SYNAPTICS Inc
Form 10-K
August 24, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended June 30, 2018

or

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

Commission File Number 000-49602

SYNAPTICS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware	77-0118518
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1251 McKay Drive

San Jose, California	95131
(Address of principal executive offices)	(Zip Code)

(408) 904-1100
Registrant's telephone number, including area code

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 $.001 per share	The NASDAQ Global Select 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. Yes No

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

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

If an emerging growth company, indicate by checkmark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

The aggregate market value of Common Stock held by nonaffiliates of the registrant (34,293,466 shares), based on the closing price of the registrant's Common Stock as reported on the NASDAQ Global Select Market on December 29, 2017 of $39.94, was $915,511,549. For purposes of this computation, all officers, directors, and 10% beneficial owners of the registrant are deemed to be affiliates. Such determination should not be deemed to be an admission that such officers, directors, or 10% beneficial owners are, in fact, affiliates of the registrant.

As of August 10, 2018, there were outstanding 35,362,071 shares of the registrant's Common Stock, par value $.001 per share.

Documents Incorporated by Reference

Portions of the registrant's definitive Proxy Statement for the 2018 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

SYNAPTICS INCORPORATED

ANNUAL REPORT ON FORM 10-K

FISCAL 2018

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Statement Regarding Forward-Looking Statements

This report on Form 10-K for the year ended June 30, 2018 contains forward-looking statements that are subject to the safe harbors created under the Securities Act of 1933, as amended (the “Securities Act”), and the Securities Act of 1934, as amended (the “Exchange Act”). Forward-looking statements give our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business, and can be identified by the fact that they do not relate strictly to historical or current facts. Such forward-looking statements may include words such as “expect,” “anticipate,” “intend,” “believe,” “estimate,” “plan,” “target,” “strategy,” “continue,” “may,” “will,” “s variations of such words, or other words and terms of similar meaning. All forward-looking statements reflect our best judgment and are based on several factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. Such factors include, but are not limited to, the risks as identified in the “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business” sections in this report on Form 10-K, and other risks as identified from time to time in our Securities and Exchange Commission reports. Forward-looking statements are based on information available to us on the date hereof, and we do not have, and expressly disclaim, any obligation to publicly release any updates or any changes in our expectations, or any change in events, conditions, or circumstances on which any forward-looking statement is based. Our actual results and the timing of certain events could differ materially from the forward-looking statements. These forward-looking statements do not reflect the potential impact of any mergers, acquisitions, or other business combinations that had not been completed as of the date of this filing.

Statements made in this report, unless the context otherwise requires, include the use of the terms “us,” “we,” “our,” the “Company” and “Synaptics” to refer to Synaptics Incorporated and its consolidated subsidiaries.

PART I

ITEM 1. BUSINESS
Overview

We are a leading worldwide developer and supplier of custom-designed human interface semiconductor product solutions that enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment, and other electronic devices. We currently generate revenue from the markets for smartphones, tablets, personal computer, or PC, products, Internet of Things, or IoT, products and other select electronic devices, including devices in automobiles. Every solution we deliver either contains or consists of our touch-, display driver-, audio and voice-, imaging-, video- or fingerprint authentication-based semiconductor solutions, which includes our chip, firmware and software, including customer-specific firmware and software.

We are a market leader in providing human interface product solutions to our target markets. Our original equipment manufacturer, or OEM, customers include most of the world’s largest OEMs for smartphones, tier one PC OEMs, and many large OEMs for voice, speech and video products. We generally supply our human interface product solutions to our OEM customers through their contract manufacturers, which take delivery of our products and pay us directly for such products.

Our website is located at www.synaptics.com. Through our website, we make available, free of charge, all our Securities and Exchange Commission, or SEC, filings, including our annual reports on Form 10-K, our proxy statements, our quarterly reports on Form 10-Q, and our current reports on Form 8-K, as well as Form 3, Form 4, and Form 5 Reports for our directors, officers, and principal stockholders, together with amendments to those reports filed or furnished pursuant to Sections 13(a), 15(d), or 16 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. These reports are available on our website promptly after their electronic filing with the SEC. Our website also includes corporate governance information, including our Code of Conduct, our Code of Ethics for the CEO and Senior Financial Officers, and our Board Committee Charters. The contents of our website are not incorporated into or deemed to be a part of this report.

We were initially incorporated in California in 1986 and were re-incorporated in Delaware in 2002. Our fiscal year is the 52- or 53-week period ending on the last Saturday in June. The fiscal years presented in this report were a 53-week period ended June 30, 2018 and 52-week periods ended June 24, 2017 and June 25, 2016. For ease of presentation, this report labels the reporting periods as ending on calendar month- or year-end dates as of and for all periods presented, unless otherwise indicated.

Mobile Product Applications Markets

We believe our intellectual property portfolio, engineering know-how, systems engineering experience, technological expertise, and experience in providing human interface product solutions to major OEMs of electronic devices position us to be a key technological enabler for multiple consumer electronic devices targeted to meet the expanding mobile product applications markets, which incorporate discrete touch controller products, display driver (DDIC) products, and touch and display driver integration (TDDI) products. Based on our strengths in this market, we are pursuing opportunities created by the growth of mobile computing communications, mobile product applications and entertainment devices. Mobile product applications include smartphones, tablets, large touchscreen applications, as well as a variety of mobile, handheld, wireless, and entertainment devices. Our array of human interface product solutions for mobile product applications are designed to enrich the interface on smartphones, tablets, and peripherals, to view the screen on their devices, and to more easily interact with the content on their devices. We believe our existing technologies, our range of product solutions, and our emphasis on ease of use, small size, low power consumption, advanced functionality, secure access, durability, reliability, and simplified security enable us to serve multiple aspects of the markets for mobile product applications and other electronic devices.

Our human interface product solutions for mobile applications constitute a substantial percentage of our net revenue. Net revenue for our mobile product applications accounted for approximately 63%, 82%, and 84% of our net revenue for fiscal 2018, 2017, and 2016, respectively. Our ongoing success in serving these markets will depend upon the size of the smartphone portion of the overall mobile phone market; our growth in the virtual reality, or VR, display market; our ability to demonstrate to mobile product applications OEMs the advantages of our human interface product solutions in terms of performance, usability, size, simplified security, durability, power consumption, integration, and industrial design possibilities; and the success of products utilizing our human interface product solutions. In addition, our success will depend on our ability to demonstrate to mobile product applications OEMs the advantages of our DDIC products, our TDDI products, our flexible touchscreen and systems engineering expertise, including our ability to successfully deliver DDIC products into the OLED smartphone market. The OLED smartphone market remains a key growth area for us, but the slower than forecast rate of growth in that market means that there are still significant pockets of opportunity in the LCD market, particularly for our TDDI products, over the next several years.

We expect the smartphone market to continue its trend towards greater functionality in smartphone products to meet and address the expanded needs and expectations of the consumer-oriented market. These products require a simple, durable, and intuitive human interface product solution to access their device or application, including to authenticate the user through fingerprint recognition, and to enable the user to view and navigate efficiently through menus and scroll through information contained in the host device. We believe we are well positioned to take advantage of this growing market based on our technology, engineering know-how, systems engineering experience, and the acceptance of our human interface product solutions by OEMs in this market.

The virtual reality, or VR, market represents growth opportunities for our touchscreen and fingerprint sensor intellectual property portfolio, engineering know-how, and technological expertise. The VR market is expected to continue to grow, with major investors in the space including Samsung, HTC, Sony and Facebook. Our high-performance, low power display driver technology is well suited to the demands of the VR market. The tablet and large touchscreen markets also represent a potential growth opportunity for us. Touchscreen, display driver, and fingerprint sensor solutions required for the tablet market range from basic e-book vendor solutions to multi-function solutions designed for more complex operating systems. Tablet-based capacitive touch interface devices are now offered by several leading PC and mobile phone OEMs and utilize various operating systems, including Android and Windows 10.

PC Product Applications Market

We provide custom human interface product solutions for navigation, cursor control, and for access to devices or applications through fingerprint recognition for many of the world's premier PC OEMs. These functions are offered as stand-alone and integrated touch pad plus fingerprint recognition solutions. In addition to notebook applications, other PC product applications for our technology include peripherals, such as keyboards, mice, and desktop product applications. Net revenue for our human interface product solutions for PC product applications accounted for approximately 16%, 13%, and 12% of our net revenue for fiscal 2018, 2017, and 2016, respectively.

We continue to expand our available product offerings through technology development and acquisitions enabling us to increase our product content within each notebook unit. We are also applying our technologies to enable adoption of fingerprint recognition solutions in all-in-one and desktop products to broaden our market opportunities. Based on the strength of our technology and engineering know-how, we believe we are well positioned to continue to take advantage of opportunities in the PC product applications market.

IoT Applications Market

On July 25, 2017, we completed our acquisition of Conexant Systems, LLC, or Conexant, a technology leader in voice and audio processing solutions for the smart home. On September 8, 2017, we completed our acquisition of the assets of the multimedia solutions business of Marvell Technology Group Ltd., or Marvell, a leading provider of advanced video and audio processing applications for the smart home, or the Marvell Business Acquisition. We began reporting financial results for the IoT applications market in our consolidated financial statements for the first quarter of our fiscal 2018. Additionally, we have reclassified net revenue of our automotive and video interface solutions businesses from mobile to IoT and reflected these changes in our mobile and IoT net revenue for fiscal 2018, 2017 and 2016.

We provide system on chip, or SoC, solutions as well as human interface product solutions for enabling the Smarter Edge. We enable products for service provider platforms, or SPP, smart assistant solutions, over-the-top, or OTT, media consumption devices, far-field voice driven intelligent devices, personal voice products, video interface solutions which can also drive next generation virtual reality/augmented reality, or VR/AR, platforms, and optimized solutions for fax/modem and printer platforms. Our automotive solutions include over a decade of mass production experience in display drivers, mature touch solutions adapted from our consumer business to meet automotive quality standards, and pioneering fingerprint solutions for security, personalization and e-payments in vehicles. Our latest addition to our automotive portfolio is an automotive grade TDDI for amorphous silicon and low-temperature polycrystalline panels up to 4K resolution and 18 inch panels. Net revenue for our IoT product solutions accounted for approximately 21%, 5% and 4% of our net revenue for fiscal 2018, 2017 and 2016, respectively.

Within the growing consumer IoT market, we continue to expand our footprint in various devices by bringing converged video and voice technologies coupled with leading edge human interface solutions. Our deep investment in far-field voice technology, intellectual property portfolio for video, audio and security, significant experience enabling Android platforms for service providers, coupled with our focus on enabling high performance, low power, and highly secure SoC solutions enable us to effectively serve our existing customers and position us to grow within the addressable market of consumer IoT devices.

Our Strategy

Our objective is to continue to enhance our position as a leading supplier of human interface product solutions for each of the target markets in which we operate, including the mobile product applications markets, the PC product applications market, and the IoT applications market. Key aspects of our strategy to achieve this objective include those set forth below.

Extend Our Technological Leadership

We plan to utilize our extensive intellectual property portfolio, engineering know-how, and technological expertise to extend the functionality of our current product solutions and offer new and innovative product solutions to customers across multiple markets. We intend to continue utilizing our technological expertise to reduce the overall size, weight, cost, and power consumption of our human interface product solutions while increasing their applications, capabilities, and performance. We plan to continue enhancing the ease of use and functionality of our solutions. We also plan to expand our research and development efforts through increased investment in our engineering activities, including ongoing enhancement of our TDDI technology, development of OLED technology, and advancement of our audio, voice and video technologies, the hiring of key engineering personnel, and strategic acquisitions and alliances. We believe that these efforts will enable us to meet customer expectations and achieve our goal of supplying, on a timely and cost-effective basis, the most advanced, easy-to-use, functional human interface semiconductor product solutions to our target markets.

Enhance Our Position in the Smartphone, Tablet, and PC Product Application Markets

We intend to continue introducing market-leading human interface product solutions in terms of performance, power consumption, functionality, size, and ease of use for the smartphone, tablet, and PC product applications markets. We plan to continue enhancing our customers' industrial design alternatives and device functionality through innovative product development, in order to enhance and grow our position within our target markets. As the high-end market for smartphones shifts to OLED solutions, we intend to deliver DDIC products to support that market.

Capitalize on Growth of New and Evolving Markets

We intend to capitalize on the growth of new and evolving markets, such as the smart home, Augmented Reality (AR)/Virtual Reality (VR), voice enabled assistants, and wearables within the IoT market, the tablet market, ultrabook and convertible portions of the PC market, and automotive market, brought about by the convergence of computing, communications, and entertainment devices. We intend to build upon our existing innovative and intuitive human interface semiconductor product solutions portfolio and continue to address the evolving portability, connectivity, security, and functionality requirements of these new markets. We will offer our solutions to existing and potential OEM customers to enable increased functionality, reduced size, lower cost, simplified security, enhanced industrial design features, and to enhance the user experience of our OEMs' products. We plan to utilize our existing technologies as well as aggressively pursue new technologies as new markets evolve that demand new solutions.

Emphasize and Expand Customer Relationships

We will emphasize and expand our strong and long-standing customer relationships and seek to build and establish successful relationships with new customers. In each market we serve, we plan to provide the most advanced human interface product solutions for our customers' products. We believe that our human interface product solutions enable our customers to deliver simplified security and a positive user experience and to differentiate their products from those of their competitors. We continually strive to enhance the competitive position of our customers by providing them with innovative, distinctive, and high-quality human interface product solutions on a timely and cost-effective basis. To do so, we work continually to improve our productivity, reduce costs, and increase the speed of delivery of our human interface product solutions. We endeavor to streamline the entire design and delivery process through our ongoing design, engineering, and production improvement efforts. We also focus on providing timely pre- and post-sales support to our customers assisting with their effort to develop, integrate, and manufacture their products with our solutions.

We plan to increase our business with existing customers and attract new customers by offering IoT voice, audio and video solutions, touch and display driver solutions, and fingerprint sensor solutions, as well as by offering design tools, technical support and documentation to assist in the development of human interface designs in products such as smartphones, tablets, notebooks, PC peripherals, and other digital entertainment devices. We offer our customers a choice of determining the most optimal way to meet their emerging and growing touch solution needs: our chip solutions or our traditional custom module solutions. Our chip solution consists of our proprietary integrated circuit, firmware and software, including customer-specific firmware and software, while our traditional custom module solution enables customers to utilize our proprietary solutions together with third-party components and assembly. Touchscreen applications for mobile phones, tablets, and notebooks are primarily a chip solution. Display driver products for mobile phones and tablets, IoT products for voice, audio and video, and automotive products are a chip solution. Fingerprint sensor products are a module solution.

Pursue Strategic Relationships and Acquisitions

We intend to develop and expand our strategic relationships to enhance our ability to offer value-added human interface product solutions to our customers, penetrate new markets, and strengthen the technological leadership of our product solutions. We also intend to evaluate the potential acquisition of companies in order to expand our technological expertise and to establish or strengthen our presence in selected target markets.

Continue Virtual Manufacturing

We plan to expand and diversify our production capacity through third-party relationships, thereby strengthening our virtual manufacturing platform. This strategy results in a scalable business model, enables us to concentrate on our core competencies of research and development and product design and engineering, and reduces our capital expenditures and working capital requirements. Our virtual manufacturing strategy allows us to maintain a variable cost model, in which we do not incur most of our manufacturing costs until our product solutions have been shipped and billed to our customers.

Competitive Advantages

We develop and advance human interface technologies that provide simplified security and enrich the user's experience in interacting with the user's computing, communications, and entertainment devices. We engage with our customers in the design of their custom products and offer product solutions ranging from chips, which may include customer-specific firmware, to full module solutions. Our innovative and intuitive human interface product solutions can be engineered to accommodate many diverse platforms, and our expertise in human factors and usability can be utilized to improve the features and functionality of our solutions. Our extensive array of technologies include chips, firmware, software, mechanical and electrical designs, fingerprint authentication, pattern recognition, touch- and multi-finger touch-sensing technologies, display driver technologies, image, voice and multimedia processing.

Our human interface products are custom engineered, total solutions for our customers, and include sensor design, module layout, chips, firmware, and software features for which we provide manufacturing and design support, and device testing. This allows us to be a one-stop supplier for complete human interface design from concept prototyping, to product development, to manufacturing, to testing and support. Through our engineering know-how and technological expertise, we provide our customers with solutions that address their individual design requirements and result in high-performance, feature-rich, and reliable interface solutions. We believe our interface solutions offer the following characteristics:

- Ease of Use. Our solutions offer the ease of use and intuitive interaction that users demand.
- Small Size. The small, thin size of our solutions enables our customers to reduce the overall size and weight of their products in order to satisfy consumer demand for portability.
-

Low Power Consumption. The low power consumption of our solutions enables our customers to offer products with longer battery life and/or smaller battery capacity.

- Advanced Functionality. Our solutions offer advanced features, such as force sensing, TDDI, security algorithms, voice barge-in, ambient noise cancellation, and video noise reduction to enhance the user experience.
- Reliability. The reliability of our solutions satisfies consumer requirements for dependability, which is a major component of consumer satisfaction.
- Durability. Our solutions withstand repeated use, harsh physical treatment, and temperature fluctuations while providing an enduring superior level of performance.
- Simplified Security. Our fingerprint authentication solutions protect the user’s identity, while simplifying the user experience for electronic devices.

We believe these characteristics will enable us to continue to enhance our position as a technological enabler within our target markets.

Our emphasis on technological leadership and design capabilities positions us to provide unique human interface product solutions that address specific customer requirements, as well as satisfy our customers' specifications, including features and functionality, industrial design, security, mechanical, and electrical requirements. Our products also offer unique integration options, including the ability to place our capacitive sensors underneath the plastic or glass of the device, allowing for streamlined and stylized designs, and LED integration to indicate status or enhance industrial design.

Our long-term working relationships with large, global OEMs provide us with the experience to satisfy their demanding design specifications and other requirements. Our custom product solutions provide OEMs with numerous benefits, including:

- ease of system integration;
- reduced product development costs;
- shorter product time to market;
- compact and efficient platforms;
- improved product functionality and utility;
- product differentiation; and
- continuity of supply.

Our collaborative efforts with our customers reduce duplication and overlap of investment and resources, enabling our OEM partners to devote more time and resources to the market development of their differentiated products.

We utilize capacitive technology, rather than resistive or mechanical technology, in our touch solutions. Unlike resistive and mechanical technology, our solid-state capacitive technology has no moving parts and does not require activation force, thereby providing a durable, more reliable solution that can be integrated into both curved and flat surfaces. Capacitive technologies also allow for much thinner sensors than resistive or mechanical technology, providing for slimmer, more compact and unique industrial designs. Our fingerprint solutions utilize either capacitive technology or optical technology.

Products

Our family of product solutions allows our customers to solve their interface needs and differentiate their products from those of their competitors.

ClearPad®

Our ClearPad family of products enables the user to interact directly with the display on electronic devices, such as mobile smartphones, tablets, and automobiles. Our ClearPad has distinct advantages, including low-profile form factor; high reliability, durability, and accuracy; and low power consumption. We typically sell our ClearPad solution as a chip, together with customer-specific firmware, to sensor manufacturers, Organic Light Emitting Diode, or OLED, manufacturers or Liquid Crystal Display, or LCD, manufacturers, to integrate into their touch-enabled products. A discrete touchscreen product typically consists of a transparent, thin capacitive sensor that can be placed over any display, such as an LCD or OLED, and combined with a flexible circuit material and a touch controller chip. Each ClearPad solution is custom designed to integrate customer-specific input preferences such as force sensing, pen input, gloved finger recognition, proximity, finger hover, and air swipe functionality.

Our ClearPad Series 3 product family can provide full-time tracking of ten or more fingers simultaneously, and features stylus support as well as support for various sensor configurations, including traditional discrete sensors; sensor-on-lens, which includes sensor electrodes patterned on the bottom of the glass cover lens; on-cell, which includes sensor electrodes patterned on the display glass; and in-cell, which includes sensor electrodes patterned inside LCD glass.

Our ClearPad Series 7 product family is designed to meet the requirements of the large touchscreen market for products more closely related to notebooks, slates, tablets, and similar devices. Our ClearPad Series 7 products include low-cost, single-chip touchscreen solutions and multi-chip touchscreen solutions designed for devices that have more demanding user input requirements, such as gaming applications.

ClearView™

Our ClearView display driver products offer advanced image processing and low power technology for displays on electronic devices, including smartphones and tablets. ClearView products include adaptive image processing that works in concert with proprietary customization options to enable development of efficient and cost-effective high-performance solutions and faster time to market. Our display driver products offer automatic regional control of color balance that optimizes light and dark areas of an image simultaneously, and sunlight readability enhancement capabilities that optimize image quality under various lighting conditions.

TouchView™

Our TouchView products integrate touch and display technologies to deliver advanced performance and simplified design. Our proprietary algorithms synchronize touch sensing with display driving, effectively eliminating display-induced noise and improving capacitive sensing performance. TouchView display integration allows for thinner touchscreens with narrower bezels for greater industrial design flexibility. TouchView is available in two-chip and single-chip (TDDI) configurations, providing a range of solutions suitable for hybrid and full in-cell touchscreen designs. Both configurations reduce manufacturing complexity and simplify the supply chain for OEM manufacturers.

Natural ID™

Our Natural ID family of capacitive-based fingerprint ID products is designed for use in smartphones, tablets, notebook PCs, PC peripherals, and other applications. Thin form factors provide industrial design flexibility, while robust matching algorithms and anti-spoofing technology provide strong security. The family spans a range of form factors, colors, and materials suitable for design on the front, back or side of a device.

Natural ID products are designed to be compatible with Fast IDentity Online (FIDO) protocols, enhancing security and interoperability with a broad range of solutions. FIDO was formed to enhance online authentication by developing open, scalable technical standards to help facilitate the adoption of robust, easy to use authentication that reduces the reliance on passwords. Natural ID products increase the security of mobile and PC products while maintaining ease of use for the customer.

TouchPad™

Our TouchPad family of products, which can take the place of, and exceed the functionality of a mouse, is a small, touch-sensitive pad that senses the position and movement of one or more fingers on its surface through the measurement of capacitance. Our TouchPad provides an accurate, comfortable, and reliable method for screen navigation, cursor movement, and gestures, and provides a platform for interactive input for both the consumer and corporate markets. Our TouchPad solutions allow our customers to provide stylish, simple, user-friendly, and intuitive human interface semiconductor product solutions. Our TouchPad solutions also offer various advanced features, including scrolling, customizable tap zones, tapping and dragging of icons, and device interaction.

Our TouchPad solutions are available in a variety of sizes, electrical interfaces, and thicknesses, and are designed to meet the electrical and mechanical specifications of our customers. Customized firmware and driver software ensure the availability of specialized features. As a result of their solid-state characteristics, our TouchPad solutions have no moving parts that wear out, resulting in a robust and reliable input solution that also allows for unique industrial designs.

SecurePad™

Our SecurePad integrates our Natural ID fingerprint sensor directly into the TouchPad area, improving usability for end users and simplifying the supply chain for notebook PC manufacturers.

ClickPad™

Our ClickPad introduces a clickable mechanical design to the TouchPad solution, eliminating the need for physical buttons. The button-less design of our ClickPad allows for unique, intuitive industrial design and makes it an excellent alternative to conventional input and navigation devices. Our ClickPad is activated by pressing down on the internal tact switch to perform left-button or right-button clicks and provides tactile feedback similar to pressing a physical button. The latest version of ClickPad features ClickEQ™, a mechanical solution that provides uniform click depth to maximize the surface area available for gestures and improves click performance over hinged designs.

ForcePad®

Our ForcePad is a thinner version of our ClickPad, which introduces a new dimension in control through the addition of variable force sensitivity. ForcePad is designed to provide consistent performance across OEM models through its design intelligence and self-calibration features. By detecting the amount of force applied, ForcePad is engineered to enable more intuitive and precise user interactions in operating system controls and applications. Designed with thin and light notebooks in mind, ForcePad is 40% thinner than a conventional touch pad.

AudioSmart®

AudioSmart products bring forward optimum analog, mixed-signal and DSP technologies for high-fidelity voice and audio processing. Our AudioSmart products include far-field voice technologies that enable accurate voice command recognition from a distance while disregarding other sounds such as music in order to activate smart devices such as smart speakers. AudioSmart also includes personal voice and audio solutions for high-performance headsets that are enable active noise cancellation and are based on the USB Type-C standard.

VideoSmart™

Our VideoSmart solutions include powerful single-chip 4K UHD media processors for TVs, set-top boxes, and over-the-top streaming devices.

ImagingSmart™

Our ImagingSmart solutions include a product portfolio that spans four distinct product lines that include document and photo imaging controllers, digital video, fax, and modem solutions. ImagingSmart products leverage image processing IP, JPEG encoders and DSP technology to deliver a wide range of fax, modem, digital video and printer solutions for home, mobile and imaging applications.

Other Products

Other product solutions we offer include Dual Pointing Solutions, TouchStyk™, TouchButtons™ and display interface products. Our dual pointing solutions offer TouchPad with a pointing stick in a single notebook computer, enabling users to select their interface of choice. TouchStyk is a self-contained pointing stick module that uses capacitive technology similar to that used in our TouchPad. TouchButtons provide capacitive buttons and scrolling controls for an easy-to-use and stylish interface solution designed to replace mechanical buttons. Our display interface products deliver highly integrated, scalable video and audio connectivity to a broad array of applications for notebook PCs, enterprise systems and consumer devices.

Capabilities

Our products are supported by a variety of feature capabilities allowing for further product differentiation and easy customer integration.

Enhanced Gesture Recognition™

Our Enhanced Gesture Recognition is a suite of ClearPad gestures included in our firmware. Customers can easily enable SingleTouch gestures, such as Tap, Double Tap, Press, and Flick; DualTouch gestures, such as Pinch and Pivot Rotate; and multi-finger gestures for ClearPad directly from our touch module firmware. No additional recognition software is required on the host processor to implement these gestures. This approach lowers host processor resource requirements and ensures that gestures are implemented using our pattern-recognition technology.

SignalClarity™ Technology

SignalClarity technology provides an improved signal-to-noise ratio for enhanced touch detection and noise immunity, and enables smartphone OEMs to support inexpensive chargers and work with multiple display types. SignalClarity technology works with various display configurations, including discrete sensors, sensor-on-lens, on-cell, and in-cell touchscreen designs.

TypeGuard™

TypeGuard technology allows the system to differentiate between a finger and a palm, virtually eliminating accidental cursor movements, scrolling and clicks.

Proximity Sensing

Our proximity sensing technology enables users to interact with consumer electronics without touch. With this technology, sensors in a device, such as a notebook PC, mobile phone, peripheral, or digital photo frame, sense the presence of a user's finger or hand to activate a function. These sensors can illuminate LEDs for discoverable buttons, immediately wake devices from power-saving mode, or activate other functionalities.

TDsync™

TDsync technology effectively eliminates problems caused by display-induced noise in the touch subsystem, improving capacitive sensing performance and reducing errors to deliver a better user experience. TDsync technology works with in-cell designs, including both two-chip and single-chip controller implementations.

ClearForce™

ClearForce gives our ClearPad and TouchView solutions a new dimension in user interfaces, by enabling features such as scrolling, zoom, text or photo editing, and enabling users to engage in gaming or other multi-touch applications by applying variable force with a finger or stylus.

Design Studio™

Our Design Studio software streamlines the touchscreen design process, while reducing total design cost and accelerating time to market. This tool suite assists designers in creating optimal products that are tightly aligned with target design and performance specifications. Design Studio works seamlessly with multiple display configurations and stack-ups, including discrete sensor, on-glass-sensor, on-cell, and in-cell solutions. Design Studio includes tuning and configuration wizards, production test tools, and diagnostics tools that configure and test chips and modules built using Synaptics' capacitive sensing technology.

SentryPoint™

SentryPoint is our suite of advanced security features available with our Natural ID fingerprint products. SentryPoint capabilities include fingerprint matching directly on the sensor chip, advanced anti-spoofing technology, a cryptographic security engine, security key module generation, 256-bit AES encryption and TLS secure communications between the fingerprint subsystem and the host platform.

Image Studio™

Our Image Studio software simplifies the display design process, reducing design costs and accelerating time to market. This tool suite assists designers in creating displays that are tightly aligned with target design and performance specifications. Image Studio works seamlessly with all display drivers and can be used for tuning on the panel or at the phone level. Image Studio includes tuning and configuration wizards and diagnostics tools that configure and test the modules built using Synaptics' DDICs.

QDEO®

QDEO video processing software and firmware delivers immersive entertainment regardless of source.

Technologies

We have developed and own an extensive array of technologies, encompassing ASICs, firmware, software, mechanical and electrical designs, display systems, pattern recognition, touch-sensing technologies, fingerprint sensing, voice, audio, imaging, modem and multimedia technologies. We continue to develop technology in these areas. We believe these technologies and the related intellectual property rights create barriers for competitors and allow us to provide high-value human interface semiconductor product solutions in a variety of high-growth markets.

Our broad line of human interface semiconductor product solutions is currently based upon the following key technologies:

- capacitive position sensing technology;
- capacitive force sensing technology;
- transparent capacitive position sensing technology;
- pattern recognition technology;
- mixed-signal integrated circuit technology;
- display systems and circuit technology;
- capacitive active pen technology;
- multi-touch technology;
- proprietary microcontroller technology;
- proprietary vector co-processor technology;
- capacitive fingerprint sensing technology;
- optical fingerprint sensing technology;
- voice and audio technology;
- imaging and modem technology; and
- multimedia processing technology.

In addition to these technologies, we develop firmware and device driver software that we incorporate into our products, which provide unique features, such as virtual scrolling, customizable tap zones, and tapping and dragging of icons. In addition, our ability to integrate all our products to interface with major operating systems provides us with a competitive advantage.

Capacitive Position Sensing Technology. This technology provides a method for sensing the presence, position, and contact area of one or more fingers or a stylus on a flat or curved surface. Our technology works with very light touch, supports full multi-touch capabilities, and provides highly responsive cursor navigation, scrolling, and selection. It uses no moving parts, can be implemented under plastic or glass, and is extremely durable. Our technology can also track one or more fingers in proximity to the touch surface.

Capacitive Force Sensing Technology. This technology senses the direction and magnitude of a force applied to an object. The object can either move when force is applied, like a typical joystick used for gaming applications, or it can be isometric, with no perceptible motion during use, like our TouchStyk, ForcePad, or ClearForce. The primary competition for this technology is resistive strain gauge technology. Resistive strain gauge technology requires electronics that can sense very small changes in resistance, presenting challenges to the design of that circuitry, including sensitivity to electrical noise and interference. Our electronic circuitry determines the magnitude and direction of an applied force, permits very accurate sensing of tiny changes in capacitance, and minimizes electrical interference from other sources. Our capacitive force sensing technology can be integrated with our position sensing technology.

Transparent Capacitive Position Sensing Technology. This technology allows us to build transparent sensors for use with our capacitive position sensing technology, such as in our ClearPad. It has all the advantages of our capacitive position sensing technology and allows for visual feedback when incorporated with a display device, such as an LCD. Our

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technology supports full multi-touch, does not require calibration, does not produce undesirable internal reflections, and has reduced power requirements, allowing for longer battery life.

Pattern Recognition Technology. This technology is a set of software algorithms and techniques for converting real world data, such as gestures and handwriting, into a digital form that can be recognized and manipulated within a computer. Our technology provides reliable gesture decoding and handwriting recognition, and can be used in other applications such as signature verification for a richer user experience.

Mixed-Signal Integrated Circuit Technology. This hybrid analog-digital integrated circuit technology combines the power of digital computation with the ability to interface with non-digital, real-world signals, such as the position of a finger or stylus on a surface. Our patented design techniques permit us to utilize this technology to optimize our core ASIC engine for all our products. Our mixed-signal technology consists of a broad portfolio of circuit expertise in areas such as the following:

- precision capacitance measurement;
- power management (switching converters, charge pumps, and Low-dropout regulators (“LDOs”));
- analog-to-digital and digital-to-analog converters;
- LCD source and VCOM drivers;
- high-speed serial interfaces;
- display timing controllers (“TCONs”);
- DDICs;
- SRAM, DRAM, and non-volatile memories;
- VLSI digital circuits with multiple clock and power domains; and
- communications and signal processing circuits.

Display Systems and Circuit Technology. This technology enables us to develop optimized human interface semiconductor product solutions with improved compatibility with their application environments. This technology consists of mobile and large format display semiconductor expertise, including the following functional blocks:

- TCONs;
- DDICs;
- TFT gamma references;
- VCOM drivers;
- source drivers;
- content adaptive brightness control;
- contrast enhancement;
- color enhancement;
- color space adjustment;
- gamma curve control;
- local area active contrast optimization;
- sunlight readability enhancements;
- adaptive image compression;
- image decompression;
- sub-pixel rendering;
- video scaling;

- edge enhancement;
- frame rate control;
- selective update;
- force, touch and display synchronization;
- high-speed serial interfaces such as MIPI DSI and Qualcomm MDDI; and
- display power circuits such as inductive switchers, charge pumps, and LDOs.

This technology also enables us to develop advanced products that combine the functions of the display and touch sensing systems to enable highly integrated display and touch functionality with improved performance, thinner form factors, and lower system cost.

Capacitive Active Pen Technology. This technology allows us to develop a pen that can be used for input on a capacitive touchscreen. As well as generating a signal that allows the touchscreen to track the pen, additional data, such as the pen applied force and pen button states, are also communicated to the touchscreen device. Information can also be communicated from the touchscreen to the pen.

Multi-touch Technology. This technology allows us to create capacitive touch products that simultaneously track the presence, position and other characteristics of multiple objects in contact with or in close proximity to a flat or curved touch surface. It enables, for example, the recognition of multi-finger gestures, the tracking of a stylus position while the user's palm is also in contact with the touch surface, and the simultaneous interaction of multiple users with the same touch surface.

Proprietary Microcontroller Technology. One example of this technology is our proprietary 16-bit microcontroller core that is embedded in the digital portion of our mixed signal ASIC, which allows us to optimize our ASIC for position sensing tasks. Our embedded microcontroller provides great flexibility in customizing our products via firmware, which eliminates the need to design new circuitry for each new application.

Proprietary Vector Co-Processor Technology. Our vector co-processor technology is designed for use in our ASICs, accompanying either one of our own proprietary microcontroller cores or a commercially available one. The co-processor boosts the ASIC's computational performance by efficiently processing vectors of data for a range of mathematical operations. This allows us to implement more computationally intensive algorithms within our firmware.

Capacitive Fingerprint Sensing Technology. This technology provides for fingerprint authentication by scanning and matching an image of a user's fingerprint, as well as initial fingerprint enrollment. Our sensing technology also incorporates spoof detection. Our fingerprint sensing technology simplifies the system or application authentication process by substituting the user's fingerprint for the login name and password. Our technology includes many implementation choices including back of phone, button integration, touchpad integration, and under glass.

Voice and Audio Technology. This technology allows us to develop human interface and communication products based on voice and audio interaction. The technology embodies a broad range of analog and mixed signal circuits expertise and audio signal processing algorithms, including:

- Noise suppression;
- Acoustic echo cancellation;
- De-reverberation;
- Active noise cancellation;
- Speaker protection;
- Audio post processing;
- Voice activity detection;

- Trigger word detection;
- Mid-field and far-field voice processing;

- Audio digital signal processor architecture;
- Neural network training and inference;
- Audio codecs;
- USB interfaces;
- High performance audio ADCs and DACs;
- Audio amplifiers;
- Efficient charge pumps and LDOs;
- Low power audio processing;
- Product acoustic design.

Imaging and Modem Technology. This technology allows us to create a family of SoC integrated circuits and software for printers, video cameras, fax machines and modems. Key functional blocks include:

- Printer imaging pipeline;
- Inkjet, laser, and thermal print engine and motor control;
- Scan/camera and peripheral control;
- Low power video codecs;
- Image processing hardware accelerators;
- Motion detection;
- Data and fax modem hardware and firmware.

Multimedia Processing Technology. This technology allows us to create multimedia SoC products for set-top boxes, digital personal assistants, virtual reality, and over the top, or OTT, audio and video. Our video processing technology includes hardware and algorithms to reduce analog and digital noise, convert to different video formats, and enhance color and contrast. Our products include security and secure encrypt/decrypt technology, including secure boot and hardware root of trust.

Research and Development

We conduct ongoing research and development programs that focus on advancing our existing interface technologies, improving our current product solutions, developing new products, improving design and manufacturing processes, enhancing the quality and performance of our product solutions, and expanding our technologies to serve new markets. Our goal is to provide our customers with innovative solutions that address their needs and improve their competitive positions. Our long-term vision is to offer human interface semiconductor product solutions, such as touch, fingerprint, handwriting, vision, voice and audio capabilities, and biometrics that can be readily incorporated into various electronic devices.

Our research and development programs focus on the development of accurate, easy to use, reliable, and intuitive human interfaces for electronic devices. We believe our innovative interface technologies can be applied to many diverse products, and we believe the interface is a key factor in the differentiation of these products. We believe that our interface technologies enable us to provide customers with product solutions that have significant advantages over alternative technologies in terms of functionality, size, power consumption, durability, and reliability. We also intend to pursue strategic relationships and acquisitions to enhance our research and development capabilities, leverage our technology, and shorten our time to market with new technological applications.

Our research, design, and engineering teams frequently work directly with our customers to design custom solutions for specific applications. We focus on enabling our customers to overcome their technical barriers and enhance the performance of their products. We believe our engineering know-how and electronic systems expertise provide significant benefits to our customers by enabling them to concentrate on their core competencies of production and marketing.

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As of the end of fiscal 2018, we employed 1,631 people in our technology, engineering, and product design functions in the United States, Taiwan, Japan, India, Korea, China, Hong Kong, and Armenia. Our research and development expenses were $363.2 million, $292.3 million, and $311.2 million for fiscal 2018, 2017, and 2016, respectively.

Intellectual Property Rights

Our success and ability to compete depend in part on our ability to maintain the proprietary aspects of our technologies and products. We rely on a combination of patents, trade secrets, copyrights, confidentiality agreements, and other statutory and contractual provisions to protect our intellectual property, but these measures may provide only limited protection.

As of June 30, 2018, we held 1,748 active patents and 996 pending patent applications worldwide. Collectively, these patents and patent applications cover various aspects of our key technologies, including those for fingerprint sensors, touch controllers, display driver ICs, integrated touch and display controllers, touchpad, far-field voice DSPs, audio codec, multimedia processors and image processors. Our proprietary firmware and software, including source code, are also protected by copyright laws and applicable trade secret laws.

Our extensive array of technologies include those related to integrated circuits (ICs), firmware, software, and mechanical hardware. Our products rely on a combination of these technologies, making it difficult to use any single technology as the basis for replicating our products. Furthermore, the lengths of our customers' design cycles and the customizations required within the products we provide to our customers also serve to protect our intellectual property rights.

Customers

Our customers include many of the world's largest mobile and PC OEMs, based on unit shipments, as well as many large IoT OEMS and a variety of consumer electronics manufacturers. Our demonstrated track record of technological leadership, design innovation, product performance, cost effectiveness, and on-time deliveries have resulted in our leadership position in providing human interface semiconductor product solutions. We believe our strong relationship with our OEM customers, many of which are also currently developing product solutions which are focused in several of our target markets, will continue to position us as a source of supply for their product offerings.

Our leading OEM customers in fiscal 2018 included the following:

- Dell
- Google
- Hewlett-Packard
- Huawei
- Lenovo
- LG Electronics
- Oppo Mobile
- Samsung
- Sony
- Vivo
- Xiaomi

We generally supply custom-designed products to OEMs through their contract manufacturers, supply chain or distributors. Sales to Sanshin Electronics Co., Ltd. and Sharp Corporation accounted for 15% and 12%, respectively, of our net revenue in fiscal 2018.

We consider both the OEMs and their contract manufacturers or supply chain partners to be our customers, as well as in some cases, our distributors. Both the OEMs and their partners may determine the design and pricing requirements and make the overall decision regarding the use of our human interface semiconductor product solutions in their products. The contract manufacturers and distributors place orders with us for the purchase of our products, take title to the products purchased upon delivery by us, and pay us directly for those purchases. The majority of these customers do not have return rights except for warranty provisions.

Strategic Relationships

We have used strategic relationships to enhance our ability to offer value-added customer solutions in the past. We intend to enter additional strategic relationships with companies that may help us serve our target markets.

Sales and Marketing

We sell our product solutions for incorporation into the products of our OEM customers. We generate sales through direct sales employees as well as outside sales representatives, distributors and value added resellers. Our sales personnel receive substantial technical assistance and support from our internal technical marketing and engineering resources because of the highly technical nature of our product solutions. Sales frequently result from multi-level sales efforts that involve senior management, design engineers, and our sales personnel interacting with our customers' decision makers throughout the product development and order process.

As of the end of fiscal 2018, we employed 279 sales and marketing professionals. We maintain customer support offices domestically and internationally, which are located in the United States, Taiwan, China, India, Korea, Japan, and Europe. In addition, we utilize value-added resellers and sales distributors which are primarily located in America, China, Korea and Taiwan.

International sales constituted over 86% of our revenue for each of fiscal 2018, 2017, and 2016. Approximately 75% of our sales in fiscal 2018 were made to companies located in China, Japan, and South Korea that provide design and manufacturing services for major notebook computer and mobile product applications OEMs. Our sales are almost exclusively denominated in U.S. dollars. This information should be read in conjunction with Note 12 Segment, Customers, and Geographic Information to the consolidated financial statements contained elsewhere in this report.

Manufacturing

We employ a virtual manufacturing platform through third-party relationships. We currently utilize a few semiconductor wafer manufacturers to supply us with silicon wafers integrating our proprietary design specifications. The completed silicon wafers are forwarded to third-party package and test processors for further processing into die and packaged ASICs, as applicable, which are then utilized in our custom interface products or processed as our ASIC-based solution.

After processing and testing, the die and ASICs are consigned to various contract manufacturers for assembly or are shipped directly to our customers. During the assembly process, our die or ASIC is either combined with other components to complete the module for our custom human interface solution or the ASIC is maintained as a standalone finished good. The finished assembled product is subsequently shipped directly to our customers or by our contract manufacturers directly to our customers for integration into their products.

We diversify our production capacity through third-party relationships, thereby strengthening our virtual manufacturing platform. We believe our virtual manufacturing strategy provides a scalable business model, enables us to concentrate on our core competencies of research and development, technological advances, and product design and engineering, and reduces our capital investment.

Our third-party contract manufacturers and semiconductor fabricators are Asia-based organizations. We generally provide our contract manufacturers with six-month rolling forecasts of our production requirements. We generally do not have long-term agreements with our contract manufacturers that guarantee production capacity, prices, lead times, or delivery schedules. Our reliance on these parties exposes us to vulnerability owing to our dependence on a few sources of supply. We believe, however, that other sources of supply are available. We may establish relationships with other contract manufacturers in order to reduce our dependence on any one source of supply.

Periodically, we purchase inventory from our contract manufacturers when a customer delays its delivery schedule or cancels its order. In those circumstances in which our customer has cancelled its order and we purchase inventory from our contract manufacturers, we consider a write-down to reduce the carrying value of the inventory purchased to its net realizable value. We charge write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to its net realizable value and charge such write-downs to cost of revenue. We also record a liability and charge to cost of revenue for estimated losses on inventory we are obligated to purchase from our contract manufacturers when such losses become probable from customer delays or order cancellations.

Backlog

As of the end of fiscal 2018, we had a backlog of orders of $267.3 million, an increase of $45.5 million compared with a backlog of orders as of the end of fiscal 2017 of $221.8 million. The increase in backlog is primarily due to the number of units being higher in backlog for products ordered by customers at the end of fiscal 2018 than those ordered at the end of fiscal 2017, due to our new IoT business, as well as slightly higher average selling prices of products ordered in backlog in our PC and mobile businesses. Our backlog consists of products for which purchase orders have been received and are scheduled for shipment in the subsequent quarter. Most orders are subject to rescheduling or cancellation with limited penalties. Because of the possibility of customer changes in product shipments, our backlog as of a particular date may not necessarily be indicative of net revenue for any succeeding period.

Competition

PC and Mobile

Our touch, display and fingerprint-based semiconductor products are sold into markets for mobile product applications, PC product applications and other electronic devices. The markets for touchscreen products are characterized by rapidly changing technology and intense competition. Our principal competition in the sale of touchscreen products includes Elan Microelectronics, Focaltech Systems, Goodix, Melfas, Parade Technologies, Samsung LSI, Solomon Systech, STMicroelectronics and various other companies involved in human interface semiconductor product solutions. Our principal competitors in the sale of notebook touch pads are Alps Electric and Elan Microelectronics. Our principal competitors in the sale of display driver products and TDDI products for the mobile and PC product applications markets include Focaltech, Himax Technologies, Novatek Microelectronics, Samsung LSI and SiliconWorks. Our principal competitors in the sale of fingerprint authentication solutions for PC product applications markets are Egis Technology, Elan Microelectronics, Fingerprint Cards and Goodix.

IoT

Our solutions for far-field voice, SoCs enabling new and efficient forms of media consumption paradigms, and video interface semiconductor products are sold into market segments that are showing significant growth, ranging from smart assistant platforms to SPP/OTT platforms and VR/AR solutions. The markets for SPP/OTT products and smart assistant solutions require strong technology innovation and deep systems and systems engineering expertise. Our principal competition in these markets include Broadcom, MediaTek, AmLogic and Realtek, among others.

We provide voice processing silicon and software solutions for voice-enabled devices, consumer and commercial imaging, and next-generation audio applications. In addition to our voice solutions, we support the headphone and virtual reality/mixed reality head mounted display industry with USB-C codec solutions for next generation wireless audio devices and wearables. Our competitors in the sale of audio products include BES Technic, Cirrus Logic, Qualcomm, Realtek, and STMicroelectronics. Our automotive products include touch, display driver and fingerprint solutions for major automotive OEMs. Our principal competitors for these products include Cypress, Focaltech, Goodix, Himax and Microchip. Our IoT interface products are sold into PC and smartphone docks and wireless adapter market applications. Our principal competitors in the sale of IoT interface products are Megachips and Analogix. In certain cases, large OEMs may acquire a competing technology, develop alternative human interface semiconductor product solutions for their own products or provide alternative key components for use in designing human interface semiconductor product solutions. We provide fax, modem and print silicon and software solutions for printers, POS and medical applications. Our competitors in these markets are Broadcom, Silicon Labs and Marvell.

General

We believe our solutions-based systems and engineering experience, coupled with our technologies, offer benefits in terms of size, power consumption, durability, ease of use, cost effectiveness, and reliability when compared to our competitors and other technologies. While our markets continue to evolve, we believe we are well positioned to compete aggressively for this business based on our proven track record, our technological expertise, our marquee global customer base, our technology roadmap, and our reputation for design innovation. Our competitive position could be adversely affected if one or more of our current OEMs reduce their orders or if we are unable to develop new customers for our human interface semiconductor product solutions.

Employees

As of the end of fiscal 2018, we employed a total of 2,140 persons, including 230 in operations, finance, and administration; 279 in sales and marketing; and 1,631 in research and development. Of these employees, 723 were located in North America, 1,409 in Asia/Pacific, and 8 in Europe. We consider our relationship with our employees to be good, and none of our employees are represented by a union in collective bargaining with us.

Competition for qualified personnel in our industry is extremely intense, particularly for engineering and other technical personnel. Our success depends on our continued ability to attract, hire, and retain qualified personnel.

Executive Officers of the Registrant

The following table sets forth certain information regarding our executive officers as of August 10, 2018:

Name	Age	Position
Richard A. Bergman	54	President and Chief Executive Officer, and Director
Wajid Ali	45	Senior Vice President and Chief Financial Officer
Kevin D. Barber	58	Senior Vice President and General Manager, Mobile Division
Shawn Liu	54	Senior Vice President and General Manager, PC Division
John McFarland	51	Senior Vice President, General Counsel and Secretary
Huibert Verhoeven	50	Senior Vice President and General Manager, IoT Division
Alex Wong	63	Senior Vice President, Worldwide Operations

Richard A. Bergman has been President and Chief Executive Officer of our company since September 2011. Prior to joining our company, Mr. Bergman was Senior Vice President and General Manager of Product Group at Advanced Micro Devices, Inc. ("AMD") from May 2009 to September 2011. From October 2006 to May 2009, Mr. Bergman served as Senior Vice President and General Manager of AMD's Graphics Product Group. Mr. Bergman's career at AMD began in October 2006 when AMD acquired ATI Technologies ("ATI"), where he served as Senior Vice President and General Manager of the PC Group. Prior to ATI, Mr. Bergman served as Chief Operating Officer at S3 Graphics, a division of SonicBlue Inc. Mr. Bergman has held senior level management positions in the technology field since his early roles at Texas Instruments, Inc. and IBM. Mr. Bergman is a member of the Board of Directors, Chairman of the Compensation Committee and a member of the Audit Committee of Maxwell Technologies, a developer and manufacturer of energy storage and power delivery solutions. Mr. Bergman holds a Bachelor of Science degree in Electrical Engineering from the University of Michigan and a Master's degree in Business Administration from the University of Colorado.

Wajid Ali has been Senior Vice President and Chief Financial Officer of our company since May 2015. Prior to joining our company, Mr. Ali was Vice President and Controller of Teledyne from 2012 to 2015, after previously serving as Vice President and Chief Financial Officer of Teledyne DALSA, Inc., a Teledyne Technologies subsidiary from 2011 to 2012, and as Chief Financial Officer of Teledyne DALSA's predecessor, DALSA Corporation, a public semiconductor company, from 2007 to 2011. Mr. Ali also held various key financial management positions at ATI Technologies prior to its acquisition by Advanced Micro Devices ("AMD"), after which Mr. Ali held a key financial management position at AMD. Mr. Ali holds a Bachelor of Arts degree and a Master of Arts degree in Economics from York University, a Master's degree in Business Administration from the Schulich School of Business, York University, and a CPA, CMA designation from the Chartered Professional Accountants of Ontario, Canada.

Kevin D. Barber has been Senior Vice President and General Manager of the Mobile Division of our company since July 2017. Prior to his current appointment, Mr. Barber was Senior Vice President and General Manager of the Smart Display division of our company from January 2011 to July 2017. Prior to joining our company, Mr. Barber was the Chief Executive Officer of ACCO Semiconductor from 2008 to 2010. From 2007 to 2008, Mr. Barber served as a principal consultant at PRTM focused on the electronics industry. Mr. Barber was Senior Vice President, General Manager of the Mobile Solutions business at Skyworks Solutions from 2003 to 2006 where he was responsible for delivering innovative RF products to the mobile industry. Mr. Barber was Senior Vice President of Operations at Skyworks Solutions from 2002 to 2003 and Conexant Systems from 2001 to 2002. Previously, Mr. Barber held various senior operations positions at Conexant Systems and Rockwell Semiconductor. Mr. Barber is a member of the Board of Directors and a member of the Audit Committee of Intevac, a thin film processing and sensor technology company. Mr. Barber holds a Bachelor of Science degree in Electrical Engineering from San Diego State University and a Master's degree in Business Administration from Pepperdine University.

Shawn Liu has been the Senior Vice President and General Manager, PC Division of our company since June 2018. Mr. Liu joined Synaptics in November 2012 as our Vice President of ThinTouch Products in the Human Interface Systems Division, and then rotated through senior leadership positions in the Smart Display Division and Biometrics Product Division within Synaptics, including most recently as the Vice President and General Manager, PC Division from July 2017 to June 2018. From January 2011 to November 2012, he was a Director at Apple, where he led an Engineering Program Management team responsible for technologies in Mac and iOS products. From 2000 to 2011, Mr. Liu held senior positions at AMD/ATI and Cadence. Early in his career, Mr. Liu spent several years in Taiwan in various managerial capacities including a business development position at a wireless chipset start-up, and held various design engineering positions at SGI, LSI Logic and VLSI Technology. Mr. Liu is a member of the Board of Directors of OXi Technology Ltd. Mr. Liu holds a Bachelor of Science degree and Master of Science degree, both in Electrical Engineering, from Cornell University.

John McFarland has been Senior Vice President, General Counsel and Secretary of our company since November 2013. Prior to joining our company, Mr. McFarland served for nine years as the Executive Vice President, General Counsel and Secretary of MagnaChip Semiconductor. Mr. McFarland spent his early career at law firms in Palo Alto, California, and Seoul, Korea. Mr. McFarland holds a Bachelor of Arts degree in Asian Studies, conferred with highest distinction from the University of Michigan, and a Juris Doctor degree from the University of California, Los Angeles, School of Law.

Huibert Verhoeven has been Senior Vice President and General Manager of the IoT Division of our company since July 2017. Prior to his current appointment, Mr. Verhoeven was Senior Vice President and General Manager of the Human Interface Systems Division of our company from August 2014 to July 2017. Prior to joining our company, Mr. Verhoeven was Vice President and General Manager of the Flash Components Division at LSI Corporation from 2013 to 2014. Mr. Verhoeven served as the Vice President and General Manager of the Mixed Signal Systems group for Intersil Corporation from 2008 to 2013. Prior to Intersil, Mr. Verhoeven held design engineering and design management positions at National Semiconductor Corporation. Mr. Verhoeven holds a Doctor of Philosophy and a Master's of Science Degree in Electrical Engineering from Delft University, The Netherlands.

Alex Wong has been Senior Vice President of Worldwide Operations of our company since July 2010. Mr. Wong served as Vice President of Worldwide Operations of our company from September 2006 to July 2010. From 2003 to 2006, Mr. Wong served our company as Managing Director of Hong Kong and Director of Operations. Prior to joining our company, Mr. Wong held various management positions with National Semiconductor Corporation, including General Manager for National Joint Ventures in China and Hong Kong and Director of Corporate Business Development. Mr. Wong holds a Bachelor of Science degree in Computer Science from California State University at Northridge and a Master's degree in Business Administration from the University of East Asia, Macau.

There are no arrangements, understandings, or family relationships pursuant to which our executive officers were selected. There are no related party transactions between us and our executive officers. We have entered into indemnification agreements with our officers and directors.

ITEM 1A. RISK FACTORS
You should carefully consider the following factors, together with all the other information included in this report, in evaluating our company and our business.

We currently depend on our human interface solutions for the mobile product applications market and the PC product applications market for a substantial portion of our revenue, and any downturn in sales of these products would adversely affect our business, revenue, operating results, and financial condition.

We currently depend on our human interface solutions for the mobile product applications market and the PC product applications market for a substantial portion of our revenue. Any downturn in sales of these products would adversely affect our business, revenue, operating results, and financial condition. Similarly, a softening of demand in the smartphone market, the tablet market, or the notebook portion of the PC product applications market, or a slowdown of growth in the mobile product applications market because of consumer preferences, the emergence of applications not including our solutions, or other factors would cause our business, operating results, and financial position to suffer.

Net revenue from our human interface solutions for mobile product applications has been volatile in the past and may not increase or be less volatile in the future.

Net revenue from our human interface solutions for mobile product applications, particularly smartphones, has been volatile in the past, and may not increase or be less volatile in the future. Net revenue from our human interface solutions for mobile product applications was $1,021.0 million for fiscal 2018, $1,406.0 million for fiscal 2017, and $1,398.2 million for fiscal 2016. Our human interface business for mobile product applications faces many uncertainties, including our success in enhancing our position in evolving markets dominated by a limited number of OEMs, and market acceptance of our products over competitive solutions. Our inability to address these uncertainties successfully would negatively affect our business.

A significant portion of our sales comes from one or more large customers, the loss of which could harm our business, financial condition, and operating results.

Historically, we have relied on a limited number of customers for a substantial portion of our total revenue. If we lost key customers, or if key customers reduced or stopped placing orders for our high-volume products, our financial results could be adversely affected. Sales to Sanshin Electronics Co., Ltd., and Sharp Corporation accounted for 10% or more of our net revenue in fiscal 2018. During fiscal 2018, we had one OEM customer that integrates our discrete display products into its mobile products that represented approximately 26% of our revenue; we sold to that customer indirectly through multiple distributors. Significant reductions in sales to our largest customers, the loss of other major customers, or a general decrease in demand for our products within a short period of time could adversely affect our revenue, financial condition and business.

We sell to contract manufacturers that serve our OEM customers. Any material delay, cancellation, or reduction of orders from any one or more of these contract manufacturers or the OEMs they serve could harm our business, financial condition, and operating results. The adverse effect would be more substantial if our other customers do not increase their orders or if we are unsuccessful in generating orders for our solutions with new customers. Many of these contract manufacturers sell to the same OEMs, and therefore our concentration with certain OEMs may be higher than with any individual contract manufacturer. Concentration in our customer base may make fluctuations in revenue and earnings more severe and make business planning more difficult.

We are exposed to industry downturns and cyclicality in our target markets that may result in fluctuations in our operating results.

The consumer electronics industry has experienced significant economic downturns at various times. These downturns are characterized by diminished product demand, accelerated erosion of average selling prices, and production overcapacity. In addition, the consumer electronics industry is cyclical in nature. We seek to reduce our exposure to industry downturns and cyclicality by providing design and production services for leading companies in rapidly expanding industry segments. We may, however, experience substantial period-to-period fluctuations in future operating results because of general industry conditions or events occurring in the general economy.

We cannot assure you that our human interface business for new markets will be successful or that we will be able to continue to generate significant revenue from these markets.

Our product solutions may not be successful in new markets despite the fact that these product solutions are capable of enabling people to interact more easily and intuitively with a wide variety of personal computer, mobile computing, communications, entertainment, automotive, electronic and smart devices.

Various target markets for our interface solutions, such as automotive touchscreens, and IoT, may develop slower than anticipated or could utilize competing technologies. The markets for certain of these products depend in part upon the continued development and deployment of wireless and other technologies, which may or may not address the needs of the users of these products.

Our ability to generate significant revenue from new markets will depend on various factors, including the following:

- the development and growth of these markets;
- the ability of our technologies and product solutions to address the needs of these markets, the price and performance requirements of OEMs, and the preferences of end users; and
- our ability to provide OEMs with human interface solutions that provide advantages in terms of size, power consumption, reliability, durability, performance, and value-added features compared with alternative solutions.

Many manufacturers of these products have well-established relationships with competitive suppliers. Our ongoing success in these markets will require us to offer better performance alternatives to other solutions at competitive costs. The failure of any of these target markets to develop as we expect, or our failure to serve these markets to a significant extent, will impede our sales growth and could result in substantially reduced earnings and a restructuring of our operations. We cannot predict the size or growth rate of these markets or the market share we will achieve or maintain in these markets in the future.

If we fail to maintain and build relationships with our customers, or our customers' products which utilize our human interface solutions do not gain widespread market acceptance, our revenue may stagnate or decline.

We do not sell any products to end users and we do not control or influence the manufacture, promotion, distribution, or pricing of the products that incorporate our human interface solutions. Instead, we design various human interface solutions that our OEM customers incorporate into their products, and we depend on such OEM customers to successfully manufacture and distribute products incorporating our solutions and to generate consumer demand through marketing and promotional activities. As a result of this, our success depends almost entirely upon the widespread market acceptance of our OEM customers' products that incorporate our human interface solutions. Even if our technologies successfully meet our customers' price and performance goals, our sales would decline or fail to develop if our customers do not achieve commercial success in selling their products that incorporate our human interface solutions.

We must maintain our relationships with our existing customers, particularly with the leading notebook computer OEMs, and expand our relationships with smartphone and tablet OEMs. Our customers generally do not provide us with firm, long-term volume purchase commitments, opting instead to issue purchase orders that they can cancel, reduce, or delay, subject to certain limitations. In order to meet the expectations of our customers, we must provide innovative human interface solutions on a timely and cost-effective basis. This requires us to match our design and production capacity with customer demand, maintain satisfactory delivery schedules, and meet performance goals. If we are unable to achieve these goals for any reason, our sales may decline or fail to develop, which would result in decreasing revenue.

In addition to maintaining and expanding our customer relationships, we must also identify areas of significant growth potential in other markets, establish relationships with OEMs in those markets, and assist those OEMs in developing products that incorporate our human interface product solutions. Our failure to identify potential growth opportunities, particularly in the smartphone and the tablet market, the PC product applications market, or the IoT market, or our failure to establish and maintain relationships with OEMs in those markets, would prevent our business from growing in those markets.

We depend on third parties to maintain satisfactory manufacturing yields and delivery schedules, and their inability to do so could increase our costs, disrupt our supply chain, and result in our inability to deliver our products, which would adversely affect our operating results.

We depend on our contract manufacturers and semiconductor fabricators to maintain high levels of productivity and satisfactory delivery schedules at manufacturing and assembly facilities located primarily in China, Taiwan, and Thailand.

We provide our contract manufacturers with six-month rolling forecasts of our production requirements. We generally do not, however, have long-term agreements with our contract manufacturers that guarantee production capacity, prices, lead times, or delivery schedules. On occasion, customers require rapid increases in production, which can strain our resources and reduce our margins. Although we have been able to obtain increased production capacity from our third-party contract manufacturers in the past, there is no guarantee that our contract manufacturers will be able to increase production capacity to meet customer demands in the future. Our contract manufacturers also serve other customers, a number of which have greater production requirements than we do. As a result, our contract manufacturers could determine to prioritize production capacity for other customers or reduce or eliminate deliveries to us on short notice. Qualifying new contract manufacturers, and specifically semiconductor foundries, is time consuming and might result in unforeseen manufacturing and operations problems. We may also encounter lower manufacturing yields and longer delivery schedules in commencing volume production of new products that we introduce, which could increase our costs or disrupt our supply of such products. The loss of relationships with our contract manufacturers or assemblers, or their inability to conduct their manufacturing and assembly services for us as anticipated in terms of capacity, cost, quality, and timeliness could adversely affect our ability to fill customer orders in accordance with required delivery, quality, and performance requirements, and adversely affect our operating results.

Shortages of components and materials may delay or reduce our sales and increase our costs, thereby harming our operating results.

The inability to obtain sufficient quantities of components and other materials necessary for the production of our products could result in reduced or delayed sales or lost orders. Many of the materials used in the production of our products are available only from a limited number of foreign suppliers, particularly suppliers located in Asia. In most cases, neither we nor our contract manufacturers have long-term supply contracts with these suppliers. As a result, we are subject to increased costs, supply interruptions, and difficulties in obtaining materials. Our customers also may encounter difficulties or increased costs in obtaining the materials necessary to produce their products into which our product solutions are incorporated. Future shortages of materials and components, including potential supply constraints of silicon, could cause delayed shipments and customer dissatisfaction, which may result in lower revenue.

We are subject to lengthy development periods and product acceptance cycles, which can result in development and engineering costs without any future revenue.

We provide human interface solutions that are incorporated by OEMs into the products they sell. OEMs make the determination during their product development programs whether to incorporate our solutions or pursue other alternatives. This process requires us to make significant investments of time and resources in the design of human interface solutions for our OEMs' products well before our customers introduce their products incorporating our interface solutions into the market, and before we can be sure that we will generate any significant sales to our customers or even recover our investment. During a customer's entire product development process, we face the risk that our interfaces will fail to meet our customer's technical, performance, or cost requirements, or that our products will be replaced by competitive products or alternative technological solutions. Even if we complete our design process in a manner satisfactory to our customer, the customer may delay or terminate its product development efforts. The occurrence of any of these events could cause sales to not materialize, be deferred, or be cancelled, which would adversely affect our operating results.

We face intense competition that could result in our losing or failing to gain market share and suffering reduced revenue.

We serve intensely competitive markets that are characterized by price erosion, rapid technological change, and competition from major domestic and international companies. This intense competition could result in pricing pressures, lower sales, reduced margins, and lower market share. Depressed economic conditions, a slowdown in the PC, mobile or IoT product applications markets, the emergence of new products not including our product solutions, rapid changes in the smartphone or IoT markets and competitive pressures may result in lower demand for our product solutions and reduced unit margins.

Any movement away from high-quality, custom designed, feature-rich human interface solutions to lower priced alternatives would adversely affect our business. Some of our competitors, particularly in the markets for mobile product applications and other electronic devices, have greater market recognition, larger customer bases, and substantially greater financial, technical, marketing, distribution, and other resources than we possess and that afford them greater competitive advantages. As a result, they may be able to devote greater resources to the promotion and sale of products, negotiate lower prices for raw materials and components, deliver competitive products at lower prices, and introduce new product solutions and respond to customer requirements more quickly than we can. Our competitive position could suffer if one or more of our customers determine not to utilize our custom engineered, total solutions approach and instead, decide to design and manufacture their own interfaces, contract with our competitors, or use alternative technologies.

Our ability to compete successfully depends on a number of factors, both within and outside our control. These factors include the following:

- our success in designing and introducing new human interface solutions, including those implementing new technologies;
- our ability to predict the evolving needs of our customers and to assist them in incorporating our technologies into their new and existing products;
- our ability to meet our customers' requirements for low power consumption, ease of use, reliability, durability, and small form factor;
- our ability to meet our customers' price and performance requirements;
- the quality of our customer service and support;
- the rate at which customers incorporate our human interface solutions into their own products;
- product or technology introductions by our competitors; and
- foreign currency fluctuations, which may cause a foreign competitor's products to be priced significantly lower than our product solutions.

If we do not keep pace with technological innovations, our products may not remain competitive and our revenue and operating results may suffer.

We operate in rapidly changing highly competitive markets. Technological advances, the introduction of new products and new design techniques could adversely affect our business unless we are able to adapt to changing conditions. Technological advances could render our solutions less competitive or obsolete, and we may not be able to respond effectively to the technological requirements of evolving markets. Therefore, we will be required to expend substantial funds for and commit significant resources to enhancing and developing new technology, which may include purchasing advanced design tools and test equipment, hiring additional highly qualified engineering and other technical personnel, and continuing and expanding research and development activities on existing and potential human interface solutions.

Our research and development efforts with respect to new technologies may not result in customer or market acceptance. Some or all of those technologies may not successfully make the transition from the research and development stage to cost-effective production as a result of technology problems, competitive cost issues, yield problems, and other factors. Even if we successfully complete a research and development effort with respect to a particular technology, our customers may decide not to introduce or may terminate products utilizing the technology for a variety of reasons, including difficulties with other suppliers of components for the products, superior technologies developed by our competitors and unfavorable comparisons of our solutions with these technologies, price considerations and lack of anticipated or actual market demand for the products.

Our business could be harmed if we are unable to develop and utilize new technologies that address the needs of our customers, or our competitors or customers develop and utilize new technologies more effectively or more quickly than we can. Any investments made to enhance or develop new technologies that are not successful could have an adverse effect on our net revenue and operating results.

We may not be able to enhance our existing product solutions and develop new product solutions in a timely manner.

Our future operating results will depend to a significant extent on our ability to continue to provide new human interface solutions that compare favorably with alternative solutions on the basis of time to introduction, cost, performance, and end user preferences. Our success in maintaining existing customers, attracting new customers, and developing new business depends on various factors, including the following:

- innovative development of new solutions for customer products;
- utilization of advances in technology;
- maintenance of quality standards;

- performance advantages;
- efficient and cost-effective solutions; and
- timely completion of the design and introduction of new human interface solutions.

Our inability to enhance our existing product solutions and develop new product solutions on a timely basis could harm our operating results and impede our growth.

Additionally, our human interface solutions are designed to integrate touch, handwriting, vision and voice capabilities. New computing and communications devices could be developed that call for a different interface solution. Existing devices could also be modified to allow for a different interface solution. Our business could be harmed if our products become noncompetitive as a result of a technological breakthrough that allows a new interface solution to displace our solutions and achieve significant market acceptance.

International sales and manufacturing risks could adversely affect our operating results.

Our manufacturing and assembly operations are primarily conducted in China, Taiwan, and Thailand by contract manufacturers and semiconductor fabricators. We have sales and logistics operations in Hong Kong, and sales and engineering design support operations in Armenia, China, India, Japan, Korea, Switzerland, and Taiwan. These international operations expose us to various economic, political, and other risks that could adversely affect our operations and operating results, including the following:

- difficulties and costs of staffing and managing a multinational organization;
- unexpected changes in regulatory requirements;
- differing labor regulations;
- potentially adverse tax consequences;
- increased tariffs, duties and other trade barrier restrictions;
- changes to export or import compliance laws;
- possible employee turnover or labor unrest;
- greater difficulty in collecting accounts receivable;
- the burdens and costs of compliance with a variety of foreign laws;
- the volatility of currency exchange rates;
- potentially reduced protection for intellectual property rights;
- political or economic instability in certain parts of the world; and
- natural disasters, including earthquakes or tsunamis.

If any of these risks associated with international operations materialize, our operations could significantly increase in cost or be disrupted, which would negatively affect our revenue and operating results.

Our customers are subject to import, export and economic sanction laws that may expose us to liability, increase our costs and adversely affect our operating results.

Many of our customers, suppliers and contract manufacturers are foreign companies or have significant foreign operations which are subject to United States export and import laws. Export control and economic sanction laws may include prohibitions on the sale or supply of certain products to embargoed or sanctioned countries, regions, governments, persons and entities. Any changes to United States export or import laws could result in a significant increase in costs to our company. Additionally, the imposition of additional economic and trade sanctions against other countries, regions, governments, persons or entities, or a failure by any of our major customers, suppliers or contract manufacturers to comply with U.S. export or import laws could result in our inability to sell to, and generate revenue from, such customer, supplier or contract manufacturer. This could disrupt our supply chain and result in the cancellation or delay of orders, which would negatively affect our revenue and operating results.

Our operating results could be adversely affected by fluctuations in the value of the U.S. dollar against foreign currencies.

We transact business predominantly in U.S. dollars, and we invoice and collect our sales in U.S. dollars. A weakening of the U.S. dollar could cause our overseas vendors to require renegotiation of either the prices or currency we pay for their goods and services. In the future, customers may negotiate pricing and make payments in non-U.S. currencies. For fiscal 2018, approximately 10% of our costs were denominated in non-U.S. currencies, including Armenian dram, Canadian dollars, European Union euro, Hong Kong dollars, Indian rupee, New Taiwan dollars, Japanese yen, Korean won, Chinese yuan, and Swiss francs.

If our overseas vendors or customers require us to transact business in non-U.S. currencies, fluctuations in foreign currency exchange rates could affect our cost of goods, operating expenses, and operating margins, and could result in exchange losses. In addition, currency devaluation could result in a loss to us if we hold deposits of that currency. Hedging foreign currencies can be difficult, especially if the currency is not freely traded. We cannot predict the impact of future exchange rate fluctuations on our operating results.

If we fail to manage our growth effectively, our infrastructure, management, and resources could be strained, our ability to effectively manage our business could be diminished, and our operating results could suffer.

The failure to manage our planned growth effectively could strain our resources, which would impede our ability to increase revenue. We have increased the number of our human interface solutions and plan to further expand the number and diversity of our solutions and their use in the future. Our ability to manage our planned diversification and growth effectively will require us to:

- successfully hire, train, retain, and motivate additional employees, including employees outside the United States;
- efficiently plan, expand or cost-effectively reduce our facilities to meet headcount requirements;
- enhance our global operational, financial, and management infrastructure; and
- expand our development and production capacity.

In connection with the expansion and diversification of our product and customer base, we may increase our personnel and make other expenditures to meet demand for our expanding product offerings, including offerings in the mobile product applications market, the notebook computer market, and the IoT market. Any increase in expenses or investments in infrastructure and facilities in anticipation of future orders that do not materialize would adversely affect our profitability. Our customers also may require rapid increases in design and production services that place an excessive short-term burden on our resources and the resources of our contract manufacturers. An inability to quickly expand our development, design or production capacity or an inability of our third-party manufacturers to quickly expand development, design or production capacity to meet this customer demand could result in a decrease to our revenue or operating results. If we cannot manage our growth effectively, our business and operating results could suffer.

We depend on key personnel who would be difficult to replace, and our business will likely be harmed if we lose their services or cannot hire additional qualified personnel.

Our success depends substantially on the efforts and abilities of our senior management and other key personnel. The competition for qualified management and key personnel, especially engineers, is intense. Although we maintain noncompetition and nondisclosure covenants with most of our key personnel, and our key executives have change of control severance agreements, we do not have employment agreements with many of them. The loss of services of one or more of our key employees or the inability to hire, train, and retain key personnel, especially engineers and technical support personnel, and capable sales and customer-support employees outside the United States, could delay the development and sale of our products, disrupt our business, and interfere with our ability to execute our business plan.

If we are unable to obtain stockholder approval of additional shares for our share-based compensation award programs, we could be at a competitive disadvantage in the marketplace for qualified personnel or may be required to increase the cash element of our compensation program.

Competition for qualified personnel in our industry is extremely intense, particularly for engineering and other technical personnel. Our compensation program, which includes cash and share-based compensation award components, has been instrumental in attracting, hiring, motivating, and retaining qualified personnel. Our success depends on our continued ability to use our share-based compensation programs to effectively compete for engineering and other technical personnel and professional talent without significantly increasing cash compensation costs. In the future, if we are unable to obtain stockholder approval of additional shares for our share-based compensation award programs, we could be at a competitive disadvantage in the marketplace for qualified personnel or we may be required to increase the cash elements of our compensation program to account for this disadvantage.

Our ability to compete successfully and continue growing as a company depends on our ability to adequately protect our proprietary technology and confidential information.

We protect our proprietary technology and confidential information through the use of patents, trade secrets, trademarks, confidentiality agreements and other contractual provisions. The process of seeking patent protection is lengthy and expensive. Further, there can be no assurance that even if a patent is issued, that it will not be challenged, invalidated or circumvented, or that the rights granted under the patents will provide us with meaningful protection or any commercial advantage.

We have not applied for, and do not have, any copyright registration on our technologies or products. We have applied to register certain of our trademarks in the United States and other countries. There can be no assurance that we will obtain registrations of principal or other trademarks in key markets. Failure to obtain registrations could compromise our ability to fully protect our trademarks and brands, and could increase the risk of challenge from third parties to our use of our trademarks and brands. Effective intellectual property protection may be unavailable or limited in some foreign countries in which we operate. In particular, the validity, enforceability and scope of protection of intellectual property in China, where we derive a significant portion of our net sales, and certain other countries where we derive net sales, are still evolving and historically, have not protected and may not protect in the future, intellectual property rights to the same extent as laws developed in the United States.

We do not consistently rely on written agreements with our customers, suppliers, manufacturers, and other recipients of our technologies and products and therefore, some trade secret protection may be lost and our ability to enforce our intellectual property rights may be limited. Confidentiality and non-disclosure agreements which are in place may not be adequate to protect our proprietary technologies or may be breached by other parties. Additionally, our customers, suppliers, manufacturers, and other recipients of our technologies and products may seek to use our technologies and products without appropriate limitations. In the past, we did not consistently require our employees and consultants to enter into confidentiality, employment, or proprietary information and invention assignment agreements. Therefore, our former employees and consultants may try to claim some ownership interest in our technologies and products, or may use our technologies and products competitively and without appropriate limitations. Unauthorized parties may attempt to copy or otherwise use aspects of our technologies and products that we regard as proprietary. Other companies, including our competitors, may independently develop technologies that are similar or superior to our technologies, duplicate our technologies, or design around our patents. If our intellectual property protection is insufficient to protect our intellectual property rights, we could face increased competition in the markets for our technologies and products.

We may pursue, and from time to time defend litigation to enforce our intellectual property rights, to protect our trade secrets, and to determine the validity and scope of the proprietary rights of others. These litigations, whether successful or unsuccessful, could result in substantial costs and diversion of resources, which could have a material adverse effect on our business, financial condition, and operating results.

Any claims that our technologies infringe the intellectual property rights of third parties could result in significant costs and have a material adverse effect on our business.

We cannot be certain that our technologies and products do not and will not infringe issued patents or other third party proprietary rights. Any claims, with or without merit, could result in significant litigation costs and diversion of resources, including the attention of management, and could require us to enter into royalty or licensing agreements, any of which could have a material adverse effect on our business. There can be no assurance that such licenses could be obtained on commercially reasonable terms, if at all, or that the terms of any offered licenses would be acceptable to us. We may also have to pay substantial damages to third parties, or indemnify customers or licensees for damages they suffer if the products they purchase from us or the technology they license from us violates any third party intellectual property rights. An adverse determination in a judicial or administrative proceeding, or a failure to obtain necessary licenses to use such third-party technology could prevent us from manufacturing, using, or selling certain of our products, and there is no guarantee that we will able to develop or acquire alternate non-infringing technology.

In addition, we license certain technology used in and for our products from third parties. These third-party licenses are granted with restrictions, and there can be no assurances that such third-party technology will remain available to us on commercially acceptable terms.

If third-party technology currently utilized in our products is no longer available to us on commercially acceptable terms, or if any third-party initiates litigation against us for alleged infringement of their proprietary rights, we may not be able to sell certain of our products and we could incur significant costs in defending against litigation or attempting to develop or acquire alternate non-infringing products, which would have an adverse effect on our operating results.

If we become subject to product returns or claims resulting from defects in our products, we may incur significant costs resulting in a decrease in revenue.

We develop complex products in an evolving marketplace and generally warrant our products for a period of 12 months from the date of delivery. Despite testing by us and our customers, defects may be found in existing or new products. Manufacturing errors or product defects could result in a delay in recognition or loss of revenue, loss of market share, or failure to achieve market acceptance. Additionally, defects could result in financial or other damages to our customers, causing us to incur significant warranty, support, and repair costs, and diverting the attention of our engineering personnel from key product development efforts.

Any acquisitions that we undertake could be difficult to integrate, disrupt our business, dilute stockholder value, and harm our operating results.

We expect to continue to pursue opportunities to acquire other businesses and technologies in order to complement our current human interface solutions, expand the breadth of our markets, enhance our technical capabilities, or otherwise create growth opportunities. We cannot accurately predict the timing, size, and success of any currently planned or future acquisitions. We may be unable to identify suitable acquisition candidates or to complete the acquisitions of candidates that we identify. Increased competition for acquisition candidates or increased asking prices by acquisition candidates may increase purchase prices for acquisitions to levels beyond our financial capability or to levels that would not result in the returns required by our acquisition criteria. Acquisitions may also become more difficult in the future as we or others acquire the most attractive candidates. Unforeseen expenses, difficulties, and delays frequently encountered in connection with rapid expansion through acquisitions could inhibit our growth and negatively impact our operating results. If we make any future acquisitions, we could issue stock that would dilute existing stockholders' percentage ownership, incur substantial debt, assume contingent liabilities, or experience higher operating expenses.

We may be unable to effectively complete an integration of the management, operations, facilities, and accounting and information systems of acquired businesses with our own; efficiently manage, combine or restructure the operations of the acquired businesses with our operations; achieve our operating, growth, and performance goals for acquired businesses; achieve additional revenue as a result of our expanded operations; or achieve operating efficiencies or otherwise realize cost savings as a result of anticipated acquisition synergies. The integration of acquired businesses involves numerous risks, including the following:

- the potential disruption of our core business;
- the potential strain on our financial and managerial controls, reporting systems and procedures;
- potential unknown liabilities associated with the acquired business;
- costs relating to liabilities which we agree to assume;
- unanticipated costs associated with the acquisition;
- diversion of management’s attention from our core business;
- problems assimilating the purchased operations, technologies, or products;
- risks associated with entering markets and businesses in which we have little or no prior experience;

- failure of acquired businesses to achieve expected results;
- adverse effects on existing business relationships with suppliers and customers;
- failure to retain key customers, suppliers, or personnel of acquired businesses;
- the risk of impairment charges related to potential write-downs of acquired assets; and
- the potential inability to create uniform standards, controls, procedures, policies, and information systems.

We cannot assure you that we would be successful in overcoming problems encountered in connection with any acquisitions, and our inability to do so could disrupt our operations, result in goodwill or intangible asset impairment charges, and adversely affect our business.

Potential strategic alliances may not achieve their objectives, and the failure to do so could impede our growth.

We have entered, and we anticipate that we will continue to enter, into strategic alliances. We continually explore strategic alliances designed to enhance or complement our technology or to work in conjunction with our technology; to provide necessary know-how, components, or supplies; and to develop, introduce, and distribute products utilizing our technology. Certain strategic alliances may not achieve their intended objectives, and parties to our strategic alliances may not perform as contemplated. The failure of these alliances to achieve their objectives may impede our ability to introduce new products and enter new markets.

We must finance the growth of our business and the development of new products, which could have an adverse effect on our operating results.

To remain competitive, we must continue to make significant investments in research and development, marketing, and business development. Our failure to sufficiently increase our net revenue to offset these increased costs would adversely affect our operating results.

From time to time, we may seek additional equity or debt financing to provide for funds required to expand our business, including through acquisitions. We cannot predict the timing or amount of any such requirements at this time. If such financing is not available on satisfactory terms, we may be unable to expand our business or to develop new business at the rate desired and our operating results may suffer. If obtained, the financing itself carries risks including the following: (i) debt financing increases expenses and must be repaid regardless of operating results; and (ii) equity financing, including the issuance of convertible notes or additional shares in connection with acquisitions, could result in dilution to existing stockholders and could adversely affect the price of our common stock.

Transactions relating to our Convertible Notes may dilute the ownership interest of our stockholders, or may otherwise depress the price of our common stock.

The conversion of some or all of our outstanding 0.50% Convertible Senior Notes due 2022 (the "Notes") would dilute the ownership interests of existing stockholders to the extent we deliver shares upon conversion of any such notes. If the Notes become convertible under the terms of the indenture, and if holders subsequently elect to convert their notes, we could be required to deliver to them a significant number of shares of our common stock. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the Notes may encourage short selling by market participants because the conversion of such notes could be used to satisfy short positions. Additionally, anticipated conversion of such notes into shares of our common stock could depress the price of our common stock. Please see Note 6 to the consolidated financial statements contained elsewhere in this report for more information about our Notes.

Our indebtedness could adversely affect our financial condition or operating flexibility and prevent us from fulfilling our obligations outstanding under our credit agreement, the Notes, and other indebtedness we may incur from time to time.

On June 26, 2017, we completed the offering of the Notes in the aggregate principal amount of $525.0 million, of which $220.0 million of the net proceeds therefrom were used to repay the amounts outstanding under our credit agreement (which we refer to herein, as amended and supplemented, as the “Credit Agreement”) with the lenders party thereto, or the Lenders, and Wells Fargo Bank, National Association, or the Administrative Agent, as administrative agent for the Lenders, with a corresponding reduction of revolver commitments under the Credit Agreement to $250.0 million, none of which was outstanding as of June 30, 2018. We are permitted under the indenture governing our Notes and the Credit Agreement to incur additional debt under certain conditions, including additional secured debt. If new debt were to be incurred in the future, the related risks that we now face could intensify.

Our level of indebtedness could have important consequences on our future operations, including:

- making it more difficult for us to satisfy our payment and other obligations under the Notes, the Credit Agreement or our other outstanding debt from time to time;
- risking an event of default if we fail to comply with the financial and other covenants contained in the Notes indenture or the Credit Agreement, which could result in the Notes or any outstanding bank debt becoming immediately due and payable and could permit the lenders under the Credit Agreement to foreclose on the assets securing such bank debt;
- subjecting us to the risk of increased sensitivity to interest rate increases on our debt with variable interest rates, including the debt that we may incur under the Credit Agreement;
- reducing the availability of our cash flows to fund working capital, capital expenditures, acquisitions and other general corporate purposes, and limiting our ability to obtain additional financing for these purposes;
- limiting our flexibility in planning for, or reacting to, and increasing our vulnerability to, changes in our business, the industry in which we operate and the general economy; and
- placing us at a competitive disadvantage compared to our competitors that have less debt or are less leveraged.

Our business may not generate sufficient cash flow from operations and future borrowings may not be available to us under the Credit Agreement, the indenture governing the Notes or otherwise in an amount sufficient to enable us to pay our debt or to fund our other liquidity needs.

The accounting method for convertible debt securities that may be settled in cash, such as the Notes, could have a material effect on our reported financial results.

In May 2008, the Financial Accounting Standards Board, or FASB, issued ASC 470-20, Debt with Conversion and Other Options. Under ASC 470-20, companies are required to separately account for the liability and equity components of convertible debt instruments that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. The equity component of our Notes is required to be included in the additional paid-in capital section of stockholders' equity on our consolidated balance sheet, and the value of the equity component is treated as an original issue discount for purposes of accounting for the debt component of the Notes. As a result, we are required to record a greater amount of non-cash interest expense in current periods presented as a result of the amortization of the discounted carrying value of the Notes to their face amount over the term of the Notes. ASC 470-20 requires interest to include both the current period's amortization of the debt discount and the instrument's coupon interest, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the Notes. In addition, under certain circumstances, the convertible debt instruments that may be settled entirely or partly in cash will be accounted for utilizing the treasury stock method beginning in the first quarter of fiscal 2018, the effect of which is that the shares issuable upon conversion of the Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Notes exceeds their principal amount. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the Notes, then our diluted earnings per share would be adversely affected.

The covenants in the Credit Agreement impose restrictions that may limit our operating and financial flexibility.

The Credit Agreement includes certain covenants that limit (subject to certain exceptions) our ability to, among other things: (i) incur or guarantee additional indebtedness; (ii) incur or suffer to exist liens securing indebtedness; (iii) make investments; (iv) consolidate, merge or transfer all or substantially all of our assets; (v) sell assets; (vi) pay dividends or other distributions on, redeem or repurchase capital stock; (vii) enter into transactions with affiliates; (viii) amend, modify, prepay or redeem subordinated indebtedness; (ix) enter into certain restrictive agreements; (x) engage in a new line of business; and (xi) enter into sale leaseback transactions. In addition, the Credit Agreement contains financial covenants that (i) restrict the amount of capital expenditures that may be made in any fiscal year, (ii) require the ratio of the amount of our consolidated total indebtedness to consolidated EBITDA to be less than certain maximum ratio levels, and (iii) require the ratio of the amount of our consolidated EBITDA to consolidated interest expense to be greater than a certain minimum ratio level.

If we violate these covenants and are unable to obtain waivers, our debt under the Credit Agreement would be in default and could be accelerated, and could permit, in the case of secured debt, the lenders to foreclose on our assets securing the Credit Agreement. If the indebtedness is accelerated, we may not be able to repay our debt or borrow sufficient funds to refinance it. Even if we are able to obtain new financing, it may not be on commercially reasonable terms or on terms that are acceptable to us. If our debt is in default for any reason, our cash flows, results of operations or financial condition could be materially and adversely affected. In addition, complying with these covenants may also cause us to take actions that may make it more difficult for us to successfully execute our business strategy and compete against companies that are not subject to such restrictions.

If we are unable to maintain effective internal control over our financial reporting, we may incur significant expenses to remediate internal control deficiencies, lose investor confidence and our share price may decline.

We are subject to rules adopted by the SEC, pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or SOX, which requires us to include in our quarterly and annual reports on Forms 10-Q and 10-K, our management’s report on, and assessment of the effectiveness of, our internal control over financial reporting. We have concluded that our internal control over financial reporting is effective, however, we need to maintain our existing processes and systems and incorporate and adapt such processes and systems as our business grows and changes, including in connection with planned acquisitions. This continuous process of maintaining and adapting our internal controls and complying with SOX is expensive, time-consuming and requires significant management attention. We cannot be certain that we will be able to maintain adequate and effective internal controls over our, and our acquired companies’ financial processes and reporting and ensure compliance with SOX and SEC rules. Further, as we grow our company, including through acquisitions, our internal controls may become more complex and may require significantly more resources to ensure they remain effective. Failure to comply with SOX and SEC rules, including a delay in or failure to successfully integrate new businesses into our internal control over financial reporting, a failure to implement required new or improved controls, or difficulties encountered in the implementation of such new or improved controls, could harm our operating results or cause us to not meet our reporting obligations. If we or our auditors identify material weaknesses in our internal controls, the disclosure of that fact, even if quickly remedied, may cause investors to lose confidence in our consolidated financial statements and the trading price of our common stock may decline. Remediation of a material weakness could require us to incur significant expense and expend significant management attention. Failure to remedy any material weakness could result in inaccurate financial statements, an inability for the company to report our financial results on a timely and accurate basis, a loss in investor confidence, decline in the trading price of our common stock, restriction on access to worldwide capital markets, and sanctions or investigation by regulatory authorities, including the SEC or the NASDAQ Global Select Market.

If tax laws change in the jurisdictions in which we do business or if we receive a material tax assessment in connection with an examination of our income tax returns, our consolidated financial position, results of operations and cash flows could be adversely affected.

We are subject to U.S. federal, state, and foreign income taxes in the various jurisdictions in which we do business. In addition, we are required to pay U.S. federal taxes on the operating earnings of certain of our foreign subsidiaries. Our future effective tax rates and the value of our deferred tax assets could be adversely affected by changes in tax laws in the U.S. or in the foreign jurisdictions in which we operate. In addition, we are subject to the examination of our income tax returns by the tax authorities in the jurisdictions in which we do business. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of highly complex tax laws. Our results have in the past, and could in the future, include favorable and unfavorable adjustments to our estimated tax liabilities in the period a determination of such estimated tax liability is made or resolved, upon the filing of an amended return, upon a change in facts, circumstances, or interpretation, or upon the expiration of a statute of limitation. While we believe we have adequately provided for reasonably foreseeable outcomes in connection with the resolution of income tax uncertainties, the resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our consolidated financial position, result of operations, or cash flows.

We may incur material environmental liabilities as a result of prior operations at an acquired company.

In connection with our acquisition in July 2017 of Conexant Systems, LLC, we agreed to assume certain environmental liabilities, including remediation of environmental impacts at a property formerly owned and operated by Conexant Systems, LLC (the “Conexant Site”) and for potential future claims alleging personal injury or property damage related to the environmental impacts at and about the Conexant Site. We continue to incur costs to investigate and remediate the Conexant Site’s environmental impacts, and we are at risk for future personal injury and property damage claims related to the Conexant Site. Various federal, state and local authorities regulate the release of hazardous substances into the environment and can impose substantial fines if our remediation efforts at or about the Conexant Site fail or are deemed inadequate. In addition, changes in laws, regulations and enforcement policies, the discovery of previously unknown contamination at the Conexant Site, the implementation of new technology at the Conexant Site, or the establishment or imposition of stricter federal, state, or local cleanup standards or requirements with respect to the Conexant Site could require us to incur additional costs in the future that would have a negative effect on our financial condition or results of operations.

We face risks associated with security breaches or cyber-attacks.

We face risks associated with security breaches or cyber-attacks of our computer systems or those of our third-party representatives, vendors, and service providers. Although we have implemented security procedures and controls to address these threats, our systems may still be vulnerable to data theft, computer viruses, programming errors, attacks by third parties, or similar disruptive problems. If our systems, or systems owned by third parties affiliated with our company, were breached or attacked, the proprietary and confidential information of our company and our customers could be disclosed and we may be required to incur substantial costs and liabilities, including the following: liability for stolen assets or information; costs of repairing damage to our systems; lost revenue and income resulting from any system downtime caused by such breach or attack; loss of competitive advantage if our proprietary information is obtained by competitors as a result of such breach or attack; increased costs of cyber security protection; costs of incentives we may be required to offer to our customers or business partners to retain their business; damage to our reputation; and expenses to rectify the consequences of the security breach or cyber-attack. In addition, any compromise of security from a security breach or cyber-attack could deter customers or business partners from entering into transactions that involve providing confidential information to us. As a result, any compromise to the security of our systems could have a material adverse effect on our business, reputation, financial condition, and operating results.

The accounting requirements for income taxes on certain of our share-based compensation awards may subject our future quarterly and annual effective tax rates to volatility.

We recognize a tax benefit upon expensing nonqualified stock options and deferred stock units, or DSUs, issued under our share-based compensation plans. However, under current accounting standards, we cannot recognize that tax benefit concurrent with expensing incentive stock options and employee stock purchase plan shares (qualified stock options) issued under our share-based compensation plans. For qualified stock options that vested after our adoption of the applicable accounting standards, we recognize the tax benefit only in the period when disqualifying dispositions of the underlying stock occur and, for qualified stock options that vested prior to our adoption of the applicable accounting standards, the tax benefit is recorded directly to additional paid-in capital. Accordingly, because we cannot recognize the tax benefit for share-based compensation expense associated with qualified stock options until the occurrence of future disqualifying dispositions of the underlying stock, such disqualified dispositions may happen in periods when our stock price substantially increases, and because a portion of that tax benefit may be directly recorded to additional paid-in capital, our future quarterly and annual effective tax rates may be subject to volatility.

Our charter documents and Delaware law could make it more difficult for a third party to acquire us, and discourage a takeover.

Our certificate of incorporation and the Delaware General Corporation Law contain provisions that may have the effect of making more difficult or delaying attempts by others to obtain control of our company, even when such attempts may be in the best interests of our stockholders. Our certificate of incorporation also authorizes our Board of Directors, without stockholder approval, to issue one or more series of preferred stock, which could have voting and conversion rights that adversely affect or dilute the voting power of the holders of our common stock. Delaware law also imposes conditions on certain business combination transactions with "interested stockholders." Our certificate of incorporation divides our Board of Directors into three classes, with one class to stand for election each year for a three-year term after the election. The classification of directors tends to discourage a third party from initiating a proxy solicitation or otherwise attempting to obtain control of our company and may maintain the incumbency of our Board of Directors, as this structure generally increases the difficulty of, or may delay, replacing a majority of directors. Our certificate of incorporation authorizes our Board of Directors to fill vacancies or newly created directorships. A majority of the directors then in office may elect a successor to fill any vacancies or newly created directorships, thereby increasing the difficulty of, or delaying a third party's efforts in, replacing a majority of directors.

The market price of our common stock has been and may continue to be volatile.

The trading price of our common stock has been and may continue to be subject to wide fluctuations in response to various factors, including the following:

- variations in our quarterly results;
- the financial guidance we may provide to the public, any changes in such guidance, or our failure to meet such guidance;
- changes in financial estimates by industry or securities analysts or our failure to meet such estimates;
- various market factors or perceived market factors, including rumors, whether or not correct, involving us, our customers, our suppliers, our competitors, or a potential acquisition of our company;
- announcements of technological innovations by us, our competitors, or our customers;
- introductions of new products or new pricing policies by us, our competitors, or our customers;
- acquisitions or strategic alliances by us, our competitors, or our customers;
- recruitment or departure of key personnel;
- the gain or loss of significant orders;
- the gain or loss of significant customers;
- market conditions in our industry, the industries of our customers, and the economy as a whole;
- short positions held by investors;
- new federal and state laws and regulations affecting our industry; and
- general financial market conditions or occurrences, including market volatility resulting from geopolitical risks, acts of war, terrorist attacks, cybersecurity attacks, financial market technological glitches and interruptions of trading activity.

In addition, stocks of technology companies have experienced extreme price and volume fluctuations that often have been unrelated or disproportionate to these companies' operating performance. Public announcements by technology companies concerning, among other things, their performance, accounting practices, or legal problems could cause the market price of our common stock to decline regardless of our actual operating performance.

ITEM 1B. UNRESOLVED STAFF COMMENTS
Not applicable.

ITEM 2. PROPERTIES
Our principal executive offices, as well as our principal research and development, sales, marketing, and administrative functions, are located in San Jose, California, where we own and utilize approximately 210,000 square feet of facilities. We also have research and development functions in leased offices in Texas and Georgia. Our two Asia/Pacific principal offices are located in leased offices in Hong Kong and Japan, where we have sales, operations, and research and development functions. We have leased facilities with logistics operations in Hong Kong and Japan, leased facilities with sales and support operations in China, Hong Kong, Japan, Korea, Switzerland and Taiwan, and leased facilities with engineering design support operations in Armenia, China, India, Japan, Korea, Switzerland, Taiwan and California, U.S.

ITEM 3. LEGAL PROCEEDINGS
We are party to various litigation matters and claims arising from time to time in the ordinary course of business. While the results of such matters cannot be predicted with certainty, we believe that the final outcome of such matters will not have a material adverse effect on our business, financial condition, results of operations or cash flows.

For further information regarding current legal proceedings, see Note 7 Commitments and Contingencies to the consolidated financial statements contained elsewhere in this report.

ITEM 4. MINE SAFETY DISCLOSURES
Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information on Common Stock

Our common stock has been listed on the NASDAQ Global Select Market (formerly the Nasdaq National Market) under the symbol "SYNA" since January 29, 2002. Prior to that time, there was no public market for our common stock. The following table sets forth, for the periods indicated, the high and low sales prices of our common stock as quoted on the NASDAQ Global Select Market.

	High	Low
Fiscal 2018:		
First quarter	$59.67	$36.77
Second quarter	$44.68	$33.73
Third quarter	$51.12	$38.29
Fourth quarter	$55.25	$41.05
Fiscal 2017:		
First quarter	$61.54	$47.09
Second quarter	$69.45	$48.87
Third quarter	$61.95	$47.32
Fourth quarter	$64.54	$47.00

Stockholders

As of August 10, 2018, there were approximately 135 holders of record of our common stock. The closing price of our common stock as quoted on the NASDAQ Global Select Market as of August 10, 2018 was $42.69.

Dividends

We have never declared or paid cash dividends on our common stock. We currently plan to retain all earnings to finance the growth of our business, make our debt payments, or purchase shares under our common stock repurchase program. Payments of any cash dividends in the future will depend on our financial condition, operating results, and capital requirements, as well as other factors deemed relevant by our Board of Directors.

Our Credit Agreement also places restrictions on the payment of any dividends. For a further description of the terms of the Credit Agreement, see Note 6 Debt to the consolidated financial statements contained elsewhere in this report.

Stock-Based Compensation

For information on securities authorized for issuance under our equity compensation plans, see Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Issuer Purchases of Equity Securities

From April 2005 through June 2018, our Board of Directors cumulatively authorized $1.3 billion for our common stock repurchase program, which expires in July 2019. There were no repurchases under the stock repurchase program during the three-month period ended June 30, 2018.

Performance Graph

The following line graph compares cumulative total stockholder returns for the five years ended June 30, 2018 for (i) our common stock, (ii) the Nasdaq Composite Index (iii) the Philadelphia Semiconductor Index and (iv) the S&P Semiconductor Select Industry Index. The graph assumes an investment of $100 on June 30, 2013. The calculations of cumulative stockholder return on the Nasdaq Composite Index, the Philadelphia Semiconductor Index, and the S&P Semiconductor Select Industry Index include reinvestment of dividends. The calculation of cumulative stockholder return on our common stock does not include reinvestment of dividends because we did not pay any dividends during the measurement period. The historical performance shown is not necessarily indicative of future performance.

The performance graph above shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section. The performance graph above will not be deemed incorporated by reference into any filing of our company under the Exchange Act or the Securities Act.

ITEM 6. SELECTED FINANCIAL DATA

The following table presents selected financial data for each fiscal year in the five-year period ended June 30, 2018. Our fiscal year is the 52- or 53-week period ending on the last Saturday in June. Fiscal 2018 was a 53-week period; all other fiscal years presented were 52-week periods. Our past results of operations are not necessarily indicative of our future results of operations. You should read the selected financial data below in conjunction with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes contained elsewhere in this report.

	2018	2017	2016	2015	2014
	(in millions, except per share amounts)				
Consolidated Statements of Operations Data:					
Net revenue	$1,630.3	$1,718.2	$1,666.9	$1,703.0	$947.5
Cost of revenue	1,150.2	1,194.6	1,085.4	1,124.3	511.4
Gross margin	480.1	523.6	581.5	578.7	436.1
Operating expenses:					
Research and development	363.2	292.3	311.2	293.2	192.7
Selling, general, and administrative	154.0	137.6	161.7	127.9	100.0
Acquired intangibles amortization	12.8	11.7	18.6	14.2	1.0
Impairment of acquired intangibles	—	—	6.7	—	—
Change in contingent consideration	—	—	(0.5)	(18.8)	69.9
Restructuring costs	12.0	7.3	8.6	—	—
Litigation settlement charge	—	10.0	—	—	—
Gain on sale of property and equipment	—	—	—	—	—
Total operating expenses	542.0	458.9	506.3	416.5	363.6
Operating income/(loss)	(61.9)	64.7	75.2	162.2	72.5
Interest income	2.3	0.7	3.1	1.6	2.0
Interest expense	(22.2)	(6.0)	(4.8)	(3.8)	—
Impairment recovery on investments, net	—	1.9	2.1	0.2	—
Income/(loss) before provision for income taxes and equity investment loss	(81.8)	61.3	75.6	160.2	74.5
Provision for income taxes	40.5	12.2	3.4	49.8	27.8
Equity investment loss	(1.8)	(0.3)	—	—	—
Net income/(loss)	$(124.1)	$48.8	$72.2	$110.4	$46.7
Net income/(loss) per share:					
Basic	$(3.63)	$1.40	$1.97	$2.99	$1.34
Diluted	$(3.63)	$1.37	$1.91	$2.84	$1.26
Shares used in computing net income/(loss) per share:					
Basic	34.2	34.8	36.6	36.9	34.8
Diluted	34.2	35.6	37.9	38.9	37.1
Consolidated Balance Sheets Data:					
Cash, cash equivalents, and short-term investments	$301.0	$367.8	$352.2	$399.9	$447.2
Working capital	455.7	481.6	429.3	469.3	488.1
Total assets	1,499.8	1,266.7	1,300.2	1,519.4	1,020.3

Long-term debt	—	202.0	216.7	231.1	—
Convertible notes, net	450.7	—	—	—	—
Treasury shares, at cost	1,073.9	980.3	892.3	651.7	530.4
Total stockholders' equity	729.3	740.2	705.0	793.1	701.2

Our basic net income/(loss) per share amounts for each period presented have been computed using the weighted average number of shares of common stock outstanding. Our diluted net income/(loss) per share amounts for each period presented include the weighted average effect of potentially dilutive shares. We used the "treasury stock" method to determine the dilutive effect of our stock options, Deferred Stock Units, or DSUs, Market Stock Units, or MSUs, and our Notes.

ITEM 7.MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Forward-Looking Statements and Factors That May Affect Results

You should read the following discussion and analysis in conjunction with our financial statements and related notes contained elsewhere in this report. This discussion contains forward-looking statements that involve risks, uncertainties, and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of a variety of factors, including those set forth elsewhere in this report and under Item 1A. Risk Factors.

Overview

We are a leading worldwide developer and supplier of custom-designed human interface semiconductor product solutions that enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment, and other electronic devices. We believe our results to date reflect the combination of our customer focus and the strength of our intellectual property and our engineering know-how, which allow us to develop or engineer products that meet the demanding design specifications of our OEMs.

We recognize revenue from product sales when there is persuasive evidence that an arrangement exists, delivery has occurred, and title has transferred, the price is fixed or determinable, and collection is reasonably assured. Our net revenue increased from $947.5 million for fiscal 2014 to $1,630.3 million for fiscal 2018, representing a compound annual growth rate of approximately 14.5%. For fiscal 2014, we derived 27.2% of our net revenue from the personal computer market and 72.8% of our net revenue from the mobile product applications market. For fiscal 2018, revenue from the personal computer market accounted for 15.8% of our net revenue, revenue from the mobile product applications market accounted for 62.6% of our net revenue, and revenue from the IoT product applications market accounted for 21.6% of our net revenue.

Many of our customers have manufacturing operations in China, and many of our OEM customers have established design centers in Asia. With our expanding global presence, including offices in Armenia, China, Denmark, Hong Kong, India, Japan, Korea, Switzerland, Taiwan, and the United States, we are well positioned to provide local sales, operational, and engineering support services to our existing customers, as well as potential new customers, on a global basis.

Our manufacturing operations are based on a variable cost model in which we outsource all of our production requirements and generally drop ship our products directly to our customers from our contract manufacturers' facilities, eliminating the need for significant capital expenditures and allowing us to minimize our investment in inventories. This approach requires us to work closely with our contract manufacturers and semiconductor fabricators to ensure adequate production capacity to meet our forecasted volume requirements. We provide our contract manufacturers with six-month rolling forecasts and issue purchase orders based on our anticipated requirements for the next 90 days. However, we do not have any long-term supply contracts with any of our contract manufacturers. We use third-party wafer manufacturers to supply wafers and third-party packaging manufacturers to package our proprietary ASICs. In certain cases, we rely on a single source or a limited number of suppliers to provide other key components of our products. Our cost of revenue includes all costs associated with the production of our products, including materials, logistics, amortization of intangibles related to acquired developed technology, backlog, and supplier arrangements, manufacturing, assembly, and test costs paid to third-party manufacturers, and related overhead costs associated with our indirect manufacturing operations personnel. Additionally, we charge all warranty costs, losses on inventory purchase obligations, and write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to net realizable value to cost of revenue.

Our gross margin generally reflects the combination of the added value we bring to our OEM customers' products by meeting their custom design requirements and the impact of our ongoing cost-improvement programs. These cost-improvement programs include reducing materials and component costs and implementing design and process improvements. Our newly introduced products may have lower margins than our more mature products, which have realized greater benefits associated with our ongoing cost-improvement programs. As a result, new product introductions may initially negatively impact our gross margin.

Our research and development expenses include costs for supplies and materials related to product development as well as the engineering costs incurred to design ASICs and human interface solutions for OEM customers prior to and after their commitment to incorporate those solutions into their products. We continue to commit to the technological and design innovation required to maintain our position in our existing markets, and to adapt our existing technologies or develop new technologies for new markets.

Selling, general, and administrative expenses include expenses related to sales, marketing, and administrative personnel; internal sales and outside sales representatives' commissions; market and usability research; outside legal, accounting, and consulting costs; and other marketing and sales activities.

Acquired intangibles amortization is the amortization of the cost of our acquired intangible assets related to customer relationships and tradenames which are amortized over their estimated useful lives ranging from 3 to 7 years.

Impairment of acquired intangibles represents the reduction of the carrying value of intangibles which have been determined unrecoverable.

Restructuring costs primarily reflect severance and facilities consolidation costs related to restructuring of our operations to reduce operating costs. These headcount- and facilities-related costs were in cost of revenue, research and development, and selling, general and administrative. See Note 13 Restructuring Activities to the consolidated financial statements contained elsewhere in this report.

The litigation settlement charge reflects costs recorded in connection with certain legal proceedings further discussed under Note 7 Commitments and Contingencies to the consolidated financial statements contained elsewhere in this report.

Equity investment loss includes amortization of intangible assets reflected under the equity method of accounting in connection with our investment in OXi Technology Ltd. (see Note 1 Organization and Summary of Significant Accounting Policies to the consolidated financial statements contained elsewhere in this report).

Acquisitions and Financing Activities

On June 11, 2017, we entered into a stock purchase agreement to acquire all of the outstanding limited liability company interests of Conexant Systems, LLC, (the “Conexant Acquisition”). The Conexant Acquisition is intended to increase our presence in the smart home market and increase opportunities to grow revenue. Effective July 25, 2017, or the Closing Date, we completed the Conexant Acquisition. The results of Conexant are included in our consolidated financial statements for the period from July 25, 2017 through June 30, 2018. For further discussion of the Conexant Acquisition, see Note 4 included in the consolidated financial statements contained elsewhere in this report.

On June 11, 2017, the Company entered into an asset purchase agreement to acquire the multimedia solutions business of Marvell (the “Marvell Business Acquisition”). The Marvell Business Acquisition is also intended to increase our presence in the smart home market and increase opportunities to grow revenue. Effective September 8, 2017, we completed the Marvell Business Acquisition. The results of Marvell are included in our consolidated financial statements for the period from September 8, 2017 through June 30, 2018. For further discussion of the Marvell Business Acquisition, see Note 4 included in the consolidated financial statements contained elsewhere in this report.

On June 20, 2017, we entered into a purchase agreement (the “Purchase Agreement”) with Wells Fargo Securities, LLC, as representative of the several initial purchasers named therein (collectively, the “Initial Purchasers”), pursuant to which we agreed to issue and sell, and the Initial Purchasers agreed to purchase, $500 million aggregate principal amount of the Company’s 0.50% Convertible Senior Notes due 2022 (the “Notes”) in a private placement transaction. Pursuant to the Purchase Agreement, we also granted the Initial Purchasers a 30-day option to purchase up to an additional $25 million aggregate principal amount of Notes, which was exercised in full on June 21, 2017. The net proceeds from the Offering, after deducting discounts and commissions and estimated offering expenses payable by the Company, were approximately $514.5 million, which includes proceeds from the exercise of the Initial Purchasers’ option to purchase additional Notes. The Offering was completed on June 26, 2017. See Note 6 Debt to the consolidated financial statements contained elsewhere in this report.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, allowance for doubtful accounts, cost of revenue, inventories, product warranty, share-based compensation costs, provision for income taxes, deferred income tax asset valuation allowances, uncertain tax positions, tax contingencies, goodwill, intangible assets, investments, and contingencies. We base our estimates on historical experience, applicable laws and regulations, and various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The methods, estimates, interpretations, and judgments we use in applying our most critical accounting policies can have a significant impact on the results that we report in our consolidated financial statements. The SEC considers an entity's most critical accounting policies to be those policies that are both most important to the portrayal of the entity's financial condition and results of operations and those that require the entity's most difficult, subjective, or complex judgments, often as a result of the need to make assumptions and estimates about matters that are inherently uncertain. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

We recognize revenue from product sales when there is persuasive evidence that an arrangement exists, delivery has occurred, and title has transferred, the price is fixed or determinable, and collection is reasonably assured. We accrue for estimated sales returns, incentives, and other allowances at the time we recognize revenue. Our products contain embedded firmware and software, which together with, or consisting of, our ASIC chip, deliver the essential functionality of our products and, as such, software revenue recognition guidance is not applicable. The majority of our sales to distributors are made under agreements that generally do not provide for price adjustments after purchase and provide for only limited return rights under product warranty. Revenue on these sales is recognized in the same manner as sales to our non-distributor customers. Some of our sales are to distributors which have limited stock rotation rights, which allow them to rotate a small portion of product in their inventory a maximum of two times per year. We recognize revenue to these distributors upon shipment of product to the distributor, as the stock rotation rights are limited and we can reasonably estimate expected product returns when right of return exists. When sales rebates, price allowances and stock rotations are applicable, they are estimated and recorded in the period the related revenue is recognized.

Inventory

We state our inventories at the lower of cost or net realizable value. We base our assessment of the ultimate realization of inventories on our projections of future demand and market conditions. Sudden declines in demand, rapid product improvements, or technological changes, or any combination of these factors can cause us to have excess or obsolete inventories. On an ongoing basis, we review for estimated obsolete or unmarketable inventories and write down our inventories to their net realizable value based on our forecasts of future demand and market conditions. If actual market conditions are less favorable than our forecasts, additional inventory write-downs may be required. The following factors influence our estimates: changes to or cancellations of customer orders, unexpected decline in demand, rapid product improvements and technological advances, and termination or changes by our OEM customers of any product offerings incorporating our product solutions.

Periodically, we purchase inventory from our contract manufacturers when a customer delays its delivery schedule or cancels its order. In those circumstances, we record a write-down, if necessary, to reduce the carrying value of the inventory purchased to its net realizable value. The effect of these write-downs is to establish a new cost basis in the related inventory, which we do not subsequently write up. We also record a liability and charge to cost of revenue for estimated losses on inventory we are obligated to purchase from our contract manufacturers when such losses become probable from customer delays, order cancellations, or other factors.

Business Combinations

We have applied significant estimates and judgments in order to determine the fair value of the identified assets acquired, liabilities assumed, goodwill recognized, and contingent consideration recorded in connection with our business combinations to ensure the value of the assets and liabilities acquired are recognized at fair value as of the acquisition date. In measuring the fair value, we utilize valuation techniques consistent with the market approach, income approach, or cost approach.

The valuation of the identifiable assets and liabilities includes assumptions made in performing the valuation, such as projected revenue, weighted average cost of capital, discount rates, estimated useful lives, estimated probabilities of achieving contingent payment milestones, and other relevant assessments. These assessments can be significantly affected by our estimates, judgments, and assumptions. If actual results are not consistent with our estimates, judgments, or assumptions, or if additional or new information arises in the future that affects our fair value estimates, then adjustments to our initial fair value estimates may have a material impact to our purchase accounting or our results of operations.

Results of Operations

As a result of our recent acquisitions, we are presenting a new revenue line for revenue derived from the IoT market. Certain reclassifications have been made to the prior period revenue presentation to conform to the current period revenue presentation. The following sets forth certain of our consolidated statements of income data for fiscal 2018, 2017, and 2016, along with comparative information regarding the absolute and percentage changes in these amounts (in millions, except percentages):

	2018 (1)	2017	$ Change	% Change	2017	2016	$ Change	% Change
Mobile product applications	$1,021.0	$1,406.0	$(385.0)	(27.4 %)	$1,406.0	$1,398.2	$7.8	0.6 %
PC product applications	257.8	229.2	28.6	12.5 %	229.2	207.4	21.8	10.5 %
IoT product applications	351.5	83.0	268.5	323.5 %	83.0	61.3	21.7	35.4 %
Net revenue	1,630.3	1,718.2	(87.9)	(5.1 %)	1,718.2	1,666.9	51.3	3.1 %
Gross margin	480.1	523.6	(43.5)	(8.3 %)	523.6	581.5	(57.9)	(10.0 %)
Operating expenses:								
Research and development	363.2	292.3	70.9	24.3 %	292.3	311.2	(18.9)	(6.1 %)
Selling, general, and administrative	154.0	137.6	16.4	11.9 %	137.6	161.7	(24.1)	(14.9 %)
Acquired intangibles amortization	12.8	11.7	1.1	9.4 %	11.7	18.6	(6.9)	(37.1 %)
Impairment of acquired intangibles	—	—	—	0.0 %	—	6.7	(6.7)	(100.0 %)
Change in contingent consideration	—	—	—	0.0 %	—	(0.5)	0.5	(100.0 %)
Restructuring costs	12.0	7.3	4.7	64.4 %	7.3	8.6	(1.3)	(15.1 %)
Litigation settlement charge	—	10.0	(10.0)	(100.0 %)	10.0	—	—	0.0 %
Operating income/(loss)	(61.9)	64.7	(126.6)	(195.7 %)	64.7	75.2	(10.5)	(14.0 %)
Interest and other income, net	2.3	2.6	(0.3)	(11.5 %)	2.6	5.2	(2.6)	(50.0 %)
Interest expense	(22.2)	(6.0)	(16.2)	270.0 %	(6.0)	(4.8)	(1.2)	25.0 %
Income/(loss) before provision for income taxes	(81.8)	61.3	(143.1)	(233.4 %)	61.3	75.6	(14.3)	(18.9 %)
Provision for income taxes	40.5	12.2	28.3	232.0 %	12.2	3.4	8.8	258.8 %
Equity investment loss	(1.8)	(0.3)	(1.5)	500.0 %	(0.3)	—	—	0.0 %
Net income/(loss)	$(124.1)	$48.8	$(172.9)	(354.3 %)	$48.8	$72.2	$(23.4)	(32.4 %)

(1) Includes the post-acquisition results of operations from Conexant, acquired on July 25, 2017, and the multimedia solutions business of Marvell, acquired on September 8, 2017 (see Note 4 Acquisitions to the consolidated financial statements contained elsewhere in this report).

The following sets forth certain of our consolidated statements of operations data as a percentage of net revenues for fiscal 2018, 2017, and 2016:

	2018 (1)	2017	Percentage Point Increase (Decrease)	2017	2016	Percentage Point Increase (Decrease)
Mobile product applications	62.6 %	81.9 %	(19.3 %)	81.9 %	83.9 %	(2.0 %)
PC product applications	15.8 %	13.3 %	2.5 %	13.3 %	12.4 %	0.9 %
IoT product applications	21.6 %	4.8 %	16.8 %	4.8 %	3.7 %	1.1 %
Net revenue	100.0 %	100.0 %		100.0 %	100.0 %	
Gross margin	29.4 %	30.5 %	(1.1 %)	30.5 %	34.9 %	(4.4 %)
Operating expenses:						
Research and development	22.3 %	17.0 %	5.3 %	17.0 %	18.7 %	(1.7 %)
Selling, general, and administrative	9.4 %	8.0 %	1.4 %	8.0 %	9.7 %	(1.7 %)
Acquired intangibles amortization	0.8 %	0.7 %	0.1 %	0.7 %	1.1 %	(0.4 %)
Impairment of acquired intangibles	0.0 %	0.0 %	0.0 %	0.0 %	0.4 %	(0.4 %)
Change in contingent consideration	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Restructuring costs	0.7 %	0.4 %	0.3 %	0.4 %	0.5 %	(0.1 %)
Litigation settlement charge	0.0 %	0.6 %	(0.6 %)	0.6 %	0.0 %	0.6 %
Operating income/(loss)	(3.8 %)	3.8 %	(7.6 %)	3.8 %	4.5 %	(0.7 %)
Interest and other income, net	0.1 %	0.2 %	(0.1 %)	0.2 %	0.3 %	(0.1 %)
Interest expense	(1.4 %)	(0.3 %)	(1.1 %)	(0.3 %)	(0.3 %)	0.0 %
Income/(loss) before provision for income taxes	(5.0 %)	3.6 %	(8.6 %)	3.6 %	4.5 %	(0.9 %)
Provision for income taxes	2.5 %	0.7 %	1.8 %	0.7 %	0.2 %	0.5 %
Equity investment loss	(0.1 %)	0.0 %	(0.1 %)	0.0 %	0.0 %	0.0 %
Net income/(loss)	(7.6 %)	2.8 %	(10.4 %)	2.8 %	4.3 %	(1.5 %)

(1) Includes the post-acquisition results of operations from Conexant, acquired on July 25, 2017, and the multimedia solutions business of Marvell, acquired on September 8, 2017 (see Note 4 Acquisitions to the consolidated financial statements contained elsewhere in this report).

Fiscal 2018 Compared with Fiscal 2017

Net Revenue.

Net revenue was $1,630.3 million for fiscal 2018 compared with $1,718.2 million for fiscal 2017, a decrease of $87.9 million, or 5.1%. Of our fiscal 2018 net revenue, $1,021.0 million, or 62.6%, of net revenue was from the mobile product applications market, $257.8 million, or 15.8%, of net revenue was from the PC product applications market, and $351.5, or 21.6%, of net revenue was from the IoT product applications market. The overall decrease in net revenue for fiscal 2018 was attributable to a $385.0 million, or 27.4%, decrease in net revenue from mobile product applications; partially offset by an increase of $268.5 million, or 323.5% increase, in net revenue from IoT product applications, and an increase of $28.6 million, or 12.5%, in net revenue from PC product applications. The decrease in mobile product applications was driven by a decrease in the units sold (34.4% less units), partially offset by an increase in average selling prices (which increased 10.6%). The increase in net revenue from IoT product applications was primarily driven by the Conexant Acquisition and the Marvell Business Acquisition. The increase in net revenue from PC product applications was driven by an increase in the units sold (3.8% more units), partially offset by a decrease in average selling prices (which decreased 19.0%).

Gross Margin.

Gross margin as a percentage of net revenue was 29.4%, or $480.1 million, for fiscal 2018 compared with 30.5%, or $523.6 million, for fiscal 2017. The 110 basis point decline in gross margin was primarily due to $38.6 million of inventory fair value adjustments associated with the Conexant Acquisition and the Marvell Business Acquisition, as well as a $23.6 million increase in acquired intangibles amortization that were charged to cost of revenue during the year, partially offset by a favorable mix due primarily to IoT business products which have higher gross margins.

We continuously introduce new product solutions, many of which have life cycles of less than one year. Further, because we sell our technology solutions in designs that are generally unique or specific to an OEM customer's application, gross margin varies on a product-by-product basis, making our cumulative gross margin a blend of our product specific designs. As a virtual manufacturer, our gross margin percentage is generally not materially impacted by our shipment volume. We charge losses on inventory purchase obligations and write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to net realizable value (including warranty costs) to cost of revenue.

Operating Expenses.

Research and Development Expenses. Research and development expenses increased $70.9 million, to $363.2 million, for fiscal 2018 compared with fiscal 2017. The increase in research and development expenses primarily reflected (i) a $53.8 million increase in employee compensation and employment-related costs, resulting from a 31.2% increase in research and development headcount due to our recent acquisitions; (ii) a $10.4 million increase in software licensing and intellectual property costs; (iii) an $8.3 million increase in infrastructure costs related to facilities; (iv) a $2.9 million increase in non-employee services; (v) a $2.5 million increase in travel related costs; (vi) partially offset by a $7.6 million decrease in supplies and project related costs.

Selling, General, and Administrative Expenses. Selling, general, and administrative expenses increased $16.4 million, to $154.0 million, for fiscal 2018 compared with fiscal 2017. The increase in selling, general, and administrative expenses primarily reflected (i) a $17.8 million increase in employee compensation and employment-related costs, resulting from a 2.4% increase in selling, general, and administrative headcount which included an increase in headcount due to our recent acquisitions; and (ii) a $2.5 million increase in non-employee services; (iii) partially offset by a $5.3 million reduction in infrastructure costs related to facilities.

Acquired Intangibles Amortization. Acquired intangibles amortization reflects the amortization of intangibles acquired through recent acquisitions. See Note 5 Acquired Intangibles to the consolidated financial statements contained elsewhere in this report.

Impairment of Acquired Intangibles. Impairment of acquired intangibles represents the reduction of the carrying value of intangible assets which have been determined unrecoverable.

Restructuring costs. Restructuring costs primarily reflect employee severance costs and facilities consolidation costs related to the restructuring of operations to reduce operating costs. These headcount-related costs included personnel in operations, research and development, and selling, general and administrative functions. Restructuring costs incurred in fiscal 2018 and fiscal 2017 were $12.0 million and $7.3 million, respectively, due to restructuring plans implemented in fiscal 2018 and 2016. The fiscal 2016 restructuring activities were completed in fiscal 2017 and the fiscal 2018 restructuring activities were completed in fiscal 2018. See Note 13 Restructuring Activities to the consolidated financial statements contained elsewhere in this report.

Litigation settlement charge. We accrued a litigation settlement charge during fiscal 2017 in connection with certain legal proceedings disclosed under Note 7 Commitments and Contingencies to the consolidated financial statements contained elsewhere in this report.

Non-Operating Income.

Interest and other income, net. Interest and other income, net was $2.3 million for fiscal 2018 compared with $2.6 million for fiscal 2017.

Interest expense. Interest expense in fiscal 2018 was $22.2 million and represents interest and amortization of debt issuance costs and discount on the $525.0 million convertible debt issued on June 26, 2017. Interest expense in fiscal 2017 was $6.0 million and represents interest on the $250.0 million in term loan and line-of-credit debt which was paid off in conjunction with the issuance of the convertible debt in fiscal 2018. See Note 6 Debt to the consolidated financial statements contained elsewhere in this report.

Provision for Income Taxes.

As a result of the decrease in the U.S. tax rate from the comprehensive tax legislation enacted in December 2017 by the United States government, commonly known as the Tax Cuts and Jobs Act, our U.S. statutory tax rate is lower than tax rates in many foreign jurisdictions in which we operate. This resulted in a significant increase on our effective tax rate relating to foreign tax rate differential for 2018. In addition, the effective tax for fiscal year 2018 was increased by the one-time transition tax. The foreign tax differential has had a significant downward impact on the reconciliation of our provision of the U.S. Federal statutory rate to the actual provision for taxes for each fiscal year in the two-year period ended with fiscal 2017. See Note 11 Income Taxes to the consolidated financial statements for the table reconciling the provision for income taxes from the federal statutory rate for fiscal 2018 and 2017.

It is reasonably possible that the amount of liability for unrecognized tax benefits may change within the next 12 months; an estimate of the range of possible changes could result in a decrease of $1.9 million to an increase of $3.2 million.

In July 2018, the U.S. Ninth Circuit Court of Appeals reversed the 2015 decision of the U.S. Tax Court in Altera Corp. v. Commissioner that found that the Treasury regulations addressing the treatment of stock-based compensation in a cost-sharing arrangement with a related party were invalid. In August 2018, the U.S. Ninth Circuit Court of Appeals withdrew its July 2018 opinion to allow time for the reconstituted panel to confer on this appeal. As our tax filing position is consistent with the treasury regulations, we determined no adjustment to our financial statements is required, however, due to the uncertainties with respect to the ultimate resolution, we will continue to monitor developments in this case.

Fiscal 2017 Compared with Fiscal 2016

Net Revenue.

Net revenue was $1,718.2 million for fiscal 2017 compared with $1,666.9 million for fiscal 2016, an increase of $51.3 million, or 3.1%. Of our fiscal 2017 net revenue, $1,406.0 million, or 81.9%, of net revenue was from the mobile product applications market, $229.2 million, or 13.3%, of net revenue was from the PC product applications market, and $83.0 million, or 4.8%, was from the IoT product applications market. The overall increase in net revenue for fiscal 2017 was attributable to an increase of $21.8 million, or 10.5%, in net revenue from PC product applications, a $21.7 million, or 35.4% increase in net revenue from IoT product applications, and a $7.8 million, or 0.6% increase in net revenue from mobile product applications, despite a 16.5% decline in revenue from our discrete display products which are incorporated into smartphones. The increase in net revenue from PC product applications was driven by an increase in the units sold (7.0% more units) as well as an increase in average selling prices (which increased 3.3%). The increase in IoT product applications was driven by an increase in the units sold (45.7% more units), partially offset by a decrease in average selling prices (which decreased 7.1%). The increase in mobile product applications was driven by an increase in the units sold (11.4% more units), partially offset by a decrease in average selling prices (which decreased 10.2%).

Gross Margin.

Gross margin as a percentage of net revenue was 30.5%, or $523.6 million, for fiscal 2017 compared with 34.9%, or $581.5 million, for fiscal 2016. The 440 basis point decline in gross margin was primarily due to product mix, including the impact of lower margins on TDDI products and technical issues associated with new optical fingerprint solutions. Gross margin as a percentage of net revenue was negatively impacted by the lower margins on TDDI products and fingerprint products.

We continuously introduce new product solutions, many of which have life cycles of less than one year. Further, because we sell our technology solutions in designs that are generally unique or specific to an OEM customer's application, gross margin varies on a product-by-product basis, making our cumulative gross margin a blend of our product specific designs. As a virtual manufacturer, our gross margin percentage is generally not materially impacted by our shipment volume. We charge losses on inventory purchase obligations and write-downs to reduce the carrying value of obsolete, slow moving, and non-usable inventory to net realizable value (including warranty costs) to cost of revenue.

Operating Expenses.

Research and Development Expenses. Research and development expenses decreased $18.9 million, to $292.3 million, for fiscal 2017 compared with fiscal 2016. The decrease in research and development expenses primarily reflected (i) an $11.1 million decrease in employee compensation and employment-related costs, resulting from a 3% decrease in research and development headcount which included a reduction in headcount due to a restructuring of operations to reduce operating costs, (ii) a $6.3 million decrease in non-employee services, (iii) a $5.4 million decrease in infrastructure costs related to facilities, partially offset by a $6.2 million increase in supplies and project related costs.

Selling, General, and Administrative Expenses. Selling, general, and administrative expenses decreased $24.1 million, to $137.6 million, for fiscal 2017 compared with fiscal 2016. The decrease in selling, general, and administrative expenses primarily reflected (i) an $11.6 million decrease in employee compensation and employment-related costs, resulting from an 8% decrease in selling, general, and administrative headcount which included a reduction in headcount due to a restructuring of operations to reduce operating costs, (ii) a $7.0 million decrease in legal expenses, (iii) a $5.1 million reduction in foreign currency losses, partially offset by a $2.9 million increase in facilities related costs, and (iv) a $2.7 million accrual for payroll deposit penalties related to the timing of tax deposits for stock-based compensation.

Acquired Intangibles Amortization. Acquired intangibles amortization reflects the amortization of intangibles acquired through recent acquisitions. See Note 5 Acquired Intangibles to the consolidated financial statements contained elsewhere in this report.

Impairment of Acquired Intangibles. Impairment of acquired intangibles represents the reduction of the carrying value of intangible assets which have been determined unrecoverable.

Restructuring costs. Restructuring costs primarily reflect employee severance costs and facilities consolidation costs related to the restructuring of operations to reduce operating costs. These headcount-related costs included personnel in operations, research and development, and selling, general and administrative functions. Restructuring costs incurred in fiscal 2017 and fiscal 2016, respectively, were $7.3 million and $8.6 million due to restructuring plans implemented in fiscal 2016. The fiscal 2016 restructuring activities were completed in fiscal 2017. See Note 13 Restructuring Activities to the consolidated financial statements contained elsewhere in this report.

Litigation settlement charge. We accrued a litigation settlement charge during fiscal 2017 in connection with certain legal proceedings disclosed under Note 7 Commitments and Contingencies to the consolidated financial statements contained elsewhere in this report.

Non-Operating Income.

Interest and other income, net. Interest and other income, net was $2.6 million for fiscal 2017 compared with $5.2 million for fiscal 2016, resulting from an impairment recovery on investments upon redemption and a gain on legal settlement.

Interest expense. Interest expense represents interest on the $250.0 million in debt borrowed under a term loan and line-of-credit which were paid off in fiscal 2018. See Note 6 Debt to the consolidated financial statements contained elsewhere in this report.

Provision for Income Taxes.

Our effective tax rate is largely attributable to the tax rates in the foreign jurisdictions in which our pre-tax profit is recognized for income tax purposes. The foreign tax differential has had a significant downward impact on the reconciliation of our provision at the U.S. Federal statutory rate to the actual provision for taxes for each fiscal year in the three year period ended with fiscal 2017. While the impact of tax in foreign jurisdictions does have the most significant impact on our effective tax rate, the lower tax rate in fiscal 2016 was also driven by the permanent extension of the federal research tax credit and our ongoing tax planning. See Note 11 Income Taxes to the consolidated financial statements for the table reconciling the provision for income taxes from the federal statutory rate for fiscal 2017 and 2016.

Quarterly Results of Operations

The following table sets forth our unaudited quarterly results of operations for the eight quarters in the two-year period ended June 30, 2018. The following table should be read in conjunction with the financial statements and related notes contained elsewhere in this report. We have prepared this unaudited information on the same basis as our audited financial statements. This table includes all adjustments, which are of a normal and recurring nature that we consider necessary for a fair presentation of our financial position and results of operations for the quarters presented. Past results of operations are not necessarily indicative of future operating performance; accordingly, you should not draw any conclusions about our future results from the results of operations for any quarter presented.

	Three Months Ended							
(in millions, except per share amounts)	June	March	December	September	June	March	December	September
(unaudited)	2018	2018	2017	2017	2017	2017	2016	2016
Net revenue	$388.5	$394.0	$ 430.4	$ 417.4	$426.5	$444.2	$ 461.3	$ 386.2
Cost of revenue	260.9	271.1	315.2	303.0	299.7	309.5	322.6	262.8
Gross margin	127.6	122.9	115.2	114.4	126.8	134.7	138.7	123.4
Operating expenses:								
Research and development	90.2	93.7	92.2	87.1	73.8	71.6	73.5	73.4
Selling, general, and administrative	38.4	37.9	37.4	40.3	32.6	38.1	32.3	34.6
Acquired intangibles amortization	4.3	1.4	3.0	4.1	2.4	2.4	2.4	4.5
Impairment of acquired intangibles	—	—	—	—	—	—	—	—
Change in contingent consideration	—	—	—	—	—	—	—	—
Restructuring costs	3.4	2.2	6.6	(0.2)	—	0.3	1.7	5.3
Litigation settlement charge	—	—	—	—	—	10.0	—	—
Total operating expenses	136.3	135.2	139.2	131.3	108.8	122.4	109.9	117.8
Operating income/(loss)	(8.7)	(12.3)	(24.0)	(16.9)	18.0	12.3	28.8	5.6
Interest and other income, net	0.7	0.3	0.4	0.9	0.1	0.1	2.0	0.4
Interest expense	(5.2)	(5.0)	(5.1)	(6.9)	(1.7)	(1.6)	(1.4)	(1.3)
Income/(loss) before income taxes	(13.2)	(17.0)	(28.7)	(22.9)	16.4	10.8	29.4	4.7
Provision/(benefit) for income taxes	(12.1)	(3.9)	53.3	3.2	(1.7)	6.3	6.6	1.0
Equity investment loss	(0.4)	(0.6)	(0.4)	(0.4)	(0.3)	—	—	—
Net income/(loss)	$(1.5)	(13.7)	(82.4)	(26.5)	$17.8	4.5	22.8	3.7
Net income/(loss) per share:								
Basic	$(0.04)	$(0.40)	$ (2.42)	$ (0.79)	$0.52	$0.13	$ 0.65	$ 0.11
Diluted	$(0.04)	$(0.40)	$ (2.42)	$ (0.79)	$0.51	$0.13	$ 0.64	$ 0.10
Shares used in computing net income/(loss) per share:								
Basic	34.9	34.5	34.1	33.5	34.4	34.8	35.1	34.8
Diluted	34.9	34.5	34.1	33.5	35.2	35.4	35.9	35.6

Liquidity and Capital Resources

Our cash and cash equivalents were $301.0 million as of the end of fiscal 2018 compared with $367.8 million as of the end of fiscal 2017, a decrease of $66.8 million. This decrease primarily reflected cash flows used in investing and financing activities, primarily related to $396.7 million of cash used for the acquisition of businesses, $220.0 used for the payment of debt, $93.6 million used to repurchase shares of our common stock, $34.1 million used for the purchase of property and equipment, $7.7 million used for the purchase of intangible assets, partially offset by $514.5 net proceeds from issuance of convertible debt, $32.3 million proceeds from issuance of shares, and cash flows provided by operating activities of $145.0 million. We consider earnings of our foreign subsidiaries indefinitely invested overseas and have made no provision for income or withholding taxes, other than the one-time transition tax, that may result from a future repatriation of those earnings. As of June 30, 2018, $153.2 million of cash and cash equivalents was held by our foreign subsidiaries. If these funds are needed for our operations in the United States, we would be required to accrue and pay U.S. taxes to repatriate these funds.

Cash Flows from Operating Activities. For fiscal 2018, the $145.0 million in net cash provided by operating activities was primarily attributable to net loss of $124.1 million plus adjustments for non-cash charges, including acquired intangibles amortization of $83.9 million, share-based compensation costs of $71.3 million, and depreciation and amortization of $38.9 million, as well as other non-cash adjustments of $25.2 million, and a net change in operating assets and liabilities of $49.8 million. The net change in operating assets and liabilities related primarily to a $79.5 million decrease in inventories, an $18.8 million decrease in prepaid expenses, a $6.2 million increase in accounts payable, a $5.4 million increase in income taxes payable, partially offset by a $22.7 million increase in accounts receivable, a $22.1 million decrease in other accrued liabilities, an $8.1 million decrease in accrued compensation, and a $7.2 million increase in other assets. Our days sales outstanding increased from 54 days to 67 days from fiscal 2017 to fiscal 2018, due to a much smaller percentage of the quarter’s net revenue occurring late in the June 30, 2017 quarter compared with a much larger percentage of the quarter’s net revenue occurring late in the June 30, 2018 quarter. We do believe DSOs are at normalized levels which are typically between 60 to 70 days. Our inventory turns decreased to seven in fiscal 2018 from nine in 2017.

For fiscal 2017, the $152.9 million in net cash provided by operating activities was primarily attributable to net income of $48.8 million plus adjustments for non-cash charges, including share-based compensation costs of $61.8 million, acquired intangibles amortization of $59.3 million, and depreciation and amortization of $33.2 million, partially offset by other non-cash adjustments of $18.3 million, and a net change in operating assets and liabilities of $31.9 million. The net change in operating assets and liabilities related primarily to a $38.4 million decrease of accounts payable, a $16.8 million decrease in acquisition related liabilities, a $9.6 million increase in prepaid expenses and a $7.8 million decrease in accrued compensation, partially offset by a $19.5 million increase in other accrued liabilities, a $15.0 million decrease in inventories, and a $6.5 million decrease in other assets. Our days sales outstanding decreased from 70 days to 54 days from fiscal 2016 to fiscal 2017, due to a much smaller percentage of the quarter’s net revenue occurring late in the June 30, 2017 quarter compared with a much larger percentage of the quarter’s net revenue occurring late in the June 30, 2016 quarter. Despite the decrease in DSOs from June 30, 2016 to June 30, 2017, the Company’s accounts receivable, net increased from $252.6 million to $255.2 million over the same period. The 1.0% increase in accounts receivable, net is due to a significant 31.7% increase in net revenue from the three months ended June 30, 2017 to the three months ended June 30, 2016, partially offset by the fact the net revenue in the three months ended June 30, 2017 occurred more evenly through the quarter as compared to a larger percentage occurring later in the quarter in the three months ended June 30, 2016. Our inventory turns increased to nine in fiscal 2017 from six in 2016.

For fiscal 2016, the $256.6 million in net cash provided by operating activities was primarily attributable to net income of $72.2 million plus adjustments for non-cash charges, including acquired intangibles amortization of $73.0 million, share-based compensation costs of $56.8 million, and depreciation and amortization of $31.2 million, partially offset by other non-cash adjustments of $6.1 million, and a net change in operating assets and liabilities of $30.0 million. The net change in operating assets and liabilities related primarily to a $72.0 million decrease in accounts receivable and a $9.1 million increase in other accrued liabilities, partially offset by a $26.1 million decrease in income taxes payable, an $18.2 million decrease in acquisition related liabilities, and a $15.3 million decrease in accounts payable. Our days sales outstanding increased from 61 days to 70 days from fiscal 2015 to fiscal 2016. Our inventory turns decreased to six in fiscal 2016 from eight in 2015.

Cash Flows from Investing Activities. Net cash used in investing activities for fiscal 2018, 2017, and 2016 was $438.5 million, $42.3 million, and $26.6 million, respectively. Net cash used in investing activities for fiscal 2018 consisted of $396.7 million used for the acquisition of businesses, $34.1 million used for the purchase of capital assets and $7.7 million used to purchase intangible assets. Net cash used in investing activities for fiscal 2017 consisted of $31.4 million used for the purchase of capital assets and $18.4 million for an equity method investment, partially offset by $7.5 million in proceeds from sales of investments. Net cash used in investing activities for fiscal 2016 consisted of $28.6 million used for the purchase of capital assets and $4.6 million for the purchase of intangible assets, partially offset by $6.6 million in proceeds from sales of investments.

Cash Flows from Financing Activities. Net cash provided in financing activities for fiscal 2018 was $226.7 million and net cash used in financing activities for fiscal 2017 and 2016 was $94.1 million and $281.1 million, respectively. Our net cash provided by financing activities for fiscal 2018 was primarily attributable to $514.5 million of proceeds received for issuance of convertible debt, net, $32.3 million of proceeds from issuance of shares, partially offset by $220.0 million used for the payment of debt, $93.6 million used to repurchase shares of our common stock in the open market, and $5.4 million used for payroll taxes for DSUs. Our net cash used in financing activities for fiscal 2017 was primarily attributable to $88.0 million used to repurchase shares of our common stock in the open market, $18.8 million used for the payment of debt, $6.6 million used for payroll taxes for DSUs and MSUs, and $5.3 million used for the payment of acquisition related liabilities, partially offset by $24.7 million of proceeds from issuance of shares. Our net cash used in financing activities for fiscal 2016 was primarily attributable to $240.6 million used to repurchase shares of our common stock in the open market, $60.9 million used for the payment of acquisition related liabilities, $15.6 million used for payroll taxes for DSUs and MSUs, and $7.6 million used for the payment of debt, partially offset by $32.4 million of proceeds from issuance of shares and $11.5 million of excess tax benefit from share-based compensation.

Common Stock Repurchase Program. As of June 30, 2018, our Board of Directors has cumulatively authorized $1.3 billion for our common stock repurchase program, which will expire in July 2019. The program authorizes us to purchase our common stock in the open market or in privately negotiated transactions, depending upon market conditions and other factors. The number of shares purchased and the timing of purchases is based on the level of our cash balances, general business and market conditions, and other factors, including alternative investment opportunities. Common stock purchased under this program is held as treasury stock. From April 2005 through the end of fiscal 2018, we purchased 27,639,876 shares of our common stock in the open market for an aggregate cost of $1.1 billion. Treasury shares purchased prior to August 28, 2008 were not subject to the stock split on that date; if adjusted for the stock split, the average cost would be $33.37. As of June 30, 2018, we had $226.1 million remaining under our common stock repurchase program.

Convertible Debt. On June 20, 2017, we entered into a purchase agreement, or the Purchase Agreement, with Wells Fargo Securities, LLC, as representative of the initial purchasers named therein, or collectively, the Initial Purchasers, pursuant to which we agreed to issue and sell, and the Initial Purchasers agreed to purchase, $500 million aggregate principal amount of our 0.50% convertible senior notes due 2022, or the Notes, in a private placement transaction. Pursuant to the Purchase Agreement, we also granted the Initial Purchasers a 30-day option to purchase up to an additional $25 million aggregate principal amount of Notes, which was exercised in full on June 21, 2017. The net proceeds, after deducting the Initial Purchasers' discounts, were $514.5 million, which includes proceeds from the Initial Purchasers' exercise of their option to purchase additional Notes. We received the net proceeds on June 26, 2017, which we used to repurchase shares of our common stock, to retire our outstanding bank debt, and to provide additional cash resources to fund the Conexant and Marvell Business Acquisitions.

The Notes bear interest at a rate of 0.50% per year. Interest accrued from June 26, 2017 and is payable semi-annually in arrears, on June 15 and December 15 of each year, beginning on December 15, 2017. The Notes are senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any our liabilities that are not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries.

The Notes mature on June 15, 2022, or the Maturity Date, unless earlier repurchased, redeemed or converted.

Holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at their option at any time prior to the close of business on the business day immediately preceding March 15, 2022 under certain defined circumstances.

On or after March 15, 2022 until the close of business on the business day immediately preceding the Maturity Date, holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at the option of the holder. Upon conversion, we will pay or deliver, at our election, shares of common stock, cash, or a combination of cash and shares of common stock.

The conversion rate for the Notes is initially 13.6947 shares of common stock per $1,000 principal amount of Notes (equivalent to an initial conversion price of approximately $73.02 per share of common stock). The conversion rate is subject to adjustment in certain circumstances.

Upon the occurrence of a fundamental change (as defined in the Notes indenture), holders of the Notes may require us to repurchase for cash all or a portion of their Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest up to, but excluding, the fundamental change repurchase date.

We may not redeem the Notes prior to June 20, 2020. We may redeem for cash all or any portion of the Notes, at our option, on or after June 20, 2020, if the last reported sale price of our common stock, as determined by us, has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest up to, but excluding, the redemption date. Our policy is to settle the principal amount of our Notes with cash upon conversion or redemption.

Bank Credit Facility.

At the end of fiscal 2017, we had $220.0 million principal outstanding under our Credit Agreement consisting of $100.0 million under our revolving credit facility and $120.0 million under our term loan arrangement. At the beginning of fiscal 2018, we issued $525.0 million principal amount of convertible notes and utilized a portion of the proceeds from our Notes to retire the outstanding principal and interest balances on our revolving credit facility and our term loan arrangement. At the end of July 2017, we made an election to reduce the commitment under the revolving credit facility from $450.0 million to $250.0 million as we were able to complete the Conexant Acquisition with available cash.

In September 2017, we entered into an Amendment and Restatement Agreement, or the Agreement, with the lenders that are party thereto, or the Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders. The Agreement terminated our term loan arrangement and provides for a revolving credit facility in a principal amount of up to $200 million, which includes a $20 million sublimit for letters of credit and a $20 million sublimit for swingline loans. Under the terms of the Agreement, we may, subject to the satisfaction of certain conditions, request increases in the revolving credit facility commitments in an aggregate principal amount of up to $100 million to the extent existing or new lenders agree to provide such increased or additional commitments, as applicable. Proceeds under the revolving credit facility are available for working capital and general corporate purposes. As of March 31, 2018, there was no balance outstanding under the revolving credit facility. As a result of terminating our term loan arrangement, we expensed the remaining debt issuance costs attributable to the term loan of $1.0 million during the first quarter of fiscal 2018.

The revolving credit facility is required to be repaid in full on the earlier of (i) September 27, 2022, and (ii) the date 91 days prior to the Maturity Date of the Notes if the Notes have not been refinanced in full by such date. Debt issuance costs of $2.3 million will be amortized over 60 months.

Our obligations under the Agreement are guaranteed by the material domestic subsidiaries of our company, subject to certain exceptions (such material subsidiaries, together with our company, collectively, the Credit Parties). The obligations of the Credit Parties under the Agreement and the other loan documents delivered in connection therewith are secured by a first priority security interest in substantially all of the existing and future personal property of the Credit Parties, including, without limitation, 65% of the voting capital stock of certain of the Credit Parties' direct foreign subsidiaries, subject to certain exceptions.

The revolving credit facility bears interest at our election of a Base Rate plus an Applicable Margin or LIBOR plus an Applicable Margin. Swingline loans bear interest at a Base Rate plus an Applicable Margin. The Base Rate is a floating rate that is the greater of the Prime Rate, the Federal Funds Rate plus 50 basis points, or LIBOR plus 100 basis points. The Applicable Margin is based on a sliding scale which ranges from 0.25 to 100 basis points for Base Rate loans and 100 basis points to 175 basis points for LIBOR loans. We are required to pay a commitment fee on any unused commitments under the Agreement which is determined on a leverage-based sliding scale ranging from 0.175% to 0.25% per annum. Interest and fees are payable on a quarterly basis. As of June 30, 2018, there is no balance outstanding under the revolving credit facility.

Under the Agreement, there are various restrictive covenants, including three financial covenants which limit the consolidated total leverage ratio, or leverage ratio, the consolidated interest coverage ratio, or interest coverage ratio, a restriction which places a limit on the amount of capital expenditures that may be made in any fiscal year, a restriction that permits up to $50 million per fiscal quarter of accounts receivable financings, and sets the Specified Leverage Ratio. The leverage ratio is the ratio of debt as of the measurement date to earnings before interest, taxes, depreciation and amortization, or EBITDA, for the four consecutive quarters ending with the quarter of measurement. The current leverage ratio shall not exceed 3.50 to 1.00 provided that for the four fiscal quarters ending after the date of a material acquisition, such maximum leverage ratio shall be adjusted to 3.75 to 1.00, and thereafter, shall not be more than 3.50 to 1.00. The interest coverage ratio is EBITDA to interest expense for the four consecutive quarters ending with the quarter of measurement. The interest coverage ratio must not be less than 3.50 to 1.0 during the term of the Agreement. The Specified Leverage Ratio is the ratio used in determining, among other things, whether we are permitted to make dividends and/or prepay certain indebtedness, at a fixed ratio of 3.00 to 1.00.

$100 Million Shelf Registration. We have registered an aggregate of $100.0 million of common stock and preferred stock for issuance in connection with acquisitions, which shares generally will be freely tradeable after their issuance under Rule 145 of the Securities Act unless held by an affiliate of the acquired company, in which case such shares will be subject to the volume and manner of sale restrictions of Rule 144 of the Securities Act.

Liquidity and Capital Resources. We believe our existing cash and cash equivalents, anticipated cash flows from operating activities, available credit under the Credit Agreement and net proceeds from our Notes will be sufficient to meet our working capital and other cash requirements for at least the next 12 months, including the Conexant Acquisition, the Marvell Business Acquisition, our contingent consideration obligations associated with the acquisition of Validity, and our debt service obligations. Our future capital requirements will depend on many factors, including our revenue, the timing and extent of spending to support product development efforts, costs related to protecting our intellectual property, the expansion of sales and marketing activities, timing of introductions of new products and enhancements to existing products, the costs to ensure access to adequate manufacturing, the costs of maintaining sufficient space for our expanding workforce, the continuing market acceptance of our product solutions, our common stock repurchase program, and the amount and timing of our investments in, or acquisitions of, other technologies or companies. Further equity or debt financing may not be available to us on acceptable terms or at all. If sufficient funds are not available or are not available on acceptable terms, our ability to take advantage of business opportunities or to respond to competitive pressures could be limited or severely constrained.

Contractual Obligations and Commercial Commitments

The following table sets forth a summary of our material contractual obligations and commercial commitments as of the end of fiscal 2018 (in millions):

	Payments due by period			
Contractual Obligations	Total	Less than 1 year	1-3 Years	3-5 Years
Long-term debt (1)	$535.4	$2.6	$5.2	$527.6
Leases	12.0	6.0	5.2	0.8
Purchase obligations and other commitments (2)	56.3	45.7	10.6	—
Other obligations (3)	8.7	8.7	—	—
Total	$612.4	$63.0	$21.0	$528.4

(1) Represents the principal and interest payable through the maturity date of the underlying contractual obligation.
(2) Purchase obligations and other commitments include payments due for inventory purchase obligations with contract manufacturers, long-term software tool licenses, and other licenses.

(3) Represents payments retained in connection with the earn-out consideration related to the Validity acquisition.
In connection with the acquisition of Validity in November 2013, we entered into a contingent consideration arrangement. As of June 30, 2018, the balance represents amounts we have not paid and have retained, subject to the resolution of matters related to the Amkor Technology legal dispute (see Legal Proceedings under Note 7 Commitments and Contingencies to the consolidated financial statements contained elsewhere in this report). The earn-out period for this arrangement was complete as of March 31, 2016. We estimated the fair value of the final earn-out consideration liability as of June 30, 2018 to be $8.7 million.

The amounts in the table above exclude unrecognized tax benefits related to uncertain tax positions of $24.8 million. As of June 30, 2018, we were unable to make a reasonably reliable estimate of when cash settlement with a taxing authority may occur in connection with our gross unrecognized tax benefit.

The amounts in the table above exclude the provisional amount for our one-time transition tax liability for our foreign subsidiaries of $44.1 million. As of June 30, 2018, the amount recorded is a provisional amount and may change as we prepare our fiscal 2018 tax return.

Off-Balance Sheet Arrangements

We do not have any transactions, arrangements, or other relationships with unconsolidated entities that are reasonably likely to materially affect our financial condition, revenues or expenses, results of operations, liquidity, or capital resources. We have no special purpose or limited purpose entities that provide off-balance sheet financing, liquidity, or market or credit risk support; engage in leasing, hedging, or research and development services; or have other relationships that expose us to liability that is not reflected in our financial statements.

Recently Issued Accounting Pronouncements Not Yet Effective

In May 2014, the Financial Accounting Standards Board, or FASB, issued an accounting standard update, or ASU, on Revenue from Contracts with Customers. The ASU will supersede most of the existing revenue recognition guidance in U.S. GAAP when the new standard becomes effective and requires entities to recognize revenue when they transfer promised goods or services to customers in an amount that reflects the consideration which the entity expects to be entitled to in exchange for those goods or services. The ASU is effective for us in our fiscal year 2019, with early adoption permitted in the first quarter of fiscal 2018. We did not early adopt the new standard. The new standard permits the use of either the full retrospective or modified retrospective transition method and we plan to adopt the standard using the modified retrospective transition method. Based on our assessment of the ASU and our related customer contracts and current revenue recognition methodologies and processes, the new revenue standard is not expected to have a material impact on the amount and timing of revenue recognized in our consolidated financial statements. The new guidance will also require additional disclosures.

In February 2016, the FASB issued an ASU on Leases. This update requires organizations that lease assets with lease terms of more than 12 months to recognize assets and liabilities for the rights and obligations created by those leases on their balance sheets. It also requires new qualitative and quantitative disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. The new standard will be effective for us beginning in the first quarter of our fiscal year 2020, with early adoption permitted. We are evaluating the effects of adoption of this ASU on our consolidated financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign currency exchange risk

In the past, we have had relatively little exposure to foreign currency exchange risks and foreign exchange losses have been immaterial. However, with our acquisition of RSP, our foreign currency exchange risk profile changed during fiscal 2015 as a result of transitioning the RSP business from a primarily Japanese yen-based revenue and cost of goods model to a U.S. dollar-based revenue and cost of goods model, and incurring yen-denominated acquisition holdback liabilities to the sellers at the closing date of the RSP Acquisition.

Our total net revenue for fiscal 2018, 2017 and 2016 was denominated in U.S. dollars. Costs denominated in foreign currencies were approximately 10%, 9% and 10% of our total costs for fiscal 2018, 2017 and 2016, respectively.

We face the risk that our accounts payable and acquisition-related liabilities denominated in foreign currencies will increase if such foreign currencies strengthen quickly and significantly against the U.S. dollar. Approximately 4% and 5% of our accounts payable were denominated in foreign currencies at June 30, 2018 and 2017, respectively.

To provide an assessment of the foreign currency exchange risk associated with our foreign currency exposures within revenue, cost and operating expenses, we performed a sensitivity analysis to determine the impact that an adverse change in exchange rates would have on our financial statements. A hypothetical weighted-average change of 10% in currency exchange rates would have changed our operating loss before taxes by approximately $17.4 million for fiscal 2018, assuming no offsetting hedge positions.

Interest rate risk on Cash, Cash Equivalents

Our exposure to market risk for changes in interest rates relates primarily to our cash and cash equivalents. We do not use our investment portfolio for trading or other speculative purposes.

There have been no significant changes in the maturity dates and average interest rates for our cash equivalents subsequent to fiscal 2018.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Reference is made to the financial statements, the report of our independent registered public accounting firm, and the notes thereto commencing at page F-1 of this report, which financial statements, report, and notes are incorporated herein by reference. Reference is also made to the quarterly results of operations included elsewhere in this report, which are incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusions Regarding Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Based on this evaluation, our Chief Executive Officer and Chief Financial Officer, as of June 30, 2018, concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) are effective to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's 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) under the Exchange Act) for our Company. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in the Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2013 framework).

Our assessment of the internal controls excluded Conexant Systems, LLC, which was acquired on July 25, 2017. Conexant had net revenues of $116.5 million and total assets of $327.8 million, which are included in our consolidated statement of operations for the twelve months ended June 30, 2018. Conexant's net revenues represent approximately 7% of our net revenue for fiscal 2018 and its total assets represent approximately 22% of our total assets covered by this report. We are currently assessing the control environment of this acquired business. Under guidelines established by the SEC, companies are permitted to exclude acquisitions from their assessment of internal control over financial reporting during the first year of an acquisition while integrating the acquired company. During the integration period, management is developing additional controls to ensure the financial information provided by Conexant is complete and accurate in all material respects.

Based on our evaluation under the COSO 2013 framework, our management concluded that our internal control over financial reporting was effective, at the reasonable assurance level, as of June 30, 2018. The effectiveness of our internal control over financial reporting as of June 30, 2018 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report included herein on page F-2.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal controls over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, misstatements, errors, and instances of fraud, if any, within our company have been or will be prevented or detected. Further, internal controls may become inadequate as a result of changes in conditions, or through the deterioration of the degree of compliance with policies or procedures.

ITEM 9B. OTHER INFORMATION

There were no items requiring reporting on Form 8-K that were not reported on Form 8-K during the fourth quarter of the year covered by this Form 10-K.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item relating to directors of our company and corporate governance is incorporated herein by reference to the definitive Proxy Statement to be filed pursuant to Regulation 14A of the Exchange Act for our 2018 Annual Meeting of Stockholders. The information required by this Item relating to our executive officers is included in Item 1. Business – Executive Officers of the Registrant.

We have adopted a code of ethics that applies to our principal executive officer, principal financial officer, and other senior accounting personnel. The "Code of Ethics for the CEO and Senior Financial Officers" is located on our website at www.synaptics.com in the Investor Relations section under Corporate Governance.

We intend to satisfy the disclosure requirement under Item 5.05(c) of Form 8-K regarding any amendment to, or waiver from, a provision of this code of ethics by posting such information on our website, at the address and location specified above.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the caption "Executive Compensation") to be filed pursuant to Regulation 14A of the Exchange Act for our 2018 Annual Meeting of Stockholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the captions "Security Ownership of Principal Stockholders, Directors, and Officers" and "Executive Compensation—Stock-Based Compensation Plan Information") to be filed pursuant to Regulation 14A of the Exchange Act for our 2018 Annual Meeting of Stockholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the caption "Certain Relationships and Related Transactions") to be filed pursuant to Regulation 14A of the Exchange Act for our 2018 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated herein by reference to the definitive Proxy Statement (particularly under the caption "Ratification of Appointment of Independent Auditor") to be filed pursuant to Regulation 14A of the Exchange Act for our 2018 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES
(a) Financial Statements and Financial Statement Schedules
(1) Financial Statements are listed in the Index to Financial Statements on page F-1 of this report.
(b) Exhibits

Exhibit Number	Exhibit
2.1†#	Agreement and Plan of Reorganization by and among Synaptics Incorporated, Itsme Acquisition Corp., Itsme Acquisition II LLC, Validity Sensors, Inc., and Shareholder Representative Services LLC, dated as of October 9, 2013 (1)
2.2†#	Stock Purchase Agreement, dated June 11, 2014, by and among Renesas Electronics Corporation, Renesas SP Drivers, Inc., Renesas SP Drivers Taiwan, Inc., Sharp Corporation, Powerchip Technology Corp., Global Powertec Co. Ltd., Quantum Vision Corporation, the registrant and Synaptics Holding GmbH (2)
2.3#	Stock Purchase Agreement, dated June 11, 2017, by and among Synaptics Incorporated, Lakestar Semi, Inc., CNXT Holdings, Inc. and Conexant Systems, LLC (3)
3.1	Certificate of Incorporation (4)
3.2	Certificate of Designation of Series A Junior Participating Preferred Stock (5)
3.3	Third Amended and Restated Bylaws (amended and restated as of July 27, 2010) (6)
3.4	Certificate of Amendment of Certificate of Incorporation of the registrant (7)
3.5	Certificate of Amendment of Certificate of Incorporation of the registrant (8)
4.1	Form of Common Stock Certificate (9)
4.2	Indenture, dated as of June 26, 2017, by and between the Company and Wells Fargo, National Association, as trustee (10)
4.3	Form of 0.50% Convertible Senior Note due 2022 (11)
10.1	Amendment and Restatement Agreement, dated September 27, 2017, by and among Synaptics, as borrower, certain material domestic subsidiaries of Synaptics, as subsidiary guarantors, the Lenders, as lenders, and Wells Fargo, as administrative agent for the Lenders (12)
10.2	Amended and Restated Credit Agreement, dated September 27, 2017, by and among Synaptics, as borrower, the Lenders, as lenders, Wells Fargo, as administrative Agent, Wells Fargo Securities, LLC as joint lead arranger and joint bookrunner, MUFG Union Bank, N.A. and BMO Capital Markets Corp. as joint lead arrangers, joint book runners and co-syndication agents (12)
10.3*	

	Synaptics Incorporated Amended and Restated 2010 Incentive Compensation Plan, as amended effective on October 31, 2017 (13)
10.6(a)*	Amended and Restated 2001 Incentive Compensation Plan (as amended through January 23, 2007) (14)
10.6(b)*	Form of grant agreements for Amended and Restated 2001 Incentive Compensation Plan (15)
10.6(c)*	Form of deferred stock award agreement for Amended and Restated 2001 Incentive Compensation Plan (16)
10.24(a)*	Amended and Restated 2010 Incentive Compensation Plan (17)
10.24(b)*	Form of Non-Qualified Stock Option Agreement for 2010 Incentive Compensation Plan (11)
10.24(c)*	Form of Incentive Stock Option Agreement for 2010 Incentive Compensation Plan (18)
10.24(d)*	Form of Deferred Stock Award Agreement for 2010 Incentive Compensation Plan (11)
10.24(e)*	Form of Deferred Stock Award Agreement for Market Stock Units for Amended and Restated 2010 Incentive Compensation Plan (19)

Exhibit Number	Exhibit
10.24(f)*	Form of Deferred Stock Award Agreement for Performance Stock Units for Amended and Restated 2010 Incentive Compensation Plan (19)
10.25(a)*	Amended and Restated 2010 Employee Stock Purchase Plan (2)
10.26*	Change of Control Severance Policy for Principal Executive Officers (19)
10.27*	Severance Policy for Principal Executive Officers (19)
10.28*	Employment Offer Letter, dated September 28, 2011 between the registrant and Richard Bergman (20)
10.29*	Employment Offer Letter, dated April 23, 2015 between the registrant and Wajid Ali (21)
10.30*	Form of Director and Officer Indemnification Agreement (22)
21	List of Subsidiaries
23.1	Consent of Independent Registered Public Accounting Firm
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a)
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a)
32.1##	Section 1350 Certification of Chief Executive Officer
32.2##	Section 1350 Certification of Chief Financial Officer
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

(1) Incorporated by reference to the registrant’s Form 8-K as filed with the SEC on November 12, 2013.
(2) Incorporated by reference to the registrant’s Form 10-K as filed with the SEC on August 22, 2014.
(3) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on June 12, 2017.
(4) Incorporated by reference to the registrant's Form 10-Q as filed with the SEC on February 21, 2002.
(5) Incorporated by reference to the registrant’s Form 8-A as filed with the SEC on August 16, 2002.

(6) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on August 2, 2010.
(7) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on December 7, 2004.
(8) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 22, 2010.
(9) Incorporated by reference to the registrant’s Form 10-K as filed with the SEC on September 12, 2002.
(10) Incorporated by reference to the Registrant’s Current Report on Form 8-K as filed with the SEC on June 26, 2017.
(11) Incorporated by reference to the Registrant’s Annual Report on Form 10-K as filed with the SEC on August 18, 2017.
(12) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 2, 2017.
(13) Incorporated by reference to the Registrant’s Form 8-K as filed with the SEC on November 3, 2017.
(14) Incorporated by reference to the registrant’s Form 10-Q as filed with the SEC on November 8, 2007.
(15) Incorporated by reference to the registrant’s Form 10-Q as filed with the SEC on February 6, 2003.
(16) Incorporated by reference to the registrant’s Form 10-K as filed with the SEC on September 7, 2006.
(17) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 28, 2016.
(18) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 22, 2010.
(19) Incorporated by reference to the registrant's Form 10-Q as filed with the SEC on February 8, 2018.
(20) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on October 4, 2011
(21) Incorporated by reference to the registrant’s Form 10-K as filed with the SEC on August 25, 2015.
(22) Incorporated by reference to the registrant’s Current Report on Form 8-K as filed with the SEC on May 17, 2016.

* Indicates a contract with management or compensatory plan or arrangement.

† Certain portions of this exhibit have been omitted pursuant to a grant of confidential treatment by the Securities and Exchange Commission.

Certain schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule will be furnished as a supplement to the Securities and Exchange Commission upon request.

This certification is being furnished solely pursuant to 18 U.S.C. § 1350 and shall not be deemed filed by the Company for purposes of Section 18 of the Exchange Act or incorporated by reference in any registration statement of the Company filed under the Securities Act.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SYNAPTICS INCORPORATED

Date: August 24, 2018 By: /s/ Richard A. Bergman
Richard A. Bergman
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Richard A. Bergman Richard A. Bergman	President and Chief Executive Officer, and Director	August 24, 2018
/s/ Wajid Ali Wajid Ali	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	August 24, 2018
/s/ Francis F. Lee Francis F. Lee	Chairman of the Board	August 24, 2018
/s/ Jeffrey D. Buchanan Jeffrey D. Buchanan	Director	August 24, 2018

/s/ Nelson C. Chan Nelson C. Chan	Director	August 24, 2018
/s/ Keith B. Geeslin Keith B. Geeslin	Director	August 24, 2018
/s/ Russell J. Knittel Russell J. Knittel	Director	August 24, 2018
/s/ Richard L. Sanquini Richard L. Sanquini	Director	August 24, 2018
/s/ James L. Whims James L. Whims	Director	August 24, 2018

INDEX TO FINANCIAL STATEMENTS

SYNAPTICS INCORPORATED AND SUBSIDIARIES

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Synaptics Incorporated:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Synaptics Incorporated and its subsidiaries as of June 30, 2018 and June 24, 2017, the related consolidated statements of operations, comprehensive income/(loss), stockholders' equity, and cash flows for each of the years in the three-year period ended June 30, 2018 and the related notes (collectively, the consolidated financial statements). We also have audited the internal control over financial reporting of Synaptics Incorporated as of June 30, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Synaptics Incorporated and its subsidiaries as of June 30, 2018 and June 24, 2017, and the results of their operations and their cash flows for each of the years in the three-year period ended June 30, 2018, in conformity with U.S. generally accepted accounting principles. Also in our opinion, Synaptics Incorporated maintained, in all material respects, effective internal control over financial reporting as of June 30, 2018, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Synaptics Incorporated acquired Conexant Systems, LLC during 2018, and management excluded from its assessment of the effectiveness of its internal control over financial reporting as of June 30, 2018, the internal control over financial reporting of Conexant Systems, LLC associated with total assets of $327.8 million and total revenues of $116.5 million included in the consolidated financial statements of Synaptics Incorporated and subsidiaries as of and for the year ended June 30, 2018. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Conexant Systems, LLC.

Basis for Opinions

The management of Synaptics Incorporated is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting at item 9A. Our responsibility is to express an opinion on the consolidated financial statements of Synaptics Incorporated and its subsidiaries and an opinion on the internal control over financial reporting of Synaptics Incorporated based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

We have served as the Company’s auditor since 2003.

Santa Clara, California
August 24, 2018

SYNAPTICS INCORPORATED AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(in millions, except par value and share amounts)

	June 2018		June 2017	
ASSETS				
Current Assets:				
Cash and cash equivalents	$	301.0	$	367.8
Accounts receivable, net of allowances of $1.8 and $2.6 at June 2018 and 2017, respectively		289.1		255.2
Inventories		131.2		131.4
Prepaid expenses and other current assets		18.2		37.6
Total current assets		739.5		792.0
Property and equipment, net		117.8		113.8
Goodwill		372.8		206.8
Acquired intangibles, net		219.2		101.0
Non-current other assets		50.5		53.1
	$	1,499.8	$	1,266.7
LIABILITIES AND STOCKHOLDERS' EQUITY				
Current Liabilities:				
Accounts payable	$	156.9	$	135.8
Accrued compensation		25.4		31.9
Income taxes payable		13.1		17.2
Acquisition-related liabilities		8.7		8.7
Other accrued liabilities		79.7		101.8
Current portion of long-term debt		-		15.0
Total current liabilities		283.8		310.4
Long-term debt, net of issuance costs		—		202.0
Convertible notes, net		450.7		—
Other long-term liabilities		36.0		14.1
Total liabilities		770.5		526.5

Commitments and contingencies		
Stockholders' Equity:		
Preferred stock:		
$0.001 par value; 10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock:		
$0.001 par value; 120,000,000 shares authorized, 62,889,679 and 60,579,911 shares issued, and 35,249,803 and 34,638,435 shares outstanding, at June 2018 and 2017, respectively	0.1	0.1
Additional paid-in capital	1,195.2	1,004.8
Treasury stock: 27,639,876 and 25,941,476 common shares at June 2018 and 2017, respectively, at cost	(1,073.9)	(980.3)
Accumulated other comprehensive income	1.5	1.5
Retained earnings	606.4	714.1
Total stockholders' equity	729.3	740.2
	$ 1,499.8	$ 1,266.7

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

(in millions, except per share amounts)

	Fiscal Year		
	2018	2017	2016
Net revenue	$1,630.3	$1,718.2	$1,666.9
Cost of revenue	1,150.2	1,194.6	1,085.4
Gross margin	480.1	523.6	581.5
Operating expenses:			
Research and development	363.2	292.3	311.2
Selling, general, and administrative	154.0	137.6	161.7
Acquired intangibles amortization	12.8	11.7	18.6
Impairment of acquired intangibles	—	—	6.7
Change in contingent consideration	—	—	(0.5)
Restructuring costs	12.0	7.3	8.6
Litigation settlement charge	—	10.0	—
Total operating expenses	542.0	458.9	506.3
Operating income/(loss)	(61.9)	64.7	75.2
Interest and other income	2.3	0.7	3.1
Interest expense	(22.2)	(6.0)	(4.8)
Impairment recovery on investments, net	-	1.9	2.1
Income/(loss) before provision for income taxes and equity investment loss	(81.8)	61.3	75.6
Provision for income taxes	40.5	12.2	3.4
Equity investment loss	(1.8)	(0.3)	—
Net income/(loss)	$(124.1)	$48.8	$72.2
Net income/(loss) per share:			
Basic	$(3.63)	$1.40	$1.97
Diluted	$(3.63)	$1.37	$1.91
Shares used in computing net income/(loss) per share:			
Basic	34.2	34.8	36.6
Diluted	34.2	35.6	37.9

See accompanying notes to consolidated financial statements.

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SYNAPTICS INCORPORATED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME/(LOSS)

(in millions)

	Fiscal Year		
	2018	2017	2016
Net income/(loss)	$(124.1)	$48.8	$72.2
Other comprehensive loss, net of tax:			
Change in unrealized net loss on investments	—	(1.5)	(2.7)
Reclassification from accumulated other comprehensive loss to interest income for accretion of non-current investments	—	(0.3)	(1.8)
Net current-period other comprehensive loss	—	(1.8)	(4.5)
Comprehensive income/(loss)	$(124.1)	$47.0	$67.7

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in millions, except share amounts)

	Common Stock Shares	Amount	Additional Paid-in Capital	Treasury Stock	Accumulated Other Comprehensive Income	Retained Earnings	Total Stockholders' Equity
Balance at June 2015	58,249,107	$ 0.1	$ 843.8	$ (651.7)	$ 7.8	$ 593.1	$ 793.1
Net income	—	—	—	—	—	72.2	72.2
Other comprehensive income	—	—	—	—	(4.5)	—	(4.5)
Issuance of common stock for share-based award compensation plans	1,283,041	—	32.4	—	—	—	32.4
Payroll taxes for deferred stock units	—	—	(15.6)	—	—	—	(15.6)
Purchases of treasury stock	—	—	—	(240.6)	—	—	(240.6)
Tax benefit associated with share-based awards	—	—	11.2	—	—	—	11.2
Share-based compensation	—	—	56.8	—	—	—	56.8
Balance at June 2016	59,532,148	0.1	928.6	(892.3)	3.3	665.3	705.0
Net income	—	—	—	—	—	48.8	48.8
Other comprehensive income	—	—	—	—	(1.8)	—	(1.8)
Issuance of common stock for share-based award compensation plans	1,047,763	—	24.7	—	—	—	24.7
Payroll taxes for deferred stock units	—	—	(6.6)	—	—	—	(6.6)
Purchases of treasury stock	—	—	—	(88.0)	—	—	(88.0)
Tax deficiency associated with share-based awards	—	—	(3.7)	—	—	—	(3.7)
Share-based compensation	—	—	61.8	—	—	—	61.8
Balance at June 2017, as reported	60,579,911	0.1	1,004.8	(980.3)	1.5	714.1	740.2
Cumulative effect of changes in accounting principles for share-based compensation	—	—	1.0	—	—	24.7	25.7
Cumulative effect of changes in accounting principles for income taxes: intra-entity transfers of assets other than inventory						(8.3)	(8.3)

Balance at June 2017, as adjusted	60,579,911	0.1	1,005.8	(980.3)	1.5	730.5	757.6
Net loss	—	—	—	—	—	(124.1)	(124.1)
Issuance of common stock for share-based award compensation plans	1,583,102	—	32.3	—	—	—	32.3
Issuance of common stock for acquisition	726,666	—	39.1	—	—	—	39.1
Payroll taxes for deferred stock units	—	—	(5.4)	—	—	—	(5.4)
Purchases of treasury stock	—	—	—	(93.6)	—	—	(93.6)
Share-based compensation	—	—	71.3	—	—	—	71.3
Issuance of Convertible debt	—	—	52.1	—	—	—	52.1
Balance at June 2018	62,889,679	$ 0.1	$ 1,195.2	$ (1,073.9)	$ 1.5	$ 606.4	$ 729.3

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in millions)

	Fiscal Year		
	2018	2017	2016
Cash flows from operating activities			
Net income/(loss)	$(124.1)	$48.8	$72.2
Adjustments to reconcile net income/(loss) to net cash provided by operating activities:			
Share-based compensation costs	71.3	61.8	56.8
Depreciation and amortization	38.9	33.2	31.2
Acquired intangibles amortization	83.9	59.3	73.0
Accretion and remeasurement of contingent consideration liability	-	-	(0.5)
Deferred taxes	4.9	(17.4)	(21.1)
Impairment of property and equipment	—	—	3.0
Impairment of acquired intangibles	—	—	6.7
Non-cash interest	—	(0.3)	(1.8)
Amortization of convertible debt discount and issuance costs	16.9	—	—
Amortization of debt issuance costs	1.6	1.2	1.0
Impairment recovery on investments, net	—	(1.9)	(2.1)
Equity investment loss	1.8	0.3	—
Foreign currency remeasurement (gain)/loss	—	(0.2)	8.2
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable, net	(22.7)	(2.6)	72.0
Inventories	79.5	15.0	(6.2)
Prepaid expenses and other current assets	18.8	(9.6)	5.8
Other assets	(7.2)	6.5	5.6
Accounts payable	6.2	(38.4)	(15.3)
Accrued compensation	(8.1)	(7.8)	3.3
Acquisition related liabilities	—	(16.8)	(18.2)
Income taxes payable	5.4	2.3	(26.1)
Other accrued liabilities	(22.1)	19.5	9.1
Net cash provided by operating activities	145.0	152.9	256.6
Cash flows from investing activities			
Acquisition of businesses, net of cash and cash equivalents acquired	(396.7)	—	—
Proceeds from sales of investments	—	7.5	6.6
Purchases of property and equipment	(34.1)	(31.4)	(28.6)
Purchase of intangible assets	(7.7)	—	(4.6)
Investment in direct financing lease	—	(17.0)	—
Proceeds from direct financing leases	—	17.0	—
Equity method investment	—	(18.4)	—
Net cash used in investing activities	(438.5)	(42.3)	(26.6)
Cash flows from financing activities			

Proceeds from issuance of convertible debt, net of issuance costs	514.5	—	—
Payment of acquisition-related liabilities	—	(5.3)	(60.9)
Payment of debt	(220.0)	(18.8)	(7.6)
Purchases of treasury stock	(93.6)	(88.0)	(240.6)
Proceeds from issuance of shares	32.3	24.7	32.4
Payment of debt issuance costs	(1.1)	(1.2)	(0.3)
Excess tax benefit from share-based compensation	-	1.1	11.5
Payroll taxes for deferred stock and market stock units	(5.4)	(6.6)	(15.6)
Net cash provided by/(used in) financing activities	226.7	(94.1)	(281.1)
Effect of exchange rate changes on cash and cash equivalents	—	(0.9)	3.4
Net increase/(decrease) in cash and cash equivalents	(66.8)	15.6	(47.7)
Cash and cash equivalents at beginning of year	367.8	352.2	399.9
Cash and cash equivalents at end of year	$301.0	$367.8	$352.2
Supplemental disclosures of cash flow information			
Cash paid for interest	$3.8	$6.0	$5.0
Cash paid for taxes	$26.4	$22.1	$46.9
Cash refund on taxes	$1.7	$10.1	$18.0
Non-cash investing and financing activities:			
Property and equipment received but unpaid	$6.6	$6.0	$3.1
Common stock issued pursuant to acquisition	$39.1	$—	$—

See accompanying notes to consolidated financial statements.

SYNAPTICS INCORPORATED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies
Organization and Basis of Presentation

We are a leading worldwide developer and supplier of custom-designed human interface semiconductor product solutions that enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment, and other electronic devices. We currently generate revenue from the markets for smartphones, tablets, personal computer, or PC, products, primarily notebook computers, Internet of Things, or IoT, which includes devices with voice, speech and video within smart homes, and other select electronic devices, including devices in automobiles, with our custom human interface solutions. Every solution we deliver either contains or consists of our touch-, display driver-, fingerprint authentication-based-, voice and speech-, or video-semiconductor solutions, which include our chip, customer-specific firmware, and software. Our original equipment manufacturer, or OEM, customers include many of the world’s largest OEMs for smartphones, most of the world’s largest PC OEMs, and many large OEMs for voice- speech and video products.

The consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles, or U.S. GAAP, and include our financial statements and those of our wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated upon consolidation.

Our fiscal year is the 52- or 53-week period ending on the last Saturday in June. The fiscal years presented in this report were a 53-week period ended June 30, 2018, and 52-week periods ended June 24, 2017 and June 25, 2016. For simplicity, the accompanying consolidated financial statements have been shown as ending on calendar year end dates as of and for all periods presented, unless otherwise indicated.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue, allowance for doubtful accounts, cost of revenue, inventories, loss on purchase commitments, product warranty, accrued liabilities, share-based compensation costs, provision for income taxes, deferred income tax asset valuation allowances, uncertain tax positions, goodwill, intangible assets, investments, contingent consideration liability and loss contingencies. We base our estimates on historical experience, applicable laws and regulations, and various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Cash Equivalents and Investments

Cash equivalents consist of highly liquid investments with original maturities of three months or less. Our non-current investments, which are included in non-current other assets in the consolidated balance sheets, consist of ARS investments and are reported at fair value, with unrealized gains and losses excluded from earnings and shown separately as a component of accumulated other comprehensive income within stockholders’ equity. We charge other-than-temporary declines in the fair value of a debt security to earnings if the decline is due to a credit loss or if we intend to or need to sell at a loss, resulting in the establishment of a new cost basis in the debt security. We charge other-than-temporary declines in the fair value of a debt security to other comprehensive income if the decline is due to a noncredit loss. We charge other-than-temporary declines in the fair value of an equity security to earnings. We include interest earned and accretion on securities in interest income. We determine realized gains and losses on the sale of securities using the specific identification method.

Our cash equivalents and investments classified as available-for-sale securities as of the end of fiscal 2018 and 2017 were as follows (in millions):

	2018		
	Amortized Cost	Gross Unrealized Gains	Fair Value
Reported as cash equivalents:			
Money market funds	$275.2	$ —	$275.2
Reported as non-current assets:			
Auction rate securities	-	1.5	1.5
Total available-for-sale securities	$275.2	$ 1.5	$276.7

	2017		
	Amortized Cost	Gross Unrealized Gains	Fair Value
Reported as cash equivalents:			
Money market funds	$361.7	$ —	$361.7
Reported as non-current assets:			
Auction rate securities	-	1.5	1.5
Total available-for-sale securities	$361.7	$ 1.5	$363.2

Fair Value

We measure certain financial assets and liabilities at fair value. When we measure fair value on either a recurring or nonrecurring basis, inputs used in valuation techniques are assigned a hierarchical level as follows:

- Level 1 inputs are observable inputs that reflect quoted prices for identical assets or liabilities in active markets.
- Level 2 inputs reflect quoted prices for identical assets or liabilities in markets that are not active; quoted prices for similar assets or liabilities in active markets; inputs other than quoted prices that are observable for the assets or liabilities; or inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- Level 3 inputs are unobservable inputs reflecting our assumptions, which are incorporated into valuation techniques and models used to determine fair value. The assumptions are consistent with market participant assumptions that are reasonably available.

Financial assets measured at fair value on a recurring basis, by level within the fair value hierarchy, as of the end of fiscal 2018 and 2017 were as follows (in millions):

	2018			2017		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Assets:						

Money market	$275.2	$ —	$ —	$361.7	$ —	$ —
Auction rate securities	—	—	1.5	—	—	1.5
Total available-for-sale securities	$275.2	$ —	$ 1.5	$361.7	$ —	$ 1.5

In connection with the acquisition of Validity Sensors, Inc., or Validity, we entered into a contingent consideration arrangement. As of June 30, 2018, the balance of $8.7 million represents a contractual liability which is no longer subject to valuation as the carrying amount approximates the fair value. The balance represents amounts we have not paid and have retained, subject to resolution of matters related to the Amkor Technology legal dispute (see Legal Proceedings under Note 7 Commitments and Contingencies).

Changes in fair value of our Level 3 financial assets for fiscal 2018 and 2017 were as follows (in millions):

	2018	2017
Beginning balance	$ 1.5	$ 8.6
Net unrealized loss	-	(1.5)
Impairment recovery on redeemed investments	-	1.9
Redemptions	-	(7.5)
Ending balance	$ 1.5	$ 1.5

There were no transfers in or out of our Level 1, 2 or 3 assets during fiscal 2018 or 2017.

The fair values of our accounts receivable and accounts payable approximate their carrying values because of the short-term nature of those instruments. Intangible assets, property and equipment, and goodwill are measured at fair value on a non-recurring basis if impairment is indicated. The interest rate on our bank debt is variable, which is subject to change from time to time to reflect a market interest rate; accordingly, the carrying value of our bank debt approximates fair value.

Concentration of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash equivalents, investments, and accounts receivable. Our investment policy, which is predicated on capital preservation and liquidity, limits investments to U.S. government treasuries and agency issues, taxable securities, and municipal issued securities with a minimum rating of A1 (Moody's) or P1 (Standard and Poor's) or their equivalent. Included within our investment portfolio are investments in ARS investments, which met our investment guidelines at the time of investment. Our ARS investments are currently not liquid as a result of continued auction failures.

We sell our products to contract manufacturers that provide manufacturing services for OEMs, and to some OEMs directly. We extend credit based on an evaluation of a customer's financial condition, and we generally do not require collateral.

The following customers accounted for more than 10% of our accounts receivable balance as of the end of fiscal 2018 and 2017:

	2018	2017
Customer A	13%	13%
Customer B	11%	17%
Customer C	10%	15%

*Less than 10%

Other Concentrations

Our products include certain components that are currently single sourced. We believe other vendors would be able to provide similar components, however, the qualification of such vendors may require extra lead time. In order to mitigate any adverse impacts from a disruption of supply, we strive to maintain an adequate supply of critical single-sourced components.

Revenue Recognition

We recognize revenue from product sales when there is persuasive evidence that an arrangement exists, delivery has occurred, and title has transferred, the price is fixed or determinable, and collection is reasonably assured. We accrue for estimated sales returns, incentives and other allowances at the time we recognize revenue. Our products contain embedded firmware and software, which together with, or consisting of, our ASIC chip, deliver the essential functionality of our products and, as such, software revenue recognition guidance is not applicable to our products. The majority of our sales to distributors are made under agreements that generally do not provide for price adjustments after purchase and revenue recognition and provide for only limited return rights under product warranty. Revenue on these sales is recognized in the same manner as sales to our non-distributor customers. Some of our sales are to distributors which have limited stock rotation rights, which allow them to rotate a small portion of product in their inventory a maximum of two times per year.

When sales rebates, price allowances or stock rotations are applicable, they are estimated and recorded in the period the related revenue is recognized.

Advertising Costs

Advertising costs, if any, are expensed when incurred.

Allowance for Doubtful Accounts

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of customers to meet their financial obligations. On an ongoing basis, we evaluate the collectability of accounts receivable based on a combination of factors. In circumstances in which we are aware of a specific customer's potential inability to meet its financial obligation, we record a specific reserve of the bad debt against amounts due. In addition, we make judgments and estimates on the collectability of accounts receivable based on our historical bad debt experience, customers' creditworthiness, current economic trends, recent changes in customers' payment trends, and deterioration in customers' operating results or financial position. If circumstances change adversely, additional bad debt allowances may be required. For all periods presented, credit losses on our accounts receivable have been insignificant, and we believe that an adequate allowance for doubtful accounts has been provided.

Cost of Revenue

Our cost of revenue includes the cost of products shipped to our customers, which primarily includes the cost of products built to our specifications by our contract manufacturers, the cost of silicon wafers supplied by independent semiconductor wafer manufacturers, and the related assembly, package, and test costs of our products. Also included in our cost of revenue are personnel and related costs, including share-based compensation, for quality assurance and manufacturing support personnel; logistics costs; depreciation of equipment supporting manufacturing; acquired intangibles amortization; fair value adjustments associated with acquired businesses; inventory write-downs and losses on purchase obligations; and warranty costs.

Inventories

Inventories are stated at the lower of cost (first-in, first-out method) or net realizable value as of the end of fiscal 2018 and 2017 and consisted of the following (in millions):

	2018	2017
Raw materials and work-in-progress	$105.0	$94.7
Finished goods	26.2	36.7
	$131.2	$131.4

We record a write-down, if necessary, to reduce the carrying value of inventory to its net realizable value. The effect of these write-downs is to establish a new cost basis in the related inventory, which we do not subsequently write up. We also record a liability and charge to cost of revenue for estimated losses on inventory we are obligated to purchase from our contract manufacturers when such losses become probable from customer delays, order cancellations, or other factors.

Property and Equipment

We state property and equipment at cost less accumulated depreciation and amortization. We compute depreciation using the straight-line method over the estimated useful lives of the assets. We amortize leasehold improvements over the shorter of the lease term or the useful life of the asset.

Other Assets

In April 2017, we paid $18.4 million for a 14.4% interest in OXi Technology Ltd., or OXi. Our investment in OXi is included in non-current other assets on our consolidated balance sheet. We determined the equity method of accounting applies to our investment as we have significant influence over OXi's operating and financial policies. We record our portion of OXi's net income/(loss) on a one quarter lag due to the timing of the availability of OXi's financial records. In addition, we amortize intangible assets that we recorded under the equity method of accounting, and such amortization as well as our portion of Oxi's net income/(loss) is included in equity investment loss on our consolidated statements of income. As of June 30, 2018, we did not have any related party transactions with OXi.

Foreign Currency

The U.S. dollar is our functional and reporting currency. We remeasure our monetary assets and liabilities not denominated in the functional currency into U.S. dollar equivalents at the rate of exchange in effect on the balance sheet date. We measure and record non-monetary balance sheet accounts at the historical rate in effect at the date of transaction. We remeasure foreign currency expenses at the weighted average exchange rate in the month that the transaction occurred. These foreign currency transactions and remeasurement gains and losses, resulted in a net loss of $1.1 million, $0.7 million and $5.8 million in fiscal 2018, 2017, and 2016, respectively. Gains and losses resulting from foreign currency transactions are included in selling, general, and administrative expenses in the consolidated statements of income.

We also enter into foreign currency contracts to manage exposure related to certain foreign currency obligations. The foreign currency contracts are not designated as hedging instruments and, accordingly, are not subject to hedge accounting. As of June 30, 2018 and 2017, we had no outstanding foreign currency forwards. In fiscal 2016 we recognized net realized gains of $4.8 million on foreign currency forward contracts, which are recorded in selling, general, and administrative expenses in the consolidated statements of income.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of net tangible and identifiable intangible assets acquired. Changes in our goodwill balance for fiscal 2018 and 2017 were as follows (in millions):

	2018	2017
Beginning balance	$206.8	$206.8
Acquisition activity	157.3	-
Post acquisition adjustments	8.7	-
Ending balance	$372.8	$206.8

We have allocated our goodwill to two reporting units. We perform a qualitative assessment of the goodwill in the fourth quarter of each fiscal year. In assessing the qualitative factors, we considered the impact of key factors including change in industry and competitive environment, market capitalization, stock price, gross margin and cash flow from operating activities. We concluded that the fair value of the reporting units exceeded their carrying amount, therefore, there is no need for impairment. No goodwill impairment was recognized for fiscal 2018, 2017, and 2016.

Impairment of Long-Lived Assets

We evaluate long-lived assets, such as property and equipment and intangible assets subject to amortization, for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. We measure recoverability of assets to be held and used by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. We review the carrying value of indefinite-lived intangible assets for impairment at least annually during the last quarter of our fiscal year, or more frequently if we believe indicators of impairment exist. If the carrying amount of the asset exceeds its estimated undiscounted future cash flows, we recognize an impairment charge in an amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of would be separately presented in the consolidated balance sheets and reported at the lower of the carrying amount or fair value less costs to sell and would no longer be depreciated. The assets and liabilities of a disposed group classified as held for sale would be presented separately in the appropriate asset and liability sections of the consolidated balance sheets. During fiscal 2016, we recorded a $6.7

million impairment charge for an acquired intangible asset related to ThinTouch developed technology, which we determined is probable not to be recoverable, based on revenue forecasts. This intangible asset has been written down to zero. During fiscal 2018 and 2017, we did not have an impairment charge.

Other Accrued Liabilities

As of the end of fiscal 2018 and 2017, other accrued liabilities consisted of the following (in millions):

	2018	2017
Customer obligations	$26.4	$34.8
Inventory obligations	28.8	41.8
Warranty	5.5	4.4
Other	19.0	20.8
	$79.7	$101.8

Segment Information

We operate in one segment: the development, marketing, and sale of intuitive human interface solutions for electronic devices and products. The chief operating decision maker is the chief executive officer who evaluates financial performance and allocates resources using financial information reported on a company-wide basis.

Share-Based Compensation

We utilize the Black-Scholes option pricing model to estimate the grant date fair value of stock options granted to employees, which requires the input of highly subjective assumptions, including expected volatility and expected life. Historical and implied volatilities were used in estimating the fair value of our stock option awards. The expected life for our options was previously estimated based on historical trends since our initial public offering. In fiscal 2011, we began to grant options with a contractual life of seven years rather than 10 years, and we began using the simplified method to establish the expected life as we did not have any history of options with seven-year lives; after the first quarter of fiscal 2018 we ceased the granting of stock options. Our outstanding options have vesting periods of three or four years, depending on when they were granted, and we have continued to use the simplified method to establish the expected life. Changes in these inputs and assumptions can materially affect the measure of estimated fair value of our share-based compensation. Further, in fiscal years prior to 2018, we estimated forfeitures for share-based awards that were not expected to vest (see Note 9 for further discussion on estimated forfeitures). We charge estimated fair value less estimated forfeitures to earnings on a straight-line basis over the vesting period of the entire underlying award, which is generally three to four years for our stock option and deferred stock unit, or DSU, awards, three years for our market stock unit, or MSU, awards, three years for our performance stock units, or PSU, awards, and up to two years for our employee stock purchase plan.

We estimate the fair value of market-based MSUs at the date of grant using a Monte Carlo simulation model and amortize those fair values over the requisite service period, generally three years. The Monte Carlo simulation model that we use to estimate the fair value of market-based MSUs at the date of grant incorporates into the valuation the possibility that the market condition may not be satisfied. Provided that the requisite service is rendered, the total fair value of the market-based MSUs at the date of grant must be recognized as compensation expense even if the market condition is not achieved. However, the number of shares that ultimately vest can vary significantly with the performance of the specified market criteria.

We value the PSUs using the aggregate intrinsic value on the date of grant and amortize the compensation expense over the three-year service period on a ratable basis, dependent upon the probability of meeting the performance measures.

Income Taxes

We account for income taxes under the asset and liability method. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and operating loss and tax credit carryforwards. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. We recognize the effect of a change in tax rates in income on deferred tax assets and liabilities in the period that includes the enactment date. We establish valuation allowances when necessary to reduce deferred tax assets to the amounts that are more likely than not to be realized. We consider the operating earnings of our foreign subsidiaries to be indefinitely invested outside the United States. Accordingly, no provision has been made for the state or foreign taxes that may result from future remittances of undistributed earnings of our foreign subsidiaries.

We use a two-step approach to recognizing and measuring uncertain tax positions. The first step is to determine whether it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement with a taxing authority. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of highly complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our consolidated financial position, results of operations, and cash flows. We believe we have adequately provided for reasonably foreseeable outcomes in connection with the resolution of income tax uncertainties. However, our results have in the past, and could in the future, include favorable and unfavorable adjustments to our estimated tax liabilities in the period a determination of such estimated tax liability is made or resolved, upon the filing of an amended return, upon a change in facts, circumstances, or interpretation, or upon the expiration of a statute of limitation. Accordingly, our effective tax rate could fluctuate materially from period to period.

Research and Development

Research and development costs are expensed as incurred.

2. Net Income Per Share

The computation of basic and diluted net income per share for fiscal 2018, 2017, and 2016 was as follows (in millions, except per share amounts):

	2018	2017	2016
Numerator:			
Net income	$(124.1)	$48.8	$72.2
Denominator:			
Shares, basic	34.2	34.8	36.6
Effect of dilutive share-based awards	-	0.8	1.3
Shares, diluted	34.2	35.6	37.9
Net income per share:			
Basic	$(3.63)	$1.40	$1.97
Diluted	$(3.63)	$1.37	$1.91

Diluted net income per share does not include the effect of potential common shares related to certain share-based awards for fiscal 2018, 2017, and 2016 as follows (in millions):

	2018	2017	2016
Share-based awards	2.3	1.4	0.7

These share-based awards were not included in the computation of diluted net income per share because the proceeds received, if any, from such share-based awards combined with the average unamortized compensation costs, were greater than the average market price of our common stock, and therefore, their effect would have been antidilutive.

Our basic net income per share amounts for each period presented have been computed using the weighted average number of shares of common stock outstanding. Our diluted net income per share amounts for each period presented include the weighted average effect of potentially dilutive shares. We used the "treasury stock" method to determine the dilutive effect of our stock options, DSUs, MSUs and PSUs.

3. Property and Equipment

Property and equipment as of the end of fiscal 2018 and 2017 consisted of the following (in millions):

	Life	2018	2017
Land	—	$13.3	$13.3
Building and building improvements	Up to 35 years	51.8	47.9
Computer equipment	3 - 5 years	42.9	29.7
Manufacturing equipment	1 - 5 years	78.1	75.7
Furniture, fixtures, and leasehold improvements	3 - 10 years	24.1	21.5
Capitalized software	3 - 7 years	35.0	32.5
		245.2	220.6
Accumulated depreciation and amortization		(127.4)	(106.8)
Property and equipment, net		$117.8	$113.8

In fiscal 2018 and 2017, there was $8.2 million and $10.8 million, respectively, of property and equipment retired which was fully amortized.

4. Acquisitions

Conexant

On June 11, 2017, we entered into a securities purchase agreement to acquire all of the outstanding limited liability company interests of Conexant Systems, LLC, or Conexant, a technology leader in voice and audio processing solutions for the smart home, or the Conexant Acquisition. The Conexant Acquisition is intended to increase our presence in the smart home market and increase opportunities to grow revenue. Effective July 25, 2017, or the Conexant Closing Date, we completed the Conexant Acquisition for an initial purchase price of (i) $305.4 million in cash and (ii) 726,666 shares of our common stock, or the Stock Consideration, valued at $39.1 million, and (iii) the assumption of a $3.5 million stock appreciation rights liability, with $16.8 million of the purchase price held in escrow to secure the seller's indemnification obligations under the purchase agreement and $7.0 million of the purchase price held in escrow to secure the seller's adjustment escrow obligations under the purchase agreement. Subsequently, we determined that $1.9 million of net adjustments to the purchase price were required, reducing the acquisition date fair value of the consideration transferred to a total of $346.2 million. The Stock Consideration was issued at closing in an exempt private placement.

The acquisition has been accounted for using the purchase method of accounting in accordance with the business acquisition guidance. Under the purchase accounting method, the total estimated purchase consideration of the acquisition was allocated to the tangible and identifiable intangible assets acquired and liabilities assumed based on their relative fair values. The excess of the purchase consideration over the net tangible and identifiable intangible assets acquired and liabilities has been recorded as goodwill. Our estimate of the fair values of the acquired intangible assets at June 30, 2018, is based on established and accepted valuation techniques performed with the assistance of our third-party valuation specialists.

The following table summarizes the amounts recorded for the estimated fair values of the assets acquired and liabilities assumed as of the Conexant Closing Date (in millions):

Cash	$4.3
Accounts receivable	11.7
Inventory	51.0
Other current assets	3.5
Property and equipment	3.2
Acquired intangible assets	145.7
Other assets	0.9
Total identifiable assets acquired	220.3
Accounts payable	14.2
Accrued compensation	1.3
Other accrued liabilities	9.3
Other long-term liabilities	3.0
Net identifiable assets acquired	192.5
Goodwill	153.7
Net assets acquired	$346.2

The estimate of the intangible assets as of June 30, 2018, totaling $145.7 million included the following: $104.9 million was allocated to developed technology and will amortize over an estimated weighted average useful life of 6 years; 38.4 million was allocated to customer relationships and will be amortized over an estimated useful life of 5 years; 1.8 million was allocated to trademarks and will be amortized over an estimated useful life of 7 years; $0.4 million was allocated to backlog and will be amortized over an estimated useful life of less than 1 year; and $0.2 million was allocated to in-process research and development which we will begin to amortize when the work is determined to be substantively complete and will be amortized over an estimated useful life to be determined at such time. Developed technology consists of semiconductor system solutions for audio and imaging applications. We estimated the fair value of the identified intangible assets using a discounted cash flow model for each of the underlying identified intangible assets. These fair value measurements were based on significant inputs not observable in the market and thus represent a Level 3 measurement. Key assumptions include the level and timing of expected future cash flows, conditions and demands specific to each intangible asset over its remaining useful life, and discount rates we believe to be consistent with the inherent risks associated with each type of asset, which range from 9% to 14%. The fair value of these intangible assets is primarily affected by the projected income and the anticipated timing of the projected income associated with each intangible asset coupled with the discount rates used to derive their estimated present values. We believe the level and timing of expected future cash flows appropriately reflects market participant assumptions.

The value of goodwill reflects the anticipated synergies of the combined operations and workforce of Conexant as of the Conexant Closing Date.

As of June 30, 2018, all of the goodwill is expected to be deductible for income tax purposes.

Prior to the Conexant Acquisition, we did not have an existing relationship or transactions with Conexant.

The condensed consolidated financial statements include approximately $116.5 million of revenue and approximately $37.0 million of operating loss from Conexant from the Conexant Closing Date through June 30, 2018.

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The following unaudited pro forma financial information (in millions, except per share data) presents the combined results of operations for us and Conexant as if the Conexant Acquisition had occurred on June 30, 2016. The unaudited pro forma financial information has been prepared for comparative purposes only and does not purport to be indicative of the actual operating results that would have been recorded had the Conexant Acquisition actually taken place on June 30, 2016 and should not be taken as indicative of future consolidated operating results. Additionally, the unaudited pro forma financial results do not include any anticipated synergies or other expected benefits from the Conexant Acquisition.

	2018	2017
Revenue	$1,638.4	$1,829.0
Net income/(loss)	(124.4)	34.9
Net income/(loss) per share	(3.64)	1.01

Pro forma adjustments used to arrive at pro forma net income for fiscal year 2018 and 2017 were as follows (in millions):

	2018	2017
Buyer transaction costs	$0.9	$-
Interest expense	-	(18.1)
Intangible amortization	(1.8)	(23.7)
Depreciation	(0.5)	(0.9)
Income tax adjustment	0.4	15.0
Total	$(1.0)	$(27.7)

Marvell Multimedia Solutions Business

On June 11, 2017, the Company entered into an asset purchase agreement to acquire the assets of the multimedia solutions business of Marvell Technology Group Ltd., or Marvell, a leading provider of advanced video and audio processing applications for the smart home, or the Marvell Business Acquisition. The Marvell Business Acquisition is also intended to increase our presence in the smart home market and increase opportunities to grow revenue. Effective September 8, 2017, or the Marvell Closing Date, we completed the Marvell Business Acquisition for a purchase price of $93.7 million in cash.

The acquisition has been accounted for using the purchase method of accounting in accordance with the business acquisition guidance. Under the purchase accounting method, the total estimated purchase consideration of the acquisition was allocated to the tangible and identifiable intangible assets acquired and liabilities assumed based on their relative fair values. The excess of the purchase consideration over the net tangible and identifiable intangible assets acquired and liabilities has been recorded as goodwill. Our estimate of the fair values of the acquired intangible assets at June 30, 2018, is based on established and accepted valuation techniques performed with the assistance of our third-party valuation specialists.

The following table summarizes the amounts recorded for the estimated fair values of the assets acquired and liabilities assumed as of the Marvell Business Acquisition date (in millions):

Inventory	$28.4
Property and equipment	5.0
Acquired intangible assets	48.7
Total identifiable assets acquired	82.1
Accrued liabilities	0.7
Net identifiable assets acquired	81.4
Goodwill	12.3

Net assets acquired	$93.7

Of the $48.7 million of acquired intangible assets, $29.0 million was allocated to developed technology and will be amortized over an estimated weighted average useful life of 3.6 years; $15.1 million was allocated to customer relationships and will be amortized over an estimated useful life of 4 years, $0.1 million was allocated to backlog and will be amortized over an estimated useful life of less than 1 year; and $4.5 million was allocated to in-process research and development and will be amortized over an estimated useful life to be determined at the date the underlying projects are deemed to be substantively complete. Developed technology consists of semiconductor system solutions for advanced video and audio processing applications. We estimated the fair value of the identified intangible assets using a discounted cash flow model for each of the underlying identified intangible assets. These fair value measurements were based on significant inputs not observable in the market and thus represent a Level 3 measurement. Key assumptions include the level and timing of expected future cash flows, conditions and demands specific to each intangible asset over its remaining useful life, and discount rates we believe to be consistent with the inherent risks associated with each type of asset, which range from 14% to 32%. The fair value of these intangible assets is primarily affected by the projected income and the anticipated timing of the projected income associated with each intangible asset, coupled with the discount rates used to derive their estimated present values. We believe the level and timing of expected future cash flows appropriately reflects market participant assumptions.

The value of goodwill reflects the anticipated synergies of the combined operations and workforce of the transferred Marvell Business assets as of the Marvell Closing Date.

As of June 30, 2018, all of the goodwill is expected to be deductible for income tax purposes.

Prior to the Marvell Business Acquisition, we did not have an existing relationship or transactions with Marvell.

The condensed consolidated financial statements include approximately $138.0 million of revenue and approximately $14.1 million of operating loss from Marvell from the Marvell Closing Date through June 30, 2018.

The following unaudited pro forma financial information (in millions, except per share data) presents the combined results of operations for us and Marvell as if the Marvell Business Acquisition had occurred on June 30, 2016. The unaudited pro forma financial information has been prepared for comparative purposes only and does not purport to be indicative of the actual operating results that would have been recorded had the Marvell Business Acquisition actually taken place on June 30, 2016 and should not be taken as indicative of future consolidated operating results. Additionally, the unaudited pro forma financial results do not include any anticipated synergies or other expected benefits from the Marvell Business Acquisition. As the Marvell Business Acquisition was an asset acquisition and only a portion of Marvell’s multimedia solutions business was acquired, the unaudited pro forma financial information has been prepared using certain estimates.

	2018	2017
Revenue	$1,670.7	$1,793.6
Net income/(loss)	(123.6)	27.7
Net income/(loss) per share	(3.61)	0.82

Pro forma adjustments used to arrive at pro forma net loss for fiscal 2018 and 2017 were as follows (in millions):

	2018	2017
Buyer transaction costs	$1.1	$-
Interest expense	-	(19.6)
Intangible amortization	(2.3)	(17.6)
Income tax adjustment	0.3	13.0
Total	$(0.9)	$(24.2)

5. Acquired Intangibles

The following table summarizes the life, the gross carrying value of our acquired intangible assets, and the related accumulated amortization as of the end of fiscal 2018 and 2017 (in millions):

	Weighted Average Life in Years	2018 Gross Carrying Value	Accumulated Amortization	Net Carrying Value	2017 Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Display driver technology	5.3	$164.0	$ (116.5)	$ 47.5	$164.0	$ (84.9)	$ 79.1
Audio and video technology	5.5	133.9	(22.8)	111.1	-	-	-
Fingerprint authentication technology	4.0	55.7	(53.7)	2.0	63.5	(47.6)	15.9
Customer relationships	4.1	81.8	(38.5)	43.3	48.4	(46.0)	2.4
Licensed technology and other	4.3	9.0	(3.0)	6.0	1.3	(1.3)	-
Tradename	7.0	1.9	(0.2)	1.7	-	-	-
Patents	7.7	4.6	(1.7)	2.9	4.8	(1.2)	3.6
Backlog	0.5	0.5	(0.5)	-	-	-	-
In-process research and development	Not applicable	4.7	-	4.7	-	-	-
Acquired intangibles, gross	5.0	$456.1	$ (236.9)	$ 219.2	$282.0	$ (181.0)	$ 101.0

In fiscal 2018, there was $20.1 million of customer relationships, $4.3 million of fingerprint developed technology and $0.1 million patents retired which were fully depreciated. In fiscal 2017, there was $12.1 million of fingerprint developed technology and $22.0 million of supplier arrangements retired, which were fully depreciated.

Amortization expense is calculated using the straight-line method over the estimated useful lives of the acquired intangibles. The total amortization expense for the acquired intangible assets was $83.9 million in fiscal 2018, $59.3 million in fiscal 2017, and $73.0 million in fiscal 2016. This amortization expense was included in our consolidated statements of operations as acquired intangibles amortization and cost of revenue.

The following table presents expected annual aggregate amortization expense in future fiscal years (in millions):

2019	$74.0
2020	50.5
2021	36.5
2022	32.0
2023	19.5
Thereafter	2.0
To be determined	4.7
Future amortization	$219.2

6. Debt

Convertible Debt

On June 20, 2017, we entered into a purchase agreement, or the Purchase Agreement, with Wells Fargo Securities, LLC, as representative of the initial purchasers named therein, or collectively, the Initial Purchasers, pursuant to which we agreed to issue and sell, and the Initial Purchasers agreed to purchase, $500 million aggregate principal amount of our 0.50% convertible senior notes due 2022, or the Notes, in a private placement transaction. Pursuant to the Purchase Agreement, we also granted the Initial Purchasers a 30-day option to purchase up to an additional $25 million aggregate principal amount of Notes, which was exercised in full on June 21, 2017. The net proceeds, after deducting the Initial Purchasers’ discounts, were $514.5 million, which includes proceeds from the Initial Purchasers’ exercise of their option to purchase additional Notes.

We received the net proceeds on June 26, 2017, which we used to repurchase 1,698,400 shares of our common stock, to retire our outstanding bank debt, and to provide additional cash resources to fund the Conexant and Marvell Business Acquisitions.

The Notes bear interest at a rate of 0.50% per year. Interest accrued from June 26, 2017, and is payable semi-annually in arrears, on June 15 and December 15 of each year, beginning on December 15, 2017. The Notes are senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any our liabilities that are not so subordinated; effectively junior in right of payment to any of our secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of our subsidiaries.

The Notes mature on June 15, 2022, or the Maturity Date, unless earlier repurchased, redeemed or converted.

Holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at their option at any time prior to the close of business on the business day immediately preceding March 15, 2022 under certain defined circumstances.

On or after March 15, 2022 until the close of business on the business day immediately preceding the Maturity Date, holders may convert all or any portion of their Notes, in multiples of $1,000 principal amounts, at the option of the holder. Upon conversion, we will pay or deliver, at our election, shares of common stock, cash, or a combination of cash and shares of common stock.

The conversion rate for the Notes is initially 13.6947 shares of common stock per $1,000 principal amount of Notes (equivalent to an initial conversion price of approximately $73.02 per share of common stock). The conversion rate is subject to adjustment in certain circumstances.

Upon the occurrence of a fundamental change (as defined in the Notes indenture), holders of the Notes may require us to repurchase for cash all or a portion of their Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest up to, but excluding, the fundamental change repurchase date.

We may not redeem the Notes prior to June 20, 2020. We may redeem for cash all or any portion of the Notes, at our option, on or after June 20, 2020, if the last reported sale price of our common stock, as determined by us, has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest up to, but excluding, the redemption date. Our policy is to settle the principal amount of our Notes with cash upon conversion or redemption.

As of the issuance date of the Notes, we recorded $82.1 million of the principal amount to equity, representing the debt discount for the difference between our estimated nonconvertible debt borrowing rate of 4.39% and the coupon rate of the Notes of 0.50% using a five-year life, which coincides with the term of the Notes. In addition, we allocated the total of $11.1 million of debt issuance costs, consisting of the Initial Purchaser’s discount of $10.5 million and legal, accounting, and printing costs of $579,000, pro rata, to the equity and debt components of the Notes, or $1.9 million and $9.2 million, respectively. The debt discount and the debt issuance costs allocated to the debt component are amortized as interest expense using the effective interest method over five years.

The contractual interest expense and amortization of discount on the Notes for fiscal 2018, were as follows (in millions):

	Fiscal 2018
Interest expense	$ 2.7
Amortization of discount and debt issuance costs	16.9
Total interest	$ 19.6

The unamortized amounts of the debt issuance costs and discount associated with the Notes as of June 30, 2018, were $7.4 million and $66.8 million, respectively.

Revolving Credit Facility and Term Loan Arrangement

At the end of fiscal 2017, we had $220.0 million principal outstanding under our Credit Agreement consisting of $100.0 million under our revolving credit facility and $120.0 million under our term loan arrangement. At the beginning of fiscal 2018, we issued $525.0 million principal amount of convertible senior notes, or the Notes, and utilized a portion of the proceeds from our Notes to retire the outstanding principal and interest balances on our revolving credit facility and our term loan arrangement. At the end of July 2017, we made an election to reduce the commitment under the revolving credit facility from $450.0 million to $250.0 million as we were able to complete the Conexant Acquisition with available cash.

In September 2017, we entered into an Amendment and Restatement Agreement, or the Agreement, with the lenders that are party thereto, or the Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders. The Agreement terminated our term loan arrangement and provides for a revolving credit facility in a principal amount of up to $200 million, which includes a $20 million sublimit for letters of credit and a $20 million sublimit for swingline loans. Under the terms of the Agreement, we may, subject to the satisfaction of certain conditions, request increases in the revolving credit facility commitments in an aggregate principal amount of up to $100 million to the extent existing or new lenders agree to provide such increased or additional commitments, as applicable. Proceeds under the revolving credit facility are available for working capital and general corporate purposes. As of June 30, 2018, there is no balance outstanding under the revolving credit facility. As a result of terminating our term loan arrangement, we expensed the remaining debt issuance costs attributable to the term loan of $1.0 million during the first quarter of fiscal 2018.

The revolving credit facility is required to be repaid in full on the earlier of (i) September 27, 2022, and (ii) the date 91 days prior to the Maturity Date of the Notes if the Notes have not been refinanced in full by such date. Debt issuance costs of $2.3 million will be amortized over 60 months.

Our obligations under the Agreement are guaranteed by the material domestic subsidiaries of our company, subject to certain exceptions (such material subsidiaries, together with our company, collectively, the Credit Parties). The obligations of the Credit Parties under the Agreement and the other loan documents delivered in connection therewith are secured by a first priority security interest in substantially all of the existing and future personal property of the Credit Parties, including, without limitation, 65% of the voting capital stock of certain of the Credit Parties' direct foreign subsidiaries, subject to certain exceptions.

The revolving credit facility bears interest at our election of a Base Rate plus an Applicable Margin or LIBOR plus an Applicable Margin. Swingline loans bear interest at a Base Rate plus an Applicable Margin. The Base Rate is a floating rate that is the greater of the Prime Rate, the Federal Funds Rate plus 50 basis points, or LIBOR plus 100 basis points. The Applicable Margin is based on a sliding scale which ranges from 0.25 to 100 basis points for Base Rate loans and 100 basis points to 175 basis points for LIBOR loans. We are required to pay a commitment fee on any unused commitments under the Agreement which is determined on a leverage-based sliding scale ranging from 0.175% to 0.25% per annum. Interest and fees are payable on a quarterly basis. There is no balance outstanding under the revolving credit facility.

Under the Agreement, there are various restrictive covenants, including financial covenants which limit the consolidated total leverage ratio, or leverage ratio, the consolidated interest coverage ratio, or interest coverage ratio, a restriction which places a limit on the amount of capital expenditures that may be made in any fiscal year, a restriction that permits up to $50 million per fiscal quarter of accounts receivable financings, and sets the Specified Leverage Ratio. The leverage ratio is the ratio of debt as of the measurement date to earnings before interest, taxes, depreciation and amortization, or EBITDA, for the four consecutive quarters ending with the quarter of measurement. The current leverage ratio shall not exceed 3.50 to 1.00 provided that for the four fiscal quarters ending after the date of a material acquisition, such maximum leverage ratio shall be adjusted to 3.75 to 1.00, and thereafter, shall not be more than 3.50 to 1.00. The interest coverage ratio is EBITDA to interest expense for the four consecutive quarters ending with the quarter of measurement. The interest coverage ratio must not be less than 3.50 to 1.0 during the term of the Agreement. The Specified Leverage Ratio is the ratio used in determining, among other things, whether we are permitted to make dividends and/or prepay certain indebtedness, at a fixed ratio of 3.00 to 1.00. As of the end of the fiscal year, we were in compliance with the restrictive covenants.

7. Commitments and Contingencies

Leases

We maintain office facilities in various locations under operating leases with expiration dates from fiscal 2019 to fiscal 2024, some of which have renewal options of one to five years. Our leased office facilities are located in Armenia, China, Denmark, Hong Kong, India, Japan, Korea, Switzerland, Taiwan, the United States, and Vietnam. We recognized rent expense on a straight-line basis of $12.0 million, $10.6 million, and $9.2 million for fiscal 2018, 2017, and 2016, respectively.

The aggregate minimum rental commitments in future fiscal years for non-cancelable operating leases with initial or remaining terms in excess of one year were as follows (in millions):

Fiscal Year	Operating Lease Payments
2019	$ 6.0
2020	3.6
2021	1.6
2022	0.4
2023	0.3
Thereafter	0.1
Total minimum operating lease payments	$ 12.0

Contingencies

We have in the past and may in the future receive notices from third parties that claim our products infringe their intellectual property rights. We cannot be certain that our technologies and products do not and will not infringe issued patents or other proprietary rights of third parties.

Any infringement claims, with or without merit, could result in significant litigation costs and diversion of management and financial resources, including the payment of damages, which could have a material adverse effect on our business, financial condition, and results of operations.

Indemnifications

In connection with certain agreements, we are obligated to indemnify the counterparty against third party claims alleging infringement of certain intellectual property rights by us. We have also entered into indemnification agreements with our officers and directors. Maximum potential future payments cannot be estimated because these agreements do not have a maximum stated liability. However, historical costs related to these indemnification provisions have not been significant. We have not recorded any liability in our consolidated financial statements for such indemnification obligations.

Legal Proceedings

In October 2015, Amkor Technology, or Amkor, filed a complaint against us alleging infringement of intellectual property rights and various other claims. In November 2015, we filed an indemnification claim against the former stockholders and option holders of Validity to secure our rights under the Agreement and Plan of Reorganization between us and Validity (the “Validity Agreement”). Pursuant to the Validity Agreement, we believe we can offset costs, damages and settlements incurred in connection with our defense and resolution of the complaint with Amkor against the contingent consideration earnout balance of $8.7 million and have classified the reserve balance as a current acquisition-related liability in our consolidated balance sheet. In April 2017, we agreed to settle this case with Amkor on undisclosed terms that include each party licensing and assigning certain intellectual property rights, and cash payments. Settlement costs incurred in connection with this litigation have been recorded in our consolidated financial statements and all but an immaterial amount was paid during fiscal 2017. The indemnification claim against the former stockholders and option holders of Validity remains outstanding.

8. Stockholders' Equity

Preferred Stock

We are authorized, subject to limitations imposed by Delaware law, to issue up to a total of 10,000,000 shares of preferred stock in one or more series without stockholder approval. Our Board of Directors has the power to establish, from time to time, the number of shares to be included in each series and to fix the rights, preferences, and privileges of the shares of each wholly unissued series and any of its qualifications, limitations, or restrictions. Our Board of Directors can also increase or decrease the number of shares of a series, but not below the number of shares of that series then outstanding, without any further vote or action by the stockholders.

Our Board of Directors may authorize the issuance of preferred stock with voting or conversion rights that could harm the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in control of our company and might harm the market price of our common stock and the voting power and other rights of the holders of our common stock. As of the end of fiscal 2018, there were no shares of preferred stock outstanding.

Shares Reserved for Future Issuance

Shares of common stock reserved for future issuance as of the end of fiscal 2018 were as follows:

Stock options outstanding	1,618,209
Deferred stock units outstanding	1,853,558
Market stock units outstanding	354,726
Performance stock units outstanding	294,541
Awards available for grant under all share-based compensation plans	2,210,217
Reserved for future issuance	6,331,251

Treasury Stock

Our cumulative authorization for our common stock repurchase program as of the end of fiscal 2018 is $1.3 billion, which expires in July 2019. The program authorizes us to repurchase our common stock in the open market or in privately negotiated transactions depending upon market conditions and other factors. The number of shares repurchased and the timing of repurchases is based on the level of our cash balances, general business and market conditions, and other factors, including alternative investment opportunities. Common stock repurchased under this program is held as treasury stock. As of the end of fiscal 2018, we had $226.1 million remaining under our common stock repurchase program.

9. Share-Based Compensation

The purpose of our various share-based compensation plans is to attract, motivate, retain, and reward high-quality employees, directors, and consultants by enabling such persons to acquire or increase their proprietary interest in our common stock in order to strengthen the mutuality of interests between such persons and our stockholders and to provide such persons with annual and long-term performance incentives to focus their best efforts on the creation of stockholder value. Consequently, we determine whether to grant share-based compensatory awards subsequent to the initial award for our employees and consultants primarily on individual performance. Our share-based compensation plans with outstanding awards consist of our Amended and Restated 2001 Incentive Compensation Plan, or our 2001 Plan; our Amended and Restated 2010 Incentive Compensation Plan, or our 2010 Plan; and our 2010 Employee Stock

Purchase Plan, or our 2010 ESPP.

Share-based compensation awards available for grant or issuance for each plan as of the beginning of the fiscal year, including changes in the balance of awards available for grant for fiscal 2018, were as follows:

	Awards Available Under All Share-Based Award Plans	2001 Incentive Compensation Plan	2010 Incentive Compensation Plan	2010 Employee Stock Purchase Plan
Balance at June 2017	2,947,069	—	2,566,899	380,170
Additional shares authorized	2,346,384	—	2,000,000	346,384
Stock options granted	(61,825)	—	(61,825)	—
Deferred stock units granted	(1,331,073)	—	(1,331,073)	—
Market stock units granted	(300,071)	—	(300,071)	—
Performance stock units granted	(315,380)	—	(315,380)	—
Market stock units performance adjustment	68,003	—	68,003	—
Purchases under employee stock purchase plan	(486,263)	—	—	(486,263)
Forfeited	692,035	4,500	687,535	—
Plan shares expired	(4,500)	(4,500)	—	—
Fungible Shares Ratio Adjustment	(1,344,162)	—	(1,344,162)	—
Balance at June 2018	2,210,217	—	1,969,926	240,291

Our 2001 Plan, which expired in March 2011, was replaced by our 2010 Plan. Option awards that are currently outstanding under our 2001 Plan will remain outstanding until exercised, delivered, forfeited, or cancelled under the terms of their respective grant agreements.

During the three months ended September 30, 2017, we adopted the accounting standard update, or ASU, for Compensation-Stock Compensation which was issued by the Financial Accounting Standards Board, or FASB. This update simplifies several aspects of the accounting for employee share-based payment transactions, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification in the statement of cash flows. Upon adoption of this ASU, we elected to change our accounting policy to account for forfeitures as they occur and we applied the accounting policy change on a modified retrospective basis. As a result of the adoption of this ASU, we recognized the net cumulative effect of this change as a $24.7 million increase to retained earnings, a $1.0 million increase to additional paid-in capital and established an additional $25.7 million of deferred tax assets for research credit and alternative minimum tax credit carryforwards. We have reflected excess tax benefits for share-based payments in the statement of cash flows as operating activities rather than financing activities on a prospective basis and therefore, prior periods have not been adjusted.

Share-based compensation and the related tax benefit recognized in our consolidated statements of income for fiscal 2018, 2017, and 2016 were as follows (in millions):

	2018	2017	2016
Cost of revenue	$3.2	$2.2	$1.8
Research and development	38.6	33.1	30.6
Selling, general, and administrative	29.5	26.5	24.4

Total	$71.3	$61.8	$56.8
Income tax benefit on share-based compensation	$11.1	$16.1	$14.7

We recognize a tax benefit upon expensing certain share-based awards associated with our share-based compensation plans, including nonqualified stock options, DSUs, MSUs, and PSUs, but we cannot recognize a tax benefit concurrent with the recognition of share-based compensation expenses associated with incentive stock options and employee stock purchase plan shares (qualified stock awards). For qualified stock awards we recognize a tax benefit only in the period when disqualifying dispositions of the underlying stock occur, which historically has been up to several years after vesting and in a period when our stock price substantially increases.

We determine excess tax benefit using the long-haul method in which we compare the actual tax benefit associated with the tax deduction from share-based award activity to the hypothetical tax benefit based on the grant date fair values of the corresponding share-based awards. Tax benefit associated with excess tax deduction creditable to income tax provision is recognized when incurred. Tax deficiency associated with a tax shortfall is debited to income tax provision when incurred.

Historically, we have issued new shares in connection with our share-based compensation plans, however, treasury shares are also available for issuance. Any additional shares repurchased under our common stock repurchase program will be available for issuance under our share-based compensation plans.

Stock Options

Our share-based compensation plans with outstanding stock option awards include our 2001 Plan and our 2010 Plan. Under our 2010 Plan, we may grant incentive stock options or nonqualified stock options to purchase shares of our common stock at not less than 100% of the fair market value, or FMV, on the date of grant.

Options granted under our 2010 Plan generally vest three to four years from the vesting commencement date and expire seven years after the date of grant if not exercised.

Certain stock option activity for fiscal 2018 and balances as of the end of fiscal 2018 were as follows:

	Stock Option Awards Outstanding	Weighted Average Exercise Price	Intrinsic Value (In millions)
Balance at June 2017	2,490,168	$ 49.20	
Granted	61,825	45.32	
Exercised	(690,310)	24.08	
Forfeited	(105,124)	59.36	
Expired	(138,350)	72.08	
Balance at June 2018	1,618,209	57.14	$ 9.2
Exercisable at June 2018	1,378,833	57.09	$ 8.9

The aggregate intrinsic value was determined using the closing price of our common stock on the last trading day of fiscal 2018, or June 29, 2018, of $50.37 and excludes the impact of options that were not in-the-money. Approximately 32% of the stock option awards outstanding were vested and in-the-money as of the end of fiscal 2018.

At the end of fiscal 2018, we estimated that we have 1.6 million fully vested options with an aggregate intrinsic value of $9.2 million, having a weighted average exercise price of $57.14 and a weighted average remaining contractual term of 3.31 years. The weighted average remaining contractual term for the options exercisable is approximately 2.96 years.

Cash received and the aggregate intrinsic value of stock options exercised for fiscal 2018, 2017, and 2016 were as follows (in millions):

	2018	2017	2016
Cash received	$16.7	$10.7	$16.6
Aggregate intrinsic value	$15.2	$12.3	$29.7

The fair value of each award granted under our share-based compensation plans for fiscal 2018, 2017, and 2016 was estimated at the date of grant using the Black-Scholes option pricing model, assuming no expected dividends and the following range of assumptions:

	2018	2017	2016
Expected volatility	46.2%	45.2% - 48.3%	40.4% - 44.2%
Expected life in years	4.4	3.8 - 4.6	3.8 - 4.6
Risk-free interest rate	1.8%	1.03% - 1.94%	1.22% - 1.72%
Fair value per award	$ 18.04	$ 21.08	$ 28.30

The unrecognized share-based compensation costs for stock options granted under our various plans were approximately $4.3 million as of the end of fiscal 2018, to be recognized over a weighted average period of approximately 1.43 years.

Deferred Stock Units

Our 2010 Plan provides for the grant of DSU awards to our employees, consultants, and directors. A DSU is a promise to deliver shares of our common stock at a future date in accordance with the terms of the DSU grant agreement. We began granting DSUs in January 2006.

DSUs granted under our 2010 Plan generally vest ratably over three to four years from the vesting commencement date. Delivery of shares under the plan takes place on the quarterly vesting dates. At the delivery date, we withhold shares to cover statutory minimum tax withholding by delivering a net quantity of shares. Until delivery of shares, the grantee has no rights as a stockholder.

An election to defer delivery of the underlying shares for unvested DSUs can be made by the grantee provided the deferral election is made at least one year before vesting and the deferral period is at least five years from the scheduled delivery date.

DSU activity, including DSUs granted, delivered, and forfeited in fiscal 2018, and the balance and aggregate intrinsic value of DSUs as of the end of fiscal 2018 were as follows:

	DSU Awards Outstanding	Aggregate Intrinsic Value (in millions)	Weighted Average Grant Date Fair Value
Balance at June 30, 2017	1,320,798		$ 69.14
Granted	1,331,073		40.52
Delivered	(545,028)		70.26
Forfeited	(253,285)		58.42
Balance at June 30, 2018	1,853,558	$ 93.4	49.75

Of the shares delivered, 138,499 shares valued at $5.4 million were withheld to meet statutory minimum tax withholding requirements. The aggregate intrinsic value was determined using the closing price of our common stock on the last trading day of fiscal 2018, or June 29, 2018, of $50.37.

The unrecognized share-based compensation cost for DSUs granted under our 2010 Plan was approximately $108.1 million as of the end of fiscal 2018, which will be recognized over a weighted average period of approximately 2.03 years. The aggregate market value of DSUs delivered in fiscal 2018, 2017, and 2016 was $21.4 million, $24.3 million, and $26.7 million, respectively.

Market Stock Units

Our Amended and Restated 2010 Incentive Compensation Plan provides for the grant of MSU awards, to our employees, consultants, and directors. An MSU is a promise to deliver shares of our common stock at a future date based on the achievement of market-based performance requirements in accordance with the terms of the MSU grant agreement.

We have granted MSUs to our executive officers and other management members, which are designed to vest in three tranches with the target quantity for each tranche equal to one-third of the total MSU grant. The first tranche vests based on a one-year performance period; the second tranche vests based on a two-year performance period; and the third tranche vests based on a three-year performance period. Performance is measured based on the achievement of a specified level of total stockholder return, or TSR, relative to the TSR of the S&P Semiconductor Select Industry Index, or SPSISC Index, for grants made beginning in fiscal 2018 and relative to the Philadelphia Semiconductor Index, or SOX Index, for grants made prior to fiscal 2018. The potential payout ranges from 0% to 200% of the grant target quantity and is adjusted on a two-to-one ratio based on our TSR performance relative to the SPSISC Index TSR or SOX Index TSR using the following formula:

(100% + ([Synaptics TSR—{SPSISC Index TSR or SOX Index TSR}] x 2))

The payout for tranche one and two will not exceed 100% and the payout for tranche three will be calculated based on the total target quantity for the entire grant multiplied by the payout factor, based on performance for the three-year performance period, less shares issued for the first tranche and the second tranche.

Delivery of shares earned, if any, will take place on the dates provided in the applicable MSU grant agreement, assuming the grantee is still an employee, consultant, or director of our company at the end of the applicable performance period. On the delivery date, we withhold shares to cover statutory tax withholding requirements and deliver a net quantity of shares to the employee, consultant, or director after such withholding. Until delivery of shares, the grantee has no rights as a stockholder with respect to any shares underlying the MSU award.

MSU activity, including MSUs granted, delivered, and forfeited in fiscal 2018, and the balance and aggregate intrinsic value of MSUs as of the end of fiscal 2018 were as follows:

	MSU Awards Outstanding	Aggregate Intrinsic Value (in millions)	Weighted Average Grant Date Fair Value
Balance at June 30, 2017	158,596		$ 82.88
Granted	300,071		53.02
Performance adjustment	(68,003)		—
Delivered	—		—
Forfeited	(35,938)		76.93
Balance at June 30, 2018	354,726	$ 17.9	59.37

As a result of the Synaptics TSR underperforming the SOX Index TSR by 118 percentage points, we did not deliver any of the targeted shares underlying the October 2014 MSU grants. As a result of the Synaptics TSR underperforming the SOX Index TSR by 115 percentage points, we did not deliver any of the targeted shares underlying the October 2015 MSU grants. As a result of the Synaptics TSR underperforming the SOX Index TSR by 60 percentage points, we did not deliver any of the targeted shares underlying the October 2016 MSU grants

The aggregate intrinsic value assumes a 100% payout factor and was determined using the closing price of our common stock on the last trading day of fiscal 2018, or June 29, 2018, of $50.37.

The fair value of each MSU granted from our plans for fiscal 2018, 2017, and 2016 was estimated at the date of grant using the Monte Carlo simulation model, assuming no expected dividends and the following assumptions:

	2018	2017	2016
Expected volatility of company	49.16% - 50.60%	52.54%	45.57%
Expected volatility of SOX index	22.37% - 22.52%	21.23%	19.65%
Correlation coefficient	0.52 - 0.53	0.45	0.42
Expected life in years	2.80 - 2.92	2.92	2.94
Risk-free interest rate	1.72% - 1.88%	1.01%	0.92%

Fair value per award	\$48.22 - \$59.19	\$67.51	\$ 126.74

We amortize the compensation expense over the three-year performance and service period. The unrecognized share-based compensation cost of our outstanding MSUs was approximately \$14.4 million as of the end of fiscal 2018, which will be recognized over a weighted average period of approximately 1.12 years.

Performance Stock Units

Our Amended and Restated 2010 Incentive Compensation Plan provides for the grant of PSU awards to our employees, consultants, and directors. A PSU is a promise to deliver shares of our common stock at a future date based on the achievement of performance-based requirements in accordance with the terms of the PSU grant agreement.

We have granted PSUs to our executive officers and other management members, which are designed to vest in three tranches with the target quantity for each tranche equal to one-third of the total PSU grant. The grants have a specific one-year performance period and vesting occurs over three service periods with the final service period ending approximately three years from the grant date. Performance is measured based on the achievement of a specified level of non-GAAP earnings per share. The potential payout ranges from 0% to 200% of the grant target quantity and is adjusted on a linear basis with a payout triggering if our non-GAAP earnings per share equals greater than 65% of the target with a maximum payout achieved at 135% of target.

Delivery of shares earned, if any, will take place on the dates provided in the applicable PSU grant agreement, assuming the grantee is still an employee, consultant, or director of our company at the end of the applicable service period. On the delivery date, we withhold shares to cover statutory tax withholding requirements and deliver a net quantity of shares to the employee, consultant, or director after such withholding. Until delivery of shares, the grantee has no rights as a stockholder with respect to any shares underlying the PSU award.

During the fiscal year ended June 30, 2018, there were 315,380 PSUs granted, 20,839 PSUs forfeited, and no PSUs were delivered. The aggregate intrinsic value of all outstanding PSUs as of June 30, 2018, was $14.8 million.

We value PSUs using the aggregate intrinsic value on the date of grant and amortize the compensation expense over the three-year service period on a ratable basis, dependent upon the probability of meeting the performance measures. The unrecognized share-based compensation cost of our outstanding PSUs was approximately $7.7 million as of June 30, 2018, which will be recognized over a weighted average period of approximately 1.42 years.

Employee Stock Purchase Plan

Our 2010 Employee Stock Purchase Plan, or ESPP, became effective on January 1, 2011. The 2010 ESPP allows employees to designate up to 15% of their base compensation, subject to legal restrictions and limitations, to purchase shares of common stock at 85% of the lesser of the FMV at the beginning of the offering period or the exercise date. The offering period extends for up to two years and includes four exercise dates occurring at six-month intervals. Under the terms of our 2010 ESPP, if the FMV at an exercise date is less than the FMV at the beginning of the offering period, the current offering period will terminate and a new two-year offering period will commence.

Shares purchased, weighted average purchase price, cash received, and the aggregate intrinsic value for employee stock purchase plan purchases in fiscal 2018, 2017, and 2016 were as follows (in millions, except shares purchased and weighted average purchase price):

	2018	2017	2016
Shares purchased	486,263	302,085	302,781
Weighted average purchase price	$32.07	$46.74	$52.42
Cash received	$15.6	$14.1	$15.8
Aggregate intrinsic value	$3.9	$2.7	$7.0

The fair value of each award granted under our 2010 ESPP for fiscal 2018, 2017, and 2016 was estimated using the Black-Scholes option pricing model, assuming no expected dividends and the following range of assumptions:

	2018	2017	2016
Expected volatility	43.7 - 49.8%	38.4 - 54.9%	37.4% - 40.6%

Expected life in years	0.5 - 2.0	0.5 - 2.0	0.5 - 1.0
Risk-free interest rate	1.42% - 2.45%	0.62% - 1.20%	0.33% - 0.54%
Fair value per award	$13.54	$20.44	$ 24.52

The expected volatility is based on either implied volatility for the expected lives of 0.5 years or a weighting of implied and historical volatility for expected lives greater than 0.5 years; the expected life is the period starting at the enrollment date until each purchase date remaining in the offering period at the date of enrollment in the plan; and the risk free interest rate is based on U.S. Treasury yields or yield curve in effect for each expected life.

Unrecognized share-based compensation costs for awards granted under our 2010 ESPP at the end of fiscal 2018 were approximately $12.9 million that will be amortized over the next 16 months.

10. Employee Benefit Plans

401(k) Plan

We have a 401(k) Retirement Savings Plan for full-time employees in the United States. Under the plan, eligible employees may contribute a portion of their net compensation up to the annual limit of $18,500, or $24,500 for employees who are 50 years or older. In fiscal 2018, we provided matching funds of 25% of our employees' contributions, excluding catch-up contributions. The employer matching funds vest 25% over four years and are fully vested at the end of the fourth year. We made matching contributions of $2.8 million, $2.3 million, and $2.5 million in fiscal 2018, 2017, and 2016, respectively.

11. Income Taxes

On December 22, 2017, the U.S. government enacted comprehensive tax legislation, commonly known as the Tax Cuts and Jobs Act of 2017, or the Act, which significantly reforms the Internal Revenue Code of 1986, as amended. The Act contains broad and complex changes to corporate taxation, including, in part, reduction of the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously considered permanently reinvested, and creates new taxes on certain foreign sourced earnings. As our accounting and tax year is the fiscal period ending on the last Saturday in June, U.S. federal tax law requires that taxpayers with a fiscal year that spans the effective date of a rate change to calculate a blended tax rate based on the pro rata number of days in the fiscal year before and after the effective date. As a result, our U.S. federal tax rate for fiscal 2018 is a days-weighted blended tax rate of 28.17%. For fiscal 2019 and subsequent tax years, our U.S. federal tax rate will be 21%.

As of June 30, 2018, we have not finalized our accounting for the tax impact of the Act; however, in certain cases, we have made a reasonable estimate of the impact of the enactment. In cases where we have not been able to make a reasonable estimate, we continue to account for those items based on our existing accounting policies. For those items in which we could determine a reasonable estimate, namely the one-time transition tax and the remeasurement of deferred tax at the new tax rate, we recognized provisional tax expense of $41.4 million, of which an expense of $44.1 million relates to one-time transition tax and a benefit of $2.7 million related to remeasurement of deferred tax at the new tax rate.

The one-time transition tax is based on our post-1986 foreign earnings and profits, or E&P, which we have previously excluded from U.S. income taxes due to our position that we would permanently reinvest future earnings. The one-time transition tax is applied at a 15.5% tax rate on cash assets and an 8% tax rate for other specified assets. We recorded a provisional amount for our one-time transition tax liability for our foreign subsidiaries and investments, resulting in an increase in income tax liability of $11.6 million, net of foreign tax credits and research credits.

We have not yet completed our calculation of the total post-1986 foreign E&P for these foreign subsidiaries. This amount may change when we finalize the determination of our E&P previously deferred from U.S. federal taxation and finalize the amounts held in cash or other specified assets. No additional income taxes have been provided for any remaining undistributed foreign earnings not subject to the transition tax and any additional outside basis difference inherent in these entities as these amounts continue to be indefinitely reinvested in foreign operations. We do not have the necessary information prepared or analyzed to develop a reasonable estimate of the tax liability, if any, for our remaining outside basis difference including any deferred tax accounting that may be required due to other provisions in the Act beyond the one-time transition tax and the remeasurement of deferred tax under the new tax rate, including how that accounting may be affected by our ongoing accounting position to indefinitely reinvest unremitted foreign earnings.

Income/(loss) before provision for income taxes for fiscal 2018, 2017, and 2016 consisted of the following (in millions):

	2018	2017	2016
United States	$(51.1)	$(10.1)	$12.3
Foreign	(30.7)	71.4	63.3
Income/(loss) before provision for income taxes	$(81.8)	$61.3	$75.6

The provision for income taxes for fiscal 2018, 2017, and 2016 consisted of the following (in millions):

	2018	2017	2016
Current tax expense			
Federal	$21.5	$9.6	$12.1
Foreign	14.1	25.5	12.4
	35.6	35.1	24.5
Deferred tax expense/(benefit)			
Federal	14.4	(10.6)	(7.5)
Foreign	(9.5)	(12.3)	(13.6)
	4.9	(22.9)	(21.1)
Provision for income taxes	$40.5	$12.2	$3.4

The provision for income taxes differs from the federal statutory rate for fiscal 2018, 2017, and 2016 as follows (in millions):

	2018	2017	2016
Provision at U.S. federal statutory rate	$(22.9)	$21.5	$26.6
Qualified stock options	4.9	5.5	5.1
Shortfall related to share-based compensation	4.1	—	—
Business credits	(4.9)	(3.6)	(10.3)
Foreign tax differential	16.5	(13.2)	(22.4)
Non-deductible portion of contingent consideration	—	0.9	0.9
Change in valuation allowance	—	(0.8)	(1.4)
Nondeductible amortization	1.2	1.6	4.4
Taxes associated with one-time transition tax	44.1	—	—
Impact of corporate tax rate change on deferred taxes	(2.7)	—	—
Other differences	0.2	0.3	0.5
Provision for income taxes	$40.5	$12.2	$3.4

Net deferred tax assets were all non-current, which were included in other assets in the accompanying consolidated balance sheets as of the end of fiscal 2018 and 2017, and consisted of $15.9 million and $23.1 million, respectively.

Significant components of our deferred tax assets (liabilities) as of the end of fiscal 2018 and 2017 consisted of the following (in millions):

	2018	2017
Deferred tax assets:		
Investment writedowns	$1.1	$1.8
Inventory writedowns	11.6	7.4
Property and equipment	1.9	3.0
Accrued compensation	0.1	0.2
Deferred compensation	0.6	1.9
Share-based compensation	11.1	15.6
Business credit carryforward	25.3	19.2
Net operating loss carryforward	—	0.3
Acquisition intangibles	0.6	—
Other accruals	1.6	2.0
	53.9	51.4
Valuation allowance	(23.3)	(15.8)
	30.6	35.6
Deferred tax liabilities:		
Acquisition intangibles	—	(9.2)
Interest	(14.7)	(3.3)
	(14.7)	(12.5)
Net deferred tax assets	$15.9	$23.1

Realization of deferred tax assets depends on our generating sufficient U.S. and certain foreign taxable income in future years to obtain a benefit from the utilization of those deferred tax assets on our tax returns. Accordingly, the amount of deferred tax assets considered realizable may increase or decrease when we reevaluate the underlying basis for our estimates of future U.S. and foreign taxable income. As of the end of fiscal 2018, a valuation allowance of $23.3 million is maintained to reduce deferred tax assets to levels that we believe are more likely than not to be realized through future taxable income. The net change in the valuation allowance during fiscal 2018 was an increase of $7.5 million.

Undistributed earnings of our foreign subsidiaries were approximately $751.9 million as of the end of fiscal 2018, which we have accounted for in the one-time transition tax calculation; accordingly, no additional U.S. income taxes have been provided for these earnings.

As of the end of fiscal 2018, we had federal and California net operating loss carryforwards of approximately $0.1 million and $33.2 million, respectively. The California net operating loss will begin to expire in fiscal 2020, if not utilized. Under current tax law, net operating loss and tax credit carryforwards available to offset future income or income taxes may be limited by statute or upon the occurrence of certain events, including significant changes in ownership.

We had $7.0 million and $34.1 million of federal and state research tax credit carryforwards, respectively, as of the end of fiscal 2018. The federal research tax credit carryforward will begin to expire in 2032 and the state research tax credit can be carried forward indefinitely. We also had $1.6 million of federal alternative minimum tax credit carryforward available to offset future federal tax liabilities with no expiration or potentially refundable under current tax laws.

The total liability for gross unrecognized tax benefits related to uncertain tax positions, included in other liabilities in our consolidated balance sheets, increased by $9.6 million from $15.2 million in fiscal 2017 to $24.8 million in fiscal 2018. Of this amount, $17.5 million will reduce the effective tax rate on income from continuing operations, if recognized. A reconciliation of the beginning and ending balance of gross unrecognized tax benefits for fiscal 2018, 2017, and 2016 consisted of the following (in millions):

	2018	2017	2016
Beginning balance	$15.2	$13.4	$11.6
Increase in unrecognized tax benefits related to current year tax positions	10.5	2.5	1.6
Increase in unrecognized tax benefits related to prior year tax positions	—	0.1	1.1
Decrease due to statute expiration	(0.9)	(0.8)	(0.9)
Ending Balance	$24.8	$15.2	$13.4

Accrued interest and penalties increased by $0.7 million, decreased by $0.2 million, and increased by $0.3 million representing income tax expense or benefit, in fiscal 2018, 2017, and 2016, respectively. Accrued interest and penalties were $1.9 million and $1.2 million as of June 30, 2018 and 2017, respectively. Our policy is to classify interest and penalties, if any, as components of income tax expense.

It is reasonably possible that the amount of liability for unrecognized tax benefits may change within the next 12 months; an estimate of the range of possible changes could result in a decrease of $1.9 million to an increase of $3.2 million.

In July 2018, the U.S. Ninth Circuit Court of Appeals reversed a 2015 decision of the U.S. Tax Court in Altera Corp. v. Commissioner that found that the Treasury regulations addressing the treatment of stock-based compensation in a cost-sharing arrangement with a related party were invalid. In August 2018, the U.S. Ninth Circuit Court of Appeals withdrew its July 2018 opinion to allow time for the reconstituted panel to confer on this appeal. As our tax filing position is consistent with the treasury regulations, we determined no adjustment to our financial statements is required, however, due to the uncertainties with respect to the ultimate resolution, we will continue to monitor developments in this case.

Our major tax jurisdictions are the United States, Hong Kong SAR, and Japan. From fiscal 2013 onward, we remain subject to examination by one or more of these jurisdictions. We are currently under an income tax examination by the IRS for fiscal years 2014 and 2015. The audit is ongoing and as of June 30, 2018, we have not received any proposed adjustments.

During the three months ended September 30, 2017, we early adopted the new ASU on Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory, which reduces the complexity in the accounting standards by allowing the recognition of current and deferred income taxes for an intra-entity asset transfer, other than inventory, when the transfer occurs. Historically, recognition of the income tax consequence of an intra-entity asset transfer was deferred and recognized either upon the disposition of the asset or over the economic life of the asset. We applied this amendment on a modified retrospective basis through a cumulative-effect adjustment of $8.3 million directly to retained earnings as of the beginning of fiscal 2018.

12. Segment, Customers, and Geographic Information

We operate in one segment: the development, marketing, and sale of semiconductor products used in electronic devices and products. We generate our revenue from three broad product categories: the mobile product market, the personal computing, or PC, product market, and the Internet of Things, or IoT, product market.

Net revenue within geographic areas based on our customers' locations for fiscal 2018, 2017, and 2016, consisted of the following (in millions):

	2018	2017	2016
China	$803.2	$844.8	$518.7
Japan	358.6	426.5	651.0
Taiwan	235.2	66.4	61.1
United States	90.9	231.4	249.1
Other	74.9	25.3	4.5
South Korea	67.5	123.8	182.5
	$1,630.3	$1,718.2	$1,666.9

Net revenue from external customers for each group of similar products for fiscal 2018, 2017, and 2016 consisted of the following (in millions):

	2018	2017	2016
Mobile product applications	$1,021.0	$1,406.0	$1,398.2
PC product applications	257.8	229.2	207.4
IoT product applications	351.5	83.0	61.3
	$1,630.3	$1,718.2	$1,666.9

As a result of our recent acquisitions, we are presenting a new revenue line for IoT. Certain reclassifications have been made to the prior year revenue presentation in the above table in order to conform to the current year revenue presentation.

Long-lived assets within geographic areas as of the end of fiscal 2018 and 2017 consisted of the following (in millions):

	2018	2017
United States	$193.3	$159.4
Asia/Pacific	273.8	262.2
Europe	242.7	-
	$709.8	$421.6

Our goodwill of $372.8 million has been allocated to two reporting units which include IoT and Mobile/PC.

Major customers' revenue as a percentage of total net revenue for fiscal 2018, 2017, and 2016 were as follows:

	2018	2017	2016
Customer A	15%	24%	20%
Customer B	12%	*	*
Customer C	*	19%	21%
Customer D	*	10%	*
Customer E	*	*	15%

* Less than 10%

13. Restructuring Activities

In November 2017, we committed to and initiated a restructuring action intended to streamline and reduce our operating cost structure and capitalize on acquisition synergies. These costs primarily related to severance costs for a reduction in headcount, facility consolidation and related costs. In April 2018, we committed to and initiated a restructuring to close a research and development facility. These costs include employee severance and related benefits and facility closure charges. Restructuring costs related to both the November 2017 and April 2018 restructuring activities were recorded to the restructuring costs line item within our condensed consolidated statements of operations and are complete as of June 30, 2018.

The restructuring liability activities during fiscal year 2018 were as follows (in millions):

	Employee Severance and Benefits	Facility Consolidation and Related Charges	Total
Accruals	$ 11.0	$ 1.0	$12.0
Cash payments	(8.8)	(0.2)	(9.0)
Non-cash settlements	-	(0.7)	(0.7)
Balance as of June 30, 2018	$ 2.2	$ 0.1	$2.3

In June 2016, our management committed to and initiated plans to restructure and further improve efficiencies in our operational activities to align the Company's cost structure consistent with its revenue levels. Restructuring costs related to the June 2016 restructuring activities were recorded to the restructuring costs line item within our consolidated statements of income. These costs primarily related to severance costs for a reduction in headcount and facility consolidation and related costs. These restructuring charges were complete as of June 30, 2017.

The restructuring liability activities during fiscal 2018, 2017, and 2016 were as follows (millions):

	Employee Severance and Benefits	Facility Consolidation and Related Charges	Total
Balance as of June 30, 2015	$ -	$ -	$-
Accruals	6.7		6.7
Balance as of June 30, 2016	6.7	-	6.7
Additional accruals	5.0	2.3	7.3
Cash payments	(11.7)	(0.9)	(12.6)
Non-cash settlements	-	(0.8)	(0.8)
Balance as of June 30, 2017	-	0.6	0.6
Adjustments	-	(0.2)	(0.2)
Cash payments	-	(0.4)	(0.4)
Balance as of June 30, 2018	$ -	$ -	$-

In the first quarter of fiscal 2016, we recorded $1.9 million of restructuring costs in our consolidated statements of income. The costs included severance costs related to restructuring of the operations related to our acquisition of RSP.

14. Subsequent Event

In August 2018, we committed to and initiated a restructuring of our mobile fingerprint optical business. We estimate the costs to be $8.0 million to $10.0 million and expect the activities to be substantially complete by the end of the second quarter of fiscal 2019. Estimated costs include employee severance and related benefits.