconex”), both privately held companies with a majority of their sales in the semiconductor market. Marchi designs and manufactures specialty heaters, thermocouples and temperature controllers, delivering flexible heating elements and thermal solutions to our customers. The Company believes heaters are increasingly critical in equipment design for the most advanced semiconductor nodes. Miconex is a provider of advanced precision fabrication of plastics that has expanded our capabilities with existing customers. Separately, in November 2016, we determined to seek to dispose of a portion of our 3D printing business, consistent with our strategy to focus on producing product tools for the semiconductor and display capital equipment industries.

We are a global leader in the design, engineering, and manufacture of production tools, modules and subsystems for the semiconductor and display capital equipment industries. We provide our customers specialized engineering and manufacturing solutions for these highly complex, highly configurable, limited volume applications. In addition, we routinely handle major volume and design changes during the manufacturing process and provide equipment manufacturers flexibility when responding to dynamic market changes. We enable them to realize lower manufacturing costs and reduced design-to-delivery cycle times while maintaining high quality standards.

We provide our customers with broad solutions that combine our expertise in design, assembly, test and component characterization. Our customers value our highly flexible global manufacturing operations, our excellence in quality control and our scale and financial stability. Our global footprint helps us drive down total manufacturing costs, and reduce design-to-delivery cycle times while maintaining high quality standards for our customers. We believe these characteristics help us to provide global solutions for our customers' product demands.

We ship a majority of our products to U.S. registered customers with locations both in and outside the U.S. In addition to U.S. manufacturing, we manufacture products in our Asian facilities to support local and U.S. based customers. We conduct our operating activities primarily through our wholly owned subsidiaries, Ultra Clean Technology Systems and Service, Inc., AIT, Ultra Clean Micro-Electronics Equipment (Shanghai) Co., Ltd., Ultra Clean Asia Pacific, Pte, Ltd., Marchi and Miconex. Our international sales represented 53.6%, 48.0% and 34.5% of sales for fiscal years ended 2017, 2016 and 2015, respectively. See Note 11 to the Notes to Consolidated Financial Statements for further information about our geographic areas.

Our Solution

Our focus is on providing specialized engineering and manufacturing solutions for highly complex, highly configurable, limited volume systems. We enable our customers to realize lower manufacturing costs and reduced design-to-delivery cycle times while maintaining high quality standards. We offer our customers:

- A vertically integrated solution for complex and highly configurable systems. We provide our original equipment manufacturing (OEM) customers a broad outsourced solution for the development, design, component sourcing, prototyping, engineering, manufacturing and testing of advanced systems. We utilize our machining, sheet metal, and frame fabrication capabilities with highly specialized engineering, global supply chain management, and assembly capabilities to produce high performance products that are customized to meet the needs of our customers, as well as their respective end users. We minimize the overall number of suppliers and manage our global supply chain logistics to reduce inventory levels that our customers would otherwise be required to manage.
- Subsystem manufacturing. Our experience with the demanding requirements in semiconductor equipment manufacturing has enabled us to grow from primarily supplying gas delivery modules to being a leading developer and supplier of other critical modules and subsystems. These assemblies include chemical and fluid delivery modules, wafer transport, and process modules.
- Improved design-to-delivery cycle times. Our strong relationships with our customers and familiarity with their product requirements and the ever changing needs of their customer base help us reduce their design-to-delivery cycle times. We seek to optimize our supply chain management, design and manufacturing coordination and controls to respond rapidly to order requests, enabling us to decrease design-to-delivery cycle times for our customers. Because our engineers work closely with our customers' engineers and understand the fabrication, assembly and testing of their products, we often can improve their design for manufacturability, thereby improving their cost, quality and consistency.
- Component neutral design and manufacturing. We do not manufacture components such as mass flow controllers and valves which are selected based on manufacturer published specifications. Our component neutral position enables us to recommend components on the basis of technology, performance and cost and to optimize our customers' overall designs based on these criteria. Furthermore, our neutral approach allows us to maintain close relationships with a wide range of component suppliers.
- Component testing capabilities. We utilize our technical expertise to test and characterize key components and subsystems. We have made significant investments in advanced analytical and automated test equipment, enabling us to test and qualify key components. We can perform diagnostic tests, design verifications and failure analyses for our customers and suppliers. Our analytical and testing capabilities of supplier components provide us the ability to recommend to our customers a wide range of appropriate component and design choices for their products.
- Increased integration with OEMs through local presence. Our local presence in close proximity to the facilities of most of our OEM customers enables us to remain closely integrated with their design, development and implementation teams. This level of integration enables us to respond quickly and efficiently to customer changes and requests.

- Precision machining capabilities. We manufacture high quality, precision machined parts using equipment capable of efficiently providing complex parts with exacting tolerances. Our diverse precision fabrication equipment enables us to manufacture a broad range of machined parts using a wide range of materials, from exotic metals to high purity plastics. Our manufacturing capabilities include horizontal and vertical milling, turning, welding and joining, among others. We own and operate advanced machining and fabrication systems at multiple sites in the U.S., Europe and Asia.
- Precision frame fabrication. We design and manufacture frames using tubing or sheet metal in all customary sizes with exacting standards to meet or exceed our customers' needs. We utilize over 25 years of experience in the fabrication of complex frames to provide a cost competitive edge in our vertical integration model. Many of our customers require frames that are powder coated and in 2016, we added this capability to our Chandler, Arizona frame fabrication facility.
- Precision sheet metal fabrication. Our ability to provide broad sheet metal solutions for our customers enables us to support prototype to volume production, from brackets to sheet metal frames, and from structural to high quality cosmetic finishing of the final product. Our automated equipment and design capabilities allow us to develop accurate prototype and final production products for our customers.
- Custom thermal control. Our acquisition of Marchi has enabled us to design and manufacture heaters, sensors, and controllers for precise temperature control. These products are complementary to our gas delivery systems products.

Our Strategy

Our objective is to maintain our position as a leading solutions provider in the markets we serve, primarily the semiconductor and display capital equipment market, while supporting other technologically similar markets in the consumer, medical, energy, industrial and research industries. Our strategy is comprised of the following key elements:

- Expand our market share with semiconductor capital equipment OEMs. We believe that outsourcing among OEMs creates a significant market opportunity for us to grow our business with existing and new customers. We believe our customers will continue to outsource critical subsystems and that we are well positioned to capture a significant portion of these outsourcing opportunities. We believe that our continued focus on efficient manufacturing, reduced design-to-delivery cycle times, and quality and reliability will also allow us to gain market share.
- Develop solutions that allow our customer's customers to succeed at the latest 2x or 1x nanometer semiconductor processing nodes. We are expanding the number and type of subsystems that we offer in this advanced semiconductor market.
- Leverage our geographic presence in lower cost manufacturing regions. Our manufacturing facilities in Shanghai, China allow us to produce in a low cost region. These facilities house precision machined parts and subsystem assembly operations. Together, these facilities put us in close proximity to the manufacturing facilities of existing and potential customers and their end users. In Singapore, we have a procurement office and substantial manufacturing capabilities. Our manufacturing facilities all use similar processes and procedures, enabling us to respond rapidly to demand changes from our customer.
- Drive profitable growth with our flexible cost structure. We implement cost containment and capacity enhancement initiatives throughout the semiconductor capital equipment demand cycle and benefit from the global presence and efficiencies of our supply chain. In addition, we believe our Shanghai and Singapore facilities position us to respond effectively to future business demands. We employ a core engineering strategy with flexible partnering to augment our staff during the steep rise and fall often associated with cycles in the semiconductor industry.
- Continue to selectively pursue strategic acquisitions. We will continue to consider strategic acquisitions that will enable us to expand our geographic presence, secure new customers and diversify into complementary products and markets as well as broaden our technological capabilities in the markets we serve.

- Strengthen vertical integration. We continue to invest in our operations to meet customer delivery targets. We have expanded welding operations at several of our manufacturing sites, developed/built in-house powder coating capability, and purchased new machining tools. In addition to organic growth, we continue to manage/foster key strategic partnerships to efficiently meet production needs.

Products

We design, develop, prototype, manufacture and test subsystems, primarily for semiconductor capital equipment. We also support customers in the consumer, medical, energy, industrial, and research industries. Our products include precision robotic solutions, gas delivery systems, a variety of industrial and automation production equipment products; subsystems that includes wafer cleaning modules, chemical delivery modules, top-plate assemblies, frame assemblies, and process modules.

- Chemical delivery modules: Chemical delivery modules deliver gases and reactive chemicals in a liquid or gaseous form from a centralized subsystem to the reaction chamber. The module may be a gas delivery system in combination with liquid and vapor precursor delivery systems or may be a liquid delivery system in combination with a liquid storage system.
- Frame assemblies: Frame assemblies are support structures fabricated from steel tubing or folded sheet metal and form the backbone to which all other assemblies are attached. The complexity of the frames includes powder coating, pneumatic harnesses and cables that connect other critical subsystems together.
- Gas delivery systems: A typical OEM gas delivery system consists of one or more gas lines, comprised of small diameter internally polished stainless steel tubing, filters, mass flow controllers, regulators, pressure transducers and valves, component heaters, and an integrated electronic and/or pneumatic control system. These systems are mounted on a pallet and are typically enclosed in a sheet metal encasing. Our gas delivery system designs are developed in collaboration with our customers and are customized to meet the needs of specific processing requirements for OEMs. Our customers either specify the particular brands of components they want incorporated into a particular system or rely on our design expertise and component characterization capabilities to help them select the appropriate components for their particular system.
- Fluid delivery system: A typical OEM liquid delivery system consists of one or more chemical delivery units, comprised of small diameter high purity PFA tubing, filters, flow controllers, regulators, component heaters, and an integrated electronic and/or pneumatic control system. These units are typically contained in a plastic enclosure and further integrated into a frame. Our liquid delivery system designs are developed in collaboration with our customers and are customized to meet the needs of specific processing requirement for OEMs. Our customers either specify the particular materials and the brands of components they want incorporated into a particular system or rely on our design expertise and component characterization capabilities to help them select the appropriate components for their particular system.
- Precision robotics: Precision robotic systems are used when accurate controlled motion is required. Some of the systems that employ robotic systems are: semiconductor wafer and chip handling, wire bonding and industrial equipment.
- Process modules: Process modules refer to the larger subsystems of semiconductor manufacturing tools that process integrated circuits onto wafers. Process modules include several smaller subsystems such as the frame assembly, top-plate assembly and gas and chemical delivery modules, as well as the chamber and electronic, pneumatic and mechanical subsystems.
- Other high level assemblies: Other high level assemblies refer to large subsystems used in semiconductor manufacturing, display, medical, energy, industrial and research industries.

Customers

We sell our products primarily to customers in the semiconductor capital equipment industry, and we also have sales to the consumer, medical, energy, industrial, and research equipment industries. The majority of our revenue is in the semiconductor capital equipment industry, which is highly concentrated, and we are therefore highly dependent upon a small number of customers. Our two largest customers in fiscal year 2017, 2016 and 2015 were Applied Materials, Inc. and Lam Research Corporation, each of which accounted for more than 10.0% of our total sales in fiscal years 2017, 2016 and 2015. As a group, our respective year's top two customers accounted for 84.4%, 82.2% and 77.0% of the Company's sales for fiscal years 2017, 2016 and 2015, respectively. The composition of our most significant customers has changed from time to time based on various factors, including acquisition activity by our customers.

We have successfully qualified as a supplier with each of our customers who require it. This lengthy qualification process involves the inspection and audit of our facilities and evaluation by our customers of our engineering, documentation, manufacturing and quality control processes and procedures. Our customers generally place orders with suppliers who have met and continue to meet their qualification criteria.

Customer Business Management

We sell and support our products through our Customer Business Management organization which, as of December 29, 2017, consisted of approximately 102 customer relationship directors, managers and support staff. Our customer relationship directors are responsible for establishing sales strategy and setting the objectives for specific customer accounts. Each customer relationship manager is dedicated to a specific customer account and is responsible for maintaining strong working relationships with that customer. Customer relationship managers work closely with customers and in many cases provide on-site support. Customer relationship managers often attend customers' internal meetings related to production and engineering design and quality to ensure that customer expectations are interpreted and communicated properly to our operations group. Customer relationship managers also work with our customers to identify and meet their cost and design-to-delivery cycle time objectives.

We have dedicated business development managers responsible for new business development for gas delivery systems and other critical subsystems. Our new business development managers initiate and develop long-term, multilevel relationships with customers and work closely with customers on new business opportunities throughout the design-to-delivery cycle. Our customer relationship organization includes technical sales support for order placement, spare parts quotes and production status updates. We have a technical relationship representative located at each of our manufacturing facilities.

We integrate new business wins into our facilities via a rigorous product transition process, working in concert with our customers to ensure all product production and test requirements are identified, documented, and validated. We employ the same process at all our sites, enabling products to smoothly transition into and between our sites as needed to support customer demand.

In addition, we have developed a service and support infrastructure to provide our customers with service and support 24 hours a day, seven days a week. Our dedicated global field service engineers provide customer support through the performance of on-site installation, servicing and repair of our subsystems.

Technology Development

We engage in ongoing technology development efforts in order to remain a technology leader for gas delivery systems and to further develop our expertise in other critical subsystems. Our design engineering and new product engineering groups support our technology development activities. Our technology development group works closely with our customers to identify and anticipate changes and trends in next-generation equipment. Our technology development group participates in customer technology partnership programs that focus on process application requirements for gas and liquid delivery systems and other critical subsystems. These development efforts are designed to meet specific customer requirements in the areas of subsystem design, materials, component selection and functionality. Our technology development group also works directly with our suppliers to help them identify new component technologies and make necessary changes in, and enhancements to, the components that we integrate into our products. Our analytical and testing capabilities enable us to evaluate multiple supplier component technologies and provide our customers with a wide range of appropriate component and design choices for their gas delivery systems and other critical subsystems.

Our analytical and testing capabilities also help us anticipate technological changes and requirements in component features for next-generation gas delivery systems and other critical subsystems. We are developing additional features to improve the performance and functionality of our gas delivery systems and other critical subsystems. Our technology development and new product engineering expenses were approximately $11.7 million, $9.9 million and $9.6 million for the 2017, 2016 and 2015 fiscal years, respectively. We perform our technology development activities principally at our facilities in Hayward, California.

Intellectual Property

Our success depends in part on our ability to maintain and protect our proprietary technology and to conduct our business without infringing the proprietary rights of others. Our business is largely dependent upon our design, engineering, manufacturing and testing know-how. We also rely on a combination of trade secrets and confidentiality provisions, and to a much lesser extent, patents, copyrights and trademarks, to protect our proprietary rights. We have four patents with various expiration dates ranging from 2019 to 2034 as a result of our acquisition of Marchi in February 2015. We have no pending U.S. patents. Intellectual property that we develop on behalf of our customers is generally owned exclusively by those customers.

We require our employees, suppliers and potential business partners to enter into confidentiality and non-disclosure agreements before we disclose to them any sensitive or proprietary information regarding our products, technology or business plans. We require employees to assign to us proprietary information, inventions and other intellectual property they create, modify or improve.

Competition

Our industry is highly fragmented. When we compete for new business, we face competition from other suppliers of gas delivery systems and other critical subsystems as well as the internal manufacturing groups of our customers. Customers that have elected to outsource their gas delivery systems and other critical subsystems could elect in the future to develop and manufacture these subsystems internally, leading to further competition.

Our principal competitor for our gas delivery systems is Ichor Systems, Inc., and our principal competitors for other critical subsystems are Flex Ltd., Foxsemicon Integrated Technology Inc. and Celestica Inc. Some of these competitors have substantially greater financial, technical, manufacturing and marketing resources than we do. We expect our competitors to continue to improve the performance of their current products and to introduce new products or new technologies that could adversely affect sales of our current and future products. In addition, the limited number of potential customers in our industry further intensifies competition. The primary competitive factors in our industry are price, technology, quality, design-to-delivery cycle time, reliability in meeting product demand, service and historical customer relationships. We anticipate that increased competitive pressures will cause intensified price-based competition and we may have to reduce the prices of our products. In addition, we expect to face new competitors as we enter new markets.

Employees

As of December 29, 2017, we had 2,747 employees, of which 466 were temporary. Of our total employees, there were 23 in engineering, 16 in technology development, 102 in sales and support, 1,740 in direct manufacturing, 700 in indirect manufacturing and 166 in executive and administrative functions. These figures include 1,051 employees in

Asia and 349 employees in Europe. None of our employees are represented by a labor union and we have not experienced any work stoppages.

Governmental Regulation and Environmental Matters

Our operations are subject to federal, state and local regulatory requirements and foreign laws relating to environmental, waste management and health and safety matters, including measures relating to the release, use, storage, treatment, transportation, discharge, disposal and remediation of contaminants, hazardous substances and waste, as well as practices and procedures applicable to the construction and operation of our facilities.

Our past or future operations may result in injury or claims of injury by employees or the public which may result in material costs and liabilities to us. Although some risk of costs and liabilities related to these matters is inherent in our business, we believe that our business is in compliance with applicable regulations. However, new, modified or more stringent requirements or enforcement policies could be adopted, which could adversely affect us.

Available Information

We file with the Securities and Exchange Commission (“SEC”) annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act. You may read and copy any materials we file with the SEC at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also request copies of all or any portion of such material from the SEC at prescribed rates. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference room. In addition, materials filed electronically with the SEC are available at the SEC’s website at http://www.sec.gov.

In addition, we make available free of charge, on or through our website at http://www.uct.com, our annual, quarterly and current reports and any amendments to those reports, as soon as reasonably practicable after electronically filing such reports with, or furnishing them to, the SEC. This website address is intended to be an inactive textual reference only; none of the information contained on our website is part of this report or is incorporated by reference herein.

Executive Officers

Set forth below is information concerning our executive officers as of February 23, 2018.

Name	Age	Position
James P. Scholhamer	51	Chief Executive Officer & Director
Sheri Savage	47	Chief Financial Officer; Senior Vice President of Finance and Secretary
Michael Henderson	57	Senior Vice President of Engineering
Deborah Hayward	56	Senior Vice President of Global Account Management
Lavi A. Lev	61	President of Asia
Mark G. Bingaman	62	Senior Vice President of Global Materials and Supply Chain Management
Joe Williams	45	Senior Vice President of Customer Business Management
David Speirs	56	Senior Vice President of North America Operations
Joan Sterling	60	Senior Vice President of Global Human Resources
Ron D’Ercole	56	Senior Vice President of Global Quality

James P. Scholhamer joined UCT as Chief Executive Officer and a member of the Board of Directors in January 2015. Prior to joining UCT, Mr. Scholhamer served in various capacities with Applied Materials Inc., most recently as corporate vice president and general manager of the Equipment Products Group and Display Services Group within its

Global Service Division from February 2011 to January 2015. Mr. Scholhamer was the corporate vice president and general manager of the Display Business Group from December 2008 to February 2011 and vice president of Operations-Energy for the Environmental and Display Products Division from July 2006 to December 2008 at Applied Materials, Inc. Mr. Scholhamer held various positions at Applied Films Corporation from August 1997 to July 2006, including chief operating officer, chief technology officer and executive vice president as well as vice president of Operations, Engineering and Research & Development. In addition to managing Applied Films Germany and Taiwan sites, Mr. Scholhamer served as vice president and general manager of the Thin Film Coating Division and the Thin Film Equipment Division in the company's Colorado office from July 2000 to September 2004. Prior to that, Mr. Scholhamer held various operational and technical positions in several companies related to the design and fabrication of optical components such as Visible, UV and X-ray optics. Mr. Scholhamer holds a Bachelor of Science degree in materials and metallurgical engineering from the University of Michigan.

Sheri Savage has served as our Chief Financial Officer, Senior Vice President of Finance and Secretary since July 2016. Ms. Savage joined the Company as the Senior Director of Finance in April 2009. She was Senior Vice President of Finance and Chief Accounting Officer from February 2016 to July 2016. Prior to joining UCT, Ms. Savage served at Credence Systems Corporation, a manufacturer of test equipment for the global semiconductor industry, as its Corporate Controller and Vice President of Finance from February 2008 to February 2009 and as Director of Internal Audit from May 2006 to February 2008. Prior to Credence Systems, Ms. Savage served in various accounting and finance roles at Protiviti, a global business consulting and internal audit firm, and KLA-Tencor Corporation, a supplier of process control and yield management solutions for the semiconductor and related nanoelectronics industries. Ms. Savage also served as Manager, Business Process Risk Accounting, at Arthur Anderson LLP, the former accounting firm, from May 1996 to October 1999. Ms. Savage holds a Bachelor of Science degree in Managerial Economics from the University of California, Davis.

Michael Henderson joined UCT as our Senior Vice President of Engineering in May 2016. Mr. Henderson has more than 25 years of high tech engineering leadership experience with senior roles in R&D, process development, and production management. With tenures at Seagate, Avaya, Modumetal, and Grote Industries, he has had responsibilities worldwide leading aggressive product development and production ramps, manufacturing site transitions and outsourced partner management. Mr. Henderson has a M.S. in Physics from the University of Minnesota.

Deborah Hayward has served as our Senior Vice President of Global Account Management since January 2007 and Vice President of Sales since October 2002. Ms. Hayward served as our Senior Sales Director from May 2001 to October 2002, as Sales Director from February 1998 to May 2001 and as a major account manager from October 1995 to February 1998. Prior to joining UCT in 1995, she was a customer service manager and account manager at Brooks Instruments from 1985 to 1995.

Lavi A. Lev has served as our President of Asia since April 2017 and our Senior Vice President, Asia from November 2011 to March 2017. Prior to joining UCT, Mr. Lev served in 2008 as a director and executive chairman of the Board of LTX-Credence Corporation, a provider of automated test equipment for the semiconductor industry. Mr. Lev was chief executive officer and president of Credence Systems Corporation from 2006 to 2008. Prior to that, Mr. Lev served as executive vice president and general manager of the products and solution business at Cadence Design Systems, Inc. from 2000. Mr. Lev has 30 years of business, research and development and operational management experience in the Microprocessor Chip Design, Electronic Design Automation Software, Test Equipment and Contract Manufacturing industries. Mr. Lev holds a Bachelor of Science degree in electrical engineering from Technion, Israel Institute of Technology and also graduated from the Jerusalem Rubin Academy of Music.

Mark G. Bingaman has served as our Senior Vice President of Global Materials and Supply Chain Management since February 2010. Prior to joining UCT, Mr. Bingaman was the managing director at Applied Materials, Inc. in charge of the site in Tainan, Taiwan which manufactured equipment for solar, glass and display industries. He held additional senior management positions at Applied Materials, Inc. starting from 2000. From 1999 to 2000, Mr. Bingaman was the director for supply chain management integration for Eaton Corporation. Mr. Bingaman held multiple positions at Aeroquip-Vickers, Inc. from 1995 to 1999 including vice president for global supply chain management for Vickers, Incorporated. He held various positions at McDonnell Douglas from 1977 to 1994 including vice president of operations for the McDonnell Douglas Helicopter Company from 1990 to 1994. Mr. Bingaman holds a Bachelor of Science degree in accounting from the University of Missouri and a Master of Science degree in management information systems from Southern Illinois University.

Joe Williams joined UCT in February 2015 with the acquisition of Marchi as President of Marchi. He continues to manage Marchi and serves as our Senior Vice President of Customer Business Management since October 2016. Mr. Williams was president of Marchi from April 2013 to 2015. He worked previously at UCT as vice president of new business development. Mr. Williams was Senior Vice President of Business Development & Engineering at AIT from 2007 to 2013. Prior to that, Mr. Williams co-founded Integrated Flow Systems and served as vice president of engineering and operations and director of engineering and operations from 1997 to 2004. He worked at Watkins-Johnson Company as a mechanical design engineer from 1994 to 1997. Mr. Williams holds a Bachelor of Science Degree in Mechanical Engineering from North Carolina State University.

David Speirs has served as our Senior Vice President of North America Operations since 2010. Working in the semiconductor capital equipment industry for more than 20 years, Mr. Speirs has management experience in manufacturing, quality and operations. Mr. Speirs joined UCT in 2006 to manage the manufacturing operations of UCT's Sieger Engineering, Inc. acquisition. He was instrumental in expanding the new product introduction group for UCT into a global organization. Prior to joining UCT, he was previously the Vice President of Operations for Metara Inc. a start-up venture manufacturing chemical metrology equipment for the semiconductor industry. From 1994 to 2004, he held several director level management positions at Novellus Systems, Inc. including Manufacturing, Operations Quality and CVD/PVD Operations. Mr. Speirs holds a SCOTEC degree in Electrical Engineering from Stow College of Engineering.

Joan Sterling has served as our Senior Vice President of Global Human Resources since 2016. Ms. Sterling joined UCT in March 2013 as Director of Global Human Resources. Prior to joining UCT, Ms. Sterling was the Human Resources Director for Engineering and Broadcast Operations at SiriusXM Satellite Radio from 2009 to 2013. She worked at Hitachi Data Systems from 2007 to 2009 as an executive change management consultant for a global IT redesign. Ms. Sterling served as human resource senior vice president for the consumer credit group at Wells Fargo from 2005 to 2007. From 2000 to 2005, Ms. Sterling served in several senior director roles at Hewlett Packard managing human resources sites and functions of staffing, compensation, benefits, training and development. She was the corporate director of human resource strategic planning for First Energy Corporation from 1999 to 2000. She worked at Hewlett Packard Enterprise from 1994 to 1999 as the Midwest Region Headquarters Human Resource Manager. Ms. Sterling holds a Bachelor of Science in business from DePaul University and a Master of Arts in organizational development from Loyola University.

Ron D'Ercole has served as our Senior Vice President of Global Quality since 2016. Mr. D'Ercole joined UCT in December 2014 as Vice President of Quality. Prior to joining UCT, he worked at Lam Research Corporation for twelve years and held director level positions for customer experience and corporate quality and services. Mr. D'Ercole worked at Novellus Systems, Inc. from 1997 to 2002 as director of global spares and corporate quality assurance. From 1992 to 1997, he worked at LSA Anodic Technologies, Inc. where he was a founder and the chief operations officer. Mr. D'Ercole holds a Bachelor of Science degree in chemical engineering from the University of California, Berkeley and a MBA from the University of San Francisco.

Item 1A. Risk Factors

The cyclical and highly volatile nature of the industries we serve could harm our operating results.

Our business and operating results depend in significant part upon capital expenditures by manufacturers in the semiconductor capital equipment, consumer, medical, energy, industrial and research industries, which in turn depend upon the current and anticipated market demand for such products. Historically, the industries we serve (in particular the semiconductor industry) have been highly cyclical, with recurring periods of over-supply of products that have had a severe negative effect on the demand for capital equipment used to manufacture such products. We have experienced and anticipate that we will continue to experience significant fluctuations in customer orders for our products through such cycles. Slowdowns in the industries we serve have had, and future slowdowns may also have, a material adverse effect on our operating results. During periods of decreasing demand for our products, we must be able to appropriately align our cost structure with prevailing market conditions, effectively manage our supply chain and motivate and retain employees. During periods of increased demand, we must increase manufacturing capacity and inventory to meet customer demands, effectively manage our supply chain and attract, retain and motivate a sufficient number of employees. If the industries we serve experience downturns, or if we are not able to timely and appropriately adapt to the changes in our business environment, our results of operations will be harmed. Also, the cyclical and volatile nature of the industries we serve make future revenues, results of operations and net cash flows difficult to estimate.

We rely on a small number of original equipment manufacturing customers for a significant portion of our sales, and any adverse change in our relationships with these customers, including a decision by such customers not to continue to outsource critical subsystems to us or to give market share to one of our competitors, would adversely affect our business, results of operations and financial condition. Our customers also exert a significant amount of negotiating leverage over us, which may require us to accept lower operating margins, increased liability risks or changes in our operations in order to retain or expand our market share with them.

A relatively small number of OEM customers have historically accounted for a significant portion of our sales, and we expect this trend to continue. As a group, the respective year's top two customers accounted for 84.4%, 82.2% and 77.0% of our sales for fiscal years 2017, 2016 and 2015, respectively, and we expect that our sales will continue to be concentrated among a small number of customers. In addition, our customer contracts generally do not require customers to place any orders. Accordingly, the success of our business depends on OEMs continuing to outsource the manufacturing of critical subsystems to us. Because of the small number of OEMs in the markets we serve, most of which are already our customers, it would be difficult to replace lost revenue resulting from the loss of, or the reduction, cancellation or delay in purchase orders by, any one of these customers, whether due to such customer's decision to not continue to outsource all or a portion of its critical subsystems for its capital equipment to us, such customer giving market share to our competitors or for other reasons, such as a customer's bankruptcy or insolvency or decreased demand for such customer's products. We have in the past lost business from customers who have taken the manufacturing of our products in-house, given market share to our competitors or declared bankruptcy. Further, since our customers generally own the designs and other intellectual property to the products we manufacture, we cannot prevent them from licensing such designs and other intellectual property to our competitors for the manufacturing of such products. If we are unable to replace revenue from customers who determine to take subsystem assembly in-house, give market share to our competitors or from whom we otherwise lose business, such events could have a material adverse impact on our financial position and results of operations.

In addition, consolidation among our customers, or a decision by any one or more of our customers to outsource all or most manufacturing and assembly work to a single equipment manufacturer, may further concentrate our business in a limited number of customers and expose us to increased risks relating to dependence on an even smaller number of customers.

In addition, by virtue of our largest customers' sizes, and the significant portion of revenue that we derive from them, as well as the competitive landscape, our customers are able to exert significant influence and pricing pressure in the negotiation of our commercial agreements and individual purchase orders and on the conduct of our business with them. Our customers often require reduced prices or other pricing, quality, manufacturing or delivery commitments as a condition to their awarding of market share to us or the placement of orders with us in any given period, which may, among other things, result in reduced operating margins in order to maintain or expand our market share or require capital or other expenditures. Our customers' negotiating leverage also can result in customer agreements or terms and conditions that may contain significant liability risk to us. For example, some of our customers insist that we provide them indemnification against certain liabilities in our agreements with them, including claims of losses by their customers caused by our products, which may be uncapped. In some cases, we have determined to self-insure against liability risk in our customer agreements, meaning that we may be directly responsible for high magnitude liability claims by our customers without recourse to insurance proceeds from third-party insurers. Our customers may also pressure us to make other concessions in order to preserve or expand our market share with them, which may harm our business. For example, one or more of our customers may require us to move the manufacture of our products from lower-cost geographies or locations such as China to higher-cost geographies or locations, such as Singapore, that are closer to such customer's facilities which could result in reduced margins and a sub-optimal cost structure. If we are unable to retain and expand our business with our customers on favorable terms, or at all, our business and operating results will be adversely affected, or we may be susceptible to increased liability risk which, if realized, may have a material adverse effect on our business, cash flows, results of operations and financial condition.

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Our dependence on our suppliers may prevent us from delivering an acceptable product on a timely basis.

We rely on both single-source and sole-source suppliers, some of whom are relatively small, for many of the components we use in our products. In addition, our customers often specify components of particular suppliers that we must incorporate into our products. Our suppliers are under no obligation to accept or to provide us with components. As a result, the loss of or failure to perform by any of these suppliers could adversely affect our business and operating results. In addition, the manufacturing of certain components and subsystems is a complex process. Therefore, if a supplier were unable to provide the volume of components we require on a timely basis and at acceptable prices and quality, we would have to identify and qualify replacements from alternative sources. However, the process of qualifying new suppliers for complex components is lengthy and could delay our production, which would adversely affect our business, operating results and financial condition.

We may also experience difficulty in obtaining sufficient supplies of components and raw materials in times of growth in our business. For example, we have in the past experienced shortages in supplies of various components, such as mass flow controllers, valves and regulators, and certain prefabricated parts, such as sheet metal enclosures, used in the manufacture of our products. In addition, one of our competitors manufactures mass flow controllers that may be specified by one or more of our customers. If we are unable to obtain these particular mass flow controllers from our competitor or convince a customer to select alternative mass flow controllers, we may be unable to meet that customer’s requirements, which could result in a loss of market share.

If we, or our suppliers, are unable to procure sufficient quantities of components or raw materials from suppliers, it could influence decisions by our customers to delay or cancel orders and decisions by our vendors to fulfill our purchase orders and, consequently, have a material adverse effect on our results of operations.

The manufacturing of our products is highly complex, and if we are not able to manage our manufacturing and procurement process effectively, our business and operating results will suffer.

The manufacturing of our products is a highly complex process that involves the integration of multiple components and requires effective management of our supply chain while meeting our customers’ design-to-delivery cycle time requirements. Through the course of the manufacturing process, our customers may modify design and system configurations in response to changes in their own customers’ requirements. In order to rapidly respond to these modifications and deliver our products to our customers in a timely manner, we must effectively manage our manufacturing and procurement process. If we fail to manage this process effectively, we risk losing customers and damaging our reputation. We may also be subject to liability under our agreements with our customers if we or our suppliers fail to effectively or timely re-configure manufacturing processes or components in response to these modifications or if shipments of our products are delayed, which may lead to product defect or other claims by our customers or cancelled orders. In addition, if we acquire inventory in excess of demand or that does not meet customer specifications, we could incur excess or obsolete inventory charges. These risks are even greater during periods of macroeconomic uncertainty or down cycles in our industry, and as we continue to expand our business beyond gas delivery systems into new subsystems with which we have less experience. During periods of economic uncertainty or down cycles in our industry, certain of our suppliers may be forced to reduce or go out of business, which could require us to either procure products from higher-cost suppliers or, if no additional suppliers exist, reconfigure the design and manufacture of our products. This could limit our growth and have a material adverse effect on our business, financial condition and operating results.

We may not be able to respond quickly enough to changes in demand for our products.

Demand shifts in the industries we serve are rapid and difficult to predict, and we may not be able to anticipate or respond quickly enough to changes in demand. Our ability to increase sales of our products in periods of increasing demand depends, in part, upon our ability to:

- mobilize our supply chain in order to maintain component and raw material supply;
- optimize the use of our design, engineering and manufacturing capacity in a timely manner;
- deliver our products to our customers in a timely fashion;
- expand, if necessary, our manufacturing capacity; and
- maintain our product quality as we increase production.

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If we are unable to respond to rapid increases in demand for our products on a timely basis or to manage any corresponding expansion of our manufacturing capacity effectively, our customers could increase their purchases from our competitors, which would adversely affect our business.

Our ability to remain profitable and mitigate the impact on our business in periods of decreasing demand depends, in part, upon our ability to:

- optimize our inventory levels and reduce or cancel orders to our suppliers without compromising our relationships with such suppliers;
- reduce our variable costs through a reduction of our manufacturing workforce;
- continue to motivate our employees; and
- maintain the prices, quality and delivery cycles of our products in order to retain our customers' business.

Our results of operations, financial position and cash flows may suffer if we do not effectively manage our inventory.

Inventory is typically the largest asset on our balance sheet, representing 42.0% of our total assets as of December 29, 2017. We must manage our inventory of raw materials, work-in-process and finished goods effectively to meet changing customer requirements, while keeping inventory costs down and maintaining or improving gross margins.

Historically, the industries we serve (in particular the semiconductor capital equipment industry) have been highly cyclical, which makes accurately forecasting customers' product needs difficult. Although we seek to maintain sufficient inventory levels of materials to guard against interruptions in supply and to meet our customers' needs, we may experience shortages of certain key materials, particularly in times of high industry demand. We also face long lead times from our suppliers, which may be longer than the lead times provided to us by our customers. If we underestimate customer demand or if insufficient manufacturing capacity or raw materials are available, we may have to forego sales opportunities, lose market share and damage our customer relationships.

In the event we overestimate customer demand, we may allocate resources to manufacturing products that we may not be able to sell. As a result, we could hold excess or obsolete inventory, which would reduce our profit margins and adversely affect our financial results. Some of our products have in the past and may in the future become obsolete while in inventory due to changing customer specifications, or become excess inventory due to decreased demand for our products and an inability to sell the inventory within a foreseeable period. Furthermore, our customers may cancel orders on short notice. This could result in charges that reduce our gross profit and gross margin. Furthermore, if market prices drop below the prices at which we value inventory, we would need to take a charge for a reduction in inventory values in accordance with the lower of cost or net realizable value valuation rule. Any future unexpected changes in demand or increases in costs of production that cause us to take additional charges for un-saleable, obsolete or excess inventory, or to reduce inventory values, would adversely affect our results of operations.

We hold inventory at our various manufacturing sites globally and many of these sites have more than one inventory warehouse. Successfully managing our inventory is dependent upon our information technology systems and internal controls. We rely upon such information technology systems and internal controls to accurately and timely manage, store and replenish inventory, complete and track customer orders, coordinate sales activities across all of our products and maintain and report vital data and information. A disruption in our information technology systems or a failure of our internal controls (arising from, for example, system capacity limits from unexpected or prolonged increases in our volume of business, outages or delays in our service) could result in delays or disruptions in receiving inventory and supplies or filling customer orders, incorrect inventory counts, over or under stocking or loss of inventory and adversely affect our business, customer service and relationships. In particular, our largest customer requires that certain of our products are manufactured and shipped out of our Singapore facility. Recent high levels of customer demand at such facility have created substantial strain on our processes, internal controls and information technology systems. There can be no assurance that such delays, failures or disruptions will not have a material adverse effect on our cash flows, results of operations and financial condition.

Our customers require our products to undergo a lengthy and expensive qualification process. If we are unsuccessful or delayed in qualifying any of our products with a customer, our results of operations and financial condition could suffer.

We have had to qualify, and are required to maintain our status, as a supplier for each of our customers. This is often a lengthy process that involves the inspection and approval by a customer of our engineering, documentation, manufacturing and quality control procedures before that customer will place volume orders. Our ability to lessen the adverse effect of any loss of, or reduction in sales to, an existing customer through the rapid addition of one or more new customers is limited because of these qualification requirements. Consequently, the risk that our business, operating results and financial condition would be adversely affected by the loss of, or any reduction in orders by, any of our significant customers is increased. Moreover, if we lose our existing status as a qualified supplier to any of our customers, such customer could cancel its orders from us or otherwise terminate its relationship with us, which could have a material adverse effect on our results of operations and financial condition.

Our inability to successfully manage the implementation of a company-wide enterprise resource planning (“ERP”) system could adversely affect our operating results.

We are in the process of implementing a new Company-wide ERP system. This process has been and continues to be complex and time-consuming and we expect to incur additional expenses. This ERP system will replace many of our existing operating and financial systems, which is a major undertaking from a financial management and personnel perspective. Should the new ERP system not be implemented successfully throughout all our business units and within budget and on time, or if the system does not perform in a satisfactory manner, it could be disruptive and adversely affect our operations, including our potential ability to report accurate, timely and consistent financial results; our ability to purchase raw material from and pay our suppliers; and our ability to deliver products to customers on a timely basis and to collect our receivables from them. Furthermore, this new ERP system is intended to be implemented beginning in the third quarter of 2018 and finalized by the end of fiscal year 2019. Once operational, we expect amortization of our capitalized ERP costs will be significant and may not be offset by the efficiencies we expect this system to produce for the Company.

In addition, we have put teams together who are leading the implementation of the ERP system at all of our locations. To the extent that these teams or key individuals are not retained through the implementation period, the success of our implementation could be compromised and the expected benefits of the ERP system may not be realized. If the new ERP system is not successfully implemented, it could negatively affect our financial reporting and inventory management and our future sales, profitability and financial condition.

We are exposed to risks associated with volatility in the global economy.

We rely to a significant extent on OEM customers, whose business, in turn, depends largely on consumer spending and capital expenditures by businesses. Uncertainty regarding the global economy may pose challenges to our business. Economic uncertainty may exacerbate negative trends in business and consumer spending and may cause certain of our customers to push out, cancel, or refrain from placing orders for products or services, which may reduce sales and materially affect our results of operations and financial condition. Inflationary trends could also have an impact on labor costs and component costs, reducing our margins. Difficulties in obtaining capital, uncertain market conditions, or reduced profitability may also cause some customers to scale back operations, exit businesses, merge with other manufacturers, or file for bankruptcy protection and potentially cease operations, leading to customers’ reduced research and development funding and/or capital expenditures and, in turn, lower orders from our customers and/or additional slow moving or obsolete inventory or bad debt expense for us. These conditions may also similarly affect key suppliers, which could impair their ability to deliver parts and result in delays for our products or require us to either procure products from higher-cost suppliers, or if no additional suppliers exist, to reconfigure the design and manufacture of our products, and we may be unable to fulfill customer orders.

Significant developments stemming from the recent change in the U.S. administration could have a material adverse effect on us.

On January 20, 2017, a new president of the United States was inaugurated as the president of the United States. While it is still uncertain at this time how the new administration and the results of other elections could affect changes in social, political, regulatory and economic conditions or laws and policies, the President has expressed apprehension towards existing trade agreements, such as the North American Free Trade Agreement, signed an executive order announcing his plan to withdraw the United States from the Trans-Pacific Partnership in favor of bilateral trade negotiations with the member countries, and has raised the possibility of imposing significant increases on tariffs on goods imported into the United States, including from China, where we and our customers have significant operations. Changes in U.S. social, political, regulatory and economic conditions or laws and policies governing U.S. tax laws, foreign trade, manufacturing, and development and investment in the countries where we or our customers operate could adversely affect our operating results and our business.

We have significant existing indebtedness; the restrictive covenants under our credit agreement or other limitations on financing may limit our ability to expand or pursue our business strategy or make capital expenditures; if we are forced to pay some or all of our indebtedness prior to its maturity, our financial position could be severely and adversely affected.

We have total debt as of December 29, 2017, gross of capitalized loan costs of $0.2 million, of $52.4 million under our Credit Agreement with East West Bank and City National Bank, including $9.9 outstanding under our term loan and $39.9 outstanding under our revolving loan (with $0.1 million of available borrowings) and $2.7 million under a revolving credit facility million held by Miconex, in the Czech Republic.

Our indebtedness could have adverse consequences including:

- risk associated with any inability to satisfy debt obligations;
- a portion of our cash flows that may have to be dedicated to interest and principal payments and may not be available for operations, working capital, capital expenditures, expansion, acquisitions or general corporate or other purposes; and
- impairing our ability to obtain additional financing in the future, if needed.

If we are unable to meet our debt obligations as they come due, we could be forced to restructure or refinance such obligations, seek additional equity financing or sell assets, which we may not be able to do on satisfactory terms, or at all. If we determine it is necessary to seek additional funding for any reason, we may not be able to obtain such funding or, if funding is available, obtain it on acceptable terms.

Our Credit Agreement contains certain covenants that restrict our ability to take certain actions, including our ability to incur additional debt, including guarantees, or create liens as well as engage in certain mergers and acquisitions.

Our Credit Agreement requires us to maintain certain financial covenants, including compliance with a maximum consolidated leverage ratio, a minimum fixed charge ratio and a minimum cash balance. Our failure to comply with these covenants could result in an event of default which, if not cured or waived, could result in the acceleration of all of our indebtedness, which would materially adversely affect our financial health if we are unable to access sufficient funds to repay all of the outstanding amounts.

As long as our indebtedness remains outstanding, the restrictive covenants and mandatory prepayment provisions could impair our ability to expand or pursue our business strategies or obtain additional funding.

We may not be able to fund our future capital requirements or strategic acquisitions from our operations, and financing from other sources may not be available on favorable terms or at all.

We made capital expenditures of approximately $18.5 million and $7.8 million for fiscal year 2017 and 2016, respectively related to our manufacturing facilities in the United States, China and Singapore. The amount of our future capital requirements will depend on many factors, including:

- the cost required to ensure appropriate IT systems;
- the cost required to ensure access to adequate manufacturing capacity;

- the timing and extent of spending to support product development efforts;
- the timing of introductions of new products and enhancements to existing products;
- the cost required to integrate our acquisitions into our business, including into our enterprise resource planning system;
- changing manufacturing capabilities to meet new or increased customer requirements; and
- market acceptance of our products.

We are seeking opportunities for strategic acquisitions, which may require substantial, or even more financing than we are able to put in place, or more expensive financing than may be desirable.

Given our existing indebtedness, limited availability under our new revolving line of credit and the potential tax effects of repatriating foreign cash or other factors, in order to finance our capital expenditures or any future strategic acquisitions, we may need to raise additional funds through public or private equity or debt financing, but such financing may not be available on terms satisfactory to us, or at all. Access to capital markets has, in the past, been unavailable to companies such as ours. In addition, equity financings could be dilutive to holders of our common stock, and debt financings would likely involve additional covenants that restrict our business operations. Any potential strategic acquisition or significant capital expenditure may also require the consent of our existing lenders. If we cannot raise funds on acceptable terms if and when needed, we may not be able to develop or enhance our products, take advantage of future opportunities, including potential acquisitions, grow our business or respond to competitive pressures or unanticipated requirements, any of which could adversely affect our business, operating results and financial condition.

Our quarterly revenue and operating results fluctuate significantly from period to period, and this may cause volatility in our common stock price.

Our quarterly revenue and operating results, including our gross margin, have fluctuated significantly in the past, and we expect them to continue to fluctuate in the future for a variety of reasons which may include:

- demand for and market acceptance of our products as a result of the cyclical nature of the industries we serve or otherwise, often resulting in reduced sales during industry downturns and increased sales during periods of industry recovery or growth;
- overall economic conditions;
- changes in the timing and size of orders by our customers;
- loss of business from one or more significant customers due to strategic decisions by our customers to terminate their outsourcing relationship with us or give market share to our competitors, or due to decreased demand for our customers' products by end customers;
- strategic consolidation by our customers;
- cancellations and postponements of previously placed orders;
- pricing pressure from either our competitors or our customers, resulting in the reduction of our product prices, margins or loss of market share;
- disruptions or delays in the manufacturing of our products or in the supply of components or raw materials that are incorporated into or used to manufacture our products, thereby causing us to delay the shipment of products;
- decreased margins for several or more quarters following the introduction of new products, especially as we introduce new subsystems;
- delays in ramp-up in production, low yields or other problems experienced at our manufacturing facilities in China or Singapore;
- changes in design-to-delivery cycle times;

- inability to reduce our costs quickly in step with reductions in our prices or in response to decreased demand for our products;
- changes in our mix of products sold;
- write-offs of excess or obsolete inventory due to a customer's bankruptcy or insolvency;
- one-time expenses or charges associated with failed acquisition negotiations or completed acquisitions;
- inability to control our operating costs consistent with target levels;
- announcements by our competitors of new products, services or technological innovations, which may, among other things, render our products less competitive; and
- geographic mix of customer orders or worldwide earnings.

As a result of the foregoing, we believe that quarter-to-quarter comparisons of our revenue and operating results may not be meaningful and that these comparisons may not be an accurate indicator of our future performance. Changes in the timing or terms of a small number of transactions could disproportionately affect our operating results in any particular quarter. Moreover, our operating results in one or more future quarters may fail to meet our guidance or the expectations of securities analysts or investors. If this occurs, we would expect to experience an immediate and significant decline in the trading price of our common stock.

We have established and, as markets will allow, intend to expand our operations in Asia and Europe, which exposes us to risks associated with operating in foreign countries.

We generated approximately 53.6% and 48.0% of our sales in international markets for fiscal years 2017 and 2016, respectively. Depending on market conditions, we intend to expand our operations in Asia and Europe, principally in China and Singapore and the Czech Republic. In addition, through our acquisition of AIT, we acquired a manufacturing facility in Cebu, Philippines. The carrying amount of our fixed assets in Asia and Europe were $10.3 million and $1.6 million, respectively as of December 29, 2017.

We are exposed to political, economic, legal and other risks associated with operating in Asia and Europe, including:

- foreign currency exchange fluctuations;
- political, civil and economic instability;
- tariffs and other barriers;
- timing and availability of export licenses;
- disruptions to our and our customers' operations due to increased risk of outbreak of diseases, such as SARS and avian flu;
- disruptions in operations due to China's developing domestic infrastructure, including transportation and energy;
- difficulties in developing relationships with local suppliers;

- difficulties in attracting new international customers;
- difficulties in accounts receivable collections;
- difficulties in staffing and managing distant international subsidiary and branch operations;
- the burden of complying with foreign and international laws and treaties;
- legal systems potentially subject to undue influence or corruption;
- difficulties in transferring funds to other geographic locations; and
- potentially adverse tax consequences, including restrictions on the repatriation of earnings to the United States.

Negative or uncertain global conditions could prevent us from accurately forecasting demand for our products which could adversely affect our results of operations. In addition, due to generally lower labor and materials costs in the Asian markets in which we currently operate, a shift in the mix of orders from our customers away from such Asian markets or from low cost Asian markets, such as China, to higher cost Asian markets, such as Singapore, could adversely affect our operating margins.

Our operations in Asia and Europe are also subject us to U.S. laws governing the export of equipment. These laws are complex and require us to obtain clearances for the export to Asia and Europe of certain equipment. We may fail to comply with these laws and regulations, which could require us to cease the export of certain equipment and expose us to fines or penalties.

Over the past several years, the Chinese government has pursued economic reform policies, including the encouragement of private economic activity and greater economic decentralization. The Chinese government may not continue these policies or may significantly alter them to our detriment from time to time without notice. Changes in laws and regulations or their interpretation, the imposition of confiscatory taxation policies, new restrictions on currency conversion or limitations on sources of supply could materially and adversely affect our Chinese operations, which could result in the partial or total loss of our investment in that country and materially and adversely affect our future operating results.

We are subject to order and shipment uncertainties and any significant reductions, cancellations or delays in customer orders could cause our revenue to decline and our operating results to suffer.

Our revenue is difficult to forecast because we generally do not have a material backlog of unfilled orders and because of the short time frame within which we are often required to design, produce and deliver products to our customers. Most of our revenue in any quarter depends on customer orders for our products that we receive and fulfill in the same quarter. We do not have long-term purchase orders or contracts that contain minimum purchase commitments from our customers. Instead, we receive non-binding forecasts of the future volume of orders from our customers. Occasionally, we order and build component inventory in advance of the receipt of actual customer orders. Customers may cancel order forecasts, change production quantities from forecasted volumes or delay production for reasons beyond our control. Furthermore, reductions, cancellations or delays in customer order forecasts, which may occur for various reasons, including reduced demand for our customer’s products, customer bankruptcies or customer insolvency, usually occur without penalty to, or compensation from, the customer. Reductions, cancellations or delays in forecasted orders could cause us to hold inventory longer than anticipated, which could reduce our gross profit, restrict our ability to fund our operations and cause us to incur unanticipated reductions or delays in revenue. Moreover, most of the products we manufacture are custom built for our customers and are therefore not fungible with products we sell to other customers. If we do not obtain orders as we anticipate, we could have excess component inventory for a specific product that we would not be able to sell to another customer, likely resulting in inventory write-offs, which could have a material adverse effect on our business, financial condition and operating results. In addition, because many of our costs are fixed in the short term, we could experience deterioration in our gross profit and operating margins when our production volumes decline.

The industries in which we participate are highly competitive and rapidly evolving, and if we are unable to compete effectively, our operating results will be harmed.

We face intense competition from subsystem and component manufacturers in the industries we serve. Increased competition has in the past resulted, and could in the future result, in price reductions, reduced gross margins or loss of market share, any of which would harm our operating results. We are subject to significant pricing pressure as we attempt to maintain and increase market share with our existing customers. Competitors may offer reduced prices or introduce new products for the markets currently served by our products. These products may have better performance, lower prices and achieve broader market acceptance than our products. Further, OEMs typically own the design rights to their products and may provide these designs to other subsystem manufacturers. If our competitors obtain proprietary rights to these designs such that we are unable to obtain the designs necessary to manufacture products for our OEM customers, our business, financial condition and operating results could be adversely affected.

Our competitors may have greater financial, technical, manufacturing and marketing resources than we do. As a result, they may be able to respond more quickly to new or emerging technologies and changes in customer requirements, devote greater resources to the development, promotion, sale and support of their products, and reduce prices to increase market share. Moreover, there may be merger and acquisition activity among our competitors and potential competitors that may provide our competitors and potential competitors an advantage over us by enabling them to expand their product offerings and service capabilities to meet a broader range of customer needs. Further, if one of our customers develops or acquires the internal capability to develop and produce critical subsystems that we produce, the loss of that customer could have a material adverse effect on our business, financial condition and operating results. The introduction of new technologies and new market entrants may also increase competitive pressures.

If our new products are not accepted by OEMs or other customers or if we are unable to obtain historical margins on our new products, our operating results would be adversely impacted.

We design, develop and market critical subsystems to OEMs and other customers. The introduction of new products is inherently risky because it is difficult to foresee the adoption of new standards, coordinate our technical personnel and strategic relationships and win acceptance of new products by OEMs and other customers. We may not be able to recoup design and development expenditures if our new products are not accepted by OEMs or other customers. Newly introduced products typically carry lower gross margins than existing products for several or more quarters following their introduction. If any of our new systems or subsystems are not successful in the market, or if we are unable to obtain gross margins on new products that are similar to the gross margins we have historically achieved, our business, operating results and financial condition could be adversely affected.

Our business may be adversely affected by information technology, disruptions, including impairing our ability to effectively deliver our products, which could cause us to lose customers and harm our results of operations.

The manufacture and delivery of our products and our financial reporting depends on the continuing operation of our technology infrastructure and systems, particularly our data center located in California. Any damage to or failure of our systems could result in interruptions in our ability to manufacture or deliver products on agreed upon lead times, or at all, on a local or worldwide basis, or adversely affect our impact to accurately and timely report our financial results. Interruptions could reduce our sales and profits, and our reputation could be damaged if people believe our systems are unreliable. Our systems and operations are vulnerable to damage or interruption from earthquakes, terrorist attacks, floods, fires, power loss, hardware or software failures, telecommunications failures, cybersecurity attacks, and similar events. The critical components of the system are not redundant and we currently do not have a backup data center. Accordingly, the risk associated with such events beyond our control is heightened.

Cybersecurity attacks, in particular, are evolving and include, but are not limited to, malicious software, attempts to gain unauthorized access to data, and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and corruption of data (our own or that of third parties). Although we have adopted certain measures to mitigate potential risks to our systems from information technology-related disruptions, given the unpredictability of the timing, nature and scope of such disruptions, we could potentially be subject to production downtimes, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, the compromising of confidential or otherwise protected information, misappropriation, destruction or corruption of data, security breaches, other manipulation or improper use of our systems or networks, financial losses from remedial actions, loss of business or potential liability, and/or damage to our reputation, any of which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

If we experience frequent or persistent system failures, the attractiveness of our products to customers could be permanently harmed. Any steps we take to increase the reliability and redundancy of our systems may be expensive, reduce our operating margin and may not be successful in reducing the frequency or duration of unscheduled interruptions.

Acquisitions could result in operating and integration difficulties, dilution, margin deterioration, diversion of management’s attention, and other consequences that may adversely impact our business and results of operations.

We have made, and may in the future make, acquisitions of, or significant investments in, businesses that offer complementary products, services, technologies or market access. We expect that management will evaluate potential strategic transactions regularly with its advisors and our board of directors in the ordinary course of business. We may not be successful in negotiating the terms of potential acquisitions or financing potential acquisitions, and our due diligence may fail to identify all of the problems, liabilities or other challenges associated with an acquired business, product or technology, including issues related to intellectual property, product quality or product architecture, regulatory compliance practices, revenue recognition or other accounting practices or employee or customer retention issues. In addition, we may not be successful in effectively integrating the acquired business, product or technology into our existing business and operations. The areas where we face risks include:

- Management of the larger, more complex, combined business, including integrating supply and distribution channels, computer and accounting systems, and other aspects of operations;
- Deterioration of gross margins due to the acquisition of the same customer base resulting in reduced pricing leverage;
- Integration of the capabilities of the acquired businesses while maintaining focus on providing consistently high quality products;
- Incorporation of different financial and reporting controls, processes, systems and technologies into our existing business environment;
- Unknown liabilities and unforeseen expenses, delays or regulatory conditions associated with the acquisitions for which we do not have recourse under their respective agreements;
- Performance shortfalls as a result of the diversion of management’s attention from the company’s operations;
- Cultural challenges associated with integrating employees from the acquired business into our organization, and retention of employees from the businesses we acquire;
- Retention of customers and partners of acquired business; and/or
- Difficulties associated with the transition of customers into our existing business.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and investments could cause us to fail to realize the anticipated benefits of such acquisitions or investments, incur unanticipated liabilities and substantial costs, and materially harm our business generally.

Our acquisitions could also result in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, or amortization expenses, impairment charges and restructuring charges, any of which could harm our financial condition. Also, the anticipated benefits or value of our acquisitions or investments may not materialize. Even if an acquisition or other investment is not completed, we may divert significant management time and effort and financial cost in evaluating such acquisition or investment, which could have an adverse effect on our results of operations. Furthermore, due to limited liquidity in the credit market and our existing leverage, the financing of any such acquisition may be difficult to obtain, and the terms of such financing may not be favorable.

If we were required to write down all or part of our goodwill, our net income and net worth could be materially adversely affected.

We had $85.2 million of goodwill recorded on our consolidated balance sheet as of December 29, 2017. Goodwill represents the excess of cost over the fair market value of net tangible and finite lived, identifiable intangible assets acquired in business combinations. If our market capitalization drops significantly below the amount of net equity recorded on our balance sheet, it could indicate a decline in our value and would require us to further evaluate whether our goodwill has been impaired. During the fourth quarter of each year, we perform an annual review of our goodwill to determine if it has become impaired, in which case we would write down the impaired portion of our goodwill. We also evaluate goodwill for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If we were required to write down all or a significant part of our goodwill, our financial results and net worth could be materially adversely affected.

Our business is largely dependent on the know-how of our employees, and we generally do not have an intellectual property position that is protected by patents.

Our business is largely dependent upon our design, engineering, manufacturing and testing know-how. We rely on a combination of trade secrets and contractual confidentiality provisions and, to a much lesser extent, patents, copyrights and trademarks to protect our proprietary rights. Confidentiality agreements with our employees and others may not adequately prevent disclosure of trade secrets and other proprietary information. Accordingly, our intellectual property position is more vulnerable than it would be if it were protected primarily by patents. If we fail to protect our proprietary rights successfully, our competitive position could suffer, which could harm our operating results. We may be required to spend significant resources to monitor and protect our proprietary rights, and, in the event infringement or breach of our proprietary rights occurs, our competitive position in the market may be harmed. In addition, competitors may design around our technology or develop competing technologies and know-how. Further, since our customers generally own the designs and other intellectual property to the products we manufacture, we cannot prevent them from licensing such designs and other intellectual property to our competitors for the manufacture of such products.

Third parties have claimed and may in the future claim we are infringing their intellectual property, which could subject us to litigation or licensing expenses, and we may be prevented from selling our products if any such claims prove successful.

We have in the past and may in the future receive claims that our products, processes or technologies infringe the patents or other proprietary rights of third parties. In addition, we may be unaware of intellectual property rights of others that may be applicable to our products. Any litigation regarding our patents or other intellectual property could be costly and time-consuming and divert the attention of our management and key personnel from our business operations, any of which could have a material adverse effect on our business and results of operations. The complexity of the technology involved in our products and the uncertainty of intellectual property litigation increase these risks. Claims of intellectual property infringement may also require us to enter into costly license agreements. However, we may not be able to obtain licenses on terms acceptable to us, or at all. We also may be subject to significant damages or injunctions against the development, manufacture and sale of certain of our products if any such claims prove successful. We also rely on design specifications and other intellectual property of our customers in the manufacture of products for such customers. While our customer agreements generally provide for indemnification of us by our customers if we are subjected to litigation for third-party claims of infringement of such customer intellectual property, such indemnification provisions may not be sufficient to fully protect us from such claims, or our customers may breach such indemnification obligations to us, which could result in costly litigation to defend against such claims or enforce our contractual rights to such indemnification.

If we do not keep pace with developments in the industries we serve and with technological innovation generally, our products may not be competitive.

Rapid technological innovation in the markets we serve requires us to anticipate and respond quickly to evolving customer requirements and could render our current product offerings and technology obsolete. Technological innovations are inherently complex. We must devote resources to technology development in order to keep pace with such rapidly evolving technologies. We believe that our future success will depend upon our ability to design, engineer and manufacture products that meet the changing needs of our customers. This requires that we successfully anticipate and respond to technological changes in design, engineering and manufacturing processes in a cost-effective and timely manner. If we are unable to integrate new technical specifications into competitive product designs, develop the technical capabilities necessary to manufacture new products or make necessary modifications or enhancements to existing products, our business prospects could be harmed.

The timely development of new or enhanced products is a complex and uncertain process which requires that we:

- design innovative and performance-enhancing features that differentiate our products from those of our competitors;
- identify emerging technological trends in the industries we serve, including new standards for our products;
- accurately identify and design new products to meet market needs;
- collaborate with OEMs to design and develop products on a timely and cost-effective basis;
- ramp-up production of new products, especially new subsystems, in a timely manner and with acceptable yields at acceptable costs;
- successfully manage development production cycles; and
- respond effectively to technological changes or product announcements by others.

If we are unsuccessful in keeping pace with technological developments for the reasons above or other reasons, our business prospects, results of operations and financial condition could be materially and adversely affected.

We must achieve design wins to retain our existing customers and to obtain new customers.

New capital equipment typically has a lifespan of several years, and OEMs frequently specify which systems, subsystems, components and instruments are to be used in their equipment. Once a specific system, subsystem, component or instrument is incorporated into a piece of capital equipment, it will likely continue to be incorporated into that piece of equipment for at least several months before the OEM would be in a position to switch to the product of another supplier. Accordingly, it is important that our products are designed into the new capital equipment of OEMs, which we refer to as a design win, in order to retain our competitive position with existing customers and to obtain new customers.

We incur technology development and sales expenses with no assurance that our products will ultimately be designed into an OEM’s capital equipment. Further, developing new customer relationships, as well as maintaining and increasing our market share with existing customers, requires a substantial investment of our sales, engineering and management resources without any assurance from prospective customers that they will place significant orders. We believe that OEMs often consider long-term relationships in selecting and placing orders with suppliers. Accordingly, we may have difficulty achieving design wins from OEMs that are not currently our customers. Our operating results and potential growth could be adversely affected if we fail to achieve design wins with leading OEMs.

Defects in our products could damage our reputation, decrease market acceptance of our products, cause the unintended release of hazardous materials, result in potentially costly litigation, indemnification liability or unexpected warranty claims.

A number of factors, including design flaws, material and component failures, workmanship issues, contamination in the manufacturing environment, impurities in the materials used and unknown sensitivities to process conditions, such as temperature and humidity, as well as equipment failures, may cause our products to contain undetected errors or defects. Problems with our products may:

- cause delays in product introductions and shipments for us or our customers;
- result in increased costs and diversion of development resources;
- cause us to incur increased charges due to unusable inventory;
- require design modifications;
- result in liability for the unintended release of hazardous materials or other damages to our or our customers' property;
- create claims for rework, replacement and/or damages under our contracts with customers, as well as indemnification claims from customers;
- decrease market acceptance of, or customer satisfaction with, our products, which could result in decreased sales and product returns; or
- result in lower yields for semiconductor manufacturers.

If any of our products contain defects or have reliability, quality or compatibility problems, our reputation might be damaged and customers might be reluctant to buy our products. We may also face a higher rate of product defects as we increase our production levels. Product defects could result in warranty and indemnification liability, the loss of existing customers or impair our ability to attract new customers. In addition, we may not find defects or failures in our products until after they are installed in a manufacturer's fabrication facility. We may have to invest significant capital and other resources to correct these problems. Our current or potential customers also might seek to recover from us any losses resulting from defects or failures in our products. Hazardous materials flow through and are controlled by our products and an unintended release of these materials could result in serious injury or death. Liability claims could require us to spend significant time and money in litigation or pay significant damages or indemnification claims.

The technology labor market is very competitive, and our business will suffer if we are unable to effectively hire, promote and retain key personnel.

Our future success depends in part on the continued service of our key executive officers, as well as our research, engineering, sales, manufacturing and administrative personnel, most of whom are not subject to employment or non-competition agreements. In addition, competition for qualified personnel in the technology industry is intense, and we operate in geographic locations in which labor markets are particularly competitive.

Our business is particularly dependent on expertise which only a limited number of engineers possess. The loss of any of our key employees and officers, including our Chief Executive Officer, our Chief Financial Officer, any of our Senior Vice Presidents or any of our senior managers, or the failure to attract, promote and retain qualified employees, could adversely affect our business, operating results and financial condition.

Management transition also creates uncertainties and could harm our business. Disruption to our organization as a result of executive management transition could divert the executive management's attention away from certain key areas of our business and have a material adverse effect on our business, financial condition and results of operations.

The challenges of employee retention has also increased during the integration process with the companies we have acquired because of the necessity of combining personnel with varied business backgrounds and combining different corporate cultures and objectives, and several acquired employees, including members of the acquired companies' senior management, have left our company. The process of integrating operations and making such adjustments could cause an interruption of, or loss of momentum in, the activities of one or more of our businesses and the loss of key personnel. Employee uncertainty, lack of focus or turnover during the integration process may also disrupt our businesses.

If we fail to maintain an effective system of internal controls, we might not be able to report our financial results accurately or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act of 2002 requires us and our independent registered public accounting firm to evaluate and report on our internal control over financial reporting. The process of designing, implementing, maintaining and updating our internal controls and complying with Section 404 is expensive and time consuming, and requires significant attention from management and company resources. In addition, following the expiration of applicable grace periods, we are required to evaluate and report on the internal controls of the companies we acquire, and the attestation report we are required to obtain from our independent registered public accounting firm must include the internal control over financial reporting of the companies we acquire. Integrating acquired companies' internal control frameworks into the Company and upgrading acquired companies' controls to comply with the Sarbanes-Oxley Act has required and will require substantial resources, and we cannot assure you that we will be able to successfully or effectively maintain adequate controls over our financial processes at our acquired companies, or for our consolidated business. In addition, even though we have concluded, and our independent registered public accounting firm has concurred, that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles as of December 29, 2017, because of its inherent limitations may not be effective as of future periods. Failure to maintain existing or implement new or improved controls, or difficulties encountered in their implementation, could harm our results of operations or cause us to fail to meet our reporting obligations. If we or our independent registered public accounting firm discover a material weakness, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our financial statements and harm our stock price.

Fluctuations in currency exchange rates may adversely affect our financial condition and results of operations.

Our international sales are denominated primarily, though not entirely, in U.S. dollars. Many of the costs and expenses associated with our Chinese subsidiaries, Singaporean and Czech subsidiaries are paid in Chinese Renminbi, Singapore dollars, and Euro respectively and we expect our exposure to Chinese Renminbi, Singapore dollars and Euro to increase as we increase production in those facilities. In addition, purchases of some of our components are denominated in Japanese Yen and Euro. Changes in exchange rates among other currencies in which our revenue or costs are denominated and the U.S. dollar may affect our revenue, cost of sales and operating margins.

The Company uses derivative instruments, such as foreign currency forward contracts, to hedge certain exposures to fluctuations in foreign currency exchange rates. The use of such hedging activities may not offset any, or more than a portion, of the adverse financial effects of unfavorable movements in foreign exchange rates over the limited time the hedges are in place.

If environmental contamination were to occur in one of our manufacturing facilities, we could be subject to substantial liabilities.

We use substances regulated under various foreign, domestic, federal, state and local environmental laws in our manufacturing facilities. In addition, we may not be aware of or in compliance with all environmental laws or regulations that could subject us to liability in the U.S. or internationally. Our failure or inability to comply with existing or future environmental laws could result in significant remediation liabilities, the imposition of fines or the suspension or termination of the production of our products, and thus a material adverse impact on our business.

Our business is subject to the risks of earthquakes, fire, power outages, floods, and other catastrophic events, and to interruption by man-made disruptions, such as terrorism.

Our facilities could be subject to a catastrophic loss caused by natural disasters, including fires and earthquakes. We have facilities in areas with above average seismic activity, such as our manufacturing facility in South San Francisco, California and our manufacturing and headquarters facilities in Hayward, California. If any of our facilities were to experience a catastrophic loss, it could disrupt our operations, delay production and shipments, reduce revenue and result in large expenses to repair or replace the facility. In addition, we have in the past experienced, and may in the future experience, extended power outages at our facilities. We do not carry insurance policies that cover potential losses caused by earthquakes or other natural disasters or power loss.

In addition, disruption in supply resulting from natural disasters or other causalities or catastrophic events, such as earthquakes, severe weather such as storms or floods, fires, labor disruptions, power outages, terrorist attacks or political unrest, may result in certain of our suppliers being unable to deliver sufficient quantities of components or raw materials at all or in a timely manner, disruptions in our operations or disruptions in our customers' operations. For example, in 2011, the northern region of Japan experienced a severe earthquake followed by a tsunami. These geological events caused significant damage in that region and adversely affected Japan's infrastructure and economy. Some of our suppliers are located in Japan and they experienced, and may experience in the future, shutdowns or disruptions as a result of these types of events, and their operations may be negatively impacted by these events. Many of our customers and suppliers are also located in California, and may be subject to the same risk of seismic activity as described for us above.

To the extent that natural disasters or other calamities or causalities should result in delays or cancellations of customer orders, or the delay in the manufacture or shipment of our products or services, our business, financial condition and operating results would be adversely affected.

Changes in tax rates or tax assets and liabilities could affect results of operations.

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) amount and composition of pre-tax income in countries with differing tax rates; or (3) valuation of our deferred tax assets and liabilities.

On December 22, 2017, the Tax Act Cuts and Jobs ("TCJA") was signed into law. The TCJA contains significant changes to corporate taxation, including reduction of the corporate tax rate from 35% to 21%, additional limitations on the tax deductibility of interest, substantial changes to the taxation of foreign earnings, immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modification or repeal of many business deductions and credits. The Company has made reasonable estimates of the financial impact of the TCJA on the Company. However, the estimates are provisional and a change in estimate can have an impact on our results of operations, cash flows and financial conditions, as well as the trading price of our Common Stock. UCT will continue to analyze the effects of the TCJA on its financial statements and operations. Additional impacts from the enactment of the TCJA will be recorded as they are identified during the one-year measurement period as provided for in SEC Staff Accounting Bulletin 118.

In addition, we are subject to regular examination by the Internal Revenue Service and other tax authorities, and from time to time we initiate amendments to previously filed tax returns. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations and amendments to determine the adequacy of our provision for income taxes, which requires estimates and judgments. Although we believe our tax estimates are reasonable, there can be no assurance that the tax authorities will agree with such estimates. We may have to engage in litigation to achieve the results reflected in the estimates, which may be time-consuming and expensive. There can be no assurance that we will be successful or 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 financial condition and results of operations.

The market for our stock is subject to significant fluctuation.

The size of our public market capitalization is relatively small, and the average volume of our shares that are traded is relatively low. The market price of our common stock could be subject to significant fluctuations. Among the factors that could affect our stock price are:

- quarterly variations in our operating results;
- our ability to successfully introduce new products and manage new product transitions;
- changes in revenue or earnings estimates or publication of research reports by analysts;
- speculation in the press or investment community;
- strategic actions by us, our customers or our competitors, such as acquisitions or restructurings;
- announcements relating to any of our key customers, significant suppliers or the semiconductor manufacturing and capital equipment industry generally;
- general market conditions;
- the effects of war and terrorist attacks; and
- domestic and international economic or political factors unrelated to our performance.

The stock markets in general, and the markets for technology stocks in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock.

Certain regulations related to conflict minerals could adversely impact our business.

The Dodd-Frank Wall Street Reform and Consumer Protection Act contains provisions to improve transparency and accountability concerning the supply of certain minerals, known as conflict minerals, originating from the Democratic Republic of Congo (DRC) and adjoining countries. As a result, in August 2012 the SEC adopted annual disclosure and reporting requirements for those companies who use conflict minerals mined from the DRC and adjoining countries in their products. These requirements require us to perform on-going due diligence efforts on our supply chain and require public disclosure of the nature and results of these efforts. We filed our most recent conflict minerals report on Form SD on May 31, 2017 reporting that we could not yet determine whether the conflict minerals we source were, directly or indirectly, used to finance or benefit armed groups in the Covered Countries. There have been and there will be costs associated with complying with these disclosure requirements to determine the sources of conflict minerals used in our products and other potential changes to products, processes or sources of supply as a consequence of such verification activities. Complying with these rules could adversely affect the sourcing, supply and pricing of materials used in our products and result in substantial additional costs. As there may be only a limited number of suppliers offering “conflict free” conflict minerals, we cannot be sure that we will be able to obtain necessary conflict minerals from such suppliers in sufficient quantities or at competitive prices. Also, we may face reputational challenges if we determine that certain of our products contain minerals not determined to be conflict free or if we are unable to sufficiently verify the origins for all conflict minerals used in our products through the procedures we may implement. In addition, if we are unable to comply with these rules, we could be subject to enforcement actions by the Securities and Exchange Commission and liability under the Securities Exchange Act of 1934, as amended, which could result in material adverse consequences to our business, as well as significant fines and penalties.

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse opinion regarding our stock, our stock price would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We do not intend to declare and pay dividends on our capital stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Additionally, the terms of our credit agreement also restrict our ability to pay dividends. Therefore, you are not likely to receive any dividends on your common stock for the foreseeable future.

From time to time, we may become involved in other litigation and regulatory proceedings, which could require significant attention from our management and result in significant expense to us and disruptions in our business.

In addition to any litigation related to our intellectual property rights, we may in the future be named as a defendant from time to time in other lawsuits and regulatory actions relating to our business, such as commercial contract claims, employment claims and tax examinations, some of which may claim significant damages or cause us reputational harm. Due to the inherent uncertainties of litigation and regulatory proceedings, we cannot predict the ultimate outcome of any such proceeding. An unfavorable outcome could have a material adverse effect on our business, financial condition and results of operations or limit our ability to engage in certain of our business activities. In addition, regardless of the outcome of any litigation or regulatory proceeding, such proceedings are often expensive, time-consuming and disruptive to normal business operations and require significant attention from our management. As a result, any such lawsuits or proceedings could materially adversely affect our business, financial condition and results of operations. For example, on January 29, 2018, we disclosed that the former shareholders of Miconex are disputing the Company's determination that Miconex failed to achieve the specified performance target applicable to the potential cash "earn-out" payments under the acquisition agreement for the second annual performance period ended July 2017 (the "Performance Target"). The Company expects the dispute to be resolved pursuant to the dispute resolution provisions of the acquisition agreement. We believes that Miconex did not achieve the Performance Target, and therefore no earn-out payment is owed by us. We intend to vigorously defend our position. However, there can be no assurance that the dispute will be resolved in our favor. If the dispute is resolved adversely to us, the Company would expect to record a charge to Interest and Other Income (Expense), net of not more than $1.0 million.

Item 1B. Unresolved Staff Comments
None.

Item 2. Properties
Our headquarters is located in a 108,000 square foot facility in Hayward, California. This is our principal administrative, sales and support, engineering and technology development and manufacturing facility. This lease expires in 2022. We also have manufacturing and engineering facilities in South San Francisco and Fremont, California, and Austin, Texas. In South San Francisco we lease an aggregate of approximately 124,000 square feet under several leases which expire in 2018. In Fremont, we lease approximately 9,000 square feet under a lease that expires in 2018. Marchi is also located in Hayward, California, we lease approximately 22,000 square feet under a lease that expires in 2020. We also have manufacturing facilities in Chandler, Arizona; Shanghai, China; Singapore; Cebu, Philippines and Liberec, Czech Republic. In Arizona, we lease approximately 120,000 square feet under leases that expire in 2022. In Austin, we lease an aggregate of approximately 56,000 square feet under leases that expire in 2021. In Shanghai, we lease approximately 154,000 square feet of commercial space under three leases that expire in 2018 and 2019. In Singapore, we lease approximately 183,000 square feet under four separate leases that expire on various dates through 2022 with extension provisions. In the Philippines, we lease approximately 16,000 square feet under three separate leases that expire in 2018 and 2019. In Miconex, we lease approximately 97,000 square feet of manufacturing facilities under seven separate leases that expire in 2019.

The table below lists our properties as of March 14, 2018:

Location	Principal Use	Square Footage	Ownership	
Hayward, California	Headquarters, manufacturing, sales, engineering, technology development	131,000	Leased	
South San Francisco, California	Manufacturing, engineering	124,000	Leased	(1)
Fremont, California	Manufacturing, engineering	9,000	Leased	
Austin, Texas	Manufacturing, engineering	56,000	Leased	
Chandler, Arizona	Manufacturing	120,000	Leased	
Beaverton, Oregon	Customer support	1,000	Leased	
Cebu, Philippines	Manufacturing	16,000	Leased	
Singapore	Manufacturing, customer support	183,000	Leased	
Shanghai, China	Manufacturing	154,000	Leased	
Czech Republic	Manufacturing, customer support	97,000	Leased	

(1) We lease this facility from one of our directors. We incurred rent expense resulting from the lease of this facility of $0.3 million for each of fiscal years 2017 and 2016.

Item 3. Legal Proceedings

From time to time, we are subject to various legal proceedings and claims, either asserted or unasserted, that arise in the ordinary course of business. Although the outcome of the various legal proceedings and claims cannot be predicted with certainty, we have not had a history of outcomes to date that have been material to our statement of operations and do not believe that any of these proceedings or other claims will have a material adverse effect on our consolidated financial condition or results of operations.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Our common stock has been traded on the NASDAQ Global Market under the symbol “UCTT” since March 25, 2004. The following table sets forth for the periods indicated the high and low sales prices per share of our common stock as reported by the NASDAQ Global Market:

	High	Low
Fiscal year 2016		
First quarter	$5.72	$4.50
Second quarter	$6.07	$4.95
Third quarter	$7.50	$5.40
Fourth quarter	$10.65	$6.79
Fiscal year 2017		
First quarter	$16.99	$9.42
Second quarter	$26.21	$14.93
Third quarter	$30.92	$18.41
Fourth quarter	$34.59	$18.86

To date, we have not declared or paid cash dividends to our stockholders and we do not intend to do so for the foreseeable future in order to retain earnings for use in our business. Our credit facility also limits our ability to pay dividends. As of February 23, 2018, we had three stockholders of record.

Recent Sales of Unregistered Sales of Equity Securities

None.

Purchase of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. Selected Consolidated Financial Data

You should read the following tables in conjunction with other information contained under “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” our consolidated financial statements and related notes and other financial information contained elsewhere in this Annual Report on Form 10-K.

Statements of Operations Data (in thousands, except per share amounts):

	Years Ended 12/29/2017	12/30/2016	12/25/2015*	12/26/2014	12/27/2013
Consolidated Statements of Operations Data:					
Sales	$ 924,351	$ 562,759	$ 469,103	$ 513,957	$ 444,022
Cost of goods sold	756,722	475,976	398,073	440,824	376,693
Gross profit	167,629	86,783	71,030	73,133	67,329
Operating expenses, excluding acquisition costs	78,232	64,392	64,605	54,949	51,421
Acquisition costs	—	—	584	—	—
Income from operations	89,397	22,391	5,841	18,184	15,908
Interest expense and other, net	(2,455)	(3,444)	(2,234)	(1,854)	(3,309)
Income before income taxes	86,942	18,947	3,607	16,330	12,599
Income tax provision	11,857	8,896	14,339	4,973	2,175
Net income (loss)	$ 75,085	$ 10,051	$ (10,732)	$ 11,357	$ 10,424
Net income (loss) per share:					
Basic	$ 2.25	$ 0.31	$ (0.34)	$ 0.39	$ 0.37
Diluted	$ 2.19	$ 0.30	$ (0.34)	$ 0.38	$ 0.36
Shares used in computation:					
Basic	33,409	32,632	31,564	29,301	28,346
Diluted	34,303	33,150	31,564	29,936	29,037

Consolidated Balance Sheet Data (in thousands):

	12/29/2017	12/30/2016	12/25/2015*	12/26/2014	12/27/2013
Cash & cash equivalents	$ 68,306	$ 52,465	$ 50,103	$ 78,997	$ 60,415
Working capital	200,101	136,389	125,428	142,279	100,415
Total assets	563,412	380,697	336,153	296,142	292,543
Bank borrowings and long-term debt	52,274	67,750	75,539	48,155	55,126
Short-and long-term rent obligations	6,556	3,291	3,769	2,948	3,302
Total stockholders’ equity	300,305	216,131	200,943	188,552	171,929

* Includes the results of operations of Marchi and Miconex for the period February 5, 2015 through December 25, 2015 and for the period from July 31, 2015 to December 25, 2015, respectively. See Note 4 to the Notes to Consolidated Financial Statements for further information.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations
This section and other parts of this Annual Report on Form 10-K contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve risks and uncertainties. Forward-looking statements can also be identified by words such as "anticipate," "believe," "estimate," "expect," "intend," "m "might," "plan," "project," "will," "would," "should," "could," "can," "predict," "potential," "continue," "objective," and simil Forward-looking statements are not guarantees of future performance and our actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in "Item 1A — Risk Factors" above. The following discussion should be read in conjunction with the consolidated financial statement and notes thereto included in Item 8 of this report. We assume no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Overview

We are a global leader in the design, engineering, and manufacture of production tools, modules and subsystems for the semiconductor capital equipment industry and industry segments with similar requirements including display, consumer and medical. We focus on providing specialized engineering and manufacturing solutions for these applications. We enable our customers to realize lower manufacturing costs and reduced design-to-delivery cycle times while maintaining high quality standards.

The capital equipment market continued to show strength during 2017, primarily from multiple technological advances driving the semiconductor industry. Delivering solutions that enable next-generation 3D NAND devices drove the Wafer Fab Equipment industry in 2017. We expanded our operations and manufacturing in Asia as revenues from outside the U.S. grew by 83.4%. Our revenue and earnings grew to the highest levels in the Company's history. Total revenue climbed 64.3% in fiscal 2017 compared to fiscal 2016, driven by 69.0% growth in our semiconductor equipment business. We have expanded and continue to expand our capabilities to enable the manufacturing of additional major modules and further increase our critical content on our customers' platforms.

Results of Operations

The following table sets forth income statement data for the periods indicated as a percentage of revenue:

	Year Ended December 29, 2017		December 30, 2016		December 25, 2015	
Sales	100.0	%	100.0	%	100.0	%
Cost of goods sold	81.9		84.6		84.9	
Gross profit	18.1		15.4		15.1	
Operating expenses:						
Research and development	1.3		1.8		2.0	
Sales and marketing	1.5		2.1		2.5	
General and administrative	5.6		7.6		9.3	
Total operating expenses	8.4		11.5		13.8	
Income from operations	9.7		3.9		1.3	
Interest and other income (expense), net	(0.3	)	(0.6	)	(0.5	)
Income before provision for income taxes	9.4		3.3		0.8	
Income tax provision	1.3		1.6		3.1	
Net income (loss)	8.1	%	1.7	%	(2.3	)%

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Fiscal Year 2017 Compared With Fiscal Year 2016

Sales

Sales for fiscal year 2017 increased $361.6 million, or 64.3% to $924.4 million from $562.8 million for fiscal year 2016. The increase in sales reflects an increase in semiconductor sales of $350.6 million and an increase in non-semiconductor sales of $11.0 million. The increase in overall sales for fiscal year 2017 compared to the same period in fiscal year 2016 was due primarily to an increase in the volume of products shipped, which was attributable to an increase in customer demand from 2016 levels. On a geographic basis, sales in the U.S. increased $136.3 million to $428.6 million, or 46.4% of sales, for the year ended December 29, 2017 as compared to $292.3 million, or 52.0% of sales for the same period of 2016. Foreign sales increased by $225.4 million to $495.8 million, or 53.6% of sales, for the year ended December 29, 2017 compared to $270.4 million, or 48.0% of sales, for the same period of 2016. The increase in foreign sales is due primarily to the continuing migration of certain business with a U.S. customer from our U.S. operations to our Singapore location as well as increased demand for our products in our foreign locations.

Gross Profit

Gross profit for fiscal year 2017 increased $80.8 million to $167.6 million, or 18.1% of sales, from $86.8 million, or 15.4% of sales, for fiscal year 2016. Our gross profit and gross margin increased in fiscal year 2017 from the comparable period in 2016 due to higher sales volume, increased factory utilization and increased labor efficiency.

Research and Development Expense

Research and development expense consists primarily of activities related to new component testing and evaluation, test equipment and fixture development, product design, and other product development activities. Research and development expense for fiscal year 2017 was $11.7 million or 1.3% of sales, compared to $9.9 million, or 1.8% of sales, for fiscal year 2016. The increase in research and development expense was due to an increase in non-production related engineering work and an increase in employee incentive compensation related expenses as a result of higher operating income.

Sales and Marketing Expense

Sales and marketing expense consists primarily of salaries and commissions paid to our sales and service employees, salaries paid to our engineers who work with the sales and service employees to help determine the components and configuration requirements for new products and other costs related to the sales of our products. Sales and marketing expense increased approximately $2.1 million, or 18.8%, to $13.7 million, or 1.5% of sales, compared to $11.6 million, or 2.1% of sales, in the comparable period of 2016. The increase in sales and marketing expense was primarily due to higher employee compensation-related expenses resulting from an increase in headcount and increased bonuses due to increased operating profit.

General and Administrative Expense

General and administrative expense consists primarily of salaries and overhead associated with our administrative staff and professional fees. General and administrative expense increased $9.9 million, or 23.1%, to $52.8 million, or 5.6% of sales, for fiscal year 2017 compared to $42.9 million, or 7.6% of sales, for fiscal year 2016. The increase was primarily due higher employee compensation-related expenses due to an increase in headcount and increased bonuses due to increased operating profit and to an increase in outside services resulting from the non-capitalizeable implementation costs of our new enterprise reporting system.

Interest and Other Income (Expense), net

Interest and other income (expense) for fiscal year 2017 was $(2.5) million compared to $(3.4) million for fiscal year 2016. The decrease in net expense was primarily due to a decrease of $1.8 million related to the change in fair value of the Miconex contingent earn-out liability and due to a decrease in interest expense of $0.5 million resulting from the overall decrease in outstanding debt in fiscal year 2017. These decreases were offset by an increase in foreign exchange loss of $0.8 million in Czech Republic and in Asia and $0.3 million of grant monies received in 2016 from the Singapore Economic Development Board.

Income Tax Provision

Income tax expense was $11.9 million for fiscal year 2017 compared to $8.9 million for fiscal year 2016. Our effective tax rate for fiscal year 2017 was 13.6% compared to 46.9% for fiscal year 2016. The change in respective rates reflects, primarily, recently enacted US tax reform and changes in the geographic distribution of our worldwide earnings. Our effective tax rate was lower than the statutory rates for fiscal year 2017 primarily due to the effects of tax reform and the geographic distribution of our worldwide earnings in foreign jurisdictions with lower tax rates as well as the impact of losses in jurisdictions with full federal and state valuation allowances.

For the year ended December 29, 2017, the Company concluded that a full valuation allowance against its U.S. federal and state deferred tax assets continues to be necessary. The total U.S. federal and state valuation allowance as of December 29, 2017 was $7.9 million.

For the year ended December 29, 2017, the Company concluded that a full valuation allowance against one of its Singapore subsidiaries' deferred tax assets continues to be necessary. The total valuation allowance of the Singapore loss entity as of December 29, 2017 continues to be $0.2 million.

Our ability to realize deferred tax assets depends on our ability to generate sufficient taxable income within the carryback or carry forward periods. In assessing our future taxable income, we have considered all sources of future taxable income available to realize our deferred tax assets, including the taxable income from future reversal of existing temporary differences, carry forwards, taxable income in carryback years and tax-planning strategies. If changes occur in the assumptions underlying our tax planning strategies or in the scheduling of the reversal of our deferred tax liabilities, the valuation allowance may need to be adjusted in the future.

For the year ended December 29, 2017, we determined that a portion of the current year earnings of one of our China subsidiaries may be remitted in the future to one of our foreign subsidiaries outside of mainland China and, accordingly, we provided for the related foreign withholding taxes in our consolidated financial statements. If we change our intent to reinvest our undistributed foreign earnings indefinitely or if a greater amount of undistributed earnings are needed than the previously anticipated remaining unremitted foreign earnings, we could be required to accrue or pay U.S. taxes on some or all of these undistributed earnings.

Fiscal Year 2016 Compared With Fiscal Year 2015

Sales

Sales for fiscal year 2016 increased $93.7 million, or 20.0% to $562.8 million from $469.1 million for fiscal year 2015. The increase in sales for the fiscal year ended 2016 when compared to the same period of 2015 reflects an increase in semiconductor sales of $75.1 million and an increase in non-semiconductor sales of $18.6 million. The increase in overall sales for fiscal year 2016 compared to the same period in fiscal year 2015 was due primarily to an increase in the volume of products shipped, which was attributable to an increase in customer demand from 2015 levels. On a geographic basis, sales in the U.S. decreased by $15.1 million to $292.3 million, or 52.0% of sales, for the year ended December 30, 2016 as compared to $307.4 million, or 65.5% of sales for the same period of 2015. Foreign sales increased by $108.7 million to $270.4 million, or 48.0% of sales, for the year ended December 30, 2016 as compared to $161.7 million, or 34.5% of sales, for the same period of 2015. The increase in foreign sales was due primarily to the full year of operations of Miconex in fiscal 2016 and the migration of certain business with a U.S. customer from our U.S. operations to our Singapore location.

Gross Profit

Gross profit for fiscal year 2016 increased to $86.8 million or 15.4% of sales, from $71.0 million, or 15.1% of sales, for fiscal year 2015. Our gross margin percentage and absolute dollars of gross profit increased in fiscal year 2016 from the comparable period in 2015 due to higher sales volume, a sales mix which included higher margin products and certain improvements in operational efficiencies at our manufacturing locations in the U.S., which typically deliver lower margins due to higher labor and overhead costs.

Research and Development Expense

Research and development expense for fiscal year 2016 was $9.9 million or 1.8% of sales, compared to $9.6 million, or 2.0% of sales, for fiscal year 2015. The increase in research and development expense in absolute dollars was due primarily to the full year inclusion of Miconex and Marchi's research and development activities in 2016.

Sales and Marketing Expense

Sales and marketing expense increased approximately $0.1 million, or 0.6%, to $11.6 million, or 2.1% of sales, compared to $11.5 million, or 2.5% of sales, in the comparable period of 2015.

General and Administrative Expense

General and administrative expense decreased $1.2 million, or 2.7%, to $42.9 million, or 7.6% of sales, for fiscal year 2016 compared to $44.1 million, or 9.3% of sales, for fiscal year 2015. The decrease in absolute dollars was primarily due to a $2.4 million payment to our former CEO in the first quarter of 2015 upon his retirement and a $0.5 million write off of the tradename intangible we acquired from AIT in the fourth quarter of 2015, offset by an increase of $0.8 million due to the full year inclusion of Marchi and Miconex in 2016 and by an $0.8 million payment made to our former CFO upon his retirement on July 29, 2016.

Interest and Other Income (Expense), net

Interest and other income (expense) for fiscal year 2016 was $(3.4) million compared to $(2.2) million for fiscal year 2015. The increase in net expense was primarily due to an increase in the change in fair value of the Miconex contingent earn-out liability of $1.9 million, offset by a decrease in interest expense of $0.4 million resulting from the overall decrease in outstanding debt in fiscal year 2016 and of $0.3 million grants received from the Singapore Economic Development Board.

Income Tax Provision

Income tax expense was $8.9 million for fiscal year 2016 compared to $14.3 million for fiscal year 2015. Our effective tax rate for fiscal year 2016 was 46.9% compared to 397.5% for fiscal year 2015. The change in respective rates reflects, primarily, a charge in the fourth quarter of fiscal 2015 related to recording a full valuation allowance on our U.S. federal and state net deferred tax assets. Our effective tax rate was higher than the statutory rates for fiscal year 2016 primarily due to the geographic distribution of our worldwide earnings in foreign jurisdictions with lower tax rates as well as the impact of losses in jurisdictions with full federal and state valuation allowances.

During the year ended December 30, 2016, the Company concluded that a full valuation allowance against its U.S. federal and state deferred tax assets continued to be necessary. The total U.S. federal and state valuation allowance as of December 30, 2016 was $23.6 million.

For the year ended December 30, 2016, the Company concluded that a full valuation allowance against one of its Singapore subsidiaries' deferred tax assets continued to be necessary. The total valuation allowance of the Singapore loss entity as of December 30, 2016 was $0.2 million.

Critical Accounting Policies, Significant Judgments and Estimates

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States, which requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and related disclosure at the date of our consolidated financial statements. On an on-going basis, we evaluate our estimates and judgments, including those related to sales, inventories, goodwill and intangible assets, stock compensation and income taxes. We base our estimates and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances, the results of which form the basis of our judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. We consider certain accounting policies related to revenue recognition, inventory valuation, accounting for income taxes, business combinations, valuation of intangible assets and goodwill, and equity incentives to employees to be critical policies due to the estimates and judgments involved in each.

Revenue Recognition

Our revenue for fiscal years 2017, 2016 and 2015 was highly concentrated in a small number of OEM customers in the semiconductor capital equipment, consumer, medical, energy, industrial and research industries. Our standard arrangement for our customers includes a signed purchase order or contract, no right of return of delivered products and no customer acceptance provisions. Revenue from sales of products is recognized when:

- we enter into a legally binding arrangement with a customer;
- title transfers to the customer, which generally occurs upon shipment;
- customer payment is deemed fixed or determinable and free of contingencies or significant uncertainties; and
- collection is reasonably assured.

Revenue is recognized upon shipment of the product. In arrangements which specify title transfer upon delivery, revenue is not recognized until the product is delivered. In addition, if we have not fulfilled the terms of the agreement at the time of shipment, revenue recognition is deferred until fulfillment.

We assess collectability based on the creditworthiness of the customer and past transaction history. We perform on-going credit evaluations of, and do not require collateral from, our customers. A significant change in the liquidity or financial position of any one customer could make it more difficult for us to assess collectability.

Inventory Valuation

We write down the carrying value of our inventory to net realizable value for estimated obsolescence or unmarketable inventory in an amount equal to the difference between the cost of inventory and its estimated realizable value based upon assumptions about future demand and market conditions. We assess the valuation of all inventories, including raw materials, work-in-process, finished goods and spare parts on a periodic basis.

Obsolete inventory or inventory in excess of our estimated usage is written down to its estimated market value less costs to sell, if less than its cost. The inventory write-downs are recorded as an inventory valuation allowance established on the basis of obsolete inventory or specific identified inventory in excess of established usage. Inherent in our estimates of demand and market value in determining inventory valuation are estimates related to economic trends, future demand for our products and technological obsolescence of our products. If actual demand and market conditions are less favorable than our projections, additional inventory write-downs may be required. If the inventory value is written down to its net realizable value, and subsequently there is an increased demand for the inventory at a higher value, the increased value of the inventory is not realized until the inventory is sold either as a component of a subsystem or as separate inventory. For fiscal years 2017, 2016 and 2015, we wrote down $2.6 million, $2.3 million, and $2.4 million, respectively.

Accounting for Income Taxes

The determination of our tax provision is highly dependent upon the geographic composition of worldwide earnings and tax regulations governing each region and is subject to judgments and estimates. Management carefully monitors the changes in many factors and adjusts the effective tax rate as required. The carrying value of our net deferred tax assets, which consist primarily of future tax deductions, assumes we will be able to generate sufficient future income to fully realize these deductions. In determining whether the realization of these deferred tax assets may be impaired, we make judgments with respect to whether we are likely to generate sufficient future taxable income to realize these assets. In order to reverse a valuation allowance, accounting principles generally accepted in the United States of America suggest that we review our recent cumulative income/loss as well as determine our ability to generate sufficient future taxable income to realize our net deferred tax assets. As of December 29, 2017, we maintained full valuation allowances on our U.S. federal and state deferred tax assets in the amount of $7.9 million as we believe it is more likely than not that these deferred tax assets will not be realized.

In addition, the calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our results of operations and financial position. We believe we have adequately reserved for our uncertain tax positions, however, no assurance can be given that the final tax outcome of these matters will not be different than what we expect. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made. The provision for income taxes includes the impact of reserve provisions and changes to reserves that are considered appropriate, as well as the related net interest.

We file income tax returns in the U.S. federal jurisdiction, various states and foreign jurisdictions. Our 2014 through 2016 federal income tax returns are open to audit through the statute of limitations by the Internal Revenue Service. The Company's 2013 through 2016 state income tax returns are open to audit by the California Franchise Tax Board. The Company is also subject to examination in various other jurisdictions for various periods.

Business Combinations

In accordance with accounting for business combinations, we allocate the purchase price of acquired companies to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values. We may engage third-party valuation firms to assist management in reviewing management's determination of the fair values of acquired intangible assets such as trade name and customer relationships. Such valuations require management to make significant estimates and assumptions. Management makes estimates of fair value based upon assumptions believed to be reasonable. These estimates are based on historical experience and information obtained from the management of the acquired companies and are inherently uncertain.

Goodwill, Intangibles Assets, and Long-lived Assets

Goodwill is measured as the excess of the cost of an acquisition over the sum of the amounts assigned to identifiable assets acquired less liabilities assumed.

We evaluate our goodwill and indefinite life trade name for impairment on an annual basis, and whenever events or changes in circumstances indicate that the carrying value may not be fully recoverable. In addition, we evaluate our identifiable intangible assets and other long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Factors we consider important which could trigger an impairment review include the following:

- Significant changes in the manner of our use of the acquired assets or the strategy of our overall business;
- Significant negative changes in revenue of specific products or services;
- Significant negative industry or economic trends;
- Significant decline in our stock price for a sustained period; and

We continually apply judgment when performing these evaluations and continuously monitor for events and circumstances that could negatively impact the key assumptions in determining fair value, including long-term revenue growth projections, undiscounted net cash flows, discount rates, recent market valuations from transactions by comparable companies, volatility in our market capitalization and general industry, market and macroeconomic conditions. It is possible that changes in such circumstances, or in the variables associated with the judgments, assumptions and estimates used in assessing fair value, would require us to record a non-cash impairment charge.

Assets held for sale

Non-current assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale or distribution rather than through continuing use, are classified as held for sale. Immediately before classification as held for sale or distribution, the assets, or components of a disposal group, are measured at the lower of the carrying amount or fair value less costs to sell. Impairment losses on initial classification as held for sale and subsequent gains and losses on remeasurement are recognized in the statement of operations. Gains are not recognized in excess of any cumulative impairment loss. Once classified as held for sale, intangible assets and property, plant and equipment are no longer amortized or depreciated. The Company recognized a $0.7 million loss upon reclassification of held for sale assets of our 3D printing business in Singapore (UAMC) as of December 30, 2016. The loss was recorded in cost of goods in the statements of operations. Total assets of UAMC at December 29, 2017 were $3.0 million.

Equity Incentives to Employees

We issue restricted stock units to our employees and outside directors and provide our employees the right to purchase common stock under our employee stock purchase plan. Under current accounting guidance, stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the service (vesting) period. See Note 9 to the Notes to Consolidated Financial Statements for a detailed description.

Unaudited Quarterly Financial Results

The following table sets forth statement of operations data for the periods indicated. The information for each of these periods is unaudited and has been prepared on the same basis as our audited consolidated financial statements included herein and includes all adjustments, consisting only of normal recurring adjustments that we consider necessary for a fair presentation of our unaudited operations data for the periods presented. Historical results are not necessarily indicative of the results to be expected in the future (in thousands, except per share data):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year (1)
2017					
Sales	$ 204,594	$ 228,261	$ 242,610	$ 248,886	$ 924,351
Gross profit	$ 37,495	$ 43,371	$ 42,696	$ 44,067	$ 167,629
Net income (loss)	$ 14,341	$ 20,179	$ 19,716	$ 20,849	$ 75,085
Earnings (loss) per share — basic	$ 0.43	$ 0.60	$ 0.59	$ 0.62	$ 2.25
Earnings (loss) per share — diluted	$ 0.42	$ 0.59	$ 0.57	$ 0.60	$ 2.19
2016					
Sales	$ 112,229	$ 129,831	$ 146,154	$ 174,545	$ 562,759
Gross profit	$ 14,570	$ 19,021	$ 23,491	$ 29,701	$ 86,783
Net income (loss)	$ (3,239)	$ 723	$ 2,614	$ 9,953	$ 10,051
Earnings (loss) per share — basic	$ (0.10)	$ 0.02	$ 0.08	$ 0.30	$ 0.31
Earnings (loss) per share — diluted	$ (0.10)	$ 0.02	$ 0.08	$ 0.30	$ 0.30

(1) Earnings per share is calculated independently each quarter and for the full year based upon their respective weighted average shares outstanding. Therefore, the sum of the quarterly earnings per share may not equal the annual earnings per share reported.

Liquidity and Capital Resources

In February of 2018, we completed an underwritten public offering of 4,761,905 shares of our common stock, in which we received net proceeds of approximately $94.5 million, after deducting the underwriting discounts and offering expenses payable by us.

We believe we have the required capital principally to fund our working capital needs, satisfy our debt obligations, maintain our equipment and purchase new capital equipment. As of December 29, 2017, we had cash and cash equivalents of $68.3 million compared to $52.5 million as of December 30, 2016. The increase in our cash position during 2017 was primarily due to cash generated from operations, our principal source of liquidity as of December 29, 2017.

For the twelve months ended December 29, 2017, we generated cash from operating activities of $48.9 million, an increase of $31.3 million when compared to $17.6 million for fiscal 2016. Operating cash flows generated in the twelve months ended December 29, 2017 reflects net income adjusted for the effect of non-cash activities, including depreciation of equipment and leasehold improvements, amortization of intangible assets and debt issuance costs, excess tax benefit from stock-based compensation, stock-based compensation, loss from disposal of assets, change in the fair value of the Miconex contingent earn-out and changes in working capital components. The primary drivers of the increase in cash from operating activities from fiscal 2016 to fiscal 2017 included higher net income and increases in accounts payable, accrued expenses, income taxes payable and other liabilities, offset by higher increases in inventories, prepaid expenses, deferred income taxes and other non-current assets.

Cash generated from operating activities for fiscal year 2016 reflected an increase of $16.7 million when compared to $0.9 million for fiscal year 2015. Operating cash flows generated in the twelve months ended December 30, 2016 were from non-cash activities, including depreciation of equipment and leasehold improvements, amortization of intangible assets and debt issuance costs, excess tax benefit from stock-based compensation, stock-based compensation, loss from disposal of assets and change in the fair value of the contingent earn-out aggregating to $19.9 million. Operating cash flows were also generated by decreases in prepaid expenses and other and deferred tax assets, net and increases in accounts payable and accrued compensation of $1.7 million, $3.5 million, $31.7 million and $1.4 million, respectively. These were offset by increases in accounts receivable, inventory and other non-current assets of $15.8 million, $31.5 million and $0.1 million, respectively, and by the net decrease in income tax payable and other liabilities of $0.1 million and $3.4 million, respectively.

Net cash used in investing activities in fiscal year 2017 and 2016 was $16.1 million and $7.3 million, respectively, consisted mainly of purchases of equipment and leasehold improvements.

Net cash used in financing activities for the twelve months ended December 29, 2017, was $17.1 million, an increase of $9.2 million when compared to net cash used by financing activities of $7.9 million for the comparable period of 2016. The net cash used was primarily due to principal payments on bank borrowings of $31.2 million offset by $15.1 million proceeds from bank borrowings. For the twelve month period ended December 30, 2016, our net cash used in financing activities was primarily due to $14.3 million principal payments on borrowings offset by $6.7 million cash proceeds from bank borrowings.

We anticipate that our existing cash and cash equivalents balance and operating cash flow will be sufficient to service our indebtedness and meet our working capital requirements and technology development projects for at least the next twelve months. The adequacy of these resources to meet our liquidity needs beyond that period will depend on our growth, the size and number of any acquisitions, the state of the worldwide economy, our ability to meet our financial covenants with our credit facility, the cyclical expansion or contraction of the semiconductor capital equipment industry and the other industries we serve and capital expenditures required to meet possible increased demand for our products.

In order to expand our business or acquire additional complementary businesses or technologies, we may need to raise additional funds through equity or debt financings. If required, additional financing may not be available on terms that are favorable to us, if at all. If we raise additional funds through the issuance of equity or convertible debt securities, our stockholders' equity interest will be diluted and these securities might have rights, preferences and privileges senior to those of our current stockholders. We may also require the consent of our new lenders to raise additional funds through equity or debt financings. No assurance can be given that additional financing will be available or that, if available, such financing can be obtained on terms favorable to our stockholders and us.

In 2017, we determined that a portion of the current year and future year earnings of one of our China subsidiaries may be remitted in the future to one of our foreign subsidiaries outside of mainland China and, accordingly, we provided for the related withholding taxes in our consolidated financial statements. As of December 29, 2017, we had undistributed earnings of foreign subsidiaries that are indefinitely invested outside of the U.S. of approximately $176.7 million. It is not practicable to determine the income tax liability that might be incurred if these earnings were to be distributed. We anticipate that we have adequate liquidity and capital resources and would not need to repatriate additional earnings to the U.S. As of December 29, 2017, we have cash of approximately $67.8 million in our foreign subsidiaries.

Borrowing Arrangements

We have credit facilities in the U.S. and Czech Republic that expire on February 2, 2019 and March 31, 2020, respectively. We and certain of our subsidiaries agreed to secure all of our and their respective obligations under a credit agreement (the "Credit Agreement") by granting a first priority lien in substantially all of our and their respective personal property assets (subject to certain exceptions and limitations).

As of December 29, 2017, we have outstanding amounts under the U.S. Term Loan and Revolving Credit facility of $9.9 million and $39.9 million, respectively, which are gross of unamortized debt issuance costs of $0.2 million. The aggregate principal amount of the Revolving Credit facility is $40.0 million. As of December 29, 2017, interest rates on the outstanding U.S. Term Loan and Revolving Credit facility were 3.57% and 3.75%, respectively.

In order to manage interest rate risk on the variable component of the Term Loan we entered into an interest rate swap with the Lenders in September 2015 with a total notional amount of $20.0 million (which amount decreases based on prorated quarterly principal payment over the remaining period of the Term Loan) pursuant to which we pay the counterparty a fixed rate of 0.99% and receive interest at a variable rate equal to the LIBOR rate we are required to pay under our Term Loan, or 1.57%, as of December 29, 2017. This interest rate swap effectively locked in a fixed interest rate of 2.99% on $7.8 million of the $9.9 million term loan balance outstanding as of December 29, 2017.

We are required to maintain certain financial covenants with our U.S. Credit facility including a consolidated charge coverage ratio (as defined in the Credit Agreement) of at least 1.25 to 1.00, a consolidated leverage ratio (as defined in the Credit Agreement) no greater than 3.5 to 1.00 and a minimum cash balance of $35.0 million at the end of each quarter. We were in compliance with all covenants for the quarter ended December 29, 2017. The Credit Agreement also restricts us from declaring or paying any cash dividends.

As of December 29, 2017, Miconex had outstanding amount under a revolving credit facility of 2.2 million euros (approximately $2.7 million) with an interest rate of 1.3% plus a variable rate based on the Euro Interbank Offered Rate.

As of December 29, 2017, our total bank debt was $52.4 million, and we have $0.1 million and 6.0 million euros (approximately $7.2 million) available to borrow on our credit facilities in the U.S. and Czech Republic, respectively.

Capital Expenditures

Capital expenditures were $18.5 million for the year ended December 29, 2017, primarily attributable to the expansion of our Singapore, Czech Republic and certain U.S. facilities.

Off-Balance Sheet Arrangements

During the periods presented, we did not have any relations with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Contractual Obligations

Other than operating leases for certain equipment and real estate and purchase order commitments primarily for inventory, we have no off-balance sheet transactions, unconditional purchase obligations or similar instruments and, other than the arrangements described under “Borrowing Arrangements” above, are not a guarantor of any other entities’ debt or other financial obligations. The following table summarizes our future minimum lease payments, principal payments under debt obligations and our purchase obligations for the purchase of inventory as of December 29, 2017:

	Total	Less than 1 Year	1 - 3 Years	3 - 5 Years	More than 5 Years
Operating leases(1)	$ 25,863	$ 7,162	$ 10,523	$ 8,062	$ 116
Borrowing Arrangement(2)	52,439	12,533	39,906	—	—
Purchase order commitments(3)	186,509	186,509	—	—	—
Total	$ 264,811	$ 206,204	$ 50,429	$ 8,062	$ 116

(1) Operating lease obligations reflects (a) the leases for our headquarters and manufacturing facilities in Hayward, California that expire in 2020 through 2022; (b) the leases for manufacturing facilities in South San Francisco that expire in 2018; (c) the leases for manufacturing facilities in China, Singapore and the Philippines that expire in 2017 through 2022; (d) the leases for manufacturing facilities in Austin, Texas that expire in 2021; (e) the leases for manufacturing facilities in Chandler, Arizona that expire in 2022; and (g) the leases for our manufacturing facilities in the Czech Republic that expires in 2019. We have options to renew certain of the leases in South San Francisco, Hayward, Austin, Singapore and Czech Republic which we expect to exercise.

(2) Amounts reflect obligations under our Revolving Credit Facility gross of $0.2 million of unamortized debt issuance costs, under which $9.9 million is outstanding under the Term Loan and approximately $39.9 million under the Revolving Credit Facility as of December 29, 2017 and of our bank debt of $2.7 million held by Miconex, in the Czech Republic.

(3) Represents our outstanding purchase orders primarily for inventory.

Recently Issued and Adopted Accounting Pronouncement

For a description of recent accounting pronouncements, including the expected dates of adoption and estimated effects, if any, on UCT’s consolidated financial statements, see Note 1, “Organization and Significant Accounting Policies,” of the Notes to Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial market risks, including changes in currency exchange rates and interest rates.

Foreign Exchange Rates

Currently, a significant majority of our sales and arrangements with third-party suppliers provide for pricing and payment in US dollars, which are not subject to material exchange rate fluctuations. Increases in the value of the U.S. dollar relative to other currencies would make our products more expensive relative to competing products priced in such other currencies, which could negatively impact our ability to compete. Conversely, decreases in the value of the U.S. dollar relative to other currencies could result in our foreign suppliers raising their prices in order to continue doing business with us. However, we do not expect foreign currency exchange rate fluctuations to have a material effect on our results of operations.

Chinese authorities recently relaxed controls of China's currency, the Renminbi, and allowed the currency to strengthen against other world currencies, including the U.S. dollar. We continue to monitor any potential impact of the depreciation or appreciation of the Renminbi on our operations in China as well as globally. Changes in the value of the Renminbi did not have a material impact on our results of operations for any period presented in this Form 10-K.

Miconex uses derivative instruments, such as foreign currency exchange contracts, to hedge certain exposures to fluctuations in foreign currency exchange rates. These contracts reduce, but do not entirely eliminate the impact of currency exchange rates movement on Miconex's assets and liabilities.

Interest Rates

Our interest rate risk relates primarily to outstanding amounts under our term loan and revolving credit facilities which totaled $52.3 million (net of debt issuance costs) as of December 29, 2017, and carries interest rates pegged to either the prime rate, LIBOR or EURIBOR. To reduce our exposure to potentially rising interest rates, on September 17, 2015, we entered into an interest rate swap with the Lenders, encompassing $20.0 million of the Term Loan. The interest rate swap exchanges the variable interest rate component where LIBOR was at 1.57% as of December 29, 2017, with a fixed interest rate of 0.99% over the remaining term of the Term Loan. This interest rate swap is designated as a cash flow hedge of the interest rate risk attributable to forecasted variable interest payments.

Item 8. Financial Statements and Supplementary Data

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORTS OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of

Ultra Clean Holdings, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Ultra Clean Holdings, Inc. (the "Company") as of December 29, 2017 and December 30, 2016, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the years ended December 29, 2017, December 30, 2016 and December 25, 2015, and the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 29, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 29, 2017 and December 30, 2016 and the consolidated results of its operations and its cash flows for each of the years ended December 29, 2017, December 30, 2016 and December 25, 2015, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 29, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, 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 appearing under Item 9A. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

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 consolidated 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.

/s/ Moss Adams LLP

San Francisco, California

March 14, 2018

We have served as the Company's auditor since 2015.

Ultra Clean Holdings, Inc.

Consolidated Balance Sheets

	December 29, 2017	December 30, 2016
	(In thousands, except share and per share amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 68,306	$ 52,465
Accounts receivable, net of allowance of $69 and $65, respectively	90,213	74,663
Inventories	236,840	103,861
Prepaid expenses and other	12,089	6,461
Total current assets	407,448	237,450
Equipment and leasehold improvements, net	32,246	18,858
Goodwill	85,248	85,248
Purchased intangibles, net	31,587	37,024
Deferred tax assets, net	4,951	1,355
Other non-current assets	1,932	762
Total assets	$ 563,412	$ 380,697
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Bank borrowings	$ 12,381	$ 16,819
Accounts payable	173,521	71,189
Accrued compensation and related benefits	10,788	7,904
Deferred rent, current portion	670	634
Other current liabilities	9,987	4,515
Total current liabilities	207,347	101,061
Bank borrowings, net of current portion	39,893	50,931
Deferred tax liability	9,981	9,917
Deferred rent and other liabilities	5,886	2,657
Total liabilities	263,107	164,566
Commitments and contingencies (See Note 12)		
Stockholders' equity:		
Preferred stock — $0.001 par value, 10,000,000 authorized; none outstanding	—	—
Common stock — $0.001 par value, 90,000,000 authorized; 33,664,940 and 32,956,285 shares issued and outstanding, in 2017 and 2016, respectively	34	33
Additional paid-in capital	188,639	181,781
Common shares held in treasury, at cost, 601,944 shares in 2017 and	(3,337)	(3,337)

2016				
Retained earnings		113,122		38,037
Accumulated other comprehensive loss		1,847		(383)
Total stockholders' equity		300,305		216,131
Total liabilities and stockholders' equity	$	563,412	$	380,697

(See notes to consolidated financial statements)

Ultra Clean Holdings, Inc.

Consolidated Statements of Operations

	Fiscal Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(In thousands, except per share amounts)		
Sales	$924,351	$ 562,759	$469,103
Cost of goods sold	756,722	475,976	398,073
Gross profit	167,629	86,783	71,030
Operating expenses:			
Research and development	11,666	9,900	9,578
Sales and marketing	13,748	11,568	11,499
General and administrative	52,818	42,924	44,112
Total operating expenses	78,232	64,392	65,189
Income from operations	89,397	22,391	5,841
Interest and other income (expense), net	(2,455)	(3,444)	(2,234)
Income before provision for income taxes	86,942	18,947	3,607
Income tax provision	11,857	8,896	14,339
Net income (loss)	$75,085	$ 10,051	$(10,732)
Net income (loss) per share:			
Basic	$2.25	$ 0.31	$(0.34)
Diluted	$2.19	$ 0.30	$(0.34)
Shares used in computing net income (loss) per share:			
Basic	33,409	32,632	31,564
Diluted	34,303	33,150	31,564

(See notes to consolidated financial statements)

Ultra Clean Holdings, Inc.

Consolidated Statements of Comprehensive Income (Loss)

	Fiscal Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Net income (loss)	$ 75,085	$ 10,051	$ (10,732)
Other comprehensive income (loss):			
Change in cumulative translation adjustment	1,193	(393)	(5)
Cash flow hedges:			
Change in fair value of derivatives	1,274	(60)	23
Adjustment for net gain (loss) realized and included in net income	(237)	88	(36)
Total change in unrealized gain (loss) on derivative instruments	1,037	28	(13)
Other comprehensive income (loss)	2,230	(365)	(18)
Comprehensive income (loss)	$ 77,315	$ 9,686	$ (10,750)

(See notes to consolidated financial statements)

Ultra Clean Holdings, Inc.

Consolidated Statements of Stockholders' Equity

	Common Stock Shares	Amount	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Total Stockholders' Equity
		(in thousands, except share amounts)				
Balance December 26, 2014	29,562,338	$ 30	$ 149,804	$ 38,718	$ —	$ 188,552
Issuance of restricted common stock	56,000	—	—	—	—	—
Issuance under employee stock plans	763,529	—	2,411	—	—	2,411
Amortization of stock-based compensation	—	—	3,660	—	—	3,660
Excess tax benefit from stock-based compensation	—	—	(77)	—	—	(77)
Employees' taxes paid upon vesting of restricted stock units	(39,938)	—	(330)	—	—	(330)
Common stock issued for acquisitions	1,937,500	2	17,475	—	—	17,477
Net loss	—	—	—	(10,732)	—	(10,732)
Other comprehensive loss	—	—	—	—	(18)	(18)
Balance December 25, 2015	32,279,429	32	$ 172,943	$ 27,986	$ (18)	$ 200,943
Issuance of restricted common stock	52,000	—	—	—	—	—
Issuance under employee stock plans	761,824	1	601	—	—	602
Amortization of stock-based compensation	—	—	5,671	—	—	5,671
Employees' taxes paid upon vesting of restricted stock units	(136,968)	—	(771)	—	—	(771)
Net income	—	—	—	10,051	—	10,051
Other comprehensive loss	—	—	—	—	(365)	(365)
Balance December 30, 2016	32,956,285	$ 33	$ 178,444	$ 38,037	$ (383)	$ 216,131
Issuance of restricted common stock	45,000	—	—	—	—	—
Issuance under employee stock plans	823,440	1	1,815	—	—	1,816
Amortization of stock-based compensation	—	—	7,757	—	—	7,757
Employees' taxes paid upon vesting of restricted stock units	(159,785)	—	(2,714)	—	—	(2,714)
Net income	—	—	—	75,085	—	75,085

Other comprehensive income	—	—	—	—	2,230	2,230
Balance December 29, 2017	33,664,940	$ 34	$ 185,302	$ 113,122	$ 1,847	$ 300,305

(See notes to consolidated financial statements)

Ultra Clean Holdings, Inc.

Consolidated Statements of Cash Flows

	Fiscal Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(In thousands)		
Cash flows from operating activities:			
Net income (loss)	$ 75,085	$ 10,051	$ (10,732)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	5,275	5,981	4,728
Amortization of finite-lived intangibles	5,437	5,758	6,212
Amortization of debt issuance costs	153	153	829
Excess tax benefit from stock-based compensation	—	771	77
Stock-based compensation	7,757	5,671	3,660
Loss from disposal of fixed assets	72	169	—
Change in the fair value of the contingent earn out	(278)	1,446	(449)
Changes in assets and liabilities, net of effects of acquisitions:			
Accounts receivable	(14,930)	(15,834)	5,818
Inventories	(131,874)	(31,516)	(8,329)
Prepaid expenses and other	(4,911)	1,709	(948)
Deferred income taxes	(3,755)	3,534	10,352
Other non-current assets	(582)	(45)	(24)
Accounts payable	99,569	31,705	(12,593)
Accrued compensation and related benefits	2,777	1,397	798
Income taxes payable	8,177	(16)	(77)
Other liabilities	933	(3,357)	1,604
Net cash provided by operating activities	48,905	17,577	926
Cash flows from investing activities:			
Purchases of equipment and leasehold improvements	(16,149)	(7,278)	(10,152)
Acquisition of businesses, net of cash acquired	—	—	(45,064)
Net cash used in investing activities	(16,149)	(7,278)	(55,216)
Cash flows from financing activities:			
Proceeds from bank borrowings	15,076	6,657	79,212
Proceeds from issuance of common stock	1,816	602	2,411
Principal payments on bank borrowings	(31,248)	(14,341)	(55,205)
Payments of debt issuance costs	—	—	(611)
Excess tax benefit from stock-based compensation	—	—	(77)
Employees' taxes paid upon vesting of restricted stock units	(2,714)	(771)	(331)
Net cash used in financing activities	(17,070)	(7,853)	25,399
Effect of exchange rate changes on cash and cash equivalents	155	(84)	(3)
Net increase (decrease) in cash	15,841	2,362	(28,894)
Cash and cash equivalents at beginning of year	52,465	50,103	78,997
Cash and cash equivalents at end of year	$ 68,306	$ 52,465	$ 50,103

Supplemental cash flow information:			
Income taxes paid	$ 7,614	$ 4,463	$ 2,900
Income tax refunds	$ 71	$ 646	$ 622
Interest paid	$ 2,216	$ 2,505	$ 2,163
Non-cash investing and financing activities:			
Fair value of common shares issued for acquisition	$ —	$ —	$ 17,661
Fair value of earn-out payments related to Miconex acquisition	$ —	$ —	$ 1,280
Restricted stock issued	$ 13,080	$ 2,986	$ 2,950
Equipment and leasehold improvements purchased included in accounts payable and other current liabilities	$ 2,558	$ 701	$ 153

(See notes to consolidated financial statements)

Ultra Clean Holdings, Inc.

Notes to Consolidated Financial Statements

1. Organization and Significant Accounting Policies

Organization — Ultra Clean Holdings, Inc. (the "Company" or "UCT") was founded in November 2002 for the purpose of acquiring Ultra Clean Technology Systems and Service, Inc. Ultra Clean Technology Systems and Service, Inc. was founded in 1991 by Mitsubishi Corporation and was operated as a subsidiary of Mitsubishi until November 2002, when it was acquired by UCT. UCT became a publicly traded company in March 2004. Ultra Clean Technology (Shanghai) Co., Ltd ("UCTS") and Ultra Clean Micro-Electronics Equipment (Shanghai) Co., Ltd. ("UCME") were established in 2005 and 2007, respectively, to facilitate the Company's operations in China. In December 2015, UCTS merged into UCME. Ultra Clean Asia Pacific, Pte, Ltd. (Singapore) was established in fiscal year 2008 to facilitate the Company's operations in Singapore. In July 2012, UCT acquired American Integration Technologies LLC ("AIT") to add to the Company's existing customer base in the semiconductor and medical spaces and to provide additional manufacturing capabilities. In February 2015, UCT acquired Marchi Thermal Systems, Inc. ("Marchi"), a designer and manufacturer of specialty heaters, thermocouples and temperature controllers. Marchi delivers flexible heating elements and thermal solutions to our customers. The Company believes heaters are increasingly critical in equipment design for the most advanced semiconductor nodes. In July 2015, UCT acquired MICONEX s.r.o. ("Miconex"), a privately-held provider of advanced precision fabrication of plastics, primarily for the semiconductor industry that, initially, is expected to expand the Company's capabilities with existing customers.

Principles of Consolidation — The Company's consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries and all intercompany accounts and transactions have been eliminated in consolidation. The Company uses a 52-53 week fiscal year ending on the Friday nearest December 31. All references to quarters refer to fiscal quarters and all references to years refer to fiscal years.

Foreign Currency Translation and Remeasurement — The Company has one foreign subsidiary whose functional currency is not its local currency or the U.S. dollar. The Company remeasures the monetary assets and liabilities of this subsidiary into its functional currency. Gains and losses from these remeasurements are recorded in interest and other income (expense), net. The Company then translates the assets and liabilities of this subsidiary into the U.S. dollar. Gains and losses from these translations are recognized in foreign currency translation included in accumulated other comprehensive income (AOCI) within stockholders' equity. For the Company's foreign subsidiaries where the U.S. dollar is the functional currency, any gains and losses resulting from the translation of the assets and liabilities of these subsidiaries are recorded in interest and other income (expense), net.

Use of Accounting Estimates — The presentation 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 disclosures of contingent liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Such estimates and assumptions include reserves on inventory, valuation of deferred tax assets and impairment of goodwill and other long-lived assets. The Company bases its estimates and judgments on historical experience and on various other assumptions that it believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Actual amounts may differ from those estimates.

Concentration of Credit Risk — Financial instruments which subject the Company to concentrations of credit risk consist principally of cash and cash equivalents and accounts receivable. The Company sells its products primarily to semiconductor capital equipment manufacturers in the United States. The Company performs credit evaluations of its customers' financial condition and generally requires no collateral.

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Significant Sales to Customers — The Company’s most significant customers (having accounted for 10% or more of sales) and their related sales as a percentage of total sales for each of the previous three years, were as follows:

	Fiscal Year Ended					
	2017		2016		2015	
Lam Research Corporation	59.8	%	53.3	%	50.6	%
Applied Materials, Inc.	24.6		28.9		26.4	
Total	84.4	%	82.2	%	77.0	%

Two customers’ accounts receivable balances: Lam Research Corporation and Applied Materials, Inc. were individually greater than 10% of total accounts receivable as of December 29, 2017 and December 30, 2016 and, in the aggregate, represented approximately 75.8% and 85.0% of accounts receivable at December 29, 2017 and December 30, 2016, respectively.

Fair Value of Measurements — The Company measures its cash equivalents, interest rate derivative contracts and contingent earn-out liability at fair value on a recurring basis. Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or a liability. Assets and liabilities recorded at fair value are measured and classified in accordance with a three-tier fair value hierarchy based on the observability of the inputs available in the market used to measure fair value:

Level 1 — Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 — Inputs that are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be derived from observable market data. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including interest rate curves, foreign exchange rates, and credit ratings.

Level 3 — Unobservable inputs that are supported by little or no market activities.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The following table summarizes, for assets or liabilities measured at fair value, the respective fair value and the classification by level of input within the fair value hierarchy (in thousands):

		Fair Value Measurement at Reporting Date Using		
Description	December 29, 2017	Quoted Prices in Active Markets for	Significant Other Observable	Significant Unobservable Inputs

		Identical Assets (Level 1)	Inputs (Level 2)	(Level 3)
Other assets:				
Interest rate swap	$ 30	$ —	$ 30	$ —
Forward contracts	$ 1,302	$ —	$ 1,302	$ —

		Fair Value Measurement at Reporting Date Using		
Description	December 30, 2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Other assets:				
Interest rate swap	$ 15	$ —	$ 15	$ —
Other liabilities:				
Interest rate swap	$ 6	$ —	$ 6	$ —
Contingent earn-out liability	$ 278	$ —	$ —	$ 278

Derivative Financial Instruments — The Company recognizes derivative instruments as either assets or liabilities in the accompanying Consolidated Balance Sheets at fair value. The Company records changes in the fair value of the derivatives in the accompanying Consolidated Statements of Operations as interest and other income (expense), net, or as a component of AOCI in the accompanying Consolidated Balance Sheets.

Inventories — Inventories are stated at the lower of standard cost (which approximates actual cost on a first-in, first-out basis) or net realizable value. The Company evaluates the valuation of all inventories, including raw materials, work-in-process, finished goods and spare parts on a periodic basis. Obsolete inventory or inventory in excess of management's estimated usage is written-down to its estimated market value less costs to sell, if less than its cost. Inherent in the estimates of market value are management's estimates related to economic trends, future demand for products, and technological obsolescence of the Company's products.

Inventory write downs inherently involve judgments as to assumptions about expected future demand and the impact of market conditions on those assumptions. Although the Company believes that the assumptions it used in estimating inventory write downs are reasonable, significant changes in any one of the assumptions in the future could produce a significantly different result. There can be no assurances that future events and changing market conditions will not result in significant increases in inventory write downs.

At December 29, 2017 and December 30, 2016, inventory balances were $236.8 million and $103.9 million, respectively, net of reserves of $7.9 million and $6.9 million, respectively. The inventory write-downs are recorded as an inventory valuation allowance established on the basis of obsolete inventory or specific identified inventory in excess of estimated usage. For fiscal years 2017, 2016 and 2015, inventory write-downs were $2.6 million, $2.3 million and $2.4 million.

Equipment and Leasehold Improvements — Equipment and leasehold improvements are stated at cost, or, in the case of equipment under capital leases, the present value of future minimum lease payments at inception of the related lease. Depreciation and amortization are computed using the straight-line method over the lesser of the estimated useful lives of the assets or the terms of the leases. Useful lives range from three to fifteen years.

Internal use software — Direct costs incurred to develop software for internal use are capitalized and amortized over an estimated useful life of three or five years. Costs related to the design or maintenance of internal use software are expensed as incurred. Capitalized internal use software is included in computer equipment and software.

Construction in progress — Construction in progress is related to the construction or development of property and equipment that has not yet been placed in service for their intended use and is, therefore, not depreciated. Construction in progress currently includes capitalized costs related to the Company's new enterprise reporting system implementation project.

Product Warranty — The Company provides a warranty on its products for a period of up to two years, and provides for warranty costs at the time of sale based on historical activity. Determination of the warranty reserve requires the Company to make estimates of product return rates and expected costs to repair or replace the products under warranty. If actual return rates and/or repair and replacement costs differ significantly from these estimates, adjustments to recognize additional cost of sales may be required in future periods. The warranty reserve is included in other current liabilities on the consolidated balance sheets.

Income Taxes — The Company utilizes the asset and liability method of accounting for income taxes, under which deferred taxes are determined based on the temporary differences between the financial statement and tax basis of assets and liabilities using tax rates expected to be in effect during the years in which the basis differences reverse. Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, which will result in taxable or deductible amounts in the future. In evaluating our ability to realize our deferred tax assets within the jurisdiction from which they arise, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies, and results of recent operations. In projecting future taxable income, we begin with historical results and incorporate assumptions about the amount of future state, federal, and foreign pretax operating income adjusted for items that do not have tax consequences. The assumptions about future taxable income require significant judgment and are consistent with the plans and estimates we are using to manage the underlying businesses. In evaluating the objective evidence that historical results provide, we consider recent cumulative income (loss). A valuation allowance is recorded when it is more likely than not that some of the deferred tax assets will not be realized.

During the quarter ended December 29, 2017 the Company performed a twelve quarter analysis of its U.S. cumulative pretax profit position as of December 29, 2017 and, weighing both positive and negative evidence, determined that it is more likely than not that the Company will not have the ability to generate sufficient taxable income over the foreseeable future to realize its U.S. federal and state deferred tax assets. Therefore, during the quarter ended December 29, 2017, the Company continues to believe that a valuation allowance is required on its U.S. federal net deferred tax assets. The total U.S. federal and state valuation allowance as of December 29, 2017 was $7.9 million.

During the quarter ended December 29, 2017, the Company has concluded that a full valuation allowance against one of its Singapore subsidiaries' deferred tax assets continues to be necessary. The total valuation allowance of the Singapore loss entity as of December 29, 2017 is $0.2 million.

The Company's ability to realize deferred tax assets depends on its ability to generate sufficient taxable income within the carryback or carry forward periods. In assessing the Company's future taxable income, the Company considered all sources of future taxable income available to realize its deferred tax assets, including the taxable income from future reversal of existing temporary differences, carry forwards, taxable income in carryback years and tax-planning strategies. If changes occur in the assumptions underlying the Company's tax planning strategies or in the scheduling of the reversal of its deferred tax liabilities, the valuation allowance may need to be adjusted in the future.

The Company had a total valuation allowance on its net deferred tax assets in the amount of $8.1 million and $23.8 million as of December 29, 2017 and December 30, 2016, respectively.

Income tax positions must meet a more likely than not recognition threshold to be recognized. Income tax positions that previously failed to meet the more likely than not threshold are recognized in the first subsequent financial reporting period in which that threshold is met. Previously recognized tax positions that no longer meet the more likely than not threshold are derecognized in the first subsequent financial reporting period in which that threshold is no longer met. The Company recognizes potential accrued interest and penalties related to unrecognized tax benefits within the consolidated statements of income as income tax expense. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with the Company’s expectations could have a material impact on its results of operations and financial position. Management believes that it has adequately provided for any adjustments that may result from these examinations; however, the outcome of tax audits cannot be predicted with certainty.

Revenue Recognition — Product revenue is generally recorded upon shipment. In arrangements that specify title transfer upon delivery, revenue is not recognized until ownership is transferred to the customer. The Company recognizes revenue when persuasive evidence of an arrangement exists, shipment has occurred, price is fixed or determinable and collectability is reasonably assured. If the Company has not substantially completed a product or fulfilled the terms of a sales agreement at the time of shipment, revenue recognition is deferred until fulfillment. The Company's standard arrangement for its customers includes a signed purchase order or contract, no right of return of delivered products and no customer acceptance provisions.

The Company assesses collectability based on the credit worthiness of the customer and past transaction history. The Company performs on-going credit evaluations of customers and generally does not require collateral from customers.

Research and Development Costs — Research and development costs are expensed as incurred.

Net Income per Share — Basic net income per share is computed by dividing net income by the weighted average number of shares outstanding for the period. Diluted net income per share is calculated by dividing net income by the weighted average number of common shares outstanding and common equivalent shares from dilutive stock options and restricted stock using the treasury stock method, except when such shares are anti-dilutive (see Note 10 to the Notes to Consolidated Financial Statements).

Segments — The Financial Accounting Standards Board's (FASB) guidance regarding disclosure about segments in an enterprise and related information establishes standards for the reporting by public business enterprises of information about reportable segments, products and services, geographic areas, and major customers. The method for determining what information to report is based on the manner in which management organizes the reportable segments within the Company for making operational decisions and assessments of financial performance. The Company's chief operating decision-maker is considered to be the Chief Executive Officer. The Company operates in one reporting segment, and therefore, has one reportable segment.

Business Combinations — The Company recognizes assets acquired (including goodwill and identifiable intangible assets) and liabilities assumed at fair value on the acquisition date. Subsequent changes to the fair value of such assets acquired and liabilities assumed are recognized in earnings, after the expiration of the measurement period, a period not to exceed 12 months from the acquisition date. Acquisition-related expenses and acquisition-related restructuring costs are recognized in earnings in the period in which they are incurred.

Stock-based compensation

The Company maintains stock-based compensation plans which allow for the issuance of equity-based awards to executives and certain employees. These equity-based awards include stock options, restricted stock awards and restricted stock units. The Company also maintains an employee stock purchase plan ("ESPP") that provides for the issuance of shares to all eligible employees of the Company at a discounted price.

Stock-based compensation expense includes compensation costs related to estimated fair values of stock options, units and awards granted. Stock-based compensation expense from stock options, restricted stock units and stock awards and the related income tax benefit recognized were $7.8 million and $1.1 million, respectively, for fiscal year 2017, $5.7 million and $2.7 million, respectively, for fiscal year 2016 and $3.7 million and $0.5 million, respectively, for fiscal year 2015.

The estimated fair value of the Company's equity-based awards, net of expected forfeitures, is amortized over the awards' vesting period on a straight-line basis over a weighted average period of four years for stock options, three years for restricted stock units and one year for restricted stock awards and will be adjusted for subsequent changes in estimated forfeitures and future option grants.

The Company uses historical data to estimate pre-existing forfeitures, and records stock-based compensation for those awards that are expected to vest at the time of grant and revises those estimates in subsequent periods if actual forfeitures differ from those estimates.

The stockholders of the Company approved an increase in the number of shares available for issuance under our amended and restated stock incentive plan by 1,500,000, 3,100,000 and 2,700,000 on June 10, 2010, May 22, 2013 and May 21, 2017, respectively.

There were no employee stock option grants by the Company for years 2017, 2016 and 2015. Generally, options vest over four years and expire no later than ten years from the grant date. During fiscal years 2017, 2016 and 2015, the Company recorded $6.7 million, $3.0 million and $3.2 million, respectively, of stock-based compensation expense, net of tax, associated with employee and director stock plans and employee stock purchase plan programs. As of December 29, 2017, there was $12.4 million, net of forfeitures of $3.0 million, of unrecognized compensation cost related to employee and director stock which is expected to be recognized on a straight-line basis over a weighted average period of approximately 1.55 years, and will be adjusted for subsequent changes in estimated forfeitures and future grants.

Total stock-based compensation during the fiscal years 2017, 2016 and 2015, respectively, to various expense categories was as follows (in thousands):

	Year Ended December 29, 2017	December 30, 2016	December 25, 2015
Cost of goods sold (1)	$ 1,499	$ 1,254	$ 1,175
Sales and marketing	617	463	414
Research and development	219	281	202
General and administrative	5,422	3,673	1,869
	7,757	5,671	3,660
Income tax benefit	(1,055)	(2,660)	(487)
Net stock-based compensation expense	$ 6,702	$ 3,011	$ 3,173

(1) Stock-based compensation expenses capitalized in inventory for fiscal years 2017, 2016 and 2015 were considered immaterial.

Intangible Assets

Goodwill and indefinite-lived intangible assets are not amortized, but are reviewed for impairment annually. Purchased intangible assets are presented at cost, net of accumulated amortization, and are amortized on either a straight-line method or on an accelerated method over their estimated future discounted cash flows. The Company reviews goodwill and purchased intangible assets with indefinite lives for impairment annually and whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable, such as when reductions in demand or significant economic slowdowns in the semiconductor industry are present.

Intangible assets reviews are performed to determine whether the carrying value is impaired, based on comparisons to undiscounted expected future cash flows. If this comparison indicates that there is impairment, the impaired asset is written down to fair value, which is typically calculated using: (i) quoted market prices or (ii) discounted expected future cash flows utilizing a discount rate. See Note 5 to the Notes to Consolidated Financial Statements for further discussion.

Goodwill is recorded as the difference, if any, between the aggregate consideration paid for an acquisition and the fair value of the net tangible and intangible assets acquired. The Company tests goodwill for impairment at the reporting unit level (operating segment or one level below an operating segment) on an annual basis in the fourth quarter of each fiscal year or more frequently if the Company believes indicators of impairment exist. The performance of the test involves a two-step process. The first step of the impairment test involves comparing the fair values of the applicable reporting units with their aggregate carrying values, including goodwill. The Company generally determines the fair value of the Company's reporting units using the income approach methodology of valuation that includes the discounted cash flow method as well as other generally accepted valuation methodologies. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, the Company performs the second step of the goodwill impairment test to determine the amount of impairment loss. The second step of the goodwill impairment test involves comparing the implied fair value of the affected reporting unit's goodwill with the carrying value of that goodwill. The Company would then record a charge based on the results of the second step.

Long-lived Assets

The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate the carrying value of an asset group may not be recoverable. The Company assesses the fair value of the assets based on the amount of the undiscounted future cash flows that the assets are expected to generate and recognizes an impairment loss when estimated undiscounted future cash flows expected to result from the use of the asset are less than the carrying value of the asset. If the Company identifies an impairment, the Company reduces the carrying value of the group of assets to comparable market values, when available and appropriate, or to its estimated fair value based on a discounted cash flow approach.

At the end of fiscal years 2017, 2016 and 2015, the Company assessed the useful lives of its long-lived assets, including property, plant and equipment as well as its intangible assets and concluded that no impairment was required, except for UAMC assets, as discussed below.

Non-current assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. Immediately before classification as held for sale or distribution, the assets, or components of a disposal group, are measured at the lower of the carrying amount and fair value less costs to sell. Impairment losses on initial classification as held for sale and subsequent gains and losses on remeasurement are recognized in the statement of operations. Gains are not recognized in excess of any cumulative impairment loss. Once classified as held for sale, intangible assets and property, plant and equipment are no longer amortized or depreciated.

In November 2016, the Company determined to seek to dispose of a portion of its 3D printing business in Singapore (UAMC). This plan is consistent with the Company's strategy to focus on producing products for the semiconductor capital equipment industry. The Company recognized a \$0.7 million loss on reclassification of the assets of UAMC as held for sale as at December 30, 2016. This loss was recorded in cost of goods in the statements of operations. The total assets of UAMC at December 29, 2017 were \$3.0 million.

Recent Accounting Pronouncements

In May 2014, the FASB amended the existing accounting standards for revenue recognition. Following the FASB's finalization of a one year deferral, this standard is now effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The Company will adopt this standard in the first quarter of fiscal year 2018. The Company performed an assessment of the impact of the new accounting standard on its consolidated financial statements by outlining all revenue generating activities, mapping those activities to deliverables and tracing those deliverables to the standard. The Company will use the modified retrospective approach. The adoption of this standard will not have a material impact on the Company's consolidated financial statements and its internal control over financial reporting, however it will require new disclosures, which the Company is in the process of finalizing.

In July 2015, the FASB issued authoritative guidance that requires inventory to be measured at the lower of cost and net realizable value instead of at lower of cost or market. This guidance does not apply to inventory that is measured using last-in, first out or the retail inventory method but applies to all other inventory including those measured using first-in, first-out or the average cost method. The authoritative guidance was effective for the Company in the first quarter of fiscal 2017 and the Company recognized \$0.1 million to value the inventory at lower of cost or net realizable value.

In February 2016, the FASB issued new guidance related to how an entity should recognize lease assets and lease liabilities. The guidance specifies that an entity who is a lessee under lease agreements should recognize lease assets and lease liabilities for those leases classified as operating leases under previous FASB guidance. The guidance is effective beginning in the first quarter of 2019. Early adoption is permitted. In transition, lessees and lessors are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach. The Company is evaluating the impact of adopting this guidance on the Company's consolidated financial statements. The Company currently expects that its operating lease commitment will be subject to the new standard and recognized as right-of-use asset and operating lease liability upon adoption of this standard, which will increase the total assets and total liabilities that it reports relative to such amounts prior to adoption.

In March 2016, the FASB issued new guidance which involves several aspects of the accounting for share-based payment transactions including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Under the new standard, income tax benefits and deficiencies are to be recognized as income tax expense or benefit in the income statement and the tax effects of exercised or vested awards should be treated as discrete items in the reporting period in which they occur. An entity should also recognize excess tax benefits regardless of whether the benefit reduces taxes payable in the current period. Excess tax benefits should be classified along with other income tax cash flows as an operating activity. In regards to forfeitures, the entity may make an entity-wide accounting policy election to either estimate the number of awards that are expected to vest or account for forfeitures when they occur. The Company adopted the amended accounting guidance in the first quarter of 2017 and recognized $1.7 million of previously excluded tax attributes related to stock option windfall deductions and also recognized a corresponding offset to valuation allowance. Forfeitures will continue to be estimated consistent with the Company's existing accounting policies.

In August 2016, the FASB issued an amendment to its accounting guidance related to the classification of certain cash receipts and cash payments. The amendment was issued to reduce the diversity in practice in how certain transactions are classified in the statement of cash flows. The amendment will be effective for the Company beginning in its first quarter of fiscal year 2018 with early adoption permitted. The amendment is required to be adopted retrospectively unless it is impracticable. The Company expects that the adoption will not have a material impact on its financial statements.

In January 2017, the FASB clarified its guidance to simplify the measurement of goodwill by eliminating the Step 2 impairment test. The new guidance requires companies to perform goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. The amendment will be effective for the Company beginning in its first quarter of fiscal year 2020. The amendment is required to be adopted prospectively. Early adoption is permitted. The Company is evaluating the impact of adopting this amendment to its consolidated financial statements.

In January 2017, the FASB clarified its guidance on the definition of a business in accounting for transactions when determining whether they represent acquisitions or disposals of assets or of a business. The amendment will be effective for the Company beginning in its first quarter of fiscal year 2018. The amendment is required to be adopted prospectively. The adoption of this standards update will not have a material impact on the Company’s consolidated financial statements.

In May 2017, the FASB issued an accounting standards update with new guidance to clarify when changes to the terms or conditions of a share-based payment award must be accounted for as a modification. The new guidance requires the application of modification accounting if the value, vesting conditions or classification of the award changes. The amendment will be effective for the Company beginning in its first quarter of fiscal year 2018 with early adoption permitted. The adoption of this standards update will not have a material impact on the Company’s consolidated financial statements.

In August 2017, the FASB issued new guidance which improves the financial reporting of hedging relationships to better portray the economic results of an entity’s risk management activities in its financial statements and simplifies the application of hedge accounting. This standard will be effective for the Company beginning in its first quarter of fiscal year 2019 with early adoption permitted. The Company is evaluating the impact of adopting this amendment to its consolidated financial statements and related disclosures.

2. Financial Instruments

Derivative Financial Instruments

The Company uses certain interest rate derivative contracts to hedge interest rate exposures on existing floating rate debt. The Company classifies its interest rate derivative contracts primarily within Level 2 of the fair-value hierarchy discussed in Note 1of the Company’s Consolidated Financial Statements as the valuation inputs are based on quoted prices and market observable data of similar instruments. The Company does not use derivatives for speculative or trading purposes.

Cash Flow Hedges

In September 2015, the Company entered into an interest rate swap with East West and City National banks with a notional amount of $20.0 million pursuant to which the Company pays the counterparty a fixed rate of 0.99% and receives interest at a variable rate equal to the LIBOR rate the Company is required to pay under its term loan, or 1.57%, as of December 29, 2017. This interest rate swap effectively locks in a fixed interest rate of 2.99% on $7.8 million of the $9.9 million term loan as of December 29, 2017, with a decreasing notional amount based on prorated quarterly principal payments over the remaining period of the term loan.

In 2017, Miconex entered into foreign currency forward contracts to hedge certain forecasted costs and expenses transactions denominated in currencies other than Miconex's local currency. The notional principal of these contracts was approximately $14.2 million as of December 29, 2017. These contracts have maturities of 36 months or less.

Gains or losses on the effective portion of a cash flow hedge are reflected as a component of AOCI and subsequently recorded to interest income (expense) and/or to cost of goods sold when the hedged transactions are realized. If the hedged transactions become probable of not occurring, the corresponding amounts in AOCI would be immediately reclassified to interest and other income, net. As of December 29, 2017, the effective portion of the Company's cash flow hedge before tax effect was approximately $1.3 million, of which $0.7 million is expected to be reclassified from AOCI into earnings within the next 12 months.

The Company records all derivatives in the Consolidated Balance Sheets at fair value. The Company's accounting treatment for these derivative instruments is based on its hedge designation. The following tables show the Company's derivative instruments at gross fair value (in thousands) as of December 29, 2017 and December 25, 2015.

		December 30, 2017		
	Balance Sheet Location	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated as Hedge Instruments	Total Fair Value
Derivative assets and liabilities:				
Level 2:				
Interest rate swap	Other current assets	$ 30	$ —	$ 30
Forward contracts	Prepaid expenses and other	$ 714	$ —	$ 714
Forward contracts	Other non-current assets	$ 588	$ —	$ 588

		December 30, 2016		
	Balance Sheet Location	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated as Hedge Instruments	Total Fair Value
Derivative assets and liabilities:				
Level 2:				
Interest rate swap	Other non-current assets	$ 15	$ —	$ 15
Interest rate swap	Deferred rent and other	$ —	$ 6	$ 6

liabilities

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The effect of derivative instruments in cash flow hedging relationships on income and other comprehensive income (OCI) is summarized below (in thousands):

	Gains (Losses) Recognized in OCI on Derivatives Before Tax Effect (Effective Portion) Twelve Months Ended	
	December 29, 2017	December 30, 2016
Derivatives in Cash Flow Hedging Relationship		
Interest rate swap	$ 4	$ (60)
Forward contracts	$ (1,510)	$ —

	Gains (Losses) Reclassified from AOCI into Income (Effective Portion)		
		Twelve Months Ended	
	Income Statement Location	December 29, 2017	December 30, 2016
Derivatives in Cash Flow Hedging Relationship			
Interest rate swap	Interest and other income (expense), net	$ 18	$ 88
Forward contracts	Cost of goods sold	$ (255)	$ —

There were no gains (losses) recognized in income on derivatives that are excluded from the effectiveness testing and ineffective portion of the cash flow hedge for the fiscal year ended December 29, 2017 and December 30, 2016.

The effect of derivative instruments not designated as hedging instruments on income for the fiscal years ended December 29, 2017 and December 25, 2015 is immaterial to the financial statements.

3. Balance Sheet Information

Inventories consisted of the following (in thousands):

	December 29, 2017	December 30, 2016
Raw materials	$ 183,457	$ 68,473
Work in process	43,826	26,529
Finished goods	9,557	8,859
Total	$ 236,840	$ 103,861

Equipment and leasehold improvements, net, consisted of the following (in thousands):

	December 20, 2017	December 30, 2016
Computer equipment and software	$ 11,672	$ 11,135
Furniture and fixtures	3,318	3,118
Machinery and equipment	19,781	17,016
Leasehold improvements	23,185	16,838
	57,956	48,107
Accumulated depreciation	(38,879)	(33,825)
Construction in progress	13,515	4,576
Total	$ 32,592	$ 18,858

4. Acquisitions

Miconex

On July 31, 2015, the Company acquired 100.0% of the shareholding interest of Miconex, a limited liability company incorporated under the laws of the Czech Republic and a provider of advanced precision fabrication of plastics, primarily for the semiconductor industry. This acquisition is expected to expand the Company's capabilities with existing customers. Pursuant to the purchase agreement, the Company paid $15.6 million in cash and issued 500,000 shares of the Company's common stock. In addition, the former owners of Miconex are entitled to up to $4.0 million of potential cash "earn-out" payments over a two-year period following closing, based on Miconex's achievement of specified performance targets based on earnings before interest and taxes pursuant to the provisions of the purchase agreement. In 2016, Miconex achieved the specified performance targets for the first year and was paid the maximum of $2.0 million of the $4.0 million potential cash earn-out.

The fair value of the earn-out payments at the acquisition date was determined providing risk adjusted earnings projections using the Monte Carlo Simulation. These inputs are not observable in the market and thus represent a Level 3 measurement as discussed in Note 1 of the Company's Consolidated Financial Statements. During the fiscal year 2017, the Company reassessed the fair value of the earn-out payments, decreasing the fair value from $0.3 million as of December 30, 2016 to nil as of December 29, 2017. Miconex failed to achieve the specified performance target for the second year. The decrease of $0.3 million was recorded as other income in the Consolidated Statements of Operations.

The results of operations for the Company for the fiscal period ended December 25, 2015 include five months of operating activity for Miconex. Net sales of approximately $14.2 million and operating income of approximately $2.0 million attributable to Miconex were included in the consolidated results of operations. For the fiscal year ended December 25, 2015, results of operations included charges of $0.5 million attributable to amortization of purchased intangible assets and $0.4 million of deal costs associated with the acquisition. Deal costs are included in general and administrative expenses in the Company's Consolidated Statements of Operations.

Marchi

On February 5, 2015, the Company acquired the assets of Marchi, a designer and manufacturer of specialty thermocouples, heaters and temperature controllers, for approximately $29.9 million in cash and 1,437,500 shares of newly issued common stock for a total purchase price of approximately $43.7 million. In addition, the Company incurred approximately $0.2 million of costs related to the acquisition. The Company completed this acquisition primarily in order to expand its capabilities with existing customers and to bring the Company closer to the customer in the design stage of new products and next generation equipment. The Company financed the cash portion of the acquisition by borrowing a total of $29.7 million under the Credit Agreement. See further discussion of the borrowing arrangements in Note 6 to the Company's Consolidated Financial Statements.

The results of operations for the Company for fiscal year ended December 25, 2015 include eleven full months of operating activity for Marchi. Net sales of approximately $12.9 million and operating income of approximately $4.8 million attributable to Marchi were included in the consolidated results of operations. For the fiscal year ended December 30, 2016, results of operations included charges of $2.4 million attributable to amortization of purchased intangible assets and $0.2 million of deal costs associated with the acquisition. Deal costs are included in general and administrative expenses in the Company's consolidated results of operations.

The following unaudited pro forma consolidated results of operations assume the Marchi and Miconex acquisitions were completed as of the beginning of the year of the reporting periods presented (in thousands, except per share amounts):

	Year Ended December 25, 2015
Net sales	$ 490,927
Net loss	$ (9,161)
Basic loss per share	$ (0.29)
Diluted loss per share	$ (0.29)

The unaudited pro forma results above include adjustments related to the purchase price allocation and financing of the Marchi and Miconex acquisitions, primarily to increase amortization for the identifiable intangible assets, to increase interest expense for the additional debt incurred to complete the acquisition of Marchi, to reflect the related income tax effect of the pro forma adjustments and to adjust weighted shares issued as part of the acquisitions. The unaudited pro forma results for the year ended December 25, 2015 include acquisitions related costs of $0.6 million which are not expected to occur in future quarters. The unaudited pro forma condensed combined financial information has been prepared by management for illustrative purposes only and are not necessarily indicative of the condensed consolidated financial position or results of income in future periods or the results that actually would have been realized had UCT, Marchi and Miconex been a combined company during the specified periods. The unaudited pro forma condensed combined financial information does not reflect any operating efficiencies and/or cost savings that we may achieve with respect to the combined companies, or any liabilities that may result from integration activities.

5. Goodwill and Purchased Intangible Assets

The Company’s methodology for allocating the purchase price relating to purchase acquisitions is determined through established and generally accepted valuation techniques. Goodwill is measured as the excess of the cost of the acquisition over the sum of the amounts assigned to tangible and identifiable intangible assets acquired less liabilities assumed. Goodwill and purchased intangible assets with indefinite useful lives are not amortized, but are reviewed for impairment at least annually and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. If the carrying value of a reporting unit exceeds its fair value, the Company would then perform the second step of the impairment test in order to determine the implied fair value of the reporting unit’s goodwill. If the Company determines that the carrying value of a reporting unit’s goodwill exceeds its implied fair value, the Company would record an impairment charge equal to the difference. The process of evaluating the potential impairment of goodwill and intangible assets requires significant judgment. The Company regularly monitors current business conditions and other factors including, but not limited to, adverse industry or economic trends and lower projections of profitability that may impact future operating results.

As part of the Company’s annual testing of goodwill impairment, in the fourth quarter of fiscal 2017, the Company performed the two-step impairment test of the Company’s three reporting units for potential impairment. The Company utilized the discounted cash flow method of the income approach to estimate the fair values of each of the reporting units. The estimates used in the impairment testing were consistent with the discrete forecasts that the Company uses to manage its business, and, additionally, considered the developments that occurred since the dates of the acquisitions. Under the discounted cash flow method, cash flows beyond the discrete forecasts were estimated using terminal growth rates ranging from 4.2%—8.5%, which are considered to be the long-term earnings growth rates specific to the reporting units. The estimated future cash flows were discounted to present value using discount rates between 14.0%—17.5% that were the value-weighted average of the reporting units' estimated cost of equity and debt derived using both known and estimated market metrics. These discount rates were adjusted to reflect risk factors that considered both the timing and risks associated with the estimated cash flows for each of the respective reporting units. The tax rates used in the discounted cash flows reflected the international structure currently in place, which is consistent with the market participant perspective. The Company then allocated the fair values of the reporting units to the assets and liabilities of each of the reporting units. Based on the Company's analyses, the Company concluded that the fair value of each of the reporting units was greater than their carrying amount, including goodwill, and, therefore, the second step of the goodwill impairment test was not required.

Details of aggregate goodwill of the Company are as follows (in thousands):

	Gross Amount	Accumulated Impairment*	Net Carrying Amount
Year Ended December 29, 2017			
Goodwill	$ 119,291	$ (34,043)	$ 85,248
Year Ended December 30, 2016			
Goodwill	$ 119,291	$ (34,043)	$ 85,248

* Represents goodwill recorded for UCT in 2002 and Sieger Engineering in 2006, which was fully impaired in prior years.

Details of goodwill and other intangible assets were as follows (in thousands):

	December 29, 2017	December 30, 2016