APPLIED OPTOELECTRONICS, INC.
Form 10-K
March 09, 2017
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2016

OR

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

For the transition period from to

Commission File Number: 001-36083

Applied Optoelectronics, Inc.

(Exact name of registrant as specified in its charter)

Delaware	76-0533927
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

13139 Jess Pirtle Blvd.

Sugar Land, TX 77478

(Address of principal executive offices)

(281) 295-1800

(Registrant's telephone number)

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

(Title of each class)	(Name of each exchange on which registered)
Common Stock, Par value $0.001	NASDAQ Global Market

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 of 1933 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 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 Website, 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" and "smaller reporting 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

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

As of June 30, 2016, the aggregate market value of the voting common stock held by non-affiliates of the Registrant was approximately $180.9 million based upon the closing sales price of the Registrant's common stock as reported on the NASDAQ Global Markets on June 30, 2016 of $11.15 per share. Shares of common stock held by officers, directors and holders of more than ten percent of the outstanding common stock have been excluded from this calculation because such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 6, 2017, the Registrant had 18,677,878 outstanding shares of Common Stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive Proxy Statement for the Registrant's 2017 Annual Meeting of Stockholders are incorporated by reference in Part III of this Annual Report on Form 10-K to the extent stated herein. The Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days of the Registrant's fiscal year ended December 31, 2016.

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PART I

Item 1. Business

Forward-Looking Information

This Annual Report on Form 10-K contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to our management, including statements appearing under the heading, "Management's Discussion and Analysis of Financial Condition and Results of Operations". The statements contained in this Annual Report on Form 10-K that are not purely historical are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. In some cases, you can identify forward-looking statements by terminology such as ''may,'' ''will,'' ''should,'' ''expects ''plans,'' ''anticipates,'' ''believes,'' ''estimates," "strategy," "future," "likely," or "would" or by other similar expressions tha uncertainty of future events or outcomes. These forward-looking statements involve risks and uncertainties, as well as assumptions and current expectations, which could cause the company's actual results to differ materially from those anticipated in such forward-looking statements. These risks and uncertainties include but are not limited to: reduction in the size or quantity of customer orders; change in demand for the company's products due to industry conditions; changes in manufacturing operations; volatility in manufacturing costs; delays in shipments of products; disruptions in the supply chain; change in the rate of design wins or the rate of customer acceptance of new products; the company's reliance on a small number of customers for a substantial portion of its revenues; pricing pressure; a decline in demand for our customers products or their rate of deployment of their products; general conditions in the CATV, internet data center, FTTH, or telecom markets; changes in the world economy (particularly in the United States and China); the negative effects of seasonality; and other risks and uncertainties described more fully under "Risk Factors" in this Annual Report on Form 10-K and those discussed in the company's other documents filed with or furnished to the Securities and Exchange Commission. You should not rely on forward-looking statements as predictions of future events. All forward-looking statements in this Annual Report on Form 10-K are based upon information available to us as of the date hereof, and qualified in their entirety by this cautionary statement. Except as required by law, we assume no obligation to update forward-looking statements for any reason after the date of this report to conform these statements to actual results or to changes in the company's expectations.

BUSINESS

Overview

We are a leading, vertically integrated provider of fiber-optic networking products, primarily for four networking end-markets: internet data center, cable television, or CATV, fiber-to-the-home, or FTTH, and telecommunications, or telecom. We design and manufacture a range of optical communications products at varying levels of integration, from components, subassemblies and modules to complete turn-key equipment.

In designing products for our customers, we begin with the fundamental building blocks of lasers and laser components. From these foundational products, we design and manufacture a wide range of products to meet our customers' needs and specifications, and such products differ from each other by their end market, intended use and level of integration. We are primarily focused on the higher-performance segments within all four of our target markets, which increasingly demand faster connectivity and innovation.

The four end markets we target are all driven by significant bandwidth demand fueled by the growth of network-connected devices, video traffic, cloud computing and online social networking. To address this increased bandwidth demand, CATV and telecommunications service providers are competing directly against each other by providing bundles of voice, video and data services to their subscribers and investing to enhance the capacity, reliability and capability of their networks. The trend of rising bandwidth consumption also impacts the internet data center market, as reflected in the shift to higher speed server connections. As a result of these trends, fiber-optic networking technology is becoming essential in all four of our target markets, as it is often the only economic way to deliver the desired bandwidth.

The internet data center market is our largest and fastest growing market. Our customers in this market are generally large internet-based ("Web 2.0") data center operators, to whom we supply optical transceivers that plug into

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switches and servers within the data center and allow these network devices to send and receive data over fiber optic cables. The majority of the data center optical transceivers that we sell utilize our own lasers and subassemblies (we refer to the transceivers subassemblies as “light engines”), and we believe that our in-house technology and manufacturing capability for these lasers and subassemblies gives us an advantage over many of our competitors who often lack either development or manufacturing capabilities for these advanced optical modules.

The CATV market is our most established market, for which we supply a broad array of products including lasers, transmitters and transceivers, and turn-key equipment. Sales of headend, node and distribution equipment have contributed significantly to our revenue in recent years as a result of our ability to meet the needs of CATV equipment vendors who have continued to outsource both the design and manufacturing of this equipment. While equipment vendors have relied upon third parties to assemble portions of their products, within the past seven years certain of our customers have accelerated the outsourcing of the design and manufacturing of both headend equipment and node equipment to third parties. The shift is due in part to the sophisticated engineering expertise needed to perform this work. We believe that our extensive high-speed optical, mixed-signal semiconductor and mechanical engineering capabilities position us well to benefit from these industry dynamics.

Our vertically integrated manufacturing model provides us several advantages, including rapid product development, fast response times to customer requests and control over product quality and manufacturing costs. We design, manufacture and integrate our own analog and digital lasers using a combination of Metal Organic Chemical Vapor Deposition, or MOCVD, and our proprietary Molecular Beam Epitaxy, or MBE, fabrication process, which we believe is unique in our industry. We manufacture the majority of the laser chips and optical components that are used in our products. The lasers we manufacture are proven to be reliable over time and highly tolerant of changes in temperature and humidity, making them well-suited to the CATV and FTTH markets where networking equipment is often installed outdoors.

In 2016, our revenue was $260.7 million and our gross margin was 33.4%. We have grown our annual revenue at a compound annual growth rate, or CAGR, of 34.1% between 2009 and 2016. In the years ended December 31, 2016, 2015 and 2014, we had net income of $31.2 million, $10.8 million and $4.3 million, respectively, and our accumulated deficit at December 31, 2015 and December 31, 2016 was $68.2 million and $37.0 million, respectively. In 2016, we earned 77.2% of our total revenue from the internet data center market, and 16.7% of our total revenue from the CATV market. In 2016, our key customers in the data center market included Amazon.com (Amazon) and Microsoft Corp (Microsoft). In 2016, 2015, and 2014, Amazon accounted for 54.6%, 52.5%, and 45.8% of our revenue, respectively, and Microsoft accounted for 18.3%, 11.6%, and 3.6% of our revenue, respectively. In 2016, our key customers in the CATV market included Cisco Systems, Inc. (Cisco) and Arris Group, Inc. (Arris). In 2016, 2015 and 2014, Cisco accounted for 5.4%, 10.4%, and 8.9%, respectively, of our revenue and Arris accounted for 5.8%, 4.5% and 4.5%, respectively, of our revenue.

Industry Background

During 2016, our four target markets, internet data center, CATV, FTTH, and telecom experienced a significant growth in bandwidth consumption and the corresponding need for network infrastructure improvement to support this growth.

The prevailing trends in our target markets include:

- Trends in the Internet Data Center Market. To support the substantial increase in bandwidth consumption, internet data center operators are increasing the scale of their internet data centers and accelerating data transmission rates. As a result, there is an ongoing transition from the use of copper cable, typically at speeds up to 1 gigabit per second (Gbps), to optical fiber as a transport medium, typically providing speeds from 10 Gbps to 100 Gbps. In recent years, a number of leading internet companies have adopted more open internet data center architectures, using a mix of systems and components from a variety of vendors, and in some cases designing their own equipment. For these companies, compatibility of new networking equipment with legacy infrastructure is not as important, and consequently, these companies are more willing to work with non-traditional equipment vendors, which we believe creates an open and growing opportunity for optical device vendors. Moreover, transmission speeds have continued to increase among the companies who have previously transitioned from copper-based to fiber-based

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infrastructure, resulting in opportunities for optical device vendors to supply new optical transceivers capable of operating at these higher data rates.

- Trends in the CATV Market. In recent years, CATV service providers have invested extensively to support high speed, two-way communications and we expect that they will continue to do so. In North America, in particular, CATV service providers have begun to upgrade their networks with new technologies like DOCSIS 3.1, which enables them to offer higher speed connections to their customers. In order to increase available bandwidth for their customers beyond the bandwidth possible with the introduction of DOCSIS 3.1, cable MSOs have been reducing the number of customers that are connected to a single node. By reducing the number of “homes per node,” the average bandwidth available to each customer is increased. Other new technologies, such as Converged Cable Access Platform (CCAP) and “Remote PHY” are under development by cable equipment suppliers. These technologies are being developed to be a cost-effective solution to provide higher available bandwidth to CATV customers.

While equipment vendors have historically relied upon third parties to assemble portions of their products, within the past seven years, certain of our customers have accelerated the outsourcing of both the design and manufacturing of both headend equipment and node equipment to third parties. The shift is due in part to the sophisticated engineering expertise needed to perform this work, along with the proliferation of new equipment designs needed to support DOCSIS 3.1.

- Trends in the FTTH Market. The FTTH market generally refers to the Passive Optical Networks, or PONs, that telecommunications service providers deploy. The most commonly deployed PON technology is Gigabit PON, or GPON, which delivers up to 2.5 Gbps of data, but due to the splitting of the bandwidth among multiple users, the actual bandwidth delivered to an individual subscriber is far less than 2.5 Gbps. One approach that does support true 1 Gbps service to the home is wavelength division multiplexing PON, or WDM-PON, a technology that enables the transmission of multiple wavelengths of data over a single fiber-optic strand.

- Trends in the Telecom Market. The telecom market is composed of customers who deploy wireline optical networks, other than PONs, for telecommunications access networks, including for backhaul of cellular telephone signals. As demand for mobile internet connectivity has increased in recent years, reliable and high-speed optical networks have become increasingly important. In particular, the use of wavelength division multiplexing (WDM) to expand the capacity of mobile networks has led to increased demand for WDM components (including lasers and transceivers) by telecom equipment manufacturers.

We experience certain challenges within our target markets, including continuous pressure to innovate and deliver highly integrated products that perform reliably in harsh, demanding environments and to produce high-quality devices in large volumes at competitive prices.

Our Solutions

By addressing the challenges in our target markets, we provide the following benefits to our customers:

- Enable customers to deliver innovative products. We leverage our extensive expertise in high-speed optical, mixed-signal semiconductor and mechanical engineering, and MOCVD and our proprietary MBE laser fabrication process to deliver technologically advanced products to our customers.

- Enhance efficiency and cost effectiveness of our customers' supply chains. We design and sell products at the level of integration desired by a customer, from components to turn-key equipment, providing our customers a dependable, cost-effective and simplified supply chain.

- Deliver high quality, reliable products in high volume. As a vertically integrated supplier, we are able to monitor and maintain quality control throughout the production process, using our internally produced components where possible for our final products. With manufacturing facilities in the U.S., Taiwan and China, we can support high volume production and timely delivery for our customers around the world.

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- Provide sophisticated design solutions to our customers. We believe our in-house expertise in both analog and digital optical engineering enables us to design comprehensive solutions that meet many of the different network architectures and protocols used by our customers.

Our Strengths

Our key competitive strengths include the following:

- Proprietary technological expertise and track record of innovation. We continue to develop innovative products by leveraging our technological expertise, including our proprietary MBE and MOCVD laser fabrication process.

  - Innovative light engine design and manufacturing. High-speed data center interconnect transceivers increasingly rely on multiple parallel optical signals. Our expertise in designing and manufacturing light engines, which combine lasers and photodiodes with channel multiplexing and de-multiplexing elements, gives us the ability to quickly develop new products for our data center customers.

- Proven system design capabilities. We have extensive expertise and proven design capabilities in high-speed optical, mixed-signal semiconductor and mechanical engineering, which we believe position us to take advantage of the continuing shift to outsourced design and manufacturing among CATV equipment vendors.

- Highly customized products. Many of our products have some level of customization, making it more difficult for our customers to switch rapidly to another supplier. We believe this element of customization contributes to longer product lifecycles and more stable product pricing.

- Industry-leading position in the CATV market. We have continued to be awarded new design and manufacturing opportunities for CATV components and equipment. We serve a majority of the largest CATV equipment manufacturers in the world and our knowledge of both their requirements and the needs of their customers (the CATV network operators) allows us to access these new opportunities.

- Vertically integrated, geographically distributed manufacturing model. Our vertically integrated design and manufacturing process encompasses various steps from laser design and fabrication to complete optical system design and assembly. Furthermore, we have geographically distributed our manufacturing by strategically locating our operations in the U.S., China and Taiwan to reduce development time and production costs, to better support our customers and to help protect our intellectual property.

Our Strategy

We seek to be the leading global provider of optical components, modules and equipment for each of our four target markets, internet data centers, CATV, FTTH, and telecom. Our strategy includes the following key elements:

· Continue to penetrate the internet data center market. In the internet data center market, we primarily target internet data center operators who have adopted an open system architecture—one in which the optical connectivity solutions can be provided by a different vendor than the vendor which provides their servers and switches.

· Extend our leadership in CATV networking. We intend to maintain our position as the leading producer of optical components used in CATV networks, and to capture an increasing share of the CATV equipment market as the major equipment vendors continue to outsource the design and manufacturing of such products.

· Continue to penetrate the FTTH market. We believe our WDM-PON technology is a cost-effective solution for delivering 1 Gbps bandwidth to a home. We intend to capture an increasing share of the FTTH market by delivering optical modules enabling 1 Gbps synchronous service to the home through our customers, who are either internet service providers or manufacturers of networking equipment supplying internet service providers.

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· Continue to invest in our capabilities and infrastructure. We intend to continue to invest in new products, new technology and our production infrastructure and facilities to maintain and strengthen our competitive position. We engage in an active research and development program to develop new products and enhance existing products.

· Selectively pursue other opportunities that leverage our existing expertise. Our expertise in designing and manufacturing outdoor equipment for the CATV industry positions us well to pursue applications that are also characterized by having varying and demanding environments, including wireless and wireline telecom infrastructure, industrial robotics, aerospace and defense, and oil and gas exploration.

· Pursue complementary acquisition and strategic alliance opportunities. We evaluate and selectively pursue acquisition opportunities or strategic alliances that we believe will enhance or complement our current product offerings, augment our technology roadmap, or diversify our revenue base.

Our Technology

We believe that we have technology leadership in four key areas: semiconductor laser manufacturing, electronic technologies that enhance the performance of our lasers, optical hybrid integration and mixed-signal semiconductor design.

· Differentiated semiconductor laser manufacturing. We use a combination of MBE and MOCVD processes in the fabrication of our lasers. We believe that the combination of these two epitaxial processes allows our products to benefit from the advantages afforded by each of these techniques. Among the differentiators of MBE relative to MOCVD fabrication are a lower process temperature and the use of solid phase materials rather than gaseous sources to grow wafers and the growth of more highly strained crystals. These factors contribute to longer operating lives of our lasers, improved laser efficiency and threshold current, among other performance attributes that make them well-suited to our target markets. While we believe that these advantages of MBE are important, MBE does have disadvantages including the inability to use certain dopant materials (for example Iron), difficulty in certain types of regrowth, and the necessity to maintain complex ultra-high vacuum equipment. By utilizing MOCVD in a portion of our production process, we are able to ameliorate some of these disadvantages. However, the epitaxial and processing steps required in the fabrication of our devices are very complex, with numerous critical steps requiring highly precise control. As a result of some of these challenges, production yields and the performance attributes of laser devices are highly variable and optimizing these characteristics requires numerous enhancements and modifications to standard MBE equipment and the MBE process. To our knowledge, we are unique in incorporating MBE processes in the production of communications lasers in high volume, and believe it would be difficult and time-consuming for other vendors to replicate our production technology.

· Laser enhancement technology. Certain properties of the semiconductor lasers predominantly used in traditional communications devices, such as chirp and wavelength drift, negatively affect their ability to transmit signals over long fiber distances or prevent them from transmitting signals with acceptable fidelity in certain applications. We have developed laser enhancement circuitry that can correct many of these deficiencies. We believe that our technology will become more essential with wider deployment of higher capacity CATV and FTTH systems, which place more stringent demands on laser performance.

· Optical hybrid-integration technology. Reducing the size, power consumption and complexity of optical devices is essential for achieving the price and performance targets of our customers. Our ability to integrate multiple optical networking functions into a single device and to co-package multiple devices into smaller form factors helps us meet customer requirements, and we believe can also create new opportunities. For instance, the transmission speed between network elements (switches and servers, for example) within the data center has continued to increase. However, the rate at which this data can be converted from electrical signals to optical signals by laser diodes has not increased at the same pace. Therefore, to achieve data rates of 40 Gbps and above, many customers utilize multiple lower data rate lasers co-packaged together into a single optical module, which we refer to as a light engine. The technology required to cost-effectively and reliably co-package these lasers and the associated electronic control circuitry is complex. Our extensive experience with the processes and the manufacturing technologies required to produce these devices gives us a competitive advantage.

Similarly, in FTTH networks, installing new fiber-optic cable is expensive and difficult, and in some situations prohibitively so for a network service provider. As a consequence, network operators seek to maximize the utilization of their installed fiber plant. In long-haul and metropolitan networks, the number of service providers who deployed WDM technology as fiber utilization rose. Fiber utilization in access networks is rising, but the use of WDM technology in the access segment has been problematic due to the relatively high cost and power consumption of the requisite optical devices. We have developed proprietary miniaturized optical packaging, electronic control circuitry and testing algorithms to create a hybrid WDM-PON solution that addresses these historical impediments that we believe will make WDM-PON a cost-effective alternative for deployment.

· Mixed-signal design. As CATV providers continue to evolve from primarily broadcast-video content providers to a mixture of HD video content together with data-connectivity providers, the networks they utilize to offer these services must evolve as well. Older analog networks are giving way to hybrid networks that incorporate both analog and digital signals. For example, many newer networks are being designed with “digital return-path” capabilities. In this type of network, signals traveling from the headend to the residence are transported as analog signals, whereas signals traveling in the opposite direction (that is, originating at the residence and being transmitted towards the headend) are carried as digital signals. This combination of analog and digital signaling creates unique design challenges. Our engineers have many years of experience in developing equipment, modules and components that are well suited to these sorts of mixed-signal architectures. We believe that having deep experience in both digital and analog signaling allows us to offer superior solutions to our customers, compared with companies who have expertise in only one of these signal types.

Our Products

Our products include an array of optical communications solutions at varying levels of integration. We begin from the fundamental building blocks of lasers and laser components. From these foundational products, we design and manufacture a wide range of products from optical modules to complete turn-key equipment. We design our products to target customers in our identified markets to meet their needs and specifications.

Our components often incorporate one or more of our optical laser chips inside a precision housing that provides mechanical protection as well as standardized electrical contacts. More complex optical components may also include optical filters (for example, for use in WDM) or other optical elements by which optical signals are routed internally within the component. These more advanced components may also include coolers, heaters and sensors that allow the temperature of the laser chip to be measured and controlled. We manufacture the majority of the laser chips and optical components that are used in our own products.

At the next level of integration, our module or sub-assembly products typically contain one or more of our optical components and some additional control circuitry. Examples of modules include our transceiver line primarily used in internet data center markets and FTTH markets.

At the highest level of integration and complexity, our equipment products typically contain one or more optical components, modules and additional electronic control circuitry required to enable these subsystems to operate independently. For example, our CATV transmitter equipment requires utilization of our optical components and assembly onto a circuit board and to an external housing. Examples of equipment include our CATV transmitter and CATV nodes.

Intellectual Property

We rely on a combination of patent, copyright, trademark and trade secret laws, as well as confidentiality and licensing arrangements, to establish and protect our intellectual property. We employ various methods to protect these intellectual property rights, including maintaining a technological infrastructure with significant security measures, limiting disclosure and restricting access to only those individuals with an operational need for such information, and having employees, consultants and suppliers execute confidentiality agreements with us. While we expect our

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intellectual property to provide competitive advantages, we also find meaningful value from unpatented proprietary process knowledge, know-how and trade secrets.

Patents

As of December 31, 2016, we owned a total of 90 U.S. issued patents and 120 patents issued in China and Taiwan, plus a number of pending U.S. and foreign/international patent applications. Our issued U.S. and foreign patents will expire between 2017 and 2035. While our patents are an important element of our success, our business as a whole is not dependent on any one patent or group of patents. We do not anticipate any material effect on our business due to any patents expiring in 2017, and we continue to obtain new patents through our ongoing research and development.

Our portfolio of patents and patent applications covers several different technology families including:

- laser structure and design;
- optical signal conditioning and laser control;.
- laser fabrication;
- photodiode and optical receiver design and fabrication;
- optical device and module designs;
- optical device packaging equipment and techniques; and
- optical network enhancements.

Trademarks

We have registered the trademarks APPLIED OPTOELECTRONICS, INC., AOI and our logo with the U.S. Patent and Trademark Office on the Principal Register. These marks are also registered in, or have applications for registration pending in, various foreign trademark offices.

Research and Development

To maintain our growth and competitiveness, we engage in an active research and development program to develop new products and enhance existing products. As a result of these efforts, we anticipate releasing various new or enhanced products over the next several years. Our research and development expenses were approximately $31.8 million, $20.9 million, and $16.0 million for the years 2016, 2015 and 2014, respectively.

As of December 31, 2016, we had a total of 276 employees working in the R&D department, including 16 with Ph.D. degrees. We continue to recruit talented engineers to further enhance our research and development capabilities. We have research and development departments in our facilities in Texas, Georgia, China and Taiwan. Our research and development teams collaborate on joint projects, and by co-locating with our manufacturing operations enable us to achieve an efficient cost structure and improve our time to market.

A key factor in our research and development success is our highly collaborative process for new product development. Particularly in our equipment and module businesses, we often collaborate very closely with our customers from a very early stage in product development. By purposefully fostering this close collaboration, we believe that we can more rapidly develop leading solutions meeting the needs of our customers.

Manufacturing and Operations

We have three manufacturing sites: Sugar Land, Texas, Ningbo, China and Taipei, Taiwan. Our research and development functions are generally partnered with our manufacturing locations. In our U.S. facility, we manufacture laser chips (utilizing our MBE and MOCVD process), subassemblies and components. The subassemblies are used in the manufacture of components by our other manufacturing facilities or sold to third parties as modules. We manufacture

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our laser chips only within our U.S. facility, where our laser design team is located. In our Taiwan location, we manufacture optical components, such as our butterfly lasers, which incorporate laser chips, subassemblies and components manufactured within our U.S. facility. In addition, in our Taiwan location, we manufacture transceivers for the internet data center, FTTH, telecom and other markets. In our China facility, we take advantage of lower labor costs and manufacture certain more labor intensive components and optical equipment systems, such as optical subassemblies for the internet data center market, CATV transmitters (at the headend) and CATV outdoor equipment (at the node). Each facility conducts testing on the components, modules or subsystems it manufactures and each facility is certified to ISO 9001:2008.

We sell our products to customers worldwide, and in addition to these external customer sales many of our products are used internally in the production of transceivers and equipment that we manufacture. With a vertically integrated manufacturing process, we produce many of our own laser chips and other parts required to manufacture our optical components. Through this model, we are able to reduce development time and product costs as well as enhance quality control. We incorporate our own components into our transceivers, subsystems and equipment products wherever possible. In instances where we do not produce components ourselves, we source them from external suppliers and regularly evaluate these relationships in an attempt to reduce risk and lower cost.

We depend on a limited number of suppliers for certain raw materials and components used in our products. We regularly review our vendor relationships in an attempt to mitigate risks and lower costs, especially where we depend on one or two vendors for critical components or raw materials. While maintaining inventories that we believe are sufficient to meet our near-term needs, we strive not to carry significant inventories of externally sourced raw materials. Accordingly, we maintain ongoing communications with our vendors in order to help prevent any interruptions in supply, and have implemented a supply-chain management program to maintain quality and lower purchase prices through standardized purchasing efficiencies and design requirements.

Customers

Our customers are primarily internet data center operators, CATV and telecommunications equipment manufacturers, and internet service providers. We generally employ a direct sales model in North America and in the rest of the world we use both direct and indirect sales channels. In 2016, 2015 and 2014, we obtained 96.0%, 95.7% and 92.6% of our revenue, respectively, through our direct sales efforts and the remainder of our revenue through our indirect sales channels. Our sales channel partners provide logistical services and day-to-day customer support. Where we sell through an indirect sales channel, we work with the end customer to establish technological specifications for our products. Our equipment customers typically offer our equipment under their brand-name and our equipment is often customized with unique design or performance criteria by each of these customers. We also from time to time offer design or manufacturing services to customers to assist them in more effectively using our products and realizing time-to-market advantages.

In 2016, the two customers who contributed most to our data center revenue were Amazon and Microsoft. Our CATV products were used by the two largest CATV OEMs, consisting of Cisco and Arris (which acquired the Motorola Home Business in 2013 and Pace Plc in 2016). The two customers that contributed most to our revenue in the FTTH market in 2016 were Genexis B.V. and a leading internet service provider. In 2016, revenue from the internet data center market, CATV market, FTTH market, the telecom market and other markets provided 77.2%, 16.7%, 0.6%, 5.0% and 0.5% of our revenue, respectively, compared to 64.9%, 28.3%, 1.3%, 5.1% and 0.4%, respectively, in 2015.

In our telecom market, we manufacture and sell optical products which include transceivers designed to transmit signals used in 4G Long Term Evolution, or LTE, mobile networks, and various products targeted at the metro-scale telecommunications networking market. We have various other products designed for diverse applications, both inside and outside of communications technology, which generally are derivatives of products developed for our four target markets.

We support our sales efforts by attendance at industry trade shows, technical conferences, advertising in various trade journals and magazines and other promotional efforts. These efforts are aimed at attracting new customers and enhancing our existing customer relationships.

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Backlog

We generally make sales pursuant to short-term purchase orders without deposits and subject to rescheduling, revision or cancellation on short notice. We accordingly believe that purchase orders are not an accurate indicator of our future sales and any backlog of purchase orders is not a reliable indicator of our future revenue.

Financial Information by Geographic Region

For information regarding our revenue and long-lived assets by geographic region, see Note N to the Consolidated Financial Statements. For risks relating to our operations see “Item 1A. Risk Factors” and particularly the risks under the caption “Risks related to our operations in China.”

Competition

The optical networking market is intensely competitive. Because of the broad nature of our product offerings, we do not believe that we face a single major competitor across all of our markets. We do, however, experience intense competition in each product area from a number of manufacturers and we anticipate that competition will increase. Our major competitors in one or more of our markets include EMCORE Corporation, Finisar Corporation, Foxconn Interconnect Technology Ltd., Lumentum Holding, Inc., Mitsubishi, Molex, LLC, Oclaro, Inc., Source Photonics, and Sumitomo Electric Industries, Ltd.

Many of our competitors are larger than we are and have significantly greater financial, marketing and other resources.

In addition, several of our competitors have large market capitalizations or cash reserves and are much better positioned to acquire other companies to gain new technologies or products that may displace our products. Network equipment providers, who are our customers, and network service providers, who are supplied by our customers, may decide to manufacture the optical subsystems incorporated into their network systems in-house. We also encounter potential customers that, because of existing relationships, are committed to the products offered by these competitors.

We believe the principal competitive factors in our target markets include the following:

- use of internally manufactured components;
- product breadth and functionality;
- timing and pace of new product development;
- breadth of customer base;
- technological expertise;
- reliability of products;
- product pricing; and
- manufacturing efficiency.

We believe that we compete favorably with respect to the above factors based on our MBE and MOCVD processes, our vertically integrated model, the performance and reliability of our product offerings, and our technical expertise in light engine design and manufacture.

Seasonality

See Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations—Seasonality," regarding seasonality of certain of the Company's products.

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Employees

As of December 31, 2016, we employed 2,776 full-time employees, of which 31 held Ph.D. degrees in a science or engineering field. Of our employees, 287 are located in the U.S., 1,218 are located in Taiwan and 1,271 are located in China. None of our employees are represented by any collective bargaining agreement, but certain employees of our China subsidiary are members of a trade union. We have never suffered any work stoppage as a result of an employment related strike or any employee related dispute and believe that we have satisfactory relations with our employees.

Environmental Matters

Our research and development and manufacturing operations and our products are subject to a variety of federal, state, local and foreign environmental, health and safety laws and regulations, including those governing discharges of pollutants to air and water, the use, storage, handling and disposal of hazardous materials, employee health and safety, and the hazardous material content in our products. Our environmental management systems in our facilities in Sugar Land, Texas, Ningbo, China and Taipei, Taiwan are all certified to meet the requirements of ISO14001:2004. However, there can be no assurance that violations of applicable laws at any of our facilities will not occur in the future as a result of human error, accident, equipment failure or other causes. We use, store and dispose of hazardous materials in our manufacturing operations and hazardous materials are present in our products. We incur costs to comply with environmental, health and safety requirements, and any failure to comply, or the identification of contamination for which we are found liable, could cause us to incur substantial costs, including cleanup costs, monetary fines, or civil or criminal penalties, and subject us to property damage and personal injury claims, and result in the suspension of production, alteration of our manufacturing processes, redesign of our products, or curtailment of sales and adverse publicity. Liability under environmental, health and safety laws can be joint and several and without regard to fault or negligence. For example, pursuant to environmental laws and regulations, including but not limited to the Comprehensive Environmental Response Compensation and Liability Act, or CERCLA, we may be liable for the full amount of any remediation-related costs at properties we currently own or formerly owned, such as our currently owned Sugar Land, Texas facility, or at properties at which we operated, as well as at properties we will own or operate in the future, and properties to which we have sent hazardous substances, whether or not we caused the contamination.

We expect that our operations and products will be affected by new environmental requirements on an ongoing basis. Environmental, health and safety requirements have become more stringent over time, and changes to existing requirements could restrict our ability to expand our facilities, require us to acquire costly pollution control equipment, or cause us to incur other significant expenses or to modify our manufacturing processes or the hazardous material content of our products. Identification of presently unidentified environmental conditions, more vigorous enforcement by a governmental authority, enactment of more stringent legal requirements or other unanticipated events could give rise to adverse publicity, restrict our operations, affect the design or marketability of our products or otherwise cause us to incur material environmental costs.

We face increasing complexity in our product design and procurement operations as we adjust to new and upcoming requirements relating to the materials composition of our products. Some jurisdictions in which our products are sold have enacted requirements regarding the hazardous material content of certain products. For example, member states of the European Union and China are among a growing number of jurisdictions that have placed restrictions on the use of lead, among other chemicals, in electronic products, which affect the composition and packaging of our products. The passage of such requirements in additional jurisdictions, or the tightening of standards or elimination of certain exemptions in jurisdictions where our products are already subject to such requirements, could cause us to incur significant expenditures to make our products compliant with new requirements, or could limit the markets into which we may sell our products. Other governmental regulations may require us to reengineer our products to use components that are more environmentally compatible, resulting in additional costs to us.

Sources of Raw Materials

We depend on a limited number of suppliers for certain raw materials, components, and equipment used in our products. We continually review our supplier relationships to mitigate risks and lower costs, especially where we depend on one or two suppliers for critical components or raw materials. While maintaining inventories that we believe are sufficient to meet our near-term needs, we strive not to carry significant inventories of raw materials. Accordingly, we maintain ongoing communications with our suppliers in order to prevent any interruptions in supply, and have implemented a supply-chain management program to maintain quality and lower purchase prices through standardized purchasing efficiencies and design requirements. To date, we generally have been able to obtain sufficient quantities of critical supplies in a timely manner.

We are subject to rules promulgated by the SEC pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act regarding the use of "conflict minerals". These rules have imposed and will continue to impose additional costs and may introduce new risks related to our ability to verify the origin of any "conflict minerals" used in our products.

Export Regulations

The Bureau of Industry and Security (BIS) of the U.S. Department of Commerce is responsible for regulating the export of most commercial items that are classified as dual-use goods that may have both commercial and military applications. A limited number of our products are exported by license under the Export Control Classification Number, or ECCN, of 5A991. Export Control Classification requirements are dependent upon an item’s technical characteristics, the destination, the end-use, and the end-user, and other activities of the end-user. Should the ECCN change, then the export of our products to certain countries would be restricted. However, we currently do not export our products to any countries on the restricted list, and therefore a change in the ECCN would not materially impact our business.

Corporate Information

We were incorporated in the State of Texas in 1997. In March 2013, Applied Optoelectronics, Inc., a Texas corporation, converted into a Delaware corporation. Prime World International Holdings, Ltd. (“Prime World”) is a wholly-owned subsidiary of the Company incorporated in the British Virgin Islands on January 13, 2006. Prime World is the parent company of Global Technology, Inc. (“Global”). Global was established in June 2002 in the People’s Republic of China (“PRC”) and was acquired by Prime World on March 30, 2006. Prime World also operates a division in Taiwan, which is qualified to do business in Taiwan and primarily manufactures transceivers and performs research and development activities.

Our principal executive offices are located at 13139 Jess Pirtle Blvd., Sugar Land, TX 77478, and our telephone number is (281) 295-1800. Our website address is www.ao-inc.com. Information contained on our website is not incorporated by reference into this Annual Report on Form 10-K.

Available Information

We file electronically with the United States Securities and Exchange Commission, or SEC, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended. We make available on our website at www.ao-inc.com free of charge, copies of these reports as soon as reasonably practicable after filing these reports with, or furnishing them to, the SEC.

Item 1A.Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider the following risk factors and all other information contained in our Annual Report on Form 10-K, including our consolidated financial statements and related notes. If any of the following risks actually occur, we may be unable to conduct our business as currently planned and our financial condition and results of operations could be seriously harmed. In addition, the trading price of our common stock could decline due to the occurrence of any of these risks and you may lose all or part of your investment.

Risks Inherent in Our Business

We are dependent on our key customers for a significant portion of our revenue and the loss of, or a significant reduction in orders from, any of our key customers would adversely impact our revenue and results of operations.

We generate much of our revenue from a limited number of customers. In 2016, 2015 and 2014, our top ten customers represented 95.5%, 88.7% and 87.2% of our revenue, respectively. In 2016, Amazon represented 54.6% of

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our revenue and Microsoft represented 18.3% of our revenue. As a result, the loss of, or a significant reduction in orders from any of our key customers would materially and adversely affect our revenue and results of operations. We typically do not have long-term contracts with our customers and instead rely on recurring purchase orders. If our key customers do not continue to purchase our existing products or fail to purchase additional products from us, our revenue would decline and our results of operations would be adversely affected.

Adverse events affecting our key customers could also negatively affect our ability to retain their business and obtain new purchase orders, which could adversely affect our revenue and results of operations. For example, in recent years, there has been consolidation among various network equipment manufacturers and this trend is expected to continue. For example, in January 2016, Arris completed its purchase of Pace Plc ("Pace"). Pace and Arris have historically been our customers, and if we fail to achieve historical levels of sales of our products to the new entity, the loss or reduction in sales could have an adverse effect on our business, financial condition, results of operations, and cash flows. We are unable to predict the impact that industry consolidation would have on our existing or potential customers. We may not be able to offset any potential decline in revenue arising from the consolidation of our existing customers with revenue from new customers or additional revenue from the merged company.

Customer demand is difficult to forecast accurately and, as a result, we may be unable to match production with customer demand.

We make planning and spending decisions, including determining the levels of business that we will seek and accept, production schedules, component procurement commitments, personnel needs and other resource requirements, based on our estimates of product demand and customer requirements. Our products are typically purchased pursuant to individual purchase orders. While our customers may provide us with their demand forecasts, they are typically not contractually committed to buy any quantity of products beyond firm purchase orders. Furthermore, many of our customers may increase, decrease, cancel or delay purchase orders already in place without significant penalty. The short-term nature of commitments by our customers and the possibility of unexpected changes in demand for their products reduce our ability to accurately estimate future customer requirements. On occasion, customers may require rapid increases in production, which can strain our resources, cause our manufacturing to be negatively impacted by materials shortages, necessitate more onerous procurement commitments and reduce our gross margin. We may not have sufficient capacity at any given time to meet the volume demands of our customers, or one or more of our suppliers may not have sufficient capacity at any given time to meet our volume demands. If any of our major customers decrease, stop or delay purchasing our products for any reason, we will likely have excess manufacturing capacity or inventory and our business and results of operations would be harmed.

If our customers do not qualify our products for use on a timely basis, our results of operations may suffer.

Prior to the sale of new products, our customers typically require us to "qualify" our products for use in their applications. At the successful completion of this qualification process, we refer to the resulting sales opportunity as a "design win." Additionally, new customers often audit our manufacturing facilities and perform other evaluations during this qualification process. The qualification process involves product sampling and reliability testing and collaboration with our product management and engineering teams in the design and manufacturing stages. If we are unable to accurately predict the amount of time required to qualify our products with customers, or are unable to qualify our products with certain customers at all, then our ability to generate revenue could be delayed or our revenue would be lower than expected and we may not be able to recover the costs associated with the qualification process or with our product development efforts, which would have an adverse effect on our results of operations.

In addition, due to rapid technological changes in our markets, a customer may cancel or modify a design project before we have qualified our product or begun volume manufacturing of a qualified product. It is unlikely that we would be able to recover the expenses for cancelled or unutilized custom design projects. Some of these unrecoverable expenses for cancelled or unutilized custom design projects may be significant. It is difficult to predict with any certainty whether our customers will delay or terminate product qualification or the frequency with which customers will cancel or modify their projects, but any such delay, cancellation or modification would have a negative effect on our results of operations.

Our ability to successfully qualify and scale capacity for new technologies and products is important to our ability to grow our business and market presence, and we may invest a significant amount to scale our capacity to meet potential demand from customers for our new technologies and products. If we are unable to qualify and sell any of our new products in volume, on time, or at all, our results of operations may be adversely affected.

We face intense competition which could negatively impact our results of operations and market share.

The markets into which we sell our products are highly competitive. Our competitors range from large, international companies offering a wide range of products to smaller companies specializing in niche markets. Current and potential competitors may have substantially greater name recognition, financial, marketing, research and manufacturing resources than we do, and there can be no assurance that our current and future competitors will not be more successful than us in specific product lines or markets. Some of our competitors may also have better-established relationships with our current or potential customers. Some of our competitors have more resources to develop or acquire new products and technologies and create market awareness for their products and technologies. In addition, some of our competitors have the financial resources to offer competitive products at below-market pricing levels that could prevent us from competing effectively and result in a loss of sales or market share or cause us to lower prices for our products. In recent years, there has been consolidation in our industry and we expect such consolidation to continue. Consolidation involving our competitors could result in even more intense competition. Network equipment manufacturers, who are our customers, and network service providers may decide to manufacture the optical subsystems incorporated into their network systems in-house instead of outsourcing such products to companies such as us. We also encounter potential customers that, because of existing relationships with our competitors, are committed to the products offered by our competitors.

We must continually develop successful new products and enhance existing products, and if we fail to do so or if our release of new or enhanced products is delayed, our business may be harmed.

The markets for our products are characterized by frequent new product introductions, changes in customer requirements and evolving industry standards, all with an underlying pressure to reduce cost and meet stringent reliability and qualification requirements. Our future performance will depend on our successful development, introduction and market acceptance of new and enhanced products that address these challenges. If we are unable to make our new or enhanced products commercially available on a timely basis, we may lose existing and potential customers and our financial results would suffer.

In addition, due to the costs and length of research, development and manufacturing process cycles, we may not recognize revenue from new products until long after such expenditures, if at all, and our margins may decrease if our costs are higher than expected, adversely affecting our financial condition and results of operation.

Although the length of our product development cycle varies widely by product and customer, it may take 18 months or longer before we receive our first order. As a result, we may incur significant expenses long before customers accept and purchase our products.

Product development delays may result from numerous factors, including:

- modification of product specifications and customer requirements;
- unanticipated engineering complexities;
- difficulties in reallocating engineering resources and overcoming resource limitations; and
- rapidly changing technology or competitive product requirements.

The introduction of new products by us or our competitors could result in a slowdown in demand for our existing products and could result in a write-down in the value of our inventory. We have in the past experienced a slowdown in demand for existing products and delays in new product development, and such delays will likely occur in the future. To the extent we experience product development delays for any reason or we fail to qualify our products and obtain their approval for use, which we refer to as a design win, our competitive position would be adversely affected and our ability to grow our revenue would be impaired.

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Furthermore, our ability to enter a market with new products in a timely manner can be critical to our success because it is difficult to displace an existing supplier for a particular type of product once a customer has chosen a supplier, even if a later-to-market product provides better performance or cost efficiency.

The development of new, technologically advanced products is a complex and uncertain process requiring frequent innovation, highly-skilled engineering and development personnel and significant capital, as well as the accurate anticipation of technological and market trends. We cannot assure you that we will be able to identify, develop, manufacture, market or support new or enhanced products successfully or on a timely basis. Further, we cannot assure you that our new products will gain market acceptance or that we will be able to respond effectively to product introductions by competitors, technological changes or emerging industry standards. We also may not be able to develop the underlying core technologies necessary to create new products and enhancements, license these technologies from third parties, or remain competitive in our markets.

We are subject to the cyclical nature of some of the markets in which we compete and any future downturn will likely reduce demand for our products and revenue.

In each of our target markets, including the CATV market, our sales depend on the aggregate capital expenditures of service providers as they build out and upgrade their network infrastructure. Some of these markets are highly cyclical and all are characterized by constant and rapid technological change, price erosion, evolving standards and wide fluctuations in product supply and demand. In the past, these markets have experienced significant downturns, often connected with, or in anticipation of, the maturation of product cycles. These downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. Our historical results of operations have been subject to these fluctuations, and we may experience substantial period-to-period fluctuations in our future results of operations. Any future downturn in any of the markets in which we compete could significantly reduce the demand for our products and therefore may result in a significant reduction in our revenue. Our revenue and results of operations may be materially and adversely affected in the future due to changes in demand from individual customers or changes in any of the markets utilizing our products. We may not be able to accurately predict these fluctuations and the impact of these fluctuations may have on our revenue and operating results.

If the CATV market does not continue to develop as we expect, or if there is any downturn in this market, our business would be adversely affected.

Historically, we have generated much of our revenue from the CATV market. In 2016, 2015 and 2014, the CATV market represented 16.7%, 28.3% and 36.3% of our revenue, respectively. In the CATV market, we are relying on expected increasing demand for bandwidth-intensive services and applications such as on-demand television programs, high-definition television channels, or HDTV, social media, peer-to-peer file sharing and online video creation and viewing from network service providers. Without network and bandwidth growth, the need for our products will not increase and may decline, adversely affecting our financial condition and results of operations.

Although demand for broadband access is increasing, network and bandwidth growth may be limited by several factors, including an uncertain regulatory environment, high infrastructure costs to purchase and install equipment and uncertainty as to which competing content delivery solution, such as telecommunications, wireless or satellite, will gain the most widespread acceptance. If the trend of outsourcing for the design and manufacture of CATV equipment does not continue, or continues at a slower pace than currently expected, our customers' demand for our design and manufacturing services may not grow as quickly as expected. If expectations for the growth of the CATV market are not realized, our financial condition or results of operations will be adversely affected. In addition, if the CATV market is adversely impacted, whether due to competitive pressure from telecommunication service providers, regulatory changes, or otherwise, our business would be adversely affected. We may not be able to offset any potential decline in revenue from the CATV market with revenue from new customers in other markets.

Increasing costs and shifts in product mix may adversely impact our gross margins.

Our gross margins on individual products and among products fluctuate over each product's life cycle. Our overall gross margins have fluctuated from period to period as a result of shifts in product mix, the introduction of new products, decreases in average selling prices and our ability to reduce product costs, and these fluctuations are expected to continue in the future. We may not be able to accurately predict our product mix from period to period, and as a result we may not be able to forecast accurately our overall gross margins. The rate of increase in our costs and expenses may exceed the rate of increase in our revenue, either of which would materially and adversely affect our business, our results of operations and our financial condition.

We have limited operating history in the FTTH market, and our business could be harmed if this market does not develop as we expect.

For 2016 and 2015, respectively, we generated 0.6%, and 1.3% of our revenue from the FTTH market. We have only recently begun offering products to the FTTH market, and our WDM-PON products designed for this market have not yet, and may never, gain widespread acceptance by large internet service providers. Our business in this market is dependent on the deployment of our optical components, modules and subassemblies. We are relying on increasing demand for bandwidth-intensive services and telecommunications service providers’ acceptance and deployment of WDM-PON as a technology supporting 1 Gbps service to the home. Without network and bandwidth growth and adoption of our solutions by operators in these markets, we will not be able to sell our products in these markets in high volume or at our targeted margins, which would adversely affect our financial condition and results of operations. For example, WDM-PON technology may not be adopted by equipment and service providers in the FTTH market as rapidly as we expect or in the volumes we need to achieve acceptable margins. Network and bandwidth growth may be limited by several factors, including an uncertain regulatory environment, high infrastructure costs to purchase and install equipment and uncertainty as to which competing content delivery solution, such as CATV, will gain the most widespread acceptance. In addition, as we enter new markets or expand our product offerings in existing markets, our margins may be adversely affected due to competition in those markets and commoditization of competing products. If our expectations for the growth of these markets are not realized, our financial condition or results of operations will be adversely affected.

If we encounter manufacturing problems, we may lose sales and damage our customer relationships.

We may experience delays, disruptions or quality control problems in our manufacturing operations. These and other factors may cause less than acceptable yields at our wafer fabrication facility. Manufacturing yields depend on a number of factors, including the quality of available raw materials, the degradation or change in equipment calibration and the rate and timing of the introduction of new products. Changes in manufacturing processes required as a result of changes in product specifications, changing customer needs and the introduction of new product lines may significantly reduce our manufacturing yields, resulting in low or negative margins on those products. In addition, we use our Molecular Beam Epitaxy, or MBE, fabrication process to make our lasers, in addition to Metal Organic Chemical Vapor Deposition, or MOCVD, the technique most commonly used in optical manufacturing by communications optics vendors, and our MBE fabrication process relies on custom-manufactured equipment. If our MBE or MOCVD fabrication facility in Sugar Land, Texas were to be damaged or destroyed for any reason, our manufacturing process would be severely disrupted. Any such manufacturing problems would likely delay product shipments to our customers, which would negatively affect our sales, competitive position and reputation. We may also experience delays in production, typically in February, during the Chinese New Year holiday when our facilities in China and Taiwan are closed.

Given the high fixed costs associated with our vertically integrated business, a reduction in demand for our products will likely adversely impact our gross profits and our results of operations.

We have a high fixed cost base due to our vertically integrated business model, including the fact that 2,171 of our employees as of December 31, 2016 were employed in manufacturing and research and development operations. We may not be able to adjust these fixed costs quickly to adapt to rapidly changing market conditions. Our gross profit and gross margin are greatly affected by our sales volume and volatility on a quarterly basis and the corresponding absorption of fixed manufacturing overhead expenses. In addition, because we are a vertically integrated manufacturer, insufficient demand for our products may subject us to the risk of high inventory carrying costs and increased inventory obsolescence. Given our vertical integration, the rate at which we turn inventory has historically been low when compared to our cost of sales. We do not expect this to change significantly in the future and believe that we will have to maintain a relatively high level of inventory compared to our cost of sales. As a result, we continue to expect to have a significant amount of working capital invested in inventory. We may be required to write down inventory costs in the future and our high inventory costs may have an adverse effect on our gross profits and our results of operations.

Our financial results may vary significantly from quarter-to-quarter due to a number of factors, which may lead to volatility in our stock price.

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Our quarterly revenue and operating results have varied in the past and will likely continue to vary significantly from quarter to quarter. This variability may lead to volatility in our stock price as research analysts and investors respond to these quarterly fluctuations. These fluctuations are due to numerous factors, including:

- the timing, size and mix of sales of our products;
- fluctuations in demand for our products, including the increase, decrease, rescheduling or cancellation of significant customer orders;
- our ability to design, manufacture and deliver products which meet customer requirements in a timely and cost-effective manner;
- new product introductions and enhancements by us or our competitors;
- the gain or loss of key customers;
- the rate at which our present and potential customers and end users adopt our technologies;
- changes in our pricing and sales policies or the pricing and sales policies of our competitors;
- seasonality of certain of our products;
- quality control or yield problems in our manufacturing operations;
- supply disruption for certain raw materials and components used in our products;
- capacity constraints of our outside contract manufacturers for a portion of the manufacturing process for some of our products;
- length and variability of the sales cycles of our products;
- unanticipated increases in costs or expenses;
- the loss of key employees;
- different capital expenditure and budget cycles for our customers, affecting the timing of their spending for our products;
- political stability in the areas of the world in which we operate;
- fluctuations in foreign currency exchange rates;

changes in accounting rules;

the evolving and unpredictable nature of the markets for products incorporating our solutions; and

general economic conditions and changes in such conditions specific to our target markets.

The foregoing factors are difficult to forecast, and these, as well as other factors, could materially adversely affect our quarterly and annual operating results. In addition, a significant amount of our operating expenses is relatively fixed in nature due to our internal manufacturing, research and development, sales and general administrative efforts. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of such revenue shortfall on our results of operations. For these reasons, you should not rely on quarter-to-quarter comparisons of our results of operations as an indicator of future performance. Moreover, our operating results may not meet our announced guidance or the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly. There can be no assurance that we will be able to successfully address these risks.

We depend on key personnel to develop and maintain our technology and manage our business in a rapidly changing market.

The continued services of our executive officers and other key engineering, sales, marketing, manufacturing and support personnel is essential to our success. For example, our ability to achieve new design wins depends upon the experience and expertise of our engineers. Any of our key employees, including our Chief Executive Officer, Chief Financial Officer, Senior Vice President of Network Equipment Module Business Unit, Senior Vice President of Optical Module Division and Asia General Manager, may resign at any time. We do not have key person life insurance policies covering any of our employees. To implement our business plan, we also intend to hire additional employees, particularly in the areas of engineering, manufacturing and sales. Our ability to continue to attract and retain highly skilled employees is a critical factor in our success. Competition for highly skilled personnel is intense. We may not be successful in attracting, assimilating or retaining qualified personnel to satisfy our current or future needs. Our ability to develop, manufacture and sell our products, and thus our financial condition and results of operations, would be adversely affected if we are unable to retain existing personnel or hire additional qualified personnel.

We depend on a limited number of suppliers and any supply interruption could have an adverse effect on our business.

We depend on a limited number of suppliers for certain raw materials and components used in our products. Some of these suppliers could disrupt our business if they stop, decrease or delay shipments or if the materials or components they ship have quality or reliability issues. Some of the raw materials and components we use in our products are available only from a sole source or have been qualified only from a single supplier. Furthermore, other than our current suppliers, there are a limited number of entities from whom we could obtain certain materials and components. We may also face shortages if we experience increased demand for materials or components beyond what our qualified suppliers can deliver. Our inability to obtain sufficient quantities of critical materials or components could adversely affect our ability to meet demand for our products, adversely affecting our financial condition and results of operation.

We typically have not entered into long-term agreements with our suppliers and, therefore, our suppliers could stop supplying materials and components to us at any time or fail to supply adequate quantities of materials or components to us on a timely basis. It is difficult, costly, time consuming and, on short notice, sometimes impossible for us to identify and qualify new suppliers. Our customers generally restrict our ability to change the components in our products. For more critical components, any changes may require repeating the entire qualification process. Our reliance on a limited number of suppliers or a single qualified vendor may result in delivery and quality problems, and reduced control over product pricing, reliability and performance.

We depend upon outside contract manufacturers for a portion of the manufacturing process for some of our products.

Almost all of our products are manufactured internally. However we also rely upon manufacturers in China, Taiwan and other Asia locations to provide back-end manufacturing and produce the finished portion of a few of our products. Our reliance on a contract manufacturer for these products makes us vulnerable to possible capacity constraints and reduced control over delivery schedules, manufacturing yields, manufacturing quality/controls and costs. If one of our contract manufacturers is unable to meet all of our customer demand in a timely fashion, this could have a material adverse effect on the revenue from our products. If the contract manufacturer for one of our products was unable or unwilling to manufacture such product in required volumes and at high quality levels or to continue our existing supply arrangement, we would have to identify, qualify and select an acceptable alternative contract manufacturer or move these manufacturing operations to our internal manufacturing facilities. An alternative contract manufacturer may not be available to us when needed or may not be in a position to satisfy our quality or production requirements on commercially reasonable terms, including price. Any significant interruption in manufacturing our products would require us to reduce our supply of products to our customers, which in turn, would reduce our revenue, harm our relationships with the customer of these products and cause us to forego potential revenue opportunities.

Our products could contain defects that may cause us to incur significant costs or result in a loss of customers.

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Our products are complex and undergo quality testing as well as formal qualification by our customers. Our customers' testing procedures are limited to evaluating our products under likely and foreseeable failure scenarios and over varying amounts of time. For various reasons, such as the occurrence of performance problems that are unforeseeable in testing or that are detected only when products age or are operated under peak stress conditions, our products may fail to perform as expected long after customer acceptance. Failures could result from faulty components or design, problems in manufacturing or other unforeseen reasons. As a result, we could incur significant costs to repair or replace defective products under warranty, particularly when such failures occur in installed systems. Our products are typically embedded in, or deployed in conjunction with, our customers' products, which incorporate a variety of components, modules and subsystems and may be expected to interoperate with modules produced by third parties. As a result, not all defects are immediately detectable and when problems occur, it may be difficult to identify the source of the problem. While we have not experienced material failures in the past, we will continue to face this risk going forward because our products are widely deployed in many demanding environments and applications worldwide. In addition, we may in certain circumstances honor warranty claims after the warranty has expired or for problems not covered by warranty to maintain customer relationships. Any significant product failure could result in litigation, damages, repair costs and lost future sales of the affected product and other products, divert the attention of our engineering personnel from our product development efforts and cause significant customer relations problems, all of which would harm our business. Although we carry product liability insurance, this insurance may not adequately cover our costs arising from defects in our products or otherwise.

We face a variety of risks associated with our international sales and operations.

We currently derive, and expect to continue to derive, a significant portion of our revenue from sales to international customers. In 2016, 2015 and 2014, 15.8%, 19.0% and 29.5% of our revenue was derived from sales that occurred outside of North America, respectively. In addition, a significant portion of our manufacturing operations is based in Ningbo, China and Taipei, Taiwan. Our international revenue and operations are subject to a number of material risks, including:

- difficulties in staffing, managing and supporting operations in more than one country;
- difficulties in enforcing agreements and collecting receivables through foreign legal systems;
- fewer legal protections for intellectual property in foreign jurisdictions;
- foreign and U.S. taxation issues and international trade barriers;
- difficulties in obtaining any necessary governmental authorizations for the export of our products to certain foreign jurisdictions;
- fluctuations in foreign economies;

fluctuations in the value of foreign currencies and interest rates;

trade and travel restrictions;

domestic and international economic or political changes, hostilities and other disruptions in regions where we currently operate or may operate in the future;

difficulties and increased expenses in complying with a variety of U.S. and foreign laws, regulations and trade standards, including the Foreign Corrupt Practices Act; and

different and changing legal and regulatory requirements in the jurisdictions in which we currently operate or may operate in the future.

Negative developments in any of these factors in China or Taiwan or other countries could result in a reduction in demand for our products, the cancellation or delay of orders already placed, difficulties in producing and delivering

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our products, threats to our intellectual property, difficulty in collecting receivables, and a higher cost of doing business. Although we maintain certain compliance programs throughout the company, violations of U.S. and foreign laws and regulations may result in criminal or civil sanctions, including material monetary fines, penalties and other costs against us or our employees, and may have a material adverse effect on our business.

Our business operations conducted in China and Taiwan are important to our success. A substantial portion of our property, plant and equipment is located in China and Taiwan. We expect to make further investments in China and Taiwan in the future. Therefore, our business, financial condition, results of operations and prospects are subject to economic, political, legal, and social events and developments in China and Taiwan. Factors affecting military, political or economic conditions in China and Taiwan could have a material adverse effect on our financial condition and results of operations, as well as the market price and the liquidity of our common shares.

In some instances, we rely on third parties to assist in selling our products, and the failure of those parties to perform as expected could reduce our future revenue.

Although we primarily sell our products through direct sales, we also sell our products to some of our customers through third party sales representatives and distributors. Many of such third parties also market and sell products from our competitors. Our third party sales representatives and distributors may terminate their relationships with us at any time, or with short notice. Our future performance will also depend, in part, on our ability to attract additional third party sales representatives and distributors that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. If our current third party sales representatives and distributors fail to perform as expected, our revenue and results of operations could be harmed.

Failure to manage our growth effectively may adversely affect our financial condition and results of operations.

Successful implementation of our business plan in our target markets requires effective planning and management. Our production volumes are increasing significantly and we have announced plans to increase our production capacity in response to demand for our products, adding both personnel as well as expanding our physical manufacturing facilities. We currently operate facilities in Sugar Land, Texas, Ningbo, China, Taipei, Taiwan, and Duluth, Georgia. We currently manufacture our lasers using a proprietary process and customized equipment located only in our Sugar Land, Texas facility, and it will be costly to duplicate that facility, to scale our laser manufacturing capacity or to mitigate the risks associated with operating a single facility. The challenges of managing our geographically dispersed operations have increased and will continue to increase the demand on our management systems and resources. Moreover, we are continuing to improve our financial and managerial controls, reporting systems and procedures. Any failure to manage our expansion and the resulting demands on our management systems and resources effectively may adversely affect our financial condition and results of operations.

Our loan agreements contain restrictive covenants that may adversely affect our ability to conduct our business.

We have lending arrangements with several financial institutions, including loan agreements with East West Bank and Comerica Bank in the U.S., and our Taiwan location and China subsidiary have several lines of credit arrangements. Our loan agreements governing our long-term debt obligations in the U.S. contain certain financial and operating covenants that limit our management's discretion with respect to certain business matters. Among other things, these covenants require us to maintain certain financial ratios and restrict our ability to incur additional debt, create liens or other encumbrances, change the nature of our business, pay dividends, sell or otherwise dispose of assets and merge or consolidate with other entities. These restrictions may limit our flexibility in responding to business opportunities, competitive developments and adverse economic or industry conditions. Any failure by us or our subsidiaries to comply with these agreements could harm our business, financial condition and operating results. In addition, our obligations under our loan agreements with East West Bank and Comerica Bank are secured by substantially all of our U.S. assets. A breach of any of covenants under our loan agreements, or a failure to pay interest or indebtedness when due under any of our credit facilities, could result in a variety of adverse consequences, including the acceleration of our indebtedness.

We may not be able to obtain additional capital when desired, on favorable terms or at all.

We operate in a market that makes our prospects difficult to evaluate and, to remain competitive, we will be required to make continued investments in capital equipment, facilities and technological improvements. We expect that substantial capital will be required to expand our manufacturing capacity and fund working capital for anticipated

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growth. If we do not generate sufficient cash flow from operations or otherwise have the capital resources to meet our future capital needs, we may need additional financing to implement our business strategy, which includes:

- expansion of research and development;
- expansion of manufacturing capabilities;
- hiring of additional technical, sales and other personnel; and
- acquisitions of complementary businesses.

If we raise additional funds through the issuance of our common stock or convertible securities, the ownership interests of our stockholders could be significantly diluted. These newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. Additional financing may not, however, be available on terms favorable to us, or at all, if and when needed, and our ability to fund our operations, take advantage of unanticipated opportunities, develop or enhance our infrastructure or respond to competitive pressures could be significantly limited. If we cannot raise required capital when needed, including under our Registration Statement filed with the SEC in October 2016, we may be unable to meet the demands of existing and prospective customers, adversely affecting our sales and market opportunities and consequently our business, financial condition and results of operations.

Future acquisitions may adversely affect our financial condition and results of operations.

As part of our business strategy, we may pursue acquisitions of companies that we believe could enhance or complement our current product portfolio, augment our technology roadmap or diversify our revenue base. Acquisitions involve numerous risks, any of which could harm our business, including:

- difficulties integrating the acquired business;
- unanticipated costs, capital expenditures or liabilities or changes related to research in progress and product development;
- diversion of financial and management resources from our existing business;
- difficulties integrating the business relationships with suppliers and customers of the acquired business with our existing business relationships;
- risks associated with entering markets in which we have little or no prior experience; and
- potential loss of key employees, particularly those of the acquired organizations.

Acquisitions may also result in the recording of goodwill and other intangible assets subject to potential impairment in the future, adversely affecting our operating results. We may not achieve the anticipated benefits of an acquisition if we fail to evaluate it properly, and we may incur costs in excess of what we anticipate. A failure to evaluate and execute an acquisition appropriately or otherwise adequately address these risks may adversely affect our financial condition and results of operations.

We may be subject to disruptions or failures in information technology systems and network infrastructures that could have a material adverse effect on our business and financial condition.

We rely on the efficient and uninterrupted operation of complex information technology systems and network infrastructures to operate our business. A disruption, infiltration or failure of our information technology systems as a result of software or hardware malfunctions, system implementations or upgrades, computer viruses, third-party security breaches, employee error, theft or misuse, malfeasance, power disruptions, natural disasters or accidents could cause a breach of data security, loss of intellectual property and critical data and the release and misappropriation of sensitive competitive information and partner, customer, and employee personal data. Any of these events could harm our competitive position, result in a loss of customer confidence, cause us to incur significant costs to remedy any damages and ultimately materially adversely affect our business and financial condition.

Our future results of operations may be subject to volatility as a result of exposure to fluctuations in currency exchange rates.

We have significant foreign currency exposure, and are affected by fluctuations among the U.S. dollar, the Chinese renminbi, or RMB, and the New Taiwan dollar, or NT dollar, because a substantial portion of our business is

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conducted in China and Taiwan. Our sales, raw materials, components and capital expenditures are denominated in U.S. dollars, RMB and NT dollars in varying amounts.

Foreign currency fluctuations may adversely affect our revenue and our costs and expenses, and hence our results of operations. The value of the NT dollar or the RMB against the U.S. dollar and other currencies may fluctuate and be affected by, among other things, changes in political and economic conditions. The RMB currency is no longer being pegged solely to the value of the U.S. dollar. In the long term, the RMB may appreciate or depreciate significantly in value against the U.S. dollar, depending upon the fluctuation of the basket of currencies against which it is currently valued, or it may be permitted to enter into a full float, which may also result in a significant appreciation or depreciation of the RMB against the U.S. dollar. In addition, our currency exchange variations may be magnified by Chinese exchange control regulations that restrict our ability to convert RMB into foreign currency.

Our sales in Europe are denominated in U.S. dollars and fluctuations in the Euro or our customers’ other local currencies relative to the U.S. dollar may impact our customers and affect our financial performance. If our customers’ local currencies weaken against the U.S. dollar, we may need to lower our prices to remain competitive in our international markets which could have a material adverse effect on our margins. If our customers’ local currencies strengthen against the U.S. dollar and if the local sales prices cannot be raised due to competitive pressures, we will experience a deterioration of our margins.

To date, we have not entered into any hedging transactions in an effort to reduce our exposure to foreign currency exchange risk. While we may decide to enter into hedging transactions in the future, the availability and effectiveness of these hedging transactions may be limited and we may not be able to successfully hedge our exposure.

Natural disasters or other catastrophic events could harm our operations.

Our operations in the U.S., China and Taiwan could be subject to significant risk of natural disasters, including earthquakes, hurricanes, typhoons, flooding and tornadoes, as well as other catastrophic events, such as epidemics, terrorist attacks or wars. For example, our corporate headquarters and wafer fabrication facility in Sugar Land, Texas, is located near the Gulf of Mexico, an area that is susceptible to hurricanes. We use a proprietary MBE laser manufacturing process that requires customized equipment, and this process is currently conducted and located solely at our wafer fabrication facility in Sugar Land, Texas, such that a natural disaster, terrorist attack or other catastrophic event that affects that facility would materially harm our operations. In addition, our manufacturing facility in Taipei, Taiwan, is susceptible to typhoons and earthquakes, and our manufacturing facility in Ningbo, China, has from time to time, suffered electrical outages. Any disruption in our manufacturing facilities arising from these and other natural disasters or other catastrophic events could cause significant delays in the production or shipment of our products until we are able to shift production to different facilities or arrange for third parties to manufacture our products. We may not be able to obtain alternate capacity on favorable terms or at all. Our property insurance coverage with respect to natural disaster is limited and is subject to deductible and coverage limits. Such coverage may not be adequate or continue to be available at commercially reasonable rates and terms. The occurrence of any of these circumstances may adversely affect our financial condition and results of operation.

Our business could be negatively impacted as a result of shareholder activism.

In recent years, shareholder activists have become involved in numerous public companies. Shareholder activists frequently propose to involve themselves in the governance, strategic direction, and operations of the company. We may in the future become subject to such shareholder activity and demands. Such demands may disrupt our business and divert the attention of our management and employees, and any perceived uncertainties as to our future direction resulting from such a situation could result in the loss of potential business opportunities, be exploited by our competitors, cause concern to our current or potential customers, and make it more difficult to attract and retain qualified personnel and business partners, all of which could adversely affect our business. In addition, actions of activist shareholders may cause significant fluctuations in our stock price based on temporary or speculative market perceptions or other factors that do not necessarily reflect the underlying fundamentals and prospects of our business.

If we fail to protect, or incur significant costs in defending, our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.

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Our success depends on our ability to protect our intellectual property and other proprietary rights. We rely on a combination of patent, trademark, copyright, trade secret and unfair competition laws, as well as license agreements and other contractual provisions, to establish and protect our intellectual property and other proprietary rights. We have applied for patent registrations in the U.S. and in other foreign countries, some of which have been issued. In addition, we have registered certain trademarks in the U.S. We cannot guarantee that our pending applications will be approved by the applicable governmental authorities. Moreover, our existing and future patents and trademarks may not be sufficiently broad to protect our proprietary rights or may be held invalid or unenforceable in court. A failure to obtain patents or trademark registrations or a successful challenge to our registrations in the U.S. or other foreign countries may limit our ability to protect the intellectual property rights that these applications and registrations intended to cover.

Policing unauthorized use of our technology is difficult and we cannot be certain that the steps we have taken will prevent the misappropriation, unauthorized use or other infringement of our intellectual property rights. Further, we may not be able to effectively protect our intellectual property rights from misappropriation or other infringement in foreign countries where we have not applied for patent protections, and where effective patent, trademark, trade secret and other intellectual property laws may be unavailable, or may not protect our proprietary rights as fully as U.S. law. We may seek to secure comparable intellectual property protections in other countries. However, the level of protection afforded by patent and other laws in other countries may not be comparable to that afforded in the U.S.

We also attempt to protect our intellectual property, including our trade secrets and know-how, through the use of trade secret and other intellectual property laws, and contractual provisions. We enter into confidentiality and invention assignment agreements with our employees and independent consultants. We also use non-disclosure agreements with other third parties who may have access to our proprietary technologies and information. Such measures, however, provide only limited protection, and there can be no assurance that our confidentiality and non-disclosure agreements will not be breached, especially after our employees end their employment, and that our trade secrets will not otherwise become known by competitors or that we will have adequate remedies in the event of unauthorized use or disclosure of proprietary information. Unauthorized third parties may try to copy or reverse engineer our products or portions of our products, otherwise obtain and use our intellectual property, or may independently develop similar or equivalent trade secrets or know-how. If we fail to protect our intellectual property and other proprietary rights, or if such intellectual property and proprietary rights are infringed or misappropriated, our business, results of operations or financial condition could be materially harmed.

In the future, we may need to take legal actions to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology. Protecting and enforcing our intellectual property rights and determining their validity and scope could result in significant litigation costs and require significant time and attention from our technical and management personnel, which could significantly harm our business. We may not prevail in such proceedings, and an adverse outcome may adversely impact our competitive advantage or otherwise harm our financial condition and our business.

We may be involved in intellectual property disputes in the future, which could divert management’s attention, cause us to incur significant costs and prevent us from selling or using the challenged technology.

Participants in the markets in which we sell our products have experienced frequent litigation regarding patent and other intellectual property rights. While we have a policy in place that is designed to reduce the risk of infringement of intellectual property rights of others and we have conducted a limited review of other companies’ relevant patents, there can be no assurance that third parties will not assert infringement claims against us. We cannot be certain that our products would not be found infringing on the intellectual property rights of others. Regardless of their merit, responding to such claims can be time consuming, divert management’s attention and resources and may cause us to incur significant expenses. Intellectual property claims against us could force us to do one or more of the following:

- obtain from a third party claiming infringement a license to the relevant technology, which may not be available on reasonable terms, or at all;
- stop manufacturing, selling, incorporating or using our products that use the challenged intellectual property;
- pay substantial monetary damages; or
- expend significant resources to redesign the products that use the technology and to develop non-infringing technology.

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Any of these actions could result in a substantial reduction in our revenue and could result in losses over an extended period of time.

In any potential intellectual property dispute, our customers could also become the target of litigation. Because we often indemnify our customers for intellectual property claims made against them with respect to our products, any claims against our customers could trigger indemnification claims against us. These obligations could result in substantial expenses such as legal expenses, damages for past infringement or royalties for future use. Any indemnity claim could also adversely affect our relationships with our customers and result in substantial costs to us.

If we fail to obtain the right to use the intellectual property rights of others that are necessary to operate our business, and to protect their intellectual property, our business and results of operations will be adversely affected.

From time to time we may choose to or be required to license technology or intellectual property from third parties in connection with the development of our products. We cannot assure you that third party licenses will be available to us on commercially reasonable terms, if at all. Generally, a license, if granted, would include payments of up-front fees, ongoing royalties or both. These payments or other terms could have a significant adverse impact on our results of operations. Our inability to obtain a necessary third party license required for our product offerings or to develop new products and product enhancements could require us to substitute technology of lower quality or performance standards, or of greater cost, either of which could adversely affect our business. If we are not able to obtain licenses from third parties, if necessary, then we may also be subject to litigation to defend against infringement claims from these third parties. Our competitors may be able to obtain licenses or cross-license their technology on better terms than we can, which could put us at a competitive disadvantage.

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.

Preparing our consolidated financial statements involves a number of complex manual and automated processes, which are dependent upon individual data input or review and require significant management judgment. One or more of these elements may result in errors that may not be detected and could result in a material misstatement of our consolidated financial statements. The Sarbanes-Oxley Act requires, among other things, that as a publicly-traded company we disclose whether our internal control over financial reporting and disclosure controls and procedures are effective. In addition, for so long as we qualify as an “emerging growth company” under the JOBS Act, which may be up to five years following our initial public offering in September 2013, we will not have to provide an auditor’s attestation report on our internal controls in future annual reports on Form 10-K as otherwise required by Section 404(b) of the Sarbanes-Oxley Act. During the course of any evaluation, documentation or attestation, we or our independent registered public accounting firm may identify weaknesses and deficiencies that we may not otherwise identify in a timely manner or at all as a result of the deferred implementation of this additional level of review.

We have implemented internal controls that we believe provide reasonable assurance that we will be able to avoid accounting errors or material weaknesses in future periods. However, our internal controls cannot guarantee that no accounting errors exist or that all accounting errors, no matter how immaterial, will be detected because a control system, no matter how well designed and operated, can provide only reasonable, but not absolute assurance that the control system's objectives will be met. If we are unable to implement and maintain effective internal control over financial reporting, our ability to accurately and timely report our financial results could be adversely impacted. This could result in late filings of our annual and quarterly reports under the Securities Exchange Act of 1934, or the Exchange Act, restatements of our consolidated financial statements, a decline in our stock price, suspension or delisting of our common stock by NASDAQ, or other material adverse effects on our business, reputation, results of operations or financial condition.

Our ability to use our net operating losses and certain other tax attributes may be limited.

As of December 31, 2016, we had U.S. accumulated net operating losses, or NOLs, of approximately $37.7 million for U.S. federal income tax purposes. Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change NOLs, R&D credits and other pre-change tax attributes to offset its post-change income may be limited. An ownership change is generally defined as a greater than 50% change in equity ownership by value over a 3-year period. Based upon an analysis of our equity ownership, we believe that we have experienced ownership changes and therefore our annual utilization of our

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NOLs is limited. In addition, should we experience additional ownership changes, our NOL carry forwards may be further limited.

Changes in our effective tax rate may adversely affect our results of operation and our business.

We are subject to income taxes in the U.S. and other foreign jurisdictions, including China and Taiwan. In addition, we are subject to various state taxes in states where we have nexus. We base our tax position on the anticipated nature and conduct of our business and our understanding of the tax laws of the countries and states in which we have assets or conduct activities. Our tax position may be reviewed or challenged by tax authorities. Moreover, the tax laws currently in effect may change, and such changes may have retroactive effect. We have inter-company arrangements in place providing for administrative and financing services and transfer pricing, which involve a significant degree of judgment and are often subject to close review by tax authorities. The tax authorities may challenge our positions related to these agreements. If the tax authorities successfully challenge our positions, our effective tax rate may increase, adversely affecting our results of operation and our business.

Our manufacturing operations are subject to environmental regulation that could limit our growth or impose substantial costs, adversely affecting our financial condition and results of operations.

Our properties, operations and products are subject to the environmental laws and regulations of the jurisdictions in which we operate and sell products. These laws and regulations govern, among other things, air emissions, wastewater discharges, the management and disposal of hazardous materials, the contamination of soil and groundwater, employee health and safety and the content, performance, packaging and disposal of products. Our failure to comply with current and future environmental laws and regulations, or the identification of contamination for which we are liable, could subject us to substantial costs, including fines, clean-up costs, third-party property damages or personal injury claims, and make significant investments to upgrade our facilities or curtail our operations. Liability under environmental, health and safety laws can be joint and several and without regard to fault or negligence. For example, pursuant to environmental laws and regulations, including but not limited to the Comprehensive Environmental Response Compensation and Liability Act, or CERCLA, we may be liable for the full amount of any remediation-related costs at properties we currently own or formerly owned, such as our currently owned Sugar Land, Texas facility, or at properties at which we operated, as well as at properties we will own or operate in the future, and properties to which we have sent hazardous substances, whether or not we caused the contamination. Identification of presently unidentified environmental conditions, more vigorous enforcement by a governmental authority, enactment of more stringent legal requirements or other unanticipated events could give rise to adverse publicity, restrict our operations, affect the design or marketability of our products or otherwise cause us to incur material environmental costs, adversely affecting our financial condition and results of operations.

We are exposed to risks and increased expenses and business risk as a result of Restriction on Hazardous Substances, or RoHS directives.

Following the lead of the European Union, or EU, various governmental agencies have either already put into place or are planning to introduce regulations that regulate the permissible levels of hazardous substances in products sold in various regions of the world. For example, the RoHS directive for EU took effect on July 1, 2006. The labeling provisions of similar legislation in China went into effect on March 1, 2007. Consequently, many suppliers of products sold into the EU have required their suppliers to be compliant with the new directive. Many of our customers have adopted this approach and have required our full compliance. Though we have devoted a significant amount of resources and effort in planning and executing our RoHS program, it is possible that some of our products might be incompatible with such regulations. In such events, we could experience the following consequences: loss of revenue, damages reputation, diversion of resources, monetary penalties, and legal action.

Failure to comply with the U.S. Foreign Corrupt Practices Act could subject us to penalties and other adverse consequences.

We are subject to the U.S. Foreign Corrupt Practices Act, which generally prohibits U.S. companies from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. In addition, we are required to maintain records that accurately and fairly represent our transactions and have an adequate system of internal accounting controls. Foreign companies, including some that may compete with us, may not be subject to these prohibitions, and therefore may have a competitive advantage over us. If we are not successful in

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implementing and maintaining adequate preventative measures, we may be responsible for acts of our employees or other agents engaging in such conduct. We could suffer severe penalties and other consequences that may have a material adverse effect on our financial condition and results of operations.

We are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in international markets.

We are subject to export and import control laws, trade regulations and other trade requirements that limit which products we sell and where and to whom we sell our products. Specifically, the Bureau of Industry and Security of the U.S. Department of Commerce is responsible for regulating the export of most commercial items that are so called dual-use goods that may have both commercial and military applications. A limited number of our products are exported by license under the Export Control Classification Number, or ECCN, of 5A991. Export Control Classification requirements are dependent upon an item’s technical characteristics, the destination, the end-use, and the end-user, and other activities of the end-user. Should the regulations applicable to our products change, or the restrictions applicable to countries to which we ship our products change, then the export of our products to such countries could be restricted. As a result, our ability to export or sell our products to certain countries could be restricted, which could adversely affect our business, financial condition and results of operations. Changes in our products or any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by such regulations, could result in delayed or decreased sales of our products to existing or potential customers. In such event, our business and results of operations could be adversely affected.

Rapidly changing standards and regulations could make our products obsolete, which would cause our revenue and results of operations to suffer.

We design our products to conform to regulations established by governments and to standards set by industry standards bodies worldwide, such as the American National Standards Institute, the European Telecommunications Standards Institute, the International Telecommunications Union and the Institute of Electrical and Electronics Engineers, Inc. Various industry organizations are currently considering whether and to what extent to create standards applicable to our products. Because certain of our products are designed to conform to current specific industry standards, if competing or new standards emerge that are preferred by our customers, we would have to make significant expenditures to develop new products. If our customers adopt new or competing industry standards with which our products are not compatible, or the industry groups adopt standards or governments issue regulations with which our products are not compatible, our existing products would become less desirable to our customers and our revenue and results of operations would suffer.

Compliance with regulations related to conflict minerals could increase costs and affect the manufacturing and sale of our products.

Public companies are required to disclose the use of tin, tantalum, tungsten and gold (collectively, “conflict minerals”) mined from the Democratic Republic of the Congo and adjoining countries (the “covered countries”) if a conflict mineral(s) is necessary to the functionality of a product manufactured, or contracted to be manufactured, by the company. We filed our initial conflict minerals report on Form SD on May 31, 2016. We may determine, as part of our compliance efforts, that certain products or components we obtain from our suppliers contain conflict minerals. If we are unable to conclude that all our products are free from conflict minerals originating from covered countries, this could have a negative impact on our business, reputation and/or results of operations. We may also encounter challenges to satisfy customers who require that our products be certified as conflict free, which could place us at a competitive disadvantage if we are unable to substantiate such a claim. Compliance with these rules could also affect the sourcing and availability of some of the minerals used in the manufacture of products or components we obtain from our suppliers, including our ability to obtain products or components in sufficient quantities and/or at competitive prices. Certain of our customers are requiring additional information from us regarding the origin of our raw materials, and complying with these customer requirements may cause us to incur additional costs, such as costs related to determining the origin of any minerals used in our products. Our supply chain is complex and we may be unable to verify the origins for all metals used in our products. We may also encounter challenges with our customers and stockholders if we are unable to certify that our products are conflict free.

Some provisions of our named executive officers’ agreements regarding change of control or separation of service contain obligations for us to make separation payments to them upon their termination.

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Certain provisions contained in our employment agreements with our named executive officers regarding change of control or separation of service may obligate us to make lump sum severance payments and related payments upon the termination of their employment with us, other than such executive officer's resignation without good reason or our termination of their employment as a result of their disability or for cause. In the event we are required to make these separation payments, it could have a material adverse effect on our results of operations for the fiscal period in which such payments are made.

Risks Related to Our Operations in China

Our business operations conducted in China are critical to our success. A total of $57.4 million, $20.6 million and $22.0 million or 22.0%, 11.0% and 16.9%, of our revenue in the years ended December 31, 2016, 2015 and 2014 was attributable to our product manufacturing plants in China, respectively. Additionally, a substantial portion of our property, plant and equipment, 23% and 22% as of December 31, 2016 and 2015, was located in China, respectively. We expect to make further investments in China in the foreseeable future. Therefore, our business, financial condition, results of operations and prospects are to a significant degree subject to economic, political, legal, and social events and developments in China.

Adverse changes in economic and political policies in China, or Chinese laws or regulations could have a material adverse effect on business conditions and the overall economic growth of China, which could adversely affect our business.

The Chinese economy differs from the economies of most developed countries in many respects, including the level of government involvement, level of development, growth rate, control of foreign exchange and allocation of resources. The Chinese economy has been transitioning from a planned economy to a more market-oriented economy. Despite reforms, the government continues to exercise significant control over China's economic growth by way of the allocation of resources, control over foreign currency-denominated obligations and monetary policy and provision of preferential treatment to particular industries or companies.

In addition, the laws, regulations and legal requirements in China, including the laws that apply to foreign-invested enterprises, or FIEs, are subject to frequent changes. The interpretation and enforcement of such laws is uncertain. Protections of intellectual property rights and confidentiality in China may not be as effective as in the U.S. or other countries or regions with more developed legal systems. Any litigation in China may be protracted and result in substantial costs and diversion of resources and management attention. Any adverse changes to these laws, regulations and legal requirements or their interpretation or enforcement could have a material adverse effect on our business.

Furthermore, while China's economy has experienced rapid growth in the past 20 years, growth has been uneven across different regions, among various economic sectors and over time. China has also in the past and may in the future experience economic downturns due to, for example, government austerity measures, changes in government policies relating to capital spending, limitations placed on the ability of commercial banks to make loans, reduced levels of exports and international trade, inflation, lack of financial liquidity, stock market volatility and global economic conditions. Any of these developments could contribute to a decline in business and consumer spending in addition to other adverse market conditions, which could adversely affect our business.

The termination and expiration or unavailability of our preferential tax treatments in China may have a material adverse effect on our operating results.

Prior to January 1, 2008, entities established in China were generally subject to a 30% state and 3% local enterprise income tax rate. In accordance with the China Income Tax Law for Enterprises with Foreign Investment and Foreign Enterprises, effective through December 31, 2007, our China subsidiary enjoyed preferential income tax rates. Effective January 1, 2008, the China Enterprise Income Tax Law, or the EIT law, imposes a single uniform income tax rate of 25% on all Chinese enterprises, including FIEs, and eliminates or modifies most of the tax exemptions, reductions and preferential treatment available under the previous tax laws and regulations. As a result, our China subsidiary may be subject to the uniform income tax rate of 25% unless we are able to qualify for preferential status. Currently, we have qualified for a preferential 15% tax rate that is available for state-encouraged new high technology enterprises. The preferential rate has applied to calendar years 2012 through 2016. We have not yet realized any benefit from the 10%

reduction in income tax rate due to losses incurred by our China subsidiary; however, if we fail to continue to qualify for this preferential rate in the future, we may incur higher tax rates on our income in China. In order to retain the preferential tax rate, we must meet certain operating conditions, satisfy certain product requirements, meet certain headcount requirements and maintain certain levels of research expenditures. We applied for an additional three years of preferential status with the Chinese government in 2014 and received approval as a high-technology enterprise through September 2017. Any future increase in the enterprise income tax rate applicable to us or the expiration or other limitation of preferential tax rates available to us could increase our tax liabilities and reduce our net income.

The turnover of direct labor in manufacturing industries in China is high, which could adversely affect our production, shipments and results of operations.

Employee turnover of direct labor in the manufacturing sector in China is high and retention of such personnel is a challenge to companies located in or with operations in China. Although direct labor costs do not represent a high proportion of our overall manufacturing costs, direct labor is required for the manufacture of our products. If our direct labor turnover rates are higher than we expect, or we otherwise fail to adequately manage our direct labor turnover rates, then our results of operations could be adversely affected.

China regulation of loans to and direct investment by offshore holding companies in China entities may delay or prevent us from making loans or additional capital contributions to our China subsidiary.

Any loans that we wish to make to our China subsidiary are subject to China regulations and approvals. For example, any loans to our China subsidiary to finance their activities cannot exceed statutory limits, must be registered with State Administration of Foreign Exchange, or SAFE, or its local counterpart, and must be approved by the relevant government authorities. Any capital contributions to our China subsidiary must be approved by the Ministry of Commerce or its local counterpart. In addition, under Circular 142, our China subsidiary, as a FIE, may not be able to convert our capital contributions to them into RMB for equity investments or acquisitions in China.

We cannot assure you that we will be able to obtain these government registrations or approvals on a timely basis, if at all, with respect to our future loans or capital contributions to our China subsidiary. If we fail to receive such registrations or approvals, our ability to capitalize our China subsidiary may be negatively affected, which could materially and adversely affect our liquidity and ability to fund and expand our business.

Our China subsidiary is subject to Chinese labor laws and regulations and Chinese labor laws may increase our operating costs in China.

The China Labor Contract Law, together with its implementing rules, provides increased rights to Chinese employees. Previously, an employer had discretionary power in deciding the probation period, not to exceed six months. Additionally, the employment contract could only be terminated for cause. Under these rules, the probation period varies depending on contract terms and the employment contract can only be terminated during the probation period for cause upon three days' notice. Additionally, an employer may not be able to terminate a contract during the probation period on the grounds of a material change of circumstances or a mass layoff. The law also has specific provisions on conditions when an employer has to sign an employment contract with open-ended terms. If an employer fails to enter into an open-ended contract in certain circumstances, the employer must pay the employee twice their monthly wage beginning from the time the employer should have executed an open-ended contract. Additionally, an employer must pay severance for nearly all terminations, including when an employer decides not to renew a fixed-term contract. These laws may increase our costs and reduce our flexibility.

An increase in our labor costs in China may adversely affect our business and our profitability.

A significant portion of our workforce is located in China. Labor costs in China have been increasing recently due to labor unrest, strikes and changes in employment laws. If labor costs in China continue to increase, our costs will increase. If we are not able to pass these increases on to our customers, our business, profitability and results of operations may be adversely affected.

We may have difficulty establishing and maintaining adequate management and financial controls over our China operations.

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Businesses in China have historically not adopted a western style of management and financial reporting concepts and practices, which includes strong corporate governance, internal controls and computer, financial and other control systems. Moreover, familiarity with U.S. GAAP principles and reporting procedures is less common in China. As a consequence, we may have difficulty finding accounting personnel experienced with U.S. GAAP, and we may have difficulty training and integrating our China-based accounting staff with our U.S.-based finance organization. As a result of these factors, we may experience difficulty in establishing management and financial controls over our China operations. These difficulties include collecting financial data and preparing financial statements, books of account and corporate records and instituting business practices that meet U.S. public-company reporting requirements. We may, in turn, experience difficulties in implementing and maintaining adequate internal controls as required under Section 404 of the Sarbanes-Oxley Act.

Risks Related to Our Common Stock

Our stock price has been and is likely to be volatile.

The market price of our common stock has been and is likely to be subject to wide fluctuations in response to, among other things, the risk factors described in this section of this Annual Report on Form 10-K, and other factors beyond our control, such as fluctuations in the valuation of companies perceived by investors to be comparable to us.

Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock.

In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may become the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management’s attention from other business concerns, which could seriously harm our business.

We have incurred and will continue to incur significant increased expenses and administrative burdens as a public company, which could have a material adverse effect on our operations and financial results.

We face increased legal, accounting, administrative and other costs and expenses as a public company that we did not incur as a private company, and greater expenditures may be necessary in the future with the advent of new laws, regulations and stock exchange listing requirements pertaining to public companies. These increased costs will require us to divert a significant amount of money that we could otherwise use to expand our business and achieve our strategic objectives. The Sarbanes-Oxley Act, including the requirements of Section 404, as well as rules and regulations subsequently implemented by the SEC, the Public Company Accounting Oversight Board and the NASDAQ Global Market, impose additional reporting and other obligations on public companies. Compliance with public company requirements has increased our costs and made some activities more time-consuming. For example, we have created board committees and adopted internal controls and disclosure controls and procedures. In addition, we will have incurred and will continue to incur additional expenses associated with our SEC reporting requirements. Furthermore, if we identify any issues in complying with those requirements (for example, if we or our auditors identify a material weakness or significant deficiency in our internal control over financial reporting), we could incur additional costs rectifying those issues, and the existence of those issues could adversely affect us, our reputation or investor perceptions of us. Advocacy efforts by stockholders and third parties may also prompt additional changes in governance and reporting requirements, which could further increase our costs.

We currently do not intend to pay dividends on our common stock and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We currently do not plan to declare or pay dividends on shares of our common stock in the foreseeable future. In addition, the terms of our loan and security agreement with East West Bank and Comerica Bank restrict our ability to pay dividends. Consequently, your only opportunity to achieve a return on any shares of our common stock that you may

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acquire will be if the market price of our common stock appreciates and you sell your shares at a profit. There is no guarantee that the price of our common stock in the market will ever exceed the price that you pay.

Our charter documents, stock incentive plans and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.

Our amended and restated certificate of incorporation and our amended and restated bylaws and our stock incentive plans contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions. These provisions include:

- providing for a classified board of directors with staggered, three-year terms;
- not providing for cumulative voting in the election of directors;
- authorizing our board of directors to issue, without stockholder approval, preferred stock rights senior to those of common stock;
- prohibiting stockholder action by written consent;
- limiting the persons who may call special meetings of stockholders;
- requiring advance notification of stockholder nominations and proposals; and
- change of control provisions in our stock incentive plans, and the individual stock option agreements, which provide that a change of control may accelerate the vesting of the stock options issued under such plans.

In addition, we are governed by the provisions of Section 203 of the Delaware General Corporate Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding common stock, from engaging in certain business combinations without the approval of substantially all of our stockholders for a certain period of time.

These and other provisions in our amended and restated certificate of incorporation, our amended and restated bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would be without these provisions.

If research analysts do not publish research about our business or if they issue unfavorable commentary or downgrade our common stock, our stock price and trading volume could decline.

The trading market for our common stock depends on the research and reports that research analysts publish about us and our business. The price of our common stock could decline if one or more research analysts downgrade our common stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business. If one or more of the research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price or trading volume to decline.

As an “emerging growth company” within the meaning of the Securities Act, we utilize certain modified disclosure requirements, and we cannot be certain if these reduced requirements will make our common stock less attractive to investors.

We are an emerging growth company within the meaning of the rules under the Securities Act. We have in this Annual Report on Form 10-K utilized, and we plan in future filings with the SEC to continue to utilize, the modified disclosure requirements available to emerging growth companies, including reduced disclosure about our executive compensation and omission of compensation discussion and analysis, and an exemption from the requirement of holding a nonbinding advisory vote on executive compensation and an exemption from the requirement that outside auditors attest as to our internal control over financial reporting. As a result, our stockholders may not have access to certain information they may deem important.

In addition, Section 107 of the JOBS Act also provides that an emerging growth company can utilize the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to utilize this extended transition period. Our financial statements may therefore not be comparable to those of companies that comply with such new or revised accounting standards as they become applicable to public companies.

We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We could remain an "emerging growth company" for up to five years after our initial public offering, which was consummated in September 2013, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenue exceed $1 billion, (ii) the date that we become a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock that is held by non-affiliates exceeds $700 million as of the last business day of our most recently completed second fiscal quarter or (iii) the date on which we have issued more than $1 billion in non-convertible debt during the preceding three-year period.

Item 1B. Unresolved Staff Comments

Not Applicable.

Item 2. Properties

We maintain manufacturing, research and development, sales and administrative offices in the U.S., China and Taiwan. Our corporate headquarters is located at our facility in Sugar Land, Texas. The table below provides information regarding our facilities.

Location	Owned or Lease Expiration Date	Approximate Square Footage	Use

Sugar Land, Texas	Owned (1)	139,450	Administration, sales, manufacturing, research and development
Duluth, Georgia	November 30, 2018 (2)	2,983	Research and development
Ningbo, China	Owned (3)	458,849	Administration, sales, manufacturing, research and development
Taipei, Taiwan	May 31, 2029 (4)	268,797	Administration, sales, manufacturing, research and development

(1) The property is subject to a mortgage in favor of East West Bank and Comerica bank, securing our long-term debt obligations. In May 2016, we completed the expansion of our laser fabrication facilities and office space in Sugar Land, Texas that added 115,600 square feet of additional space to our original facility.

(2) We relocated our research and development office from a temporary location to the office in Duluth, Georgia at the end of February 2016. The lease covering the Georgia office commenced on December 1, 2015 and expires on November 30, 2018.

(3) Our China subsidiary acquired the land use rights to the real property on which our new facility is located from the Chinese government. The land use rights expire on October 7, 2054. Our China subsidiary owns the facility located on the property.

(4) Our Taiwan subsidiary relocated its entire operation to this new facility in November 2014. Lease covering the new facility commenced on June 1, 2014 and expires on May 31, 2029.

Item 3. Legal Proceedings

We anticipate that we will from time to time be subject to various claims and legal actions during the ordinary course of our business. We are not aware of any material claims or legal actions to which we, our properties or our officers or directors are subject.

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Item 4. Mine Safety Disclosure

Not Applicable.

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PART II

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

On September 26, 2013, our common stock began to trade on the NASDAQ Global Market under the symbol “AAOI”. Prior to that time, there was no public market for our common stock. As of March 6, 2017 there were 54 holders of record of our common stock (not including beneficial holders of our common stock holder in street name). The following table sets forth, for the periods indicated, the high and low sales prices of our common stock as reported by the NASDAQ Global Market.

	Low	High
Fiscal Year 2015:		
First Quarter	$ 8.38	$ 14.08
Second Quarter	$ 13.02	$ 19.20
Third Quarter	$ 16.05	$ 22.51
Fourth Quarter	$ 16.11	$ 21.30
Fiscal Year 2016:		
First Quarter	$ 12.36	$ 18.33
Second Quarter	$ 8.49	$ 16.25
Third Quarter	$ 10.60	$ 22.21
Fourth Quarter	$ 19.15	$ 26.63

The graph below shows the cumulative total stockholder return of an investment of $100 (and the reinvestment of any dividends thereafter) on September 26, 2013 (the first trading day of our common stock) in (i) our common stock, (ii) the NASDAQ Composite Index and (iii) the NASDAQ Telecommunications Index. Our stock price performance shown in the graph below is not indicative of future stock price performance. The following graph and related information shall not be deemed “soliciting material” or be deemed to be “filed” with the SEC, nor shall such information be incorporated by reference into any future filing, except to the extent that we specifically state that such graph and related information are incorporated by reference into such filing.

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PERCENT CHANGE

Date	AAOI	NASDAQ Telecom	NASDAQ Composite
9/26/2013	100.00 %	100.00 %	100.00 %
9/30/2013	100.40 %	99.42 %	99.58 %
12/31/2013	150.70 %	102.48 %	110.28 %
3/31/2014	247.69 %	102.84 %	110.87 %
6/30/2014	232.93 %	107.30 %	116.39 %
9/30/2014	161.65 %	106.44 %	118.64 %
12/31/2014	112.65 %	111.61 %	125.05 %
3/31/2015	139.36 %	110.59 %	129.40 %
6/30/2015	174.30 %	109.10 %	131.67 %
9/30/2015	188.55 %	100.38 %	121.99 %
12/31/2015	172.29 %	103.25 %	132.21 %
3/31/2016	149.70 %	106.99 %	128.58 %
6/30/2016	111.95 %	108.00 %	127.86 %
9/30/2016	222.99 %	118.35 %	140.25 %
12/31/2016	235.34 %	118.59 %	142.13 %

For equity compensation plan information refer to Item 12 of this Annual Report on Form 10-K.

Dividend Policy

We have never declared or paid any cash dividends on our capital stock, and we do not anticipate paying any cash dividends on our common stock for the foreseeable future. We currently intend to retain all available funds and future earnings for use in the operation and expansion of our business. Any future determination to pay cash dividends will be at the discretion of our board of directors and will depend upon our financial condition, results of operations, terms of financing arrangements, applicable Delaware law, capital requirements and such other factors as our board of directors deems relevant. In addition, the terms of our loan agreements governing our long-term debt obligations restricts us from paying dividends.

Unregistered Sales of Equity Securities and Use of Proceeds

Not applicable.

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Item 6. Selected Financial Data

SELECTED CONSOLIDATED FINANCIAL DATA

The selected consolidated financial data in this section is not intended to replace our consolidated financial statements and the related notes. You should read this summary consolidated financial data together with the sections titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our audited consolidated financial statements and related notes, all included elsewhere in this Annual Report on Form 10-K. We derived the consolidated statements of operations data for the years ended December 31, 2016, 2015 and 2014 and the consolidated balance sheet data as of December 31, 2016 and 2015 from our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. The consolidated statement of operations data for the years ended December 31, 2013 and 2012 and the consolidated balance sheet data as of December 31, 2014, 2013 and 2012 are derived from our audited consolidated financial statements that have previously been filed with the SEC. Our historical results are not necessarily indicative of the results to be expected in the future and results of interim periods are not necessarily indicative of results for the entire year.

	Years ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands, except share and per share data)				
Consolidated Statements of Operations Data:					
Revenue	$ 260,713	$ 189,903	$ 130,449	$ 78,424	$ 63,421
Cost of goods sold (1)	173,759	129,450	86,203	55,396	44,492
Gross profit	86,954	60,453	44,246	23,028	18,929
Operating expenses:					
Research and development (1)	31,780	20,852	15,970	8,512	7,603
Sales and marketing (1)	6,627	6,381	6,043	4,191	3,135
General and administrative (1)	25,527	19,771	17,095	10,632	8,012
Total operating expenses	63,934	47,004	39,108	23,335	18,750
Income (loss) from operations	23,020	13,449	5,138	(307)	179
Interest and other income (expense), net:					
Interest income	247	328	369	104	26
Interest expense	(1,717)	(1,018)	(326)	(1,125)	(1,381)
Other income (expense), net	(547)	(1,591)	(699)	(78)	231
Total interest and other income (expense), net	(2,017)	(2,281)	(656)	(1,099)	(1,124)
Income (loss) before income taxes	21,003	11,168	4,482	(1,406)	(945)
Income tax (expense) benefit	10,231	(375)	(199)	—	—
Net income (loss) attributable to common stockholders	$ 31,234	$ 10,793	$ 4,283	$ (1,406)	$ (945)

Net income (loss) per share attributable to common stockholders:					
Basic	$ 1.82	$ 0.69	$ 0.30	$ (0.14)	$ (3.56)
Diluted	$ 1.76	$ 0.65	$ 0.28	$ (0.14)	$ (3.56)
Weighted average shares used to compute net income (loss) per share attributable to common stockholders:					
Basic	17,201,731	15,626,753	14,307,477	9,964,955	265,576
Diluted	17,712,928	16,532,850	15,186,961	9,964,955	265,576

(1) These expenses include share-based compensation expense. Share-based compensation expense is accounted for at fair value, using the Black-Scholes option-pricing model for stock options and at the fair market value based on quoted market prices of the Company's stock as of the grant date for restricted stock units and restricted stock awards. Share-based compensation expense is recognized over the vesting period of the awards and was included in cost of goods sold and operating expenses as follows:

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	Years ended December 31,		
	2016	2015	2014
	(in thousands)		
Cost of goods sold	$ 190	$ 70	$ 88
Research and development	591	230	115
Sales and marketing	357	217	98
General and administrative	2,695	1,603	1,760
Total share-based compensation expense	$ 3,833	$ 2,120	$ 2,061

	Years ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands)				
Consolidated balance sheet data:					
Total cash, restricted cash, cash equivalents and short-term investments	$ 52,008	$ 40,679	$ 40,873	$ 30,751	$ 11,226
Working capital (1)	97,579	79,848	64,638	38,879	13,669
Total assets	322,318	273,475	183,670	111,057	65,748
Total debt (2)	43,133	67,903	29,919	28,455	24,584
Convertible preferred stock	—	—	—	—	105,367
Common stock and additional paid-in-capital	265,282	233,353	192,127	144,036	5,542
Total deficit	$ (37,013)	$ (68,247)	$ (79,040)	$ (83,323)	$ (81,917)

(1) Working capital is defined as total current assets less total current liabilities.
(2) Total debt is defined as short-term loans, notes payable, bank acceptance payable and total long-term debt.

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

MANAGEMENT'S DISCUSSION AND ANALYSIS OF

FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our consolidated financial statements and the accompanying notes appearing elsewhere in this Annual Report on Form 10-K. This discussion and other parts of this Annual Report on Form 10-K contain forward-looking statements that involve risks and uncertainties, such as statements of our plans, objectives, expectations and intentions. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in "Risk Factors."

Overview

We are a leading, vertically integrated provider of fiber-optic networking products. We target four networking end-markets: internet data centers, CATV, FTTH, and telecom. We design and manufacture a range of optical communications products at varying levels of integration, from components, subassemblies and modules to complete turn-key equipment. In designing products for our customers, we begin with the fundamental building blocks of lasers and laser components. From these foundational products, we design and manufacture a wide range of products to meet our customers' needs and specifications, and such products differ from each other by their end market, intended use and level of integration. We are primarily focused on the higher-performance segments within the internet data center, CATV, FTTH, and telecom markets which increasingly demand faster connectivity and innovation. Our vertically integrated manufacturing model provides us several advantages, including rapid product development, fast response times to customer requests and control over product quality and manufacturing costs.

The four end markets we target are all driven by significant bandwidth demand fueled by the growth of network-connected devices, video traffic, cloud computing and online social networking. Within the internet data center market, we benefit from the increasing use of higher-capacity optical networking technology as a replacement for copper cables, particularly as speeds reach 10 Gbps and above, as well as the movement to open internet data center architectures and the increasing use of in-house equipment design among leading internet companies. Within the CATV market, we benefit from a number of ongoing trends including the global build-out of CATV infrastructure, the move to higher bandwidth networks among CATV service providers and the outsourcing of system design among CATV networking equipment companies. In the FTTH market, we benefit from continuing PON deployments and system upgrades among telecommunication service providers. In the telecom market, we benefit from deployment of new high-speed fiber-optic networks by telecom network operators.

We sell our products to leading original equipment manufacturers, or OEMs, in the CATV and FTTH markets as well as internet data center operators. In 2016, we earned 16.7% of our total revenue from the CATV market, and 77.2% of our total revenue from the data center market. In 2016, our key customers in the CATV market included Cisco and Arris In 2016, 2015 and 2014, Cisco accounted for 5.4%, 10.4%, and 8.9%, respectively, of our revenue and Arris accounted for 5.8%, 4.5% and 4.5%, respectively, of our revenue. In 2016, our key customers in the internet data center market included Amazon and Microsoft. In 2016, 2015 and 2014, Amazon accounted for 54.6%, 52.5% and 45.8% of our revenue, respectively, and Microsoft accounted for 18.3%, 11.6% and 3.6% of our revenue, respectively. In 2016, revenue from the internet data center market, CATV market, FTTH market and telecom markets provided 77.2%, 16.7%, 0.6%, and 5.0% of our revenue, respectively, compared to 64.9%, 28.3%, 1.3%, and 5.1% of our 2015 revenue, respectively.

In 2016, our revenue growth of 37.3% over the prior-year was driven primarily by demand for our 40Gbps and 100 Gbps data center transceiver products, as large data center operators continued deployment of high capacity optical interconnect networks within their data centers. Also significant in our results for the year was the increase in orders from our customers for CATV equipment and modules that meet the new DOCSIS 3.1 cable-internet standard. We believe that the increase in these orders is being driven by network upgrades mainly by CATV service providers in North America.

We expect continued sales of our 40 Gbps and 100 Gbps products in 2017, and we expect that sales of 100Gbps products will eventually exceed sales of 40 Gbps products. Thus, quarter-to-quarter results may show considerable variability as is usual in a period of technology transition. Similar to revenue, our gross margins can fluctuate materially depending on a variety of factors including average selling price changes, product mix, raw material cost reduction or increase, volume, manufacturing utilization and ongoing manufacturing process improvements.

Our sales model focuses on direct engagement and close coordination with our customers to determine product design, qualifications, performance and price. Our strategy is to use our direct sales force to sell to key accounts and to expand our use of distributors for increased coverage in certain international markets and certain domestic market segments. We have direct sales personnel that cover the U.S., Taiwan and China focusing primarily on major OEM customers and internet data center operators. Throughout our sales cycle, we work closely with our customers to qualify our products into their product lines. As a result, we strive to build strategic and long-lasting customer relationships and deliver products that are customized to our customers’ requirements.

Our business depends on winning competitive bid selection processes to develop components, systems and equipment for use in our customers’ products. These selection processes are typically lengthy, and as a result our sales cycles will vary based on the level of customization required, market served, whether the design win is with an existing or new customer and whether our solution being designed in our customers’ product is our first generation or subsequent generation product. We do not have any long-term purchase commitments (in excess of one year) with any of our customers, all of whom purchase our products on a purchase order basis. Once one of our solutions is incorporated into a customer’s design, however, we believe that our solution is likely to continue to be purchased for that design throughout that product’s life cycle because of the time and expense associated with redesigning the product or substituting an alternative solution.

In 2016, 2015 and 2014, we had 30, 47 and 15 design wins, respectively. We define a design win as the successful completion of the evaluation stage, where our customer has tested our product, verified that our product meets substantially all of their requirements and has informed us that they intend to purchase the product from us. Although we believe that our ability to obtain design wins is a key strength and can provide meaningful and recurring revenue, an increase or decrease in the mere number of design wins does not necessarily correlate to a likely increase or decrease in revenue, particularly in the short term. As such, the number of design wins we achieve on a quarterly or annual basis and any increase or decrease in design wins will not necessarily result in a corresponding increase or decrease in revenue in the same or immediately succeeding quarter or year. For example, if our total number of design wins in an annual or quarterly period increases or decreases compared to the total number of design wins in a prior period, this does not necessarily mean that our revenue in such period will be higher or lower than our revenue in the prior period. In fact, our experience is that some design wins result in significant revenue and some do not, and the timing of such revenue is difficult to predict as it depends on the success of the end customer’s product that uses our components. Thus, some design wins result in orders and significant revenue shortly after the design win is awarded and other design wins do not result in significant orders and revenue for several months or longer after the initial design win (if at all). We do believe that over a period of years the collective impact of design wins correlates to our overall revenue growth.

We believe we have an attractive financial profile, with strong revenue performance and control over our manufacturing costs through our vertically integrated manufacturing model. While we have incurred substantial losses since our inception, and as of December 31, 2016 had an accumulated deficit of $37.0 million, we achieved profitability in 2015, and we continued to be profitable in 2016. We have grown our revenue at a 34.1% CAGR between 2009 and 2016, including 37.3% growth year-over-year from 2015 to 2016.

Factors Affecting Our Performance

Increasing Consumer Demand for Bandwidth. Bandwidth demand in all of our target markets is driving service provider investment in new equipment and in turn generating demand for our products. Increasingly, optical networking technologies are being incorporated into networking equipment, replacing legacy copper-based networking technologies. This shift to optical networking solutions benefits us as a provider of those solutions.

Pricing, Product Cost and Margins. Our solution pricing varies depending upon the end market, the complexity of the product and the level of competition. Our product costs also vary with complexity as well as the degree to which we can utilize components designed and manufactured ourselves. We tend to realize higher gross margins on products that incorporate a higher percentage of our own components. We often initially experience lower gross margins on new products, as our pricing is based upon anticipated volume-driven cost reductions over the life of the design win. Thus, if we are unable to realize our expected cost reductions, we may experience declining gross margins on such products.

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Our product pricing is established when the product is initially introduced to the market, and thereafter through periodic negotiations with customers. We generally do not agree to periodic automatic price reductions. Furthermore, due to the dynamics in the CATV market and the value of our outsourced design services to our customers, we believe we face less downward price pressure than many of our competitors in this market. We sell a wide variety of products among our four target markets and our gross margin is heavily dependent in any quarter on the product mix achieved during that period.

Customer Concentration within End Markets. Historically, our revenue has been significantly concentrated, first within the CATV market and in 2015 and 2016 within the internet data center market. Moreover, within these markets, revenue tends to be concentrated among a small number of customers. In 2015 and 2016, we have taken several actions to increase the diversity of our customer base. These actions include the creation of a new sales incentive program, hiring additional sales staff to improve our ability to serve new customers, and additional customized design of products that we believe will appeal to new customers. Furthermore, we have developed additional original design manufacturer, or ODM, relationships with customers in each of our target markets which should enable us to diversify our revenue base. In 2016 and 2015, we had two and three customers that each accounted for more than 10% of our revenue, respectively.

Product Development. We invest heavily to develop new and innovative products. The majority of our research and development expense is allocated to product development, usually with a specific customer and customer platform in mind. We believe our close coordination with our customers regarding their future product requirements enhances the efficiency of our research and development expenditures.

Discussion of Financial Performance

Revenue

We generate revenue through the sale of our products to equipment providers for the internet data center, CATV, FTTH, telecom and other markets. We derive a significant portion of our revenue from our top ten customers, and we anticipate that we will continue to do so for the foreseeable future. The following chart provides the revenue contribution from each of the markets we serve for the years 2016, 2015 and 2014, as well as the corresponding percentage of our total revenue for each period:

	Years ended December 31,		
Market	2016	2015	2014
	(in thousands, except percentages)		
CATV	$ 43,567	$ 53,675	$ 47,389

Data Center	201,314	123,286	64,453
FTTH	1,567	2,458	13,591
Telecom	12,938	9,652	3,856
Other	1,327	832	1,160
Total	$ 260,713	$ 189,903	$ 130,449

	Percentage of Revenue					
CATV	16.7	%	28.3	%	36.3	%
Data Center	77.2	%	64.9	%	49.4	%
FTTH	0.6	%	1.3	%	10.4	%
Telecom	5.0	%	5.1	%	3.0	%
Other	0.5	%	0.4	%	0.9	%
Total Revenue	100	%	100	%	100	%

In 2016, 2015 and 2014, our top ten customers represented 95.5%, 88.7% and 87.2% of our revenue, respectively. In 2016, our key customers in the CATV market included Cisco, and Arris. In 2016, 2015 and 2014, Cisco accounted for 5.4%, 10.4%, and 8.9%, respectively, of our revenue and Arris accounted for 5.8%, 4.5% and 4.5%, respectively, of our revenue. In 2016 and 2015, our key customers in the internet data center market included Amazon and Microsoft. In 2016 and 2015, Amazon accounted for 54.6% and 52.5% of our revenue, respectively, and Microsoft accounted for 18.3% and 11.6% of our revenue, respectively.

Revenue is recognized when the product is shipped and title has transferred to the customer. We bear all costs and risks of loss or damage to the goods up to that point. On most orders, our terms of sale provide that title passes to the customer upon placement by us with a common carrier (upon shipment). A majority of our annual sales are denominated in U.S. dollars, but some sales from our Taiwan location and China-based subsidiary are denominated in NT dollars and RMB, respectively. For the year ended December 31, 2016, 22.0% of our total revenue was manufactured at our China-based subsidiary, with $3.3 million denominated in RMB and 71.0% of our total revenue was manufactured at our Taiwan-based facility with an immaterial amount denominated in NT dollars. We expect a similar portion of our sales to be denominated in foreign currencies in 2017.

Cost of goods sold and gross margin

Our cost of goods sold is impacted by variances arising from changes in yields and production volume, as well as increases or decreases in the cost of raw materials used in production. We typically experience lower yields and higher associated costs on new products. In general, our cost of goods sold for a particular product declines over time as a result of increasing efficiencies in the manufacturing processes, or supply cost declines, as well as yield improvements and testing enhancements.

We manufacture products in three of our four facilities in the U.S., Taiwan and China. Generally, laser chips and optical components are manufactured in our Sugar Land facility, optical components and subassemblies are manufactured in our Taiwan facility, and optical components and optical equipment are manufactured in our China facility. Because of our vertical integration model, we generally utilize our own optical component products in our semi-finished and finished goods that we sell between and among our respective manufacturing operations. We base those internal sales upon established transfer pricing methodologies. However, we eliminate all of those internal sales, and cost of goods sold transactions, to arrive at total revenue and cost of goods sold on a consolidated basis.

We have a global set of suppliers to help balance considerations related to product availability, quality and cost. Components of our cost of goods sold are denominated in U.S. or NT dollars or RMB, depending upon the manufacturing location.

Gross profit as a percentage of total revenue, or gross margin, has been and is expected to continue to be affected by a variety of factors, including the introduction of new products, production volumes, the mix of products sold, the geographic region in which products are sold, changes in the cost and volumes of materials purchased from our suppliers, changes in labor costs, changes in overhead costs, reserves for excess and obsolete inventories and changes in the average selling prices of our products. Although our overall gross margins over the past three years have been between 28.3% and 38.0%, our gross margins vary more broadly on a product-by-product basis. Our newer and more advanced products typically have higher average selling prices and higher gross margins; however, until the product volumes scale, the gross margin from newer and advanced products may initially be lower. Within our markets, we may sell similar products to different geographic regions at different prices, and therefore realize different gross margins among those similar products. Our strategy is to improve our gross margins through vertical integration such as utilization of our own laser chips and optical sub-components in our solutions. We expect that our gross margins are likely to continue to fluctuate from quarter to quarter because of the variety of products we sell and the relative product mix within a quarter.

Operating expenses

Our operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Personnel costs are the most significant component of operating expenses and include salaries, benefits, bonuses and share-based compensation. With regard to sales and marketing expense, personnel costs also include sales commissions.

Research and development. Research and development, or R&D, expense consists primarily of personnel costs, including share-based compensation for R&D personnel, and R&D work orders (that include material, direct labor and allocated overhead), as well as allocated development costs, such as engineering services, software and hardware tools, depreciation of capital equipment and facility costs. We record all research and development expense as incurred. Customers rely upon us to assist them with the development of new products and modification of existing products because of our extensive optical design and manufacturing expertise. We work closely with our customers in the critical design phase of product development and are often reimbursed for those development efforts. By virtue of our overseas

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R&D operations and by focusing on customer-specific projects, our research and development expenses have tended to represent a lower percentage of revenue compared to some of our competitors. In the future, we expect research and development expense to increase on a dollar basis, but continue to decline as a percentage of revenue, to the extent that our revenue increases over time.

Sales and marketing. Sales and marketing expense consists primarily of personnel costs, including share-based compensation for our sales and marketing personnel, as well as travel and trade show expense, sales commissions and the allocation of overall corporate services and facility costs. We sell our products to customers who either incorporate our products into their offering or resell our products to end customers. Because we sell to a limited number of well-established customers, we employ a limited number of sales professionals who are able to cover large markets. We compensate our sales staff through base salary and commissions, with base salary being the largest component of overall compensation. Total sales commissions to employees amounted to less than one percent of our revenue in 2016, 2015 and 2014. Additionally, we pay commissions to third parties on certain product lines and identified customers, which also amounted to less than one percent of our revenue in 2016, 2015 and 2014. As such, our sales and marketing expense does not directly increase with revenue. In the future, we expect sales and marketing expense to increase on a dollar basis as we incrementally increase our overall sales activities, but expect our sales and marketing expense to decline as a percentage of revenue, to the extent our revenue increases over time.

General and administrative. General and administrative expense consists primarily of personnel costs, including share-based compensation, primarily for our finance, human resources, legal and information technology personnel and certain executive officers, as well as professional services costs related to accounting, tax, banking, legal and information technology services, depreciation of capital equipment and facility costs. We expect general and administrative expense to increase as we continue to grow in both size and complexity as a public company. We expect rising costs including increased audit and legal fees, costs to comply with the Sarbanes-Oxley Act and the rules and regulations applicable to companies listed on a national stock exchange, as well as investor relations expense and higher insurance premiums. In the future, we expect general and administrative expense to increase on a dollar basis but continue to decline as a percentage of revenue, to the extent that our revenue increases over time.

Other income (expense)

Interest income consists of income earned on our cash, cash equivalents and short-term investments. Interest expense consists of amounts paid for interest on our short-term and long-term debt borrowings.

Other income (expense), net is primarily made up of foreign currency transaction gains and losses. The functional currency of our China subsidiary is the RMB and the foreign currency transaction gains and losses of our China subsidiary primarily result from their transactions in U.S. dollars. The functional currency of our Taiwan location is the NT dollar and the foreign currency transaction gains and losses of our Taiwan location primarily result from their transactions in U.S. dollars.

Income taxes

We are a U.S. registered company and are subject to income taxes in the U.S. We also operate in a number of countries throughout the world, including Taiwan and China. Consequently, our effective tax rate is impacted by the geographic distribution of our earnings or losses and the tax laws and regulations in each geographical region. We expect that our income taxes will vary in relation to our profitability and the geographic distribution of our profits. In 2016 and 2015, our effective tax rate was (48.7%) and 3.3%, respectively. Our effective U.S. federal income tax rate was 0% prior to 2015 as we incurred operating losses and had recorded a full valuation allowance against those losses, which was removed in July 2016. At December 31, 2016, our U.S. accumulated net operating loss, or NOL, was $37.7 million. If we earn profits in the U.S., we expect to reduce our cash tax obligations by the utilization of NOL carry forwards. Our NOL benefits expire over the twelve-year period from 2021 to 2033. Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an “ownership change,” the corporation’s ability to use its pre-change NOLs, capital loss carry forwards and other pre-change tax attributes to offset its post-change income may be limited going forward. Based upon an analysis of our equity ownership, we have experienced an ownership change; however, our NOL carry forwards are not materially limited in dollar amount. The amount of NOL available each year may decrease by the amount of NOL utilized and may increase by the amount of any operating losses incurred. Should we experience additional ownership changes our NOL carry forwards may be further limited.

Our wholly owned subsidiary, Global Technology, Inc., has received preferential tax concessions in China as a national high-tech enterprise. In March 2007, China's parliament enacted the PRC Enterprise Income Tax Law, or the EIT Law, under which, effective January 1, 2008, China adopted a uniform income tax rate of 25% for all enterprises including foreign invested enterprises. Global Technology, Inc. was recognized as a national high-tech enterprise in 2008 and was entitled to a 15% tax rate for a three year period from November 2008 to November 2011. In 2011, Global Technology, Inc. renewed its national high-tech enterprise certificate and therefore extended its three year tax preferential status from November 2011 to November 2014. In 2014, Global Technology, Inc. again renewed its national high-tech enterprise certificate and therefore extended its three year tax preferential status from November 2014 until September 2017.

For the years ended December 31, 2016 and 2015, we had $1.8 million and $1.8 million, respectively, of unrecognized tax benefits related to U.S. tax benefits recognized for which we do not meet the more likely than not threshold. We believe that it is reasonably possible that none of our remaining unrecognized tax positions may be recognized by the end of 2017.

Seasonality

We believe that the demand for our CATV products is seasonal. Historically, revenue derived from our CATV products has been highest in the fourth quarter and lowest in the first quarter of each year. The first quarter of the year has historically been negatively affected by reduced economic activity due to the Chinese New Year holiday and the lower level of deployment of outdoor CATV equipment in cold weather environments.

We are uncertain whether the demand for our internet data center, FTTH and telecom products is seasonal, as our sales data does not indicate a significant trend with respect to these products.

Our gross margin varies quarter to quarter and varies primarily due to the product mix in a particular quarter, as well as from the level of manufacturing efficiencies, production yields (particularly in the laser chip fabrication process) and overall supply costs.

Results of Operations

The following table set forth our results of operations for the periods presented and as a percentage of our revenue for those periods. The period-to-period comparison of our financial results is not necessarily indicative of our financial results to be achieved in future periods.

	Years ended December 31,		
	2016	2015	2014
Revenue, net	100.0 %	100.0 %	100.0 %
Cost of goods sold	66.6 %	68.2 %	66.1 %
Gross profit	33.4 %	31.8 %	33.9 %

Operating expenses						
Research and development	12.2	%	11.0	%	12.2	%
Sales and marketing	2.5	%	3.4	%	4.6	%
General and administrative	9.8	%	10.3	%	13.1	%
Total operating expenses	24.5	%	24.7	%	30.0	%
Income from operations	8.9	%	7.1	%	3.9	%
Interest and other income (expense), net	(0.8)	%	(1.2)	%	(0.5)	%
Income before income taxes	8.1	%	5.9	%	3.4	%
Income tax (expense) benefit	3.9	%	(0.2)	%	(0.2)	%
Net income	12.0	%	5.7	%	3.3	%

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Comparison of Years Ended December 31, 2016 and 2015

Revenue

We generate revenue through the sale of our products to equipment providers and network operators for the internet data center, CATV, FTTH, telecom and other markets. We derive a significant portion of our revenue from our top ten customers, and we anticipate that we will continue to do so for the foreseeable future. We also anticipate that our revenue derived from the internet data center market will continue to increase as a percentage of our revenue as we further penetrate and extend our products into this market. The following charts provide the revenue contribution from each of the markets we served for the years ended December 31, 2016 and 2015:

	Years ended December 31, 2016	2015
CATV	16.7 %	28.3 %
Data Center	77.2 %	64.9 %
FTTH	0.6 %	1.3 %
Telecom	5.0 %	5.1 %
Other	0.5 %	0.4 %
	100.0 %	100.0 %

	Years ended December 31, 2016	2015	Change Amount	%
CATV	$ 43,567	$ 53,675	$ (10,108)	(18.8) %
Data Center	201,314	123,286	78,028	63.3 %
FTTH	1,567	2,458	(891)	(36.2) %
Telecom	12,938	9,652	3,286	34.0 %
Other	1,327	832	495	59.5 %
Total Revenue	$ 260,713	$ 189,903	$ 70,810	37.3 %

Revenues in the internet data center market were driven primarily by increasing demand for our 40 Gbps and 100 Gbps transceivers as our customers continued to upgrade their technology infrastructure. The decrease in revenue in our FTTH market is due to decreased demand from our major FTTH customer as a result of their decision to halt their deployments. The decrease in revenue in the CATV market for the year was a result of decreased customer orders, primarily in the first half of the year, due to uncertainty of timing surrounding various network upgrades by North American CATV operators. The increase in revenue in our telecom segment was driven primarily by sales of recently designed products and increased deployments of high-speed telecom access networks by telecom operators.

In the years ended December 31, 2016 and 2015, our top ten customers represented 95.5% and 88.7% of our revenue, respectively.

Cost of goods sold and gross margin

	Years ended December 31,					
	2016		2015		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
	(in thousands, except percentages)					
Cost of goods sold	$ 173,759	66.6 %	$ 129,450	68.2 %	$ 44,309	34.2 %
Gross margin	86,954	33.4 %	60,453	31.8 %		

Cost of goods sold increased by $44.3 million, or 34.2%, from 2015 to 2016, primarily due to a 37.3% increase in sales over the prior year. Within our markets, we may sell similar products in different geographic regions at different prices, resulting in different gross margins among our products. Also, within our business there are various different product types which may have different gross margins. The increase in gross margin for the year ended December 31, 2016 compared to the same period ended December 31, 2015 was primarily the result of cost reduction of our data center products, along with higher gross margin on our 100 Gbps products compared to earlier sales of 40 Gbps products.

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Operating expenses

	Years ended December 31,								
	2016			2015			Change		
	Amount	% of revenue		Amount	% of revenue		Amount	%	
	(in thousands, except percentages)								
Research and development	$ 31,780	12.2	%	$ 20,852	11.0	%	$ 10,928	52.4	%
Sales and marketing	6,627	2.5	%	6,381	3.4	%	246	3.9	%
General and administrative	25,527	9.8	%	19,771	10.3	%	5,756	29.1	%
Total operating expenses	$ 63,934	24.5	%	$ 47,004	24.7	%	$ 16,930	36.0	%

Research and development expense

Research and development expense increased by $10.9 million, or 52.4%, from 2015 to 2016. This was primarily due to increases in personnel costs, R&D work orders and project costs related to 100 Gbps data center products, 200 Gbps/400 Gbps data center products, DOCSIS 3.1-capable CATV products, other new product development and an increase in depreciation expense resulting from additional R&D equipment investments. The percentage of research and development expenses over sales increased from 11.0% to 12.2%, from the year ended December 31, 2015 compared to the year ended December 31, 2016.

Sales and marketing expense

Sales and marketing expense increased by $0.2 million, or 3.9%, from 2015 to 2016. This was due to an increase in personnel costs. The percentage of sales and marketing expenses over sales decreased from 3.4% to 2.5% from the year ended December 31, 2015 compared to the year ended December 31, 2016.

General and administrative expense

General and administrative expense increased by $5.8 million, or 29.1%, from 2015 to 2016. This was primarily due to an increase in personnel costs, professional fees associated with being a public company and depreciation expense related to our factory in Sugar Land, Texas. The percentage of general and administrative expenses over sales decreased from 10.3 % to 9.8% from the year ended December 31, 2015 compared to the year ended December 31, 2016.

Other income (expense), net

	Years ended December 31,					
	2016		2015		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Interest income	$ 247	0.1 %	$ 328	0.2 %	$ (81)	(24.7)%
Interest expense	(1,717)	(0.7) %	(1,018)	(0.5) %	(699)	68.7 %
Other income (expense), net	(547)	(0.2) %	(1,591)	(0.8) %	1,044	(65.6)%
Total other expense, net	$ (2,017)	(0.8) %	$ (2,281)	(1.2) %	$ 264	(11.6)%

Interest income decreased over the same prior year periods due to lower investment balances.

Interest expense increased overall for the periods with additional borrowing activities during the year ended December 31, 2016 to fund facility expansion projects in the U.S. and Taiwan.

Other expense, net decreased by $1.0 million from 2015 to 2016 due to foreign currency gains mainly due to the appreciation of New Taiwan Dollars against U.S. dollars at the end of 2016 compared to the 2015. We qualify as a high-tech enterprise in China, as determined by the Chinese government, and are paid subsidies from time to time by the Chinese government to foster local high-tech manufacturing, which are recorded as other income. We received $0.2 million and $0.3 million in subsidy during each of the years ended December 31, 2016 and 2015, respectively.

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Benefit (provision) for income taxes

	Years ended December 31,			
	2016	2015	Change	
	(in thousands, except percentages)			
Benefit (provision) for income taxes	$ 10,231	$ (375)	10,606	(2,828.3)%

Our income tax expense consists of U.S. income tax, U.S. alternative minimum tax, state taxes and Taiwan income tax recorded during the periods. Our effective tax rate is affected by recurring items, such as tax rates in state and foreign jurisdictions and the relative amounts of income we earn in those jurisdictions.

We recorded a tax benefit of $10.2 million for the year ended December 31, 2016 as compared to the tax provision of $0.4 million for the year ended December 31, 2015, respectively. The income tax benefit recorded in the year ended December 31, 2016 was primarily related to the release of the valuation allowance previously recorded against U.S. and Taiwan deferred tax assets.

Comparison of Years Ended December 31, 2015 and 2014

Revenue

The following charts provide the revenue contribution from each of the markets we served for the years ended December 31, 2015 and 2014:

	Years ended December 31,	
	2015	2014
CATV	28.3 %	36.3 %
Data Center	64.9 %	49.4 %
FTTH	1.3 %	10.4 %
Other	5.5 %	3.9 %
Total Revenue	100.0 %	100.0 %

	Years ended December 31, 2015	2014	Change Amount	%
	(in thousands, except percentages)			
CATV	$ 53,675	$ 47,389	$ 6,286	13.3 %
Data Center	123,286	64,453	58,833	91.3 %
FTTH	2,458	13,591	(11,133)	(81.9)%
Telecom	9,652	3,855	5,797	150.4 %
Other	832	1,161	(329)	(28.3)%
Total Revenue	$ 189,903	$ 130,449	$ 59,454	45.6 %

Revenues in the internet data center market were driven primarily by increasing demand for our 40 Gbps transceivers as our customers continued to upgrade their technology infrastructure. The decrease in revenue in our FTTH market is due to decreased demand from our major FTTH customer as a result of their decision to continue using an existing technology in their deployments. The increase in revenues in the CATV market for the year was a result of revenue derived from newly-designed products that have begun to be sold in higher quantities by our customers, as well as increased demand for new and existing products in certain international markets, especially in Latin America earlier in the year.

In the years ended December 31, 2015 and 2014, our top ten customers represented 88.7% and 87.2% of our revenue, respectively.

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Cost of goods sold and gross margin

	Years ended December 31, 2015		2014		Change	
	Amount	% of Revenue	Amount	% of Revenue	Amount	%
	(in thousands, except percentages)					
Cost of goods sold	$ 129,450	68.2 %	$ 86,203	66.1 %	$ 43,247	50.2 %
Gross margin	60,453	31.8 %	44,246	33.9 %		

Cost of goods sold increased by $43.2 million, or 50.2%, from 2014 to 2015, primarily due to a 45.6% increase in sales over the prior year. Within our markets, we may sell similar products in different geographic regions at different prices, resulting in different gross margins among our products. Also, within our segments there are various different product types which may have different gross margins. The decrease in gross margin the year ended December 31, 2015 compared to the same period ended December 31, 2014 was primarily the result of a differing product mix in our internet data center and CATV products.

Operating expenses

	Years ended December 31, 2015		2014		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Research and development	$ 20,852	11.0 %	$ 15,970	12.2 %	$ 4,882	30.6 %
Sales and marketing	6,381	3.4 %	6,043	4.6 %	338	5.6 %
General and administrative	19,771	10.3 %	17,095	13.1 %	2,676	15.7 %
Total operating expenses	$ 47,004	24.7 %	$ 39,108	30.0 %	$ 7,896	20.2 %

Research and development expense

Research and development expense increased by $4.9 million, or 30.6%, from 2014 to 2015. This was primarily due to increases in personnel costs, rent and utilities, R&D work orders and project costs related to 100 Gbps data center products, DOCSIS 3.1-capable CATV products, other new product development, increase in depreciation expense resulting from additional R&D equipment investments, and costs associated with our new R&D center in Lawrenceville, Georgia. The percentage of research and development expenses over sales decreased from 12.2% to

11.0%, from the year ended December 31, 2014 compared to the year ended December 31, 2015.

Sales and marketing expense

Sales and marketing expense increased by $0.3 million, or 5.6%, from 2014 to 2015. This was due to an increase in expenses for a new sales incentive program which was implemented in May, 2014, and an increase in sales commissions directly related to our revenue growth. The percentage of sales and marketing expenses over sales decreased from 4.6% to 3.4% from the year ended December 31, 2014 compared to the year ended December 31, 2015.

General and administrative expense

General and administrative expense increased by $2.7 million, or 15.7%, from 2014 to 2015. This was primarily due to an increase in payroll and benefits, professional fees associated with being a public company and depreciation expense related to relocation of our factory in Taiwan. The percentage of general and administrative expenses over sales decreased from 13.1% to 10.3% from the year ended December 31, 2014 compared to the year ended December 31, 2015.

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Other income (expense), net

	Years ended December 31,					
	2015		2014		Change	
	Amount	% of revenue	Amount	% of revenue	Amount	%
	(in thousands, except percentages)					
Interest income	$ 328	0.2 %	$ 369	0.3 %	$ (41)	(11.1)%
Interest expense	(1,018)	(0.5) %	(326)	(0.2) %	(692)	212.3 %
Other income (expense), net	(1,591)	(0.8) %	(699)	(0.5) %	(892)	127.6 %
Total other expense, net	$ (2,281)	(1.2) %	$ (656)	(0.4) %	$ (1,625)	247.7 %

Interest income decreased over the same prior year periods due to lower cash and investment balances.

Interest expense increased overall for the periods with additional borrowing activities during the year ended December 31, 2015 to fund expansion projects.

Other expense, net increased by $0.9 million from 2014 to 2015 due to an increase in unrealized foreign exchange losses of $1.3 million resulting from the depreciation of the RMB and NTD currencies against the U.S. dollar compared to those losses in the same prior year period. These unrealized losses were offset by an increase in realized foreign exchange gains of $0.4 million compared to the same prior year period. We qualify as a high-tech enterprise in China, as determined by the Chinese government, and are paid subsidies from time to time by the Chinese government to foster local high-tech manufacturing, which are recorded as other income. We received $0.3 million in subsidy during the year ended December 31, 2015 compared to $0.2 million in the same prior year period.

Provision for income taxes

	Years ended December 31,			
	2015	2014	Change	
	(in thousands, except percentages)			
Provision for income taxes	$ (375)	$ (199)	(176)	46.9 %

Our income tax expense consisted of U.S. alternative minimum tax, state taxes and Taiwan income tax recorded during the periods. Our effective tax rate was affected by recurring items, such as tax rates in state and foreign jurisdictions and the relative amounts of income we earn in those jurisdictions. It was also affected by the change in the valuation allowance, as our deferred tax assets was fully offset by a deferred tax valuation allowance.

We recorded a valuation allowance against all of our deferred tax assets as of December 31, 2015, and 2014. We had determined a full valuation allowance on our deferred tax assets was required until there was sufficient evidence to support that our deferred taxes were realizable. However, given the previous two years of earnings and uncertainty of anticipated future earnings, we believed that there was a reasonable possibility that within that next 12-month period, sufficient positive evidence would become available to allow us to reach a conclusion that a significant portion of the valuation allowance was no longer be needed. Release of the valuation allowance would result in the recognition of certain deferred tax assets and a decrease to income tax expense for the period the release is recorded. However, the exact timing and amount of the valuation allowance release would be subject to change on the basis of the level of profitability that we would be able to actually achieve.

In considering whether or not to continue to maintain the valuation allowance, we considered all available positive and negative evidence, including: historical profits and losses, forecasts of future profits or losses, and trends in the industries that we serve that may have affected our ability to continue to generate profits. In projecting future taxable income, we began with historical results adjusted for the results of discontinued operations 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 required the use of significant judgment and were consistent with the plans and estimates we were using to manage the underlying businesses. We had deferred tax assets in China, Taiwan, and the United States. When considering positive and negative evidence, we analyzed positive and negative evidence in each jurisdiction independently.

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Liquidity and Capital Resources

From inception until our initial public offering in September 2013, we financed our operations through private sales of equity securities, cash generated from operations and from various lending arrangements. As of December 31, 2016, we had $75.8 million of unused borrowing capacity from all of our loan agreements. As of December 31, 2016, our cash, cash equivalents, restricted cash and short-term investments totaled $52.0 million. Cash and cash equivalents are held for working capital purposes and are invested primarily in money market or time deposit funds. We do not enter into investments for trading or speculative purposes. On October 17, 2016, we filed a Registration Statement on Form S-3 with the Securities and Exchange Commission, which was declared effective on November 1, 2016, providing for the public offer and sale of certain securities of the Company from time to time, at our discretion, up to an aggregate amount of $250 million. In 2016, the Company sold 1.1 million shares of common stock at a weighted average price of $24.85 per share, providing proceeds of $27.2 million, net of expenses and underwriting discounts and commissions.

The table below sets forth selected cash flow data for the periods presented:

	Years ended December 31,		
	2016	2015	2014
Net cash provided by (used in) operating activities	$ 57,104	$ (15,212)	$ 8,530
Net cash used in investing activities	(41,543)	(61,620)	(45,388)
Net cash provided by financing activities	4,642	73,114	47,250
Effect of exchange rates on cash and cash equivalents	1,947	(383)	(223)
Net increase (decrease) in cash	$ 22,150	$ (4,101)	$ 10,169

Operating activities

In 2016, net cash provided by operating activities was $57.1 million. Net cash provided by operating activities consisted of our net income of $31.2 million, after the exclusion of non-cash items of $9.5 million as well as $10.2 million from the reduction of inventories, increase in accounts payable from our vendors of $9.1 million, decrease in prepaid assets of $4.1 million and an increase in accrued liabilities of $4.1 million. These cash increases were offset by an increase in accounts receivable from our customers of $11.1 million in 2016.

In 2015, net cash used in operating activities was $15.2 million. Cash used was primarily from an increase in inventories of $37.5 million to support revenue growth, an increase in accounts receivable from our customers of $7.5 million and a decrease in accounts payable to our vendors of $1.3 million. The cash used was offset by an increase in accrued liabilities of $5.0 million in 2016.

In 2014, net cash provided by operating activities was $8.5 million. Accounts payable increases of $18.9 million were offset by an increase in accounts receivable from our customers of $9.7 million and an increase in inventories of $16.1 million to support revenue growth.

Investing activities

Our investing activities consisted primarily of capital expenditures and purchases of intangible assets.

In 2016, net cash used in investing activities was $41.5 million. Spending on property, plant and equipment of $49.4 million was offset by the maturity of short-term investments of $7.7 million.

In 2015, net cash used in investing activities was $61.6 million for the purchase of additional machinery and equipment and for investment in the construction of our U.S. and Taiwan plants. Deferred charges also increased associated with the purchase of new machinery and equipment as well as patent spending.

In 2014, net cash used in investing activities was $45.4 million for the purchase of additional machinery and equipment, for investment in leasehold improvements for our Taiwan plant expansion and the payment for intellectual property licenses to support new product development efforts and manufacturing activities as well as an increase in deferred charges.

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Financing activities

Our financing activities have historically consisted primarily of proceeds from the issuance of common stock and arrangements with various commercial lenders.

In 2016, our financing activities provided $4.6 million in cash. We repaid $22.9 million in net borrowings associated with our bank loans, $2.5 million in net repayments of acceptance payable, offset by decreased restricted cash of $3.0 million related to our bank loan requirements. We also received $27.2 million in net proceeds from the sale of our common stock pursuant to an at-the-market offering.

In 2015, our financing activities provided $73.1 million in cash. We received $37.5 million in net borrowings associated with our bank loans, $1.9 million in net proceeds from acceptance payable, offset by increased restricted cash of $4.4 million related to our bank loan requirements. We also received $38.6 million in net proceeds from the sale of our common stock pursuant to an at-the-market offering.

In 2014, our financing activities provided $47.3 million in cash. We received $45.7 million in net proceeds from a secondary offering of common stock. Net borrowings associated with our bank loans and bank acceptance payable provided $1.9 million in cash.

Loans and commitments

We have lending arrangements with several financial institutions, including a revolving line of credit and a term loan with East West Bank and Comerica Bank in the U.S., lines of credit and financing agreements for our Taiwan branch and several lines of credit arrangements for our China subsidiary. As of December 31, 2016, we had $75.8 million of unused borrowing capacity.

On June 24, 2016, we entered into a First Amendment to our Credit Agreement with East West Bank and Comerica Bank (“First Amendment”), a second lien deed of trust, multiple security agreements and promissory notes evidencing two credit facilities and a term loan originally entered into on June 30, 2015. The First Amendment increased our revolving lines of credit from $25 million to $40 million, which mature on June 30, 2018, and retains a $10.0 million term loan maturing on June 30, 2020. The First Amendment also provides for an additional $10.0 million equipment term loan with a one year drawdown period commencing on April 1, 2016 and maturing five years from the closing date of the First Amendment. The interest rate on these loans was lowered by the First Amendment from the LIBOR Borrowing Rate plus 2.75% or 3.0% to LIBOR Borrowing Rate plus 2.0%. As of December 31, 2016, no balance was outstanding under the revolving line of credit. As of December 31, 2016, $9.5 million was outstanding under the term loan.

We also have a term loan with East West Bank of $5.0 million with monthly payments of principal and interest that matures on July 31, 2019. As of December 31, 2016, the outstanding balance was $2.9 million.

On June 24, 2016, we executed a Change in Terms Agreement, Notice of Final Agreement and Modification of the Construction Loan Agreement (“Modification Agreement”) to our Construction Loan Agreement with East West Bank for up to $22.0 million dollars to finance the construction of our campus expansion plan in Sugar Land, Texas, originally dated January 26, 2015. Upon signing the original Construction Loan Agreement, we deposited $11.0 million into a restricted bank account for owner’s contribution of construction costs. The Modification Agreement has a fifteen (15) month draw down period with monthly interest payments commencing on February 26, 2015 and ending on July 31, 2016. Thereafter, the entire outstanding principal balance shall be converted to a sixty-six (66) month term loan with principal and interest payments due monthly amortized over three hundred (300) months. The first principal and interest payment commenced on August 26, 2016, and continue the same day of each month thereafter. The final principal and interest payment is due on January 26, 2022 and will include all unpaid principal and all accrued and unpaid interest. We may pay without penalty all or a portion of the amount owed earlier than due. Under the Construction Loan Agreement, the loan bears interest at an annual rate based on the one-month LIBOR Borrowing Rate plus 2.75%, and the interest rate is reduced to LIBOR Borrowing Rate plus 2.0% under the Modification Agreement.

On September 27, 2016, we executed a Change in Terms Agreement, Notice of Final Agreement and Second Modification to the Construction Loan Agreement (“Second Modifications”) to the Construction Loan Agreement with East West Bank. The Second Modifications amends and restates in part our Promissory Note and Construction Loan

Agreement, which was originally executed on January 26, 2015, and the Modification Agreement. The draw down period end date, under the Second Modifications, was amended from July 31, 2016 to September 30, 2016. And thereafter, the entire outstanding principal balance shall be converted to a sixty-four (64) month term loan, amended from a sixty-six (66) month term loan, with principal and interest payments due monthly amortized over three hundred (300) months. The first principal and interest payment was due on October 26, 2016 and will continue on the same day of each month thereafter. The final principal and interest payment is due on January 26, 2022 and will include all unpaid principal and all accrued and unpaid interest. Except as expressly changed by the Second Modifications, the terms of the original obligation and the Modification Agreement remain unchanged. As of December 31, 2016, $21.7 million was outstanding under the construction loan.

The loan and security agreements with East West Bank and Comerica Bank require us to maintain certain financial covenants, including a minimum cash balance, a current ratio, a maximum leverage ratio and a minimum fixed charge coverage ratio. Collateral for the U.S. bank loans and line of credit includes substantially all of the assets of the Company. As of December 31, 2016, we were in compliance with all covenants contained in these agreements.

On February 19, 2016, our Taiwan branch renewed and increased its credit facility originally dated January 6, 2015 with CTBC Bank Co. Ltd. in Taipei, Taiwan for 320 million New Taiwan dollars, or approximately $10.3 million, one year revolving credit facility. The obligations under the credit facility are unsecured up to $6.3 million; the remaining $4.0 million is available provided that we purchase the same amount of secured certificates of deposit with the bank. Borrowings under the credit facility bear interest at a rate based on the bank's corporate interest rate index plus 1.5% for the unsecured portion of the credit facility and bank's corporate interest rate index plus 0.93% for the secured portion of the credit facility, adjusted monthly. As of the execution of the credit facility, the bank's corporate interest rate index is 0.71%. As of December 31, 2016, there was no outstanding balance for the secured loan or under the unsecured credit facility and both credit facilities expired without renewal.

On April 8, 2016, our Taiwan branch renewed its 90 million New Taiwan dollars, or approximately $2.6 million, and 120 million New Taiwan dollars, or approximately $4.0 million, one year revolving credit facilities, originally dated March 9, 2015, with E. Sun Commercial Bank Co., Ltd. in Taipei, Taiwan. Borrowings under the 90 million New Taiwan dollars credit facility bear interest at a rate equal to the LIBOR plus 1.7% divided by 0.946. Borrowings under the 120 million New Taiwan dollars credit facility bear interest at a rate equal to the bank's personal monthly time deposit interest rate plus 0.480%. Any future borrowings under the 120 million New Taiwan dollars credit facility are available provided that we purchase certificates of deposit in amounts equal to the borrowing from the bank. As of December 31, 2016, there was no outstanding balance under the 120 million New Taiwan dollars credit facility or under the 90 million New Taiwan dollars credit facility.

On December 22, 2015, our Taiwan branch renewed its $4.0 million credit facility, originally dated December 20, 2013, and entered into a $2.0 million, one year revolving credit facility agreement with Mega International Commercial Bank ("Mega Bank"). Obligations under the $4.0 million credit facility are available provided that we purchase certificates of deposit in amounts equal to the borrowing from Mega Bank. Borrowings under the $4.0 million credit facility bear interest at a rate not less than the LIBOR borrowing rate plus 1.0%, divided by 0.946 for U.S. and other currency borrowings; New Taiwan dollars borrowings bear interest at a rate equal to the bank's base lending rate plus 0.76%. Borrowings under the $2.0 million credit facility bear interest at a rate not less than the LIBOR borrowing rate plus 1.2%, divided by 0.946 for U.S. dollar borrowings; New Taiwan dollars borrowings bear interest at a rate equal to the bank's base lending rate plus 0.76% but shall not be less than 1.90%; and other currency borrowings shall bear interest at a rate at the bank's based lending rate plus 1.0%, divided by 0.946. As of December 31, 2016, there was no outstanding balance under either credit facility and both credit facilities expired without renewal.

On April 22, 2016, our Taiwan branch entered into a Comprehensive Credit Line Agreement originally dated April 1, 2015, with the Taipei branch of China Construction Bank, providing a revolving credit line of $10 million, maturing on March 15, 2017. Borrowings under the Comprehensive Credit Line Agreement are secured by a standby letter of credit issued by the China branch of the bank under existing agreements between the bank and our China subsidiary. Borrowings under the Comprehensive Credit Line Agreement reduce the amounts available under the existing credit line between the bank and our China subsidiary and cannot exceed 97% of the amount of the standby letter of credit issued by the China branch of the bank. Borrowings under the Comprehensive Credit Line Agreement bear interest at a rate negotiated separately for each drawing depending on the nature of the borrowings. As of December 31, 2016, there was no outstanding balance under this credit facility.

On June 30, 2015, our Taiwan branch entered into a Purchase and Sale Contract and a Finance Lease Agreement with Chailease Finance Co, Ltd. (“Chailease”) in connection with certain equipment, structured as a sale lease-back transaction. Pursuant to the sale contract, our Taiwan branch sold certain equipment to Chailease for a purchase price of 115,240,903 New Taiwan dollars, approximately $3.7 million, and simultaneously leased the equipment back from Chailease pursuant to the Finance Lease Agreement. The monthly lease payments range from 2,088,804 New Taiwan dollars, approximately $0.1 million, to 2,364,650 New Taiwan dollars, approximately $0.1 million, during the term of the Finance Lease Agreement, including an initial payment in an amount of 40,240,903 New Taiwan dollars, approximately $1.3 million. The Finance Lease Agreement has a three-year term, with monthly payments, maturing on May 27 and June 30, 2018 respectively. The title to the equipment will be transferred to our Taiwan branch upon the expiration of the Finance Lease Agreement. As of December 31, 2016, $2.9 million was outstanding under this Finance Lease Agreement.

On March 31, 2016, our Taiwan branch entered into a Purchase and Sale Contract and a Finance Lease Agreement with Chailease in connection with certain equipment, structured as a sale lease-back transaction. Pursuant to the Purchase and Sale Contract, our Taiwan branch sold certain equipment to Chailease for a purchase price of 312,927,180 New Taiwan dollars, approximately $10.1 million, and simultaneously leased the equipment back from Chailease pursuant to the Finance Lease Agreement. The Finance Lease Agreement has a three-year term with monthly lease payments range from 6,772,500 New Taiwan dollars, approximately $0.2 million, to 7,788,333 New Taiwan dollars, approximately $0.3 million, during the term of the Finance Lease Agreement, including an initial payment in an amount of 62,927,180 New Taiwan dollars, approximately $2.0 million. Based on the payments made under the Finance Lease Agreement, the annual interest rate is calculated to be 4.0%. The title to the equipment will be transferred to our Taiwan branch upon the expiration of the Finance Lease Agreement. As of December 31, 2016, $5.8 million was outstanding under this Finance Lease Agreement.

As of December 31, 2016, our Chinese subsidiary had credit facilities with China Construction Bank totaling $13.2 million, which can be drawn in U.S. currency, RMB currency, issuing bank acceptance notes to vendors with different interest rates or issuing standby letters of credit. We pledged the land use rights and buildings of our Chinese subsidiary as collateral for the credit facility. As of December 31, 2016, our Chinese subsidiary used $10.0 million of its credit facility to issue standby letters of credit as collateral for our Taiwan branch line of credit with China Construction Bank. As of December 31, 2016, no balance was outstanding for the U.S. currency based loan. The outstanding balances of bank acceptance notes issued to vendors were $0.3 million with zero interest rate as of December 31, 2016.

As of December 31, 2016, there was $1.7 million of restricted cash, investments or security deposit associated mainly with the loan facilities.

One-month LIBOR rates were 0.77167% and 0.42950% at December 31, 2016 and 2015, respectively.

A customary business practice in China is for customers to exchange accounts receivable with notes receivable issued by their bank. From time to time we accept notes receivable from certain of our customers in China. These notes receivable are non-interest bearing and are generally due within nine months, and such notes receivable may be redeemed with the issuing bank prior to maturity at a discount. Historically, we have collected on the notes receivable in full at the time of maturity.

Frequently, we also direct our banking partners to issue bank acceptance notes payable to our suppliers in China in exchange for accounts payable. Our China subsidiary's banks issue the notes to vendors and issue payment to vendors upon redemption. We owe the payable balance to the issuing bank. The notes payable are non-interest bearing and are generally due within nine months of issuance. As a condition of the notes payable lending arrangements, we are required to keep a compensating balance at the issuing banks that is a percentage of the total notes payable balance until the notes payable are paid by our China subsidiary. These balances are classified as restricted cash on our consolidated balance sheets.

Future liquidity needs

We believe that our existing cash and cash equivalents, and cash flows from our operating activities, will be sufficient to meet our anticipated cash needs for the next 12 months. Our future capital requirements will depend on many factors including our growth rate, the timing and extent of spending to support our research and development efforts, the expansion of our sales and marketing activities, the introduction of new and enhanced products, the

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expansion of our manufacturing capacity and the continuing market acceptance of our products. In the event that additional liquidity is required to meet our long-term investments, we may need to explore additional sources of liquidity by additional bank credit facilities or raising capital through additional equity or debt financing, including equity financing under our Registration Statement filed with the SEC in October 2016. The sale of additional equity or convertible securities could result in additional dilution to our stockholders, and the terms and prices of any such sale may not be acceptable to us. If we are unable to raise additional capital when desired, our business, operating results and financial condition would be adversely affected.

Contractual Obligations and Commitments

The following summarizes our contractual obligations as of December 31, 2016:

	Payments due by period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
	(in thousands)				
Notes payable and long-term debt(1)	$ 46,228	$ 9,059	$ 14,401	$ 4,382	$ 18,386
Operating leases(2)	12,724	902	2,923	5,167	3,732
Total commitments	$ 58,952	$ 9,961	$ 17,324	$ 9,549	$ 22,118

(1) We have several loan and security agreements in China, Taiwan and the U.S. that provide various credit facilities, including lines of credit, bank acceptance payable and term loans. The amount presented in the table represents the principal portion and estimated interest expense for the obligations.
(2) We have entered into various non-cancellable operating lease agreements for our offices in Taiwan and the U.S.

Inflation

We believe that the relatively low rate of inflation in the U.S. over the past few years has not had a significant impact on our sales or operating results or on the prices of raw materials. To the extent we expand our operations in China and Taiwan, such actions may result in inflation having a more significant impact on our operating results in the future.

Off-Balance Sheet Arrangements

During 2016, 2015 and 2014, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. These principles require us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses and cash flows, and related disclosure of contingent assets and liabilities. Our estimates include those related to revenue recognition, share-based compensation expense, impairment analysis of goodwill and long-lived assets, valuation of inventory, warranty liabilities and accounting for income taxes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from these estimates. To the extent that there are material differences between these estimates and our actual results, our future financial statements will be affected.

We believe that of our significant accounting policies, which are described in Note B to our consolidated financial statements appearing elsewhere in this prospectus, the following accounting policies involve a greater degree of judgment and complexity. Accordingly, we believe these are the most critical to fully understand and evaluate our financial condition and results of operations.

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Revenue recognition

We generally employ a direct sales model in North America, and in the rest of the world we use both direct and indirect channels. Our revenue recognition policy is to recognize gross revenue whether our products are sold on a direct or indirect basis, because our reseller customers (indirect channel) take title to our products and honor the same terms and conditions as do our direct sales customers. We recognize revenue from the sale of our products provided that persuasive evidence of an arrangement exists, performance obligations have been satisfied, the price is fixed or determinable and collectability is reasonably assured. Contracts or customer purchase orders are used to determine the existence of an arrangement. Shipping documents are used to verify delivery. We assess whether the price is fixed or determinable based on the payment terms associated with the transaction. We assess collectability based primarily on the creditworthiness of the customer as determined by credit checks and the customer's payment history. Customers are generally extended net 30 credit terms from the date of shipment, with some extensions for more creditworthy customers.

Whether our products are sold on a direct or indirect basis, revenue is recognized when the product is shipped and title has transferred to the customer. We bear all costs and risks of loss or damage to the goods up to that point. On most orders, our terms of sale provide that title passes to the customer upon placement by us with a common carrier (upon shipment). In some cases we may provide for title transfer to the customer upon delivery of the goods to the customer. We determine payments made to third party sales representatives are appropriately recorded to sales and marketing expense and not a reduction of revenue. Shipping and handling costs are included in cost of goods sold. We present revenue net of sales returns and allowances, sales taxes and any similar assessments. We provided a limited warranty as part of our standard terms and conditions of sale. This warranty provides for the repair or replacement of our products, at our discretion, that we determined (i) are defective in workmanship, material, or not in compliance with the mutually agreed written applicable specification and (ii) has in fact failed under normal use on or before one year from the date of original shipment of the products. Some of our customers are provided limited warranties between three to five years, on certain limited and identified products. Warranty costs associated with returned goods that are repaired or replaced are charged to cost of goods sold.

During our ordinary course of business, we may enter into new product development agreements to design, customize and develop new products for our customers. Such new product development agreements often involves material cost and engineering hours and therefore non-recurring engineering service (NRE) charges are agreed upon for the customer to reimburse our related costs. We adopt the milestone method in revenue recognition for NRE revenues by using cost-input measurement. We capitalize cost input up to the contractual agreement amount and recognize NRE revenues based upon the agreement schedule. Contracts or customer purchase orders are often used to determine the existence of service agreement.

Share-Based Compensation

Stock option fair value is calculated on the date of grant using the Black-Scholes valuation model. The compensation cost is then recognized on a straight-line basis over the requisite service period of the option, which is generally the option vesting term of four years. The Black-Scholes valuation model requires us to estimate key assumptions such as expected term, volatility, dividend yield and risk-free interest rates that determine the stock option fair value. In addition, we estimate forfeitures at the time of grant. As there had been no market for our common stock prior to our initial public offering, the expected volatility for options granted to date was derived from an analysis of reported data for a peer group of companies that issued options with similar terms. The expected volatility has been determined using an average of the expected volatility reported by this peer group of companies. We use a risk free interest rate based on the 10-year Treasury as reported during the period. The expected term of the options has been determined utilizing the simplified method which calculates a simple average based on vesting period and option life. We do not anticipate paying dividends in the near future. Estimated forfeitures are based on historical experience and future work force projections.

Long-lived assets

Depreciation and amortization of the intangible assets and other long-lived assets is provided using the straight-line method over their respective estimated useful lives, reflecting the pattern of economic benefits associated with these assets. Changes in circumstances such as technological advances, changes to our business model, or changes in our capital strategy could cause the actual useful lives of intangible assets or other long-lived assets to differ from initial estimates. In those cases where we determine that the useful life of an asset should be revised, we depreciate the remaining net book value over the new estimated useful life.

Our long-lived assets are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. We value on an asset-by-asset basis our long-lived assets and will recognize an impairment loss when the sum of such valuation is less than the carrying amount of such assets. The values, based on reasonable and supportable assumptions and projections, require subjective judgments. Depending on the assumptions and estimates used, the values projected in the evaluation of long-lived assets can vary within a range of outcomes. We consider the likelihood of possible outcomes in determining the best estimate for the value of the assets. We did not record any asset impairment charges in 2016 or 2015.

Valuation of inventories

Inventories are stated at the lower of cost (average-cost method) or market. Work in process and finished goods includes materials, labor and allocated overhead. We assess the valuation of our inventory on a periodic basis and provide an allowance for the value of estimated excess and obsolete inventory based on estimates of future demand. During the years ended December 31, 2016, 2015 and 2014, we recorded excess and obsolete inventory charges of $3.7 million, $2.8 million, and $0.9 million, respectively.

We have an accounting policy to write down the value of obsolete inventory. We considered the following factors in our determination of the appropriate reserve level: how often we buy material in bulk; the overall market value of raw material, semi-finished goods and finished goods across our varied product lines and within markets; changes in expected demand for our products; the change in valuations historically; the determined safety stock for key customers; and the likelihood of postponement in delivery schedules for materials already placed in finished goods inventory.

Accounting for income taxes

We account for income taxes in accordance with the provisions of ASC 740, Income Taxes. The liability method is used to account for deferred income taxes. Under the liability method, deferred tax assets and liabilities are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The ability to realize deferred tax assets is evaluated annually and a valuation allowance is provided if it is unlikely that the deferred tax assets will not give rise to future benefits in our tax returns.

We record uncertain tax positions in accordance with ASC 740 on the basis of a two-step process in which (1) we determine whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (2) for those tax positions that meet the more-likely-than-not recognition threshold, we recognize the largest amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement with the related tax authority.

We recognize interest and penalties related to unrecognized tax benefits on the income tax expense line in the accompanying consolidated statement of operations. Accrued interest and penalties are included on the related tax liability line in the consolidated balance sheet.

Recent Accounting Pronouncements

In November 2016, the FASB issued ASU No. 2016-18, Statement of Cash Flows: Restricted Cash, providing guidance on the presentation of restricted cash or restricted cash equivalents in the statement of cash flows. ASU 2016-18 is effective for interim and annual periods beginning after December 31, 2017, with early adoption permitted. The amendments in this ASU would be applied using a retrospective approach. We are evaluating the impact of the accounting standard on our financial statements.

In August 2016, the FASB issued ASU NO. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. The ASU update addresses eight specific cash flow issues that currently result in diverse practices, including debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination and separately identifiable cash flows and applicable of the predominance principle. ASU 2016-15 is effective for interim and annual periods beginning after December 31, 2017, with early adoption permitted. We are evaluating the impact of the accounting standard on our financial statements.

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In March 2016, the FASB issued ASU No. 2016-09, Improvements to Employee Share-Based Payment Accounting, to simplify several aspects of accounting for share-based payment transactions, including the following areas: accounting for excess tax benefits and tax deficiencies; classifying excess tax benefits on the statement of cash flows; accounting for forfeitures; classifying awards that permit share repurchases to satisfy statutory tax withholding requirements; classifying tax payments on behalf of employees on the statement of cash flows; and, for nonpublic entities only, determining the expected term and electing the intrinsic value measurement alternative for stock option awards. The new guidance is effective for public business entities in fiscal years beginning after December 15, 2016, and in the interim periods within those fiscal years. The guidance requires a mix of prospective, modified retrospective and retrospective transition. We expect to recognize approximately $1.3 million of windfall tax benefits as a cumulative effect adjustment to opening retained earnings in the first quarter of 2017 upon adoption of ASU 2016-09. .

On February 25, 2016, the FASB released Accounting Standards Update (ASU) No. 2016-02, Leases to complete its project to overhaul lease accounting. The ASU codifies ASC 842, Leases, which will replace the guidance in ASC 840. The new guidance will require lessees to recognize most leases on the balance sheet for capital and operating leases. The new guidance is effective for public business entities in fiscal years beginning after December 15, 2018. We are evaluating the impact of the accounting standard on our financial statements, by reviewing the standard itself as well as reviewing literature about the new standard produced by nationally-recognized accounting firms and other third parties.

The FASB issued ASU No. 2016-01, Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities. The new guidance is intended to improve the recognition and measurement of financial instruments. The ASU affects public and private companies, not-for-profit organizations, and employee benefit plans that hold financial assets or owe financial liabilities. The new guidance is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. We are evaluating the impact of the accounting standard on our financial statements.

The FASB issued ASU No. 2015-17, Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes during November 2015, which simplifies the presentation of deferred income taxes. This ASU provides presentation requirements to classify deferred tax assets and liabilities as noncurrent in a statement of financial position. The standard is effective for fiscal years beginning after December 15, 2016, including interim periods within that reporting period. Early adoption is permitted for any interim and annual financial statements that have not yet been issued. The ASU may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. We early adopted this standard effective December 31, 2015 on a retrospective basis which resulted in a reclassification of our net current deferred tax asset to the net non-current deferred tax asset as of December 31, 2015. The adoption of this ASU had no impact on the balance sheet or income statement as we had a full valuation allowance as of December 31, 2015.

The FASB issued ASU No. 2015-11, Inventory in July 2015 to require entity to measure inventory at the lower of cost or market. Market could be replacement cost, net realizable value, or net realizable value less an approximately normal profit margin. We early adopted this ASU which had no material impact on the financial statements.

In April 2015, the FASB issued ASU No. 2015-03, Interest - Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs, which requires the presentation of debt issuance costs related to a recognized debt liability as a direct deduction from the carrying amount of that debt liability. ASU 2015-03 does not address presentation or subsequent measurement of debt issuance costs related to line-of-credit arrangements. Given the absence of authoritative guidance within ASU 2015-03 for debt issuance costs related to line-of-credit arrangements, the SEC staff would not object to an entity deferring and presenting debt issuance costs as an asset and subsequently amortizing the deferred debt issuance costs ratably over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. We early adopted this ASU which had no material impact on the financial statements.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606). The amendments in ASU 2015-14 defer the effective date of ASU 2014-09 for all entities by one year. Public business entities should apply the guidance in ASU 2014-09 to annual reporting periods beginning after December 15, 2017, including interim reporting periods within that reporting period. Earlier application is permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period.

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We continue to evaluate the impact of the accounting standard on our financial statements. In order to determine the effect of the new standard, during 2016 we attended live and web-based training sessions hosted by experts on the new standard, identified key areas in our business that could be affected by the standard and hosted internal training sessions on the new standard for accounting staff. We have also begun to evaluate our internal controls framework to identify any new controls that may be necessary to comply with the new standard. Although this determination is subject to change as we continue to evaluate the new standard, based on our review to date, we do not believe that the new standard will have a material effect on our financial statements. We plan to adopt the new standards after December 15, 2017.

In August 2014, the FASB issued ASU No. 2014-15, Disclosure of Uncertainties About an Entity's Ability to Continue as a Going Concern (Subtopic 205-40), which provides guidance on determining when and how to disclose going concern uncertainties in the financial statements. The new standard requires management to perform interim and annual assessments of an entity's ability to continue as a going concern. The update is effective for annual periods ending after December 15, 2016, and interim periods thereafter. In the fourth quarter of 2016, we adopted this ASU, which resulted in a determination that no going concern disclosure is needed at this time.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Market Risks

Market risk represents the risk of loss that may impact our financial statements through adverse changes in financial market prices and rates and inflation. Our market risk exposure results primarily from fluctuations in foreign exchange and interest rates. We manage our exposure to these market risks through our regular operating and financing activities. We have not historically attempted to reduce our market risks through hedging instruments; we may, however, do so in the future.

Interest Rate Fluctuation Risk

Our cash equivalents consisted primarily of money market funds, and interest and non-interest bearing bank deposits. Our primary objective is to maintain the security of our principal balances and ensure liquidity. We attempt to maximize the return on these balances without significantly increasing risk, but have little opportunity to do so given the short-term nature of our investments and current interest rate environments. We do not anticipate any material effect on our cash balances or investment portfolio due to fluctuations in interest rates.

We are exposed to market risk due to the possibility of changing interest rates associated with certain debt instruments. As of December 31, 2016, our U.S. debt bears a variable rate of interest that is based on LIBOR. The debt subject to variable rates is subject to fluctuation in the LIBOR. As of December 31, 2016, the interest on our China debt varied based on when each term loan is drawn. Once drawn the interest remains fixed for the term of that draw. As of December 31, 2016, we had not hedged our interest rate risk.

With respect to our interest expense for the three months ended December 31, 2016, an increase of 1.0% in each of our interest rates would have resulted in an increase of $0.4 million in our interest expense for such period.

Foreign Exchange Rates

We operate on an international basis with a large portion of our business conducted in our Taiwan branch and China subsidiary. We use the U.S. dollar as our reporting currency for our consolidated financial statements. The financial records of our China subsidiary and our Taiwan branch are maintained in their respective local currencies, the RMB and the NT dollar, which are the functional currencies for our China subsidiary and our Taiwan branch, respectively. Assets and liabilities are translated at prevailing exchange rates at the balance sheet date, equity accounts are translated at historical exchange rates and revenues, expenses, gains and losses are translated using the average rate for the then current period using a monthly average. Translation adjustments are reported as cumulative translation adjustments and are shown as a separate component of accumulated other comprehensive income in our statement of stockholders’ equity (deficit) and comprehensive income.

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All transactions in currencies other than their functional currencies during the year are subject to foreign exchange risk when the exchange rate fluctuates on the respective relevant dates of such transactions. Transaction gains and losses are recognized in our statements of operations in other income (expense). Monetary assets and liabilities existing at the balance sheet date denominated in currencies other than the functional currencies are re-measured at the exchange rates prevailing on the Balance Sheet date and unrealized exchange differences are recorded in our consolidated income statement. In October 2015, we determined that certain U.S. loan to foreign subsidiaries are long-term investments. Therefore, exchange gain/(loss) arising from re-measurement of U.S. loans were recorded in the Cumulative Translation Adjustment accounts.

During the year ended December 31, 2016, we recognized $0.6 million of exchange losses arising from foreign currency transactions and re-measurement of monetary assets and liabilities dominated in non-functional currency on balance sheet date.

During the year ended December 31, 2016, 1.27% of our revenue was denominated in RMB and less than 1% of revenue was denominated in NT dollars. In the year ended December 31, 2016, 18.6% of our operating expenses were denominated in RMB and 35.5% of our operating expenses were denominated in NT dollars. Accordingly, fluctuations in exchange rates directly affect our cost of goods sold and net income, and have a significant impact on our operating margins. If exchange rates of RMB and NT dollars for U.S. dollars were 1% higher during the year ended December 31, 2016, our operating expenses would have been higher by $0.3 million.

As of December 31, 2016, we held the U.S. dollar denominated liabilities net of assets of approximately $2.1 million in our China subsidiary and $7.6 million in our Taiwan branch. With respect to these U.S. Dollar denominated net liabilities as of December 31, 2016, if exchange rates of RMB and NT dollars for U.S. dollars were 1.0% higher during the year ended December 31, 2016, our other operating expenses would have been reduced by $0.1 million. Any significant revaluation of the RMB and NT dollars may materially and adversely affect the cash flows, revenues, and net income as reported in U.S. Dollars.

We currently do not use derivative financial instruments to mitigate this exposure. We continue to review this issue and may consider hedging certain foreign exchange risks through the use of currency forwards or options in future years.

Item 8. Financial Statements and Supplementary Data

The information required by this item is incorporated by reference to the consolidated financial statements and accompanying notes set forth on pages F-1 through F-30 of this Annual Report on Form 10-K

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

Not applicable.

Item 9A. Controls and Procedures

a. Evaluation of Disclosure Controls and Procedures.

The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2016. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered in this report, our disclosure controls and procedures were effective.

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b. Management’s Annual Report on Internal Control over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act). Internal control over financial reporting is a process designed by, or under the supervision of, the issuer’s principal executive and principal financial officers, or persons performing similar functions, and effected by the issuer’s board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company’s assets that could have a material effect on the financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that our degree of compliance with the policies or procedures may deteriorate.

Our management conducted an evaluation of the effectiveness of our internal control over financial reporting as of the end of the period covered by this Annual Report on Form 10-K based on the framework in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organization of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2016.

This annual report does not include an attestation report of the Company’s registered public accounting firm regarding internal control over financial reporting. Management’s report was not subject to attestation by the Company’s registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit the Company to provide only management’s report in this annual report.

c. Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) identified in connection with management’s evaluation required by the Rules 13a-15(d) and 15d-15(d) under the Exchange Act that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Not applicable.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required regarding our directors is incorporated herein by reference from the information contained in our definitive Proxy Statement for the 2017 Annual Meeting of Stockholders (our “Proxy Statement”), a copy of which will be filed with the Securities and Exchange Commission within 120 days after the end of our fiscal year ended December 31, 2016.

The information required regarding our executive officers is incorporated herein by reference from the information contained in the section entitled “Management” in our Proxy Statement.

The information required regarding Section 16(a) beneficial ownership reporting compliance is incorporated by reference from the information contained in our Proxy Statement.

The information required with respect to procedures by which security holders may recommend nominees to our board of directors, the composition of our Audit Committee, and whether the Company has an “audit committee financial expert”, is incorporated by reference from the information contained in our Proxy Statement.

Adoption of Code of Ethics

The Company has adopted a Code of Business Conduct and Ethics (the “Code”) applicable to all of our board of director members, employees and executive officers, including our Chief Executive Officer (Principal Executive Officer), and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer). The Company has made the Code available on our website at http://www.ao-inc.com.

The Company intends to satisfy the public disclosure requirements regarding (1) any amendments to the Code, or (2) any waivers under the Code given to our Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer by posting such information on our website at www.ao-inc.com. There were no amendments to the Code or waivers granted thereunder relating to the Principal Executive Officer, Principal Financial Officer or Principal Accounting Officer during 2016.

Item 11. Executive Compensation

The information required regarding the compensation of our directors and executive officers is incorporated herein by reference from the information contained in the sections entitled "Executive Compensation," and "Director Compensation," "Compensation Committee Report" in our Proxy Statement.

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

The information required regarding security ownership of our 5% or greater stockholders and of our directors and management is incorporated herein by reference from the information contained in the section entitled "Security Ownership of Certain Beneficial Owners and Management" in our Proxy Statement.

The information required regarding securities authorized for issuance our equity compensation plans is incorporated herein by reference from the information contained in the section entitled "Employee Benefit Plans" in our Proxy Statement.

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

The information required regarding related transactions is incorporated herein by reference from the information contained in our Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required by Part III, Item 14, regarding principal accounting fees and services is incorporated by reference from the information contained in our Proxy Statement, a copy of which will be filed with the Securities and Exchange Commission within 120 days after the end of our fiscal year ended December 31, 2016.

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Part IV

Item 15. Exhibits, Financial Statements Schedules

(a) Exhibits.

See the Exhibit Index which follows the signature page of this Annual Report on Form 10-K, which is incorporated herein by reference.

(b) Financial Statement Schedules.

Financial statement schedules have been omitted, as the information required to be set forth therein is included in the Consolidated Financial Statements or Notes thereto appearing in this Annual Report on Form 10-K.

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SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the registrant has duly caused this Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized, on March 9, 2017.

APPLIED OPTOELECTRONICS, INC.

By: /s/ Chih-Hsiang (Thompson) Lin
Chih-Hsiang (Thompson) Lin,
President and Chief Executive Officer and
Chairman of the Board of Directors

March 9, 2017

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Chih-Hsiang (Thompson) Lin and Stefan J. Murry, and each of them, jointly and severally, his attorneys-in-fact, each with the power of substitution, for him in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities and Exchange Act of 1934, this Form 10-K has been signed by the following persons in the capacities and on the dates indicated.

Signature	Date
/s/ Chih-Hsiang (Thompson) Lin Chih-Hsiang (Thompson) Lin, President, Chief Executive Officer and Chairman of the Board of Directors (principal executive officer)	March 9, 2017
/s/ STEFAN J. MURRY Stefan J. Murry, Chief Financial Officer (principal financial officer and principal accounting officer)	March 9, 2017

Signature	Date
/s/ William H. Yeh William H. Yeh, Director	March 9, 2017
/s/ Richard B. Black Richard B. Black, Director	March 9, 2017
/s/ Che-Wei Lin Che-Wei Lin, Director	March 9, 2017
/s/ Alex Ignatiev Alex Ignatiev, Director	March 9, 2017
/s/ Alan Moore Alan Moore, Director	March 9, 2017
/s/ Min-Chu (Mike) Chen Min-Chu (Mike) Chen, Director	March 9, 2017

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EXHIBIT INDEX

			Incorporated By Reference			
Number		Exhibit Description	Form	File No.	Exhibit	Filing Date
3.1		Amended and Restated Certificate of Incorporation of the registrant, as currently in effect	10-Q	001-36083	3.1	November 14, 2013
3.2		Amended and Restated Bylaws of the registrant, as currently in effec	10-Q	001-36083	3.2	November 14, 2013
4.1		Form of Registration Rights Agreement	S-1	333-190591	4.1	August 13, 2013
4.2		Form of Shareholders' Agreement	S-1	333-190591	4.2	August 13, 2013
4.3		Common Stock Specimen	8-K	001-36083	4.1	November 14, 2016
10.1		Form of Indemnification Agreement between the registrant each of its Directors and certain of its Executive Officers	S-1	333-190591	10.1	August 13, 2013
10.2	†	1998 Incentive Share Plan	S-1	333-190591	10.2	August 13, 2013
10.2.1	†	Form of Stock Option Agreement under 1998 Incentive Share Plan	S-1	333-190591	10.2.1	August 13, 2013
10.2.2	†	Form of Stock Option Agreement under 1998 Incentive Share Plan	S-1	333-190591	10.2.2	August 13, 2013
10.3	†	2000 Incentive Share Plan	S-1	333-190591	10.3	August 13, 2013
10.3.1	†	Form of Stock Option Agreement under 2000 Incentive Share Plan	S-1	333-190591	10.3.1	August 13, 2013
10.3.2	†	Form of Stock Option Agreement under 2000 Incentive Share Plan	S-1	333-190591	10.3.2	August 13, 2013
10.4	†	2004 Incentive Share Plan	S-1	333-190591	10.4	

						August 13, 2013
10.4.1	†	Form of Stock Option Agreement under 2004 Incentive Share Plan	S-1	333-190591	10.4.1	August 13, 2013
10.5	†	2006 Incentive Share Plan	S-1	333-190591	10.5	