

MICROCHIP TECHNOLOGY INC

Form 10-K

May 30, 2017

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

☐ For the fiscal year ended March 31, 2017

OR

☐ Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

☐ For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 0-21184

MICROCHIP TECHNOLOGY INCORPORATED

(Exact Name of Registrant as Specified in Its Charter)

Delaware

86-0629024

(State or Other Jurisdiction of Incorporation or Organization) (IRS Employer Identification No.)

2355 W. Chandler Blvd., Chandler, AZ 85224-6199

(Address of Principal Executive Offices, Including Zip Code)

(480) 792-7200

(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
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Common Stock, \$0.001 Par Value Per Share	NASDAQ® Global Market
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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 checkmark 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 Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§229.405 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

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Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§232.405 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 Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "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 check mark 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 Exchange Act). ☐ Yes ☒ No

Aggregate market value of the voting and non-voting common equity held by non-affiliates as of September 30, 2016 based upon the closing price of the common stock as reported by the NASDAQ Global Market on such date was approximately \$13,114,059,963.

Number of shares of Common Stock, \$0.001 par value, outstanding as of May 19, 2017: 229,397,877 shares

Documents Incorporated by Reference

Document	Part of Form
	10-K
Proxy Statement for the 2017 Annual Meeting of Stockholders	III

MICROCHIP TECHNOLOGY INCORPORATED AND SUBSIDIARIES

FORM 10-K

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PART I

This Form 10-K contains certain forward-looking statements that involve risks and uncertainties, including statements regarding our strategy and future financial performance and those statements identified under "Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations – Note Regarding Forward-looking Statements." Our actual results could differ materially from the results described in these forward-looking statements as a result of certain factors including those set forth under "Item 1A – Risk Factors," beginning below at page 12, and elsewhere in this Form 10-K. Although we believe that the matters reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. You should not place undue reliance on these forward-looking statements. We disclaim any obligation to update information contained in any forward-looking statement. In this Form 10-K, "we," "us," "our," and "Microchip" each refers to Microchip Technology Incorporated and its subsidiaries.

Item 1. BUSINESS

We develop, manufacture and sell specialized semiconductor products used by our customers for a wide variety of embedded control applications. Our product portfolio comprises general purpose and specialized 8-bit, 16-bit, and 32-bit microcontrollers, a broad spectrum of high-performance linear, mixed-signal, power management, thermal management, radio frequency (RF), timing, safety, security, wired connectivity and wireless connectivity devices, as well as serial Electrically Erasable Programmable Read Only Memory (EEPROM), Serial Flash memories, Parallel Flash memories and serial Static Random Access Memory (SRAM). We also license Flash-IP solutions that are incorporated in a broad range of products. Our synergistic product portfolio targets thousands of applications worldwide and a growing demand for high-performance designs in the automotive, communications, computing, consumer and industrial control markets. Our quality systems are ISO/TS16949 (2009 version) certified.

Microchip Technology Incorporated was incorporated in Delaware in 1989. Our executive offices are located at 2355 West Chandler Boulevard, Chandler, Arizona 85224-6199 and our telephone number is (480) 792-7200.

Our Internet address is [www.microchip.com](http://www.microchip.com). We post the following filings on our website as soon as reasonably practicable after they are electronically filed with or furnished to the Securities and Exchange Commission:

- our annual report on Form 10-K
- our quarterly reports on Form 10-Q
- our current reports on Form 8-K
- our proxy statement
- any amendments to the above-listed reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934

All of our SEC filings on our website are available free of charge. The information on our website is not incorporated into this Form 10-K.

Industry Background

Competitive pressures require manufacturers of a wide variety of products to expand product functionality and provide differentiation while maintaining or reducing cost. To address these requirements, manufacturers often use integrated circuit-based embedded control systems that enable them to:

- differentiate their products
- replace less efficient electromechanical control devices

- reduce the number of components in their system
- add product functionality
- reduce the system level energy consumption
- make systems safer to operate
- decrease time to market for their products
- significantly reduce product cost

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Embedded control systems have been incorporated into thousands of products and subassemblies in a wide variety of applications and markets worldwide, including:

- automotive comfort, safety, information and entertainment applications
- remote control devices
- handheld tools
- large and small home appliances
- portable computers and accessories
- robotics
- energy monitoring
- thermostats
- motor controls
- security systems
- smoke and carbon monoxide detectors
- consumer electronics
- power supplies
- applications needing touch buttons, touch screens and graphical user interfaces
- medical instruments

Embedded control systems typically incorporate a microcontroller as the principal active, and sometimes sole, component. A microcontroller is a self-contained computer-on-a-chip consisting of a central processing unit, often with on-board non-volatile program memory for program storage, random access memory for data storage and various analog and digital input/output peripheral capabilities. In addition to the microcontroller, a complete embedded control system incorporates application-specific software, various analog, mixed-signal, timing and connectivity products and non-volatile memory components such as EEPROMs and Flash memory.

The increasing demand for embedded control has made the market for microcontrollers one of the significant segments of the semiconductor market at over \$15.8 billion in calendar year 2016. Microcontrollers are primarily available in 8-bit through 32-bit architectures. 8-bit microcontrollers remain very cost-effective for a wide range of high-volume embedded control applications and, as a result, continue to represent a significant portion of the overall microcontroller market. 16-bit and 32-bit microcontrollers provide higher performance and functionality, and are generally found in more complex embedded control applications. The analog and mixed-signal segment of the semiconductor market is very large at over \$45 billion in calendar year 2016, and this market is fragmented into a large number of sub segments.

## Our Products

Our strategic focus is on embedded control solutions, including:

- general purpose and specialized microcontrollers and 32-bit microprocessors
- development tools and related software
- analog, interface, mixed signal, timing and security products
- wired and wireless connectivity products
- memory products
- technology licensing

We provide highly cost-effective embedded control solutions that also offer the advantages of small size, high performance, extreme low power usage, wide voltage range operation, mixed signal integration, and ease of

development, thus enabling timely and cost-effective integration of our solutions by our customers in their end products.

#### Microcontrollers

We offer a broad family of proprietary general purpose microcontroller products marketed under multiple brand names. We believe that our microcontroller product families provide leading function and performance characteristics in the worldwide microcontroller market. We have shipped over 19 billion microcontrollers to customers worldwide since 1990. We also offer specialized microcontrollers for automotive networking, computing, lighting, power supplies, motor control, human machine interface, security, wired connectivity and wireless connectivity. With over 2,800 microcontrollers in our product portfolio, we target the 8-bit, 16-bit, and 32-bit microcontroller markets.



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We have used our manufacturing experience and design and process technology to bring additional enhancements and manufacturing efficiencies to the development and production of our microcontroller products. Our extensive experience base has enabled us to develop microcontrollers with rich analog and digital peripherals, that have a small footprint, extreme low power consumption and are re-programmable, enabling us to be a leader in microcontroller product offerings.

### Development Tools

We offer a comprehensive set of low-cost and easy-to-learn application development tools. These tools enable system designers to quickly and easily program our microcontroller products for specific applications and, we believe, they are an important factor for facilitating design wins.

Our family of development tools for our microcontroller products range from entry-level systems, which include an assembler and programmer or in-circuit debugging hardware, to fully configured systems that provide in-circuit emulation capability. We also offer a complete suite of compilers, software code configurators and simulators. Customers moving from entry-level designs to those requiring real-time emulation are able to preserve their investment in learning and tools as they migrate to future microcontroller devices in our portfolio.

Many independent companies also develop and market application development tools that support our microcontroller product architectures. Currently, there are approximately 400 third-party tool suppliers worldwide whose products support our microcontroller architectures.

We believe that familiarity with and adoption of development tools from Microchip as well as our third-party development tool partners by an increasing number of product designers will be an important factor in the future selection of our embedded control products. These development tools allow design engineers to develop thousands of application-specific products from our standard microcontrollers. To date, we have shipped approximately 2.2 million development tools.

### Analog, Interface, Mixed Signal and Timing Products

Our analog, interface, mixed signal and timing products consist of several families with over 3,700 power management, linear, mixed-signal, high voltage, thermal management, radio frequency (RF), drivers, safety, security, timing, USB, ethernet, wireless and other interface products.

We market and sell our analog, interface, mixed signal and timing products into our microcontroller customer base, to customers who use microcontrollers from other suppliers and to customers who use other products that may not fit our traditional microcontroller and memory products customer base. We market these, and all of our products, based on an application segment approach targeted to provide customers with application solutions.

### Memory Products

Our memory products consist of EEPROMs, Serial Flash memories, Parallel Flash memories, Serial SRAM memories and EERAM. Serial EEPROMs, Serial Flash memories, Serial SRAMs and EERAM have a very low I/O pin requirement, permitting production of very small footprint devices. We sell our memory products primarily into the embedded control market, complementing our microcontroller offerings.

### Technology Licensing

Our technology licensing business includes license fees and royalties associated with technology licenses for the use of our SuperFlash® embedded flash and Smartbits® one time programmable NVM technologies. We also generate fees for engineering services related to these technologies. We license our NVM technologies to foundries, integrated device manufacturers and design partners throughout the world for use in the manufacture of their advanced microcontroller products, gate array, RF and analog products that require embedded non-volatile memory.

#### Multi-Market and Other

Our multi-market and other business offers manufacturing services (wafer foundry and assembly and test subcontracting), legacy application specific integrated circuits, complex programmable logic devices, and aerospace products.

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### Manufacturing

Our manufacturing operations include wafer fabrication, wafer probe, assembly and test. The ownership of a substantial portion of our manufacturing resources is an important component of our business strategy, enabling us to maintain a high level of manufacturing control, resulting in us being one of the lowest cost producers in the embedded control industry. By owning wafer fabrication facilities and our assembly and test operations, and by employing statistical techniques (statistical process control, designed experiments and wafer level monitoring), we have been able to achieve and maintain high production yields. Direct control over manufacturing resources allows us to shorten our design and production cycles. This control also allows us to capture a portion of the wafer manufacturing and assembly and testing profit margin. We do outsource a significant portion of our manufacturing requirements to third parties and the amount of our outsourced manufacturing has increased in recent years due to our acquisitions of companies that outsource all or substantial portions of their manufacturing.

Our manufacturing facilities are located in:

- Tempe, Arizona (Fab 2)
- Gresham, Oregon (Fab 4)
- Colorado Springs, Colorado (Fab 5)
- Chandler, Arizona (wafer probe)
- Bangkok, Thailand (wafer probe, assembly and test)
- Calamba, Philippines (wafer probe and test)

### Wafer Fabrication

Fab 2 currently produces 8-inch wafers and supports various manufacturing process technologies, but predominantly utilizes our 0.5 microns to 1.0 microns processes. During fiscal 2017, we increased Fab 2's capacity to support more advanced technologies by making process improvements, upgrading existing equipment, and adding equipment.

Fab 4 currently produces 8-inch wafers using predominantly 0.13 microns to 0.5 microns manufacturing processes. During fiscal 2017, we increased Fab 4's capacity to support more advanced technologies by making process improvements, upgrading existing equipment, and adding equipment. A significant amount of additional clean room capacity in Fab 4 can be brought on line in the future to support incremental wafer fabrication capacity needs.

Fab 5 was acquired as a result of our acquisition of Atmel Corporation (Atmel) in April 2016. Fab 5 is a 6-inch wafer fabrication facility that currently utilizes processes from 0.25 microns to 1.0 microns. During fiscal 2017, we made use of the existing capacity of Fab 5 to significantly increase wafer starts. We also added capital equipment and made clean room improvements to support products transferred from our acquisition of Micrel, Incorporated (Micrel) in August 2015.

We believe the combined capacity of Fab 2, Fab 4, and Fab 5 will provide sufficient capacity to allow us to respond to increases in future demand over the next several years with modest incremental capital expenditures.

As a result of our acquisition of Micrel, we acquired a 6-inch wafer fabrication facility in San Jose, California and have since transitioned products previously manufactured at this facility to our Fab 2, Fab 4 and Fab 5 facilities. During the quarter ended December 31, 2016, we decommissioned this San Jose facility and, subsequent to March 31, 2017, we completed the sale of these assets for proceeds of \$10.0 million. As of March 31, 2017, these assets consisting of property, plant and equipment were presented as held for sale in our consolidated financial statements.

We continue to transition products to more advanced process technologies to reduce future manufacturing costs. We believe that our ability to successfully transition to more advanced process technologies is important for us to remain competitive.

We augment our internal manufacturing capabilities by outsourcing a portion of our wafer production requirements to third-party wafer foundries. As a result of our acquisitions in recent years, we have become more reliant on outside wafer foundries for our wafer fabrication requirements. In fiscal 2017, approximately 41% of our sales came from products that were produced at outside wafer foundries.

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## Wafer Probe, Assembly and Test

We perform wafer probe, product assembly and testing at our facilities located near Bangkok, Thailand and we perform wafer probe and testing at our facility in Calamba, Philippines, which came to us through our Atmel acquisition. We also perform a limited amount of wafer probe and testing at our Chandler, Arizona facility and our Colorado Springs, Colorado facility. During fiscal 2017, we increased our Thailand and Philippines facilities' capacity to support more technologies by making process improvements, upgrading existing equipment, and adding equipment. During fiscal 2017, approximately 36% of our assembly requirements were being performed in our Thailand facilities and approximately 60% of our test requirements were performed in our Thailand and Philippines facilities. We use third-party assembly and test contractors in several Asian countries for the balance of our assembly and test requirements. The primary reasons for the percentage reductions in the assembly and test operations performed internally in fiscal 2017 compared to fiscal 2016 are our acquisitions of Atmel and Micrel, which outsourced most of these activities. Over time, we intend to migrate a portion of the outsourced assembly and test activities to our Thailand and Philippines facilities.

## General Matters Impacting Our Manufacturing Operations

Due to the high fixed costs inherent in semiconductor manufacturing, consistently high manufacturing yields have significant positive effects on our gross profit and overall operating results. Our continuous focus on manufacturing productivity has allowed us to maintain excellent manufacturing yields at our facilities. Our manufacturing yields are primarily driven by a comprehensive implementation of statistical process control, extensive employee training and effective use of our manufacturing facilities and equipment. Maintenance of manufacturing productivity and yields are important factors in the achievement of our operating results. The manufacture of integrated circuits, particularly non-volatile, erasable complementary metal-oxide semiconductor (CMOS) memory and logic devices, such as those that we produce, are complex processes. These processes are sensitive to a wide variety of factors, including the level of contaminants in the manufacturing environment, impurities in the materials used and the performance of our manufacturing personnel and equipment. As is typical in the semiconductor industry, we have from time to time experienced lower than anticipated manufacturing yields. Our operating results will suffer if we are unable to maintain yields at or above approximately the current levels.

Historically, we have relied on our ability to respond quickly to customer orders as part of our competitive strategy, resulting in customers placing orders with relatively short delivery schedules. In order to respond to such requirements, we have historically maintained a significant work-in-process and finished goods inventory.

The following table summarizes our long-lived assets (consisting of property, plant and equipment) by geography at the end of fiscal 2017, fiscal 2016 and fiscal 2015 (in thousands).

	March 31,		
	2017	2016	2015
United States	\$388,537	\$373,860	\$331,372
Thailand	210,603	182,813	197,981
Various other countries	84,198	52,723	52,219
Total long-lived assets	\$683,338	\$609,396	\$581,572

We have many suppliers of raw materials and subcontractors which provide our various materials and service needs. We generally seek to have multiple sources of supply for our raw materials and services, but, in some cases, we may rely on a single or limited number of suppliers. In such event, we have plans to reduce the exposure that would result from a disruption in supply.

## Research and Development (R&amp;D)

We are committed to continuing our investment in new and enhanced products, including development systems, and in our design and manufacturing process technologies. We believe these investments are significant factors in maintaining our competitive position. Our current R&D activities focus on the development of general purpose and specialized microcontrollers, 32-bit microprocessors, wired and wireless connectivity products, analog, interface, mixed signal, timing and security products, human machine interface, security, Serial EEPROM memory, NOR FLASH memory, Embedded FLASH technologies, development systems, software and application-specific software libraries. We are also developing design, assembly, test and process technologies to enable new products and innovative features as well as achieve further cost reductions and performance improvements in existing products.

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In fiscal 2017, our R&D expenses were \$545.3 million, compared to \$372.6 million in fiscal 2016 and \$349.5 million in fiscal 2015. R&D expenses included share-based compensation expense of \$46.8 million in fiscal 2017, \$32.0 million in fiscal 2016 and \$28.2 million in fiscal 2015.

## Sales and Distribution

### General

We market and sell our products worldwide primarily through a network of direct sales personnel and distributors.

Our direct sales force focuses on a wide variety of strategic accounts in three geographical markets: the Americas, Europe and Asia. We currently maintain sales and technical support centers in major metropolitan areas in all three geographic markets. We believe that a strong technical service presence is essential to the continued development of the embedded control market. Many of our client engagement managers (CEMs), embedded system engineers (ESEs), and sales management have technical degrees or backgrounds and have been previously employed in high technology environments. We believe that the technical knowledge of our sales force is a key competitive advantage in the sale of our products. The primary mission of our ESE team is to provide technical assistance to customers and to conduct periodic training sessions for the balance of our sales team. ESEs also frequently conduct technical seminars and workshops in major cities around the world.

Our licensing division has dedicated sales, technology, design, product, test and reliability personnel that support the requirements of our licensees.

For information regarding our revenue, results of operations, and total assets for each of our last three fiscal years, refer to our financial statements included in this Form 10-K.

### Distribution

Our distributors focus primarily on servicing the product requirements of a broad base of diverse customers. We believe that distributors provide an effective means of reaching this broad and diverse customer base. We believe that customers recognize us for our products and brand name and use distributors as an effective supply channel.

In fiscal 2017, we derived 55% of our net sales through distributors and 45% of our net sales from customers serviced directly by us. In fiscal 2016, we derived 53% of our net sales through distributors and 47% of our net sales from customers serviced directly by us. In fiscal 2015, we derived 51% of our net sales through distributors and 49% of our net sales from customers serviced directly by us. No distributor or end customer accounted for more than 10% of our net sales in fiscal 2017, fiscal 2016 or fiscal 2015.

We do not have long-term agreements with our distributors and we, or our distributors, may each terminate our relationship with little or no advanced notice. The loss of, or the disruption in the operations of, one or more of our distributors could reduce our future net sales in a given quarter and could result in an increase in inventory returns.

### Sales by Geography

Sales by geography for fiscal 2017, fiscal 2016 and fiscal 2015 were as follows (dollars in thousands):

	Year Ended March 31,					
	2017	%	2016	%	2015	%
Americas	\$641,849	18.8	\$417,579	19.2	\$421,947	19.7

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Europe	808,583	23.7	474,629	21.8	452,165	21.0
Asia	1,957,375	57.5	1,281,126	59.0	1,272,924	59.3
Total Sales	\$3,407,807	100.0	\$2,173,334	100.0	\$2,147,036	100.0

Sales to foreign customers accounted for approximately 84% of our net sales in each of fiscal 2017, 2016 and 2015. Our sales to foreign customers have been predominately in Asia and Europe, which we attribute to the manufacturing strength in those areas for automotive, communications, computing, consumer and industrial control products. Americas' sales include sales to customers in the U.S., Canada, Central America and South America.



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Sales to customers in China, including Hong Kong, accounted for approximately 32%, 30% and 28% of our net sales in fiscal 2017, 2016 and 2015, respectively. The increases in sales to customers in China, including Hong Kong, in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 were due primarily to our continued focus on the Chinese market as a key component to our global growth strategy and our acquisition of Atmel, which had a slightly higher percentage of its net sales going to China, including Hong Kong. Sales to customers in Taiwan accounted for approximately 9%, 12% and 14% of our net sales in fiscal 2017, 2016 and 2015, respectively. The decreases in sales to customers in Taiwan in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 were due primarily to our acquisitions of Atmel and Micrel, which had lower percentages of their net sales going to Taiwan. We did not have sales into any other foreign countries that exceeded 10% of our net sales during fiscal 2017, 2016 or 2015.

Our international sales are substantially all U.S. dollar denominated. Although foreign sales are subject to certain government export restrictions, we have not experienced any material difficulties to date as a result of export restrictions.

The semiconductor industry is characterized by seasonality and wide fluctuations of supply and demand. Broad fluctuations in our overall business, changes in semiconductor industry and global economic conditions, and our acquisition activity (including our acquisitions of Atmel and Micrel) can have a more significant impact on our results than seasonality. As a result, in periods when these broad fluctuations, changes in business conditions or acquisitions occur, it is difficult to assess the impact of seasonal factors on our business.

## Backlog

As of April 30, 2017, our backlog was approximately \$1,624.1 million, compared to \$1,212.3 million as of April 30, 2016. Backlog increased significantly due to our acquisition of Atmel during fiscal 2017. Our backlog includes all purchase orders scheduled for delivery within the subsequent 12 months.

We primarily produce standard products that can be shipped from inventory within a relatively short time after we receive an order. Our business and, to a large extent, that of the entire semiconductor industry, is characterized by short-term orders and shipment schedules. Orders constituting our current backlog are subject to changes in delivery schedules, or to cancellation at the customer's option without significant penalty. Thus, while backlog is useful for scheduling production, backlog as of any particular date may not be a reliable measure of our sales for any future period.

## Competition

The semiconductor industry is intensely competitive and has been characterized by price erosion and rapid technological change. We compete with major domestic and international semiconductor companies, many of which have greater market recognition and greater financial, technical, marketing, distribution and other resources than we have with which to pursue engineering, manufacturing, marketing and distribution of their products. We also compete with a number of companies that we believe have copied, cloned, pirated or reverse engineered our proprietary product lines in such countries as China and Taiwan. We are continuing to take actions to vigorously and aggressively defend and protect our intellectual property on a worldwide basis.

We currently compete principally on the basis of the technical innovation and performance of our embedded control products, including the following product characteristics:

- performance

- analog, digital and mixed signal functionality and level of functional integration

memory density  
low power consumption  
• extended voltage  
ranges  
reliability  
packaging alternatives  
complete development tool line

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We believe that other important competitive factors in the embedded control market include:

- ease of use
- functionality of application development systems
- dependable delivery, quality and availability
- technical and innovative service and support
- time to market
- price

We believe that we compete favorably with other companies on all of these factors, but we may be unable to compete successfully in the future, which could harm our business.

## Patents, Licenses and Trademarks

We maintain a portfolio of U.S. and foreign patents, expiring on various dates through 2036. We also have numerous additional U.S. and foreign patent applications pending. We do not expect that the expiration of any particular patent will have a material impact on our business. While our intention is to continue to patent our technology and manufacturing processes, we believe that our continued success depends primarily on the technological skills and innovative capabilities of our personnel and our ability to rapidly commercialize new and enhanced products. As with any operating company, the scope and strength of our intellectual property assets, including our pending and existing patents, trademarks, copyrights, and other intellectual property rights may be insufficient to provide meaningful protection or commercial advantage. Moreover, pursuing violations of intellectual property rights on a worldwide basis is a complex challenge involving multinational patent, trademark, copyright and trade secret laws. Further, the laws of particular foreign countries often fail to protect our intellectual property rights to the same extent as the laws of the U.S.

We have also entered into certain intellectual property licenses and cross-licenses with other companies and those licenses relate to semiconductor products and manufacturing processes. As is typical in the semiconductor industry, we and our customers from time to time receive, and may continue to receive, demand letters from third parties asserting infringement of patent and other intellectual property rights. We diligently investigate all such notices and respond as we believe appropriate. In most cases we believe that we can obtain necessary licenses on commercially reasonable terms, however, we cannot be certain that this would be the case, or that litigation or damages for any past infringement could be avoided. Litigation, which could result in substantial costs and require significant attention from management, may be necessary to enforce our intellectual property rights, or to defend against claimed infringement of the rights of others. The failure to obtain necessary licenses, or the necessity of engaging in defensive litigation, could harm our business.

## Environmental Regulation

We must comply with many different federal, state, local and foreign governmental regulations related to the use, storage, discharge and disposal of certain chemicals and gases used in our manufacturing processes. Our facilities have been designed to comply with these regulations and we believe that our activities are conducted in material compliance with such regulations. Any changes in such regulations or in their enforcement could require us to acquire costly equipment or to incur other significant expenses to comply with environmental regulations. Any failure by us to adequately control the storage, use, discharge and disposal of regulated substances could result in significant future liabilities.

Increasing public attention has been focused on the environmental impact of electronic manufacturing operations. While we have not experienced any materially adverse effects on our operations from recently adopted

environmental regulations, our business and results of operations could suffer if for any reason we fail to control the storage or use of, or to adequately restrict the discharge or disposal of, hazardous substances under present or future environmental regulations.

#### Employees

As of March 31, 2017, we had 12,656 employees. We have never had a work stoppage and believe that our employee relations are good.

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Executive Officers of the Registrant

The following sets forth certain information regarding our executive officers as of April 30, 2017:

Name	Age	Position
Steve Sanghi	61	Chief Executive Officer and Chairman of the Board
Ganesh Moorthy	57	President and Chief Operating Officer
J. Eric Bjornholt	46	Vice President, Chief Financial Officer
Stephen V. Drehobl	55	Vice President, MCU8 and Technology Development Division
Mitchell R. Little	65	Vice President, Worldwide Sales and Applications
Richard J. Simoncic	53	Vice President, Analog Power and Interface Division

Mr. Sanghi has served as Chief Executive Officer since October 1991, and Chairman of the Board since October 1993. He served as President from August 1990 to February 2016 and has served as a director since August 1990. Mr. Sanghi holds an M.S. degree in Electrical and Computer Engineering from the University of Massachusetts and a B.S. degree in Electronics and Communication from Punjab University, India. From May 2007 until April 2016, he served as a member of the Board of Directors of FIRST (For Inspiration and Recognition of Science and Technology). Mr. Sanghi joined the Board of Myomo, Inc. in November 2016. Myomo is a commercial stage medical robotics company that offers expanded mobility for those suffering from neurological disorders and upper limb paralysis.

Mr. Moorthy has served as President since February 2016 and as Chief Operating Officer since June 2009. He also served as Executive Vice President from October 2006 to August 2012 and as a Vice President in various roles since he joined Microchip in 2001. Prior to this time, he served in various executive capacities with other semiconductor companies. Mr. Moorthy holds an M.B.A. in Marketing from National University, a B.S. degree in Electrical Engineering from the University of Washington and a B.S. degree in Physics from the University of Mumbai, India. Mr. Moorthy was elected to the Board of Directors of Rogers Corporation in July 2013.

Mr. Bjornholt has served as Vice President of Finance since 2008 and as Chief Financial Officer since January 2009. He has served in various financial management capacities since he joined Microchip in 1995. Mr. Bjornholt holds a Master's degree in Taxation from Arizona State University and a B.S. degree in Accounting from the University of Arizona.

Mr. Drehobl has served as Vice President of the MCU8 and Technology Development Division since July 2001. He has been employed by Microchip since August 1989 and has served as a Vice President in various roles since February 1997. Mr. Drehobl holds a Bachelor of Technology degree from the University of Dayton.

Mr. Little has served as Vice President, Worldwide Sales and Applications since July 2000. He has been employed by Microchip since 1989 and has served as a Vice President in various roles since September 1993. Mr. Little holds a B.S. degree in Engineering Technology from United Electronics Institute.

Mr. Simoncic has served as Vice President, Analog Power and Interface Division since September 1999. From October 1995 to September 1999, he served as Vice President in various roles. Since joining Microchip in 1990, Mr. Simoncic held various roles in Design, Device/Yield Engineering and Quality Systems. Mr. Simoncic holds a B.S. degree in Electrical Engineering Technology from DeVry Institute of Technology.

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Item 1A. RISK FACTORS

When evaluating Microchip and its business, you should give careful consideration to the factors listed below, in addition to the information provided elsewhere in this Form 10-K and in other documents that we file with the Securities and Exchange Commission.

Our operating results are impacted by global economic conditions and may fluctuate in the future due to a number of factors that could reduce our net sales and profitability.

Our operating results are affected by a wide variety of factors that could reduce our net sales and profitability, many of which are beyond our control. Some of the factors that may affect our operating results include:

- general economic, industry or political conditions in the U.S. or internationally;
- changes in demand or market acceptance of our products and products of our customers, and market fluctuations in the industries into which such products are sold;
- changes in utilization of our manufacturing capacity and fluctuations in manufacturing yields;
- our ability to realize the expected benefits of our acquisitions including our acquisition of Atmel;
- our ability to ramp our factory capacity to meet customer demand;
- changes or fluctuations in customer order patterns and seasonality;
- our ability to secure sufficient wafer foundry, assembly and testing capacity;
- the mix of inventory we hold and our ability to satisfy orders from our inventory;
- levels of inventories held by our customers;
- risk of excess and obsolete inventories;
- changes in tax regulations and policies in the U.S. and other countries in which we do business;
- competitive developments including pricing pressures;
- unauthorized copying of our products resulting in pricing pressure and loss of sales;
- availability of raw materials and equipment;
- our ability to successfully transition products to more advanced process technologies to reduce manufacturing costs;
- the level of orders that are received and can be shipped in a quarter;
- the level of sell-through of our products through distribution;
- fluctuations in our mix of product sales;
- announcements of significant acquisitions by us or our competitors;
- disruptions in our business or our customers' businesses due to terrorist activity, armed conflict, war, worldwide oil prices and supply, public health concerns, natural disasters or disruptions in the transportation system;
- constrained availability from other electronic suppliers impacting our customers' ability to ship their products, which in turn may adversely impact our sales to those customers;
- costs and outcomes of any current or future tax audits or any litigation involving intellectual property, customers or other issues;
- fluctuations in commodity prices; and
- property damage or other losses, whether or not covered by insurance.

We believe that period-to-period comparisons of our operating results are not necessarily meaningful and that you should not rely upon any such comparisons as indications of our future performance. In future periods, our operating results may fall below our public guidance or the expectations of public market analysts and investors, which would likely have a negative effect on the price of our common stock. Our acquisition of Atmel, uncertain global economic conditions, the ongoing economic recovery and uncertainty surrounding the strength and duration of such recovery have caused our operating results to fluctuate significantly and make comparability between periods less meaningful.

Our operating results will suffer if we ineffectively utilize our manufacturing capacity or fail to maintain manufacturing yields.

The manufacture and assembly of integrated circuits, particularly non-volatile, erasable CMOS memory and logic devices such as those that we produce, are complex processes. These processes are sensitive to a wide variety of factors, including the level of contaminants in the manufacturing environment, impurities in the materials used, the performance of our wafer fabrication and assembly and test personnel and equipment, and other quality issues. As is typical in the semiconductor industry, we have from time to time experienced lower than anticipated manufacturing yields. Our operating results will suffer if we are unable to maintain yields at or above approximately the current levels. This could include delays in the recognition of revenue, loss of revenue or future orders, and customer-imposed penalties for our failure to meet contractual shipment

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deadlines. Our operating results are also adversely affected when we operate at less than optimal capacity. Although we operated at normal capacity levels during the last three quarters of fiscal 2015, the first two quarters of fiscal 2016, the fourth quarter of fiscal 2016, and throughout fiscal 2017, there can be no assurance that such production levels will be maintained in future periods.

We may not fully realize the anticipated benefits of our completed or future acquisitions or divestitures including our acquisition of Atmel.

We have acquired, and expect in the future to acquire, additional businesses that we believe will complement or augment our existing businesses. On April 4, 2016, we acquired Atmel, which was our largest and most complex acquisition ever. In addition, in August 2015, we completed our acquisition of Micrel; in July 2014, we completed our acquisition of a controlling interest in ISSC; in April 2014, we completed our acquisition of Supertex, Inc.; and in August 2012, we completed our acquisition of SMSC. The integration process for our acquisitions is complex and may be costly and time consuming and include unanticipated issues, expenses and liabilities. We may not be able to successfully or profitably integrate, operate, maintain and manage any newly acquired operations or employees. We may not be able to maintain uniform standards, procedures and policies and we may be unable to realize the expected synergies and cost savings from the integration. There may be increased risk due to integrating financial reporting and internal control systems. We may have difficulty in developing, manufacturing and marketing the products of a newly acquired company, or in growing the business at the rate we anticipate. Following an acquisition, we may not achieve the revenue or net income levels that justify the acquisition. We may suffer loss of key employees, customers and strategic partners of acquired companies and it may be difficult to implement our corporate culture at acquired companies. We have been and may in the future be subject to claims from terminated employees, shareholders of acquired companies and other third parties related to the transaction. In particular, as a result of our Atmel acquisition, we became involved with third-party claims, litigation and disputes related to the Atmel business. See "Item 1. Legal Proceedings" for information regarding pending litigation. Acquisitions may also result in charges (such as acquisition-related expenses, write-offs, restructuring charges, or future impairment of goodwill), contingent liabilities, adverse tax consequences, additional share-based compensation expense and other charges that adversely affect our operating results. To fund our acquisition of Atmel, we used a significant portion of our cash balances, borrowed under our credit agreement and issued approximately 10.1 million shares of our common stock. Additionally, we may fund future acquisitions of new businesses or strategic alliances by utilizing cash, borrowings under our credit agreement, raising debt, issuing shares of our common stock, or other mechanisms.

Further, if we decide to divest assets or a business, including the divestiture of our Atmel mobile touch assets or the planned divestiture of our Micrel wafer fabrication facility, we may encounter difficulty in finding or completing divestiture opportunities or alternative exit strategies on acceptable terms or in a timely manner. These circumstances could delay the achievement of our strategic objectives or cause us to incur additional expenses with respect to assets or a business that we want to dispose of, or we may dispose of assets or a business at a price or on terms that are less favorable than we had anticipated. Even following a divestiture, we may be contractually obligated with respect to certain continuing obligations to customers, vendors, landlords or other third parties. We may also have continuing obligations for pre-existing liabilities related to the assets or businesses. Such obligations may have a material adverse impact on our results of operations and financial condition.

In addition to acquisitions, we have in the past, and expect in the future, to enter into joint development agreements or other business or strategic relationships with other companies. These transactions are subject to a number of risks similar to those we face with our acquisitions including our ability to realize the expected benefits of any such transaction, to successfully market and sell any products resulting from such transactions or to successfully integrate any technology developed through such transactions.



Our financial condition and results of operations could be adversely affected if we do not effectively manage our current or future debt.

As of March 31, 2017, the principal amount of our outstanding indebtedness was \$4,513.8 million. In February 2017, we issued \$2,645.0 million of aggregate principal value of senior and junior convertible debt and amended our existing \$2,774.0 million credit agreement to, among other things, increase certain covenant compliance ratios. The February 2017 credit agreement amendment included a new collateral agreement that secures our borrowings with all assets of our guarantor subsidiaries with the exception of real property. We used a portion of the proceeds from the issuance of the 2017 senior and junior convertible debt to settle \$431.3 million in principal value of our 2007 junior convertible debt and \$1,682.5 million to pay off the outstanding balance under the credit facility. At March 31, 2017, there were no outstanding borrowings under the credit facility which is comprised of two tranches expiring in February 2020 and June 2018, the maturity date of the original credit agreement. In February 2015, we issued \$1,725.0 million of principal value of our 2015 senior convertible debt. As a result of such transactions, we have a substantially greater amount of debt than we had maintained in the past. Our maintenance

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of substantial levels of debt could adversely affect our ability to take advantage of corporate opportunities and could adversely affect our financial condition and results of operations. We may need or desire to refinance our convertible debt or any other future indebtedness and there can be no assurance that we will be able to refinance any of our indebtedness on commercially reasonable terms, if at all.

Servicing our debt may require a significant amount of cash, and we may not have sufficient cash flow from our business to fund future payments.

Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness, including our outstanding debentures, depends on our future performance, which is subject to economic, financial, competitive and other factors. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt and to fund capital expenditures, dividend payments, share repurchases or acquisitions. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time.

We are dependent on orders that are received and shipped in the same quarter and therefore have limited visibility to future product shipments.

Our net sales in any given quarter depend upon a combination of shipments from backlog and customer orders that are both received and shipped in that same quarter, which we refer to as turns orders. We measure turns orders at the beginning of a quarter based on the orders needed to meet the shipment targets that we set entering the quarter. Historically, we have relied on our ability to respond quickly to customer orders as part of our competitive strategy, resulting in customers placing orders with relatively short delivery schedules. Shorter lead times generally mean that turns orders as a percentage of our business are relatively high in any particular quarter and reduce our backlog visibility on future product shipments. Turns orders correlate to overall semiconductor industry conditions and product lead times. Because turns orders are difficult to predict, varying levels of turns orders make it more difficult to forecast net sales. As a significant portion of our products are manufactured at foundries, foundry lead times may affect our ability to satisfy certain turns orders. If we do not achieve a sufficient level of turns orders in a particular quarter relative to our revenue targets, our revenue and operating results will likely suffer.

Intense competition in the markets we serve may lead to pricing pressures, reduced sales of our products or reduced market share.

The semiconductor industry is intensely competitive and has been characterized by price erosion and rapid technological change. We compete with major domestic and international semiconductor companies, many of which have greater market recognition and substantially greater financial, technical, marketing, distribution and other resources than we do. The semiconductor industry has experienced significant merger and acquisition activity and consolidation in recent years which has resulted in several of our competitors becoming much larger in terms of revenue, product offerings and scale. We may be unable to compete successfully in the future, which could harm our business. Our ability to compete successfully depends on a number of factors both within and outside our control, including, but not limited to:

- the quality, performance, reliability, features, ease of use, pricing and diversity of our products;
- our success in designing and manufacturing new products including those implementing new technologies;
- the rate at which customers incorporate our products into their own applications and the success of such applications;
- the rate at which the markets that we serve redesign and change their own products;
- changes in demand in the markets that we serve and the overall rate of growth or contraction of such markets, including but not limited to the automotive, personal computing and consumer electronics markets;

product introductions by our competitors;  
the number, nature and success of our competitors in a given market;  
our ability to obtain adequate foundry and assembly and test capacity and supplies of raw materials and other supplies at acceptable prices;  
our ability to ramp production and increase capacity, as needed, at our wafer fabrication and assembly and test facilities;  
our ability to protect our products and processes by effective utilization of intellectual property rights;  
our ability to remain price competitive against companies that have copied our proprietary product lines, especially in countries where intellectual property rights protection is difficult to achieve and maintain;  
our ability to address the needs of our customers; and  
general market and economic conditions.

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Historically, average selling prices in the semiconductor industry decrease over the life of any particular product. The overall average selling prices of our microcontroller and proprietary analog, interface, mixed signal and timing products have remained relatively constant, while average selling prices of our memory and non-proprietary analog, interface, mixed signal and timing products have declined over time.

We have experienced, and expect to continue to experience, modest pricing declines in certain of our more mature proprietary product lines, primarily due to competitive conditions. We have been able to moderate average selling price declines in many of our proprietary product lines by continuing to introduce new products with more features and higher prices. However, there can be no assurance that we will be able to do so in the future. We have experienced in the past, and expect to continue to experience in the future, varying degrees of competitive pricing pressures in our memory and non-proprietary analog, interface, mixed signal and timing products. We may be unable to maintain average selling prices for our products as a result of increased pricing pressure in the future, which could adversely impact our operating results.

We are dependent on wafer foundries and other contractors to perform key manufacturing functions for us, and our licensees of our SuperFlash and other technologies also rely on foundries and other contractors.

We rely on outside wafer foundries for a significant portion of our wafer fabrication needs. Specifically, during fiscal 2017 and fiscal 2016, approximately 41% and 39% of our net sales came from products that were produced at outside wafer foundries, respectively. We also use several contractors located primarily in Asia for a portion of the assembly and testing of our products. Specifically, during fiscal 2017, approximately 64% of our assembly requirements and 40% of our test requirements were performed by third party contractors compared to approximately 47% of our assembly requirements and 19% of our test requirements during fiscal 2016. Our reliance on third party contractors and foundries increased as a result of our acquisitions of Atmel, Micrel, SMSC, Supertex and ISSC. The disruption or termination of any of our contractors could harm our business and operating results.

Our use of third parties somewhat reduces our control over the subcontracted portions of our business. Our future operating results could suffer if any contractor were to experience financial, operational or production difficulties or situations when demand exceeds capacity, or if they were unable to maintain manufacturing yields, assembly and test yields and costs at approximately their current levels, or if the countries in which such contractors are located were to experience political upheaval or infrastructure disruption. If these third parties are unable or unwilling to timely deliver products or services conforming to our quality standards, we may not be able to qualify additional manufacturing sources for our products in a timely manner on terms favorable to us, or at all. Additionally, these subcontractors could abandon fabrication processes that are important to us, or fail to adopt advanced manufacturing technologies that we desire to control costs. In any such event, we could experience an interruption in production, an increase in manufacturing and production costs or a decline in product reliability, and our business and operating results could be adversely affected. Further, our use of subcontractors increases the risks of potential misappropriation of our intellectual property.

Certain of our SuperFlash and other technology licensees also rely on outside wafer foundries for wafer fabrication services. If our licensees were to experience any disruption in supply from outside wafer foundries, this would reduce the revenue we receive in our technology licensing business and would harm our operating results.

Our operating results are impacted by both seasonality and the wide fluctuations of supply and demand in the semiconductor industry.

The semiconductor industry is characterized by seasonality and wide fluctuations of supply and demand. Broad fluctuations in our overall business, changes in semiconductor industry and global economic conditions, and our acquisition activity (including our acquisitions of Atmel and Micrel) can have a more significant impact on our results

than seasonality. As a result, in periods when these broad fluctuations, changes in business conditions or acquisitions occur, it is difficult to assess the impact of seasonal factors on our business. The semiconductor industry has also experienced significant economic downturns, characterized by diminished product demand and production over-capacity. We have sought to reduce our exposure to this industry cyclically by selling proprietary products, that cannot be easily or quickly replaced, to a geographically diverse customer base across a broad range of market segments. However, we have experienced substantial period-to-period fluctuations in operating results and expect, in the future, to experience period-to-period fluctuations in operating results due to general industry or economic conditions.

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Our business is dependent on selling through distributors.

Sales through distributors accounted for approximately 55% of our net sales in fiscal 2017 and approximately 53% of our net sales in fiscal 2016. We do not have long-term agreements with our distributors, and we and our distributors may each terminate our relationship with little or no advance notice.

Any future adverse conditions in the U.S. or global economies or in the U.S. or global credit markets could materially impact the operations of our distributors. Any deterioration in the financial condition of our distributors or any disruption in the operations of our distributors could adversely impact the flow of our products to our end customers and adversely impact our results of operation. In addition, during an industry or economic downturn, it is possible there will be an oversupply of products and a decrease in sell-through of our products by our distributors which could reduce our net sales in a given period and result in an increase in inventory returns. Violations of the Foreign Corrupt Practices Act, or similar laws, by our distributors or other channel partners could have a material adverse impact on our business.

Our success depends on our ability to introduce new products on a timely basis.

Our future operating results depend on our ability to develop and timely introduce new products that compete effectively on the basis of price and performance and which address customer requirements. The success of our new product introductions depends on various factors, including, but not limited to:

- proper new product selection;
- timely completion and introduction of new product designs;
- procurement of licenses for intellectual property rights from third parties under commercially reasonable terms;
- timely filing and protection of intellectual property rights for new product designs;
- availability of development and support tools and collateral literature that make complex new products easy for engineers to understand and use; and
- market acceptance of our customers' end products.

Because our products are complex, we have experienced delays from time to time in completing new product development. In addition, our new products may not receive or maintain substantial market acceptance. We may be unable to timely design, develop and introduce competitive products, which could adversely impact our future operating results.

Our success also depends upon our ability to develop and implement new design and process technologies. Semiconductor design and process technologies are subject to rapid technological change and require significant R&D expenditures. We and other companies in the industry have, from time to time, experienced difficulties in effecting transitions to advanced process technologies and, consequently, have suffered reduced manufacturing yields or delays in product deliveries. Our future operating results could be adversely affected if any transition to future process technologies is substantially delayed or inefficiently implemented.

Our technology licensing business exposes us to various risks.

Our technology licensing business is based on our SuperFlash and other technologies. The success of our licensing business depends on the continued market acceptance of these technologies and on our ability to further develop and enhance such technologies and to introduce new technologies in the future. To be successful, any such technology must be able to be repeatably implemented by licensees, provide satisfactory yield rates, address licensee and customer requirements, and perform competitively. The success of our technology licensing business depends on various other factors, including, but not limited to:

- proper identification of licensee requirements;
- timely development and introduction of new or enhanced technology;
- our ability to protect and enforce our intellectual property rights for our licensed technology;
- our ability to limit our liability and indemnification obligations to licensees;
- availability of sufficient development and support services to assist licensees in their design and manufacture of products integrating our technology;
- availability of foundry licensees with sufficient capacity to support original equipment manufacturer (OEM) production; and
- market acceptance of our customers' end products.

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Because our licensed technologies are complex, there may be delays from time to time in developing and enhancing such technologies. There can be no assurance that our existing or any enhanced or new technology will achieve or maintain substantial market acceptance. Our licensees may experience disruptions in production or lower than expected production levels which would adversely affect the revenue that we receive from them. Our technology license agreements generally include an indemnification clause that indemnifies the licensee against liability and damages (including legal defense costs) arising from intellectual property matters. We could be exposed to substantial liability for claims or damages related to intellectual property matters or indemnification claims. Any claim, with or without merit, could result in significant legal fees and require significant attention from our management. Any of the foregoing issues may adversely impact the success of our licensing business and adversely affect our future operating results.

We may lose sales if our suppliers of raw materials and equipment fail to meet our needs.

Our semiconductor manufacturing operations require raw and processed materials and equipment that must meet exacting standards. We generally have more than one source for these supplies, but there are only a limited number of suppliers capable of delivering various materials and equipment that meet our standards. The materials and equipment necessary for our business could become more difficult to obtain as worldwide use of semiconductors in product applications increases. Additionally, consolidation in our supply chain due to mergers and acquisitions may reduce the number of suppliers or change the relationships that we have with our suppliers. This could impair sourcing flexibility or increase costs. We have experienced supply shortages from time to time in the past, and on occasion our suppliers have told us they need more time than expected to fill our orders or that they will no longer support certain equipment with updates or spare and replacement parts. In particular, we have recently experienced longer lead times for equipment which we need for capacity expansion at certain of our manufacturing facilities. An interruption of any materials or equipment sources, or the lack of supplier support for a particular piece of equipment, could harm our business.

We are exposed to various risks related to legal proceedings or claims.

We are currently, and in the future may be, involved in legal proceedings or claims regarding patent infringement, other intellectual property rights, product failures, contracts and other matters. As is typical in the semiconductor industry, we receive notifications from third parties from time to time who believe that we owe them indemnification or other obligations related to claims made against us, our direct or indirect customers or our licensees. These legal proceedings and claims, even if meritless, could result in substantial costs to us and divert our resources. If we are not able to resolve a claim, settle a matter, obtain necessary licenses on commercially reasonable terms, reengineer our products or processes to avoid infringement, provide a cost-effective remedy, or successfully prosecute or defend our position, we could incur uninsured liability in any of them, be required to take an appropriate charge to operations, be enjoined from selling a material portion of our products or using certain processes, suffer a reduction or elimination in the value of our inventories, and our business, financial condition or results of operations could be harmed.

It is also possible that from time to time we may be subject to claims related to the manufacture, performance or use of our products. These claims may be due to injuries, economic damage or environmental exposures related to manufacturing, a product's nonconformance to our specifications or specifications agreed upon with the customer, changes in our manufacturing processes, or unexpected customer system issues due to the integration of our products or insufficient design or testing by our customers. We could incur significant expenses related to such matters, including, but not limited to:

- costs related to writing off the value of our inventory of nonconforming products;
- recalling nonconforming products;
- providing support services, product replacements, or modifications to products and the defense of such claims;



- diversion of resources from other projects;
- lost revenue or a delay in the recognition of revenue due to cancellation of orders or unpaid receivables;
- customer imposed fines or penalties for failure to meet contractual requirements; and
- a requirement to pay damages or penalties.

Because the systems into which our products are integrated have a higher cost of goods than the products we sell, the expenses and damages we are asked to pay may be significantly higher than the sales and profits we received from the products involved. While we specifically exclude consequential damages in our standard terms and conditions, certain of our contracts may not exclude such liabilities. Further, our ability to avoid such liabilities may be limited by applicable law. We do have liability insurance which covers certain damages arising out of product defects, but we do not expect that insurance will cover all claims or be of a sufficient amount to fully protect against such claims. Costs or payments we may make in connection with these customer claims may adversely affect the results of our operations.

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Further, we sell to customers in industries such as automotive, aerospace, defense, safety, security, and medical, where failure of the systems in which our products are integrated could cause damage to property or persons. We may be subject to claims if our products, or the integration of our products, cause system failures. We will face increased exposure to claims if there are substantial increases in either the volume of our sales into these applications or the frequency of system failures integrating our products.

Failure to adequately protect our intellectual property could result in lost revenue or market opportunities.

Our ability to obtain patents, licenses and other intellectual property rights covering our products and manufacturing processes is important for our success. To that end, we have acquired certain patents and patent licenses and intend to continue to seek patents on our technology and manufacturing processes. The process of seeking patent protection can be long and expensive, and patents may not be issued from currently pending or future applications. In addition, our existing and new patents, trademarks and copyrights that issue may not have sufficient scope or strength to provide meaningful protection or commercial advantage to us. We may be subject to, or may ourselves initiate, interference proceedings in the U.S. Patent and Trademark Office, patent offices of a foreign country or U.S. or foreign courts, which can require significant financial and management resources. In addition, the laws of certain foreign countries do not protect our intellectual property rights to the same extent as the laws of the U.S. Infringement of our intellectual property rights by a third party could result in uncompensated lost market and revenue opportunities for us. Although we continue to vigorously and aggressively defend and protect our intellectual property on a worldwide basis, there can be no assurance that we will be successful in our endeavors.

Our operating results may be adversely impacted if economic conditions impact the financial viability of our licensees, customers, distributors, or suppliers.

We regularly review the financial performance of our licensees, customers, distributors and suppliers. However, any downturn in global economic conditions may adversely impact the financial viability of our licensees, customers, distributors or suppliers. The financial failure of a large licensee, customer or distributor, an important supplier, or a group thereof, could have an adverse impact on our operating results and could result in our not being able to collect our accounts receivable balances, higher reserves for doubtful accounts, write-offs for accounts receivable, and higher operating costs as a percentage of net sales.

We are highly dependent on foreign sales and operations, which exposes us to foreign political and economic risks.

Sales to foreign customers account for a substantial portion of our net sales. During fiscal 2017, approximately 84% of our net sales were made to foreign customers, including 32% in China, including Hong Kong. During fiscal 2016, approximately 84% of our net sales were made to foreign customers, including 30% in China, including Hong Kong.

A strong position in the Chinese market is a key component of our global growth strategy. The market for integrated circuit products in China is highly competitive, and both international and domestic competitors are aggressively seeking to increase their market share. Increased competition or economic weakness in the China market may make it difficult for us to achieve our desired sales volumes in China. In particular, economic conditions in China remain uncertain and we are unable to predict whether such uncertainty will continue or worsen in future periods.

We purchase a substantial portion of our raw materials and equipment from foreign suppliers. In addition, we own product assembly and testing facilities near Bangkok, Thailand, which has experienced periods of political instability in the past. A large portion of our finished goods inventory is maintained in Thailand. From time to time, Thailand has also experienced periods of severe flooding. There can be no assurance that any future flooding or political instability in Thailand would not have a material adverse impact on our operations. We use various foundries and other foreign contractors for a significant portion of our assembly and testing and wafer fabrication requirements.

Our reliance on foreign operations, foreign suppliers, maintenance of substantially all of our finished goods inventory at foreign locations and significant foreign sales exposes us to foreign political and economic risks, including, but not limited to:

- political, social and economic instability;
- economic uncertainty in the worldwide markets served by us;
- trade restrictions and changes in tariffs;
- import and export license requirements and restrictions;
- changes in rules and laws related to taxes, environmental, health and safety, technical standards and consumer protection in various jurisdictions;
- currency fluctuations and foreign exchange regulations;
- difficulties in staffing and managing international operations;

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employment regulations;  
• disruptions in international transport or delivery;  
public health conditions;  
difficulties in collecting receivables and longer payment cycles; and  
potentially adverse tax consequences.

If any of these risks materialize, or are worse than we anticipate, our sales could decrease and our operating results could suffer.

We do not typically have long-term contracts with our customers, but where we do, certain terms of such contracts expose us to risks and liabilities.

We do not typically enter into long-term contracts with our customers and we cannot be certain about future order levels from our customers. When we do enter into customer contracts, the contract is generally cancelable at the convenience of the customer. Even though we had approximately 115,000 customers and our ten largest direct customers made up approximately 12% of our total revenue for fiscal 2017 and six of our top ten customers are contract manufacturers that perform manufacturing services for many customers, cancellation of customer contracts could have an adverse impact on our revenue and profits.

We have entered into contracts with certain customers that differ from our standard terms of sale. Further, as a result of our acquisitions, we have inherited certain customer contracts that differ from our standard terms of sale. For several of the significant markets that we sell into, such as the automotive and personal computer markets, our current or potential customers may possess significant leverage over us in negotiating the terms and conditions of supply as a result of their market size and position. For example, under certain contracts we may commit to supply specific quantities of products on scheduled delivery dates, or agree to extend our obligations for certain liabilities such as warranties or indemnification for quality issues or claims of intellectual property infringement. If we are unable to supply the customer as required under the contract, the customer may incur additional production costs, lost revenues due to subsequent delays in their own manufacturing schedule, or quality-related issues. We may be liable for the customer's costs, expenses and damages associated with their claims and we may be obligated to defend the customer against claims of intellectual property infringement and pay the associated legal fees. While we try to minimize the number of contracts which contain such provisions, manage the risks underlying such liabilities, and set caps on our liability exposure, sometimes we are not able to do so. In order to win important designs, avoid losing business to competitors, maintain existing business, or be permitted to bid on new business, we have been, and may in the future be, forced to agree to uncapped liability for such items as intellectual property infringement, product failure, or confidentiality. Such provisions expose us to risk of liability far exceeding the purchase price of the products we sell under such contracts, the lifetime revenues we receive from such products, or various forms of potential consequential damages. These significant additional risks could result in a material adverse impact on our results of operations and financial condition.

We must attract and retain qualified personnel to be successful, and competition for qualified personnel can be intense.

Our success depends upon the efforts and abilities of our senior management, engineering, manufacturing and other personnel. The competition for qualified engineering and management personnel can be intense. We may be unsuccessful in retaining our existing key personnel or in attracting and retaining additional key personnel that we require. The loss of the services of one or more of our key personnel or the inability to add key personnel could harm our business. The loss of, or any inability to attract personnel, even if not key personnel, if experienced in sufficient numbers could harm our business. We have no employment agreements with any member of our senior management

team.

Business interruptions to our operations or the operations of our key vendors, subcontractors, licensees or customers, whether due to natural disasters or other events, could harm our business.

Operations at any of our facilities, at the facilities of any of our wafer fabrication or assembly and test subcontractors, or at any of our significant vendors or customers may be disrupted for reasons beyond our control. These reasons may include work stoppages, power loss, cyber attacks, incidents of terrorism or security risk, political instability, public health issues, telecommunications, transportation or other infrastructure failure, radioactive contamination, fire, earthquake, floods, volcanic eruptions or other natural disasters. We have taken steps to mitigate the impact of some of these events should they occur; however, we cannot be certain that our actions will be effective to avoid a significant impact on our business in the event of a disaster or other business interruption.

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In particular, Thailand has experienced periods of severe flooding in recent years. While our facilities in Thailand have continued to operate normally, there can be no assurance that any future flooding in Thailand would not have a material adverse impact on our operations. If operations at any of our facilities, or our subcontractors' facilities are interrupted, we may not be able to shift production to other facilities on a timely basis, and we may need to spend significant amounts to repair or replace our facilities and equipment. If we experienced business interruptions, we would likely experience delays in shipments of products to our customers and alternate sources for production may be unavailable on acceptable terms. This could result in reduced revenues and profits and the cancellation of orders or loss of customers. Although we maintain business interruption insurance, such insurance will likely not be enough to compensate us for any losses that may occur and any losses or damages incurred by us as a result of business interruptions could significantly harm our business.

Additionally, operations at our customers and licensees may be disrupted for a number of reasons. In the event of customer disruptions, sales of our products may decline and our revenue, profitability and financial condition could suffer. Likewise, if our licensees are unable to manufacture and ship products incorporating our technology, or if there is a decrease in product demand due to a business disruption, our royalty revenue may decline.

Fluctuations in foreign currency exchange rates could adversely impact our operating results.

We use forward currency exchange contracts in an attempt to reduce the adverse earnings impact from the effect of exchange rate fluctuations on our non-U.S. dollar net balance sheet exposures. Nevertheless, in periods when the U.S. dollar significantly fluctuates in relation to the non-U.S. currencies in which we transact business, the value of our non-U.S. dollar transactions can have an adverse effect on our results of operations and financial condition. In particular, in periods when a foreign currency significantly declines in value in relation to the U.S. dollar, customers transacting in that foreign currency may find it more difficult to fulfill their previously committed contractual obligations or to undertake new obligations to make payments or purchase products. In periods when the U.S. dollar is significantly declining in relation to the British pound, Euro and Thai baht, the operational costs in our European and Thailand subsidiaries are adversely affected. Although our business has not been materially adversely impacted by recent changes in the value of the U.S. dollar, there can be no assurance as to the future impact that the strength of the dollar will have on our business or results of operations.

Interruptions in our information technology systems, or improper handling of data, could adversely affect our business.

We rely on the efficient and uninterrupted operation of complex information technology systems and networks to operate our business. Any significant disruption to our systems or networks, including, but not limited to, new system implementations, computer viruses, security breaches, facility issues, natural disasters, terrorism, war, telecommunication failures or energy blackouts could have a material adverse impact on our operations, sales and operating results. Such disruption could result in a loss of our intellectual property or the release of sensitive competitive information or supplier, customer or employee personal data. Any loss of such information could harm our competitive position, result in a loss of customer confidence, and cause us to incur significant costs to remedy the damages caused by any such disruptions or security breaches. Additionally, any failure to properly manage the collection, handling, transfer or disposal of personal data of employees and customers may result in regulatory penalties, enforcement actions, remediation obligations, litigation, fines and other sanctions.

From time to time, we have experienced verifiable attacks on our data, attempts to breach our security and attempts to introduce malicious software into our IT systems; however, such attacks have not previously resulted in any material damage to us. Were future attacks successful, we may be unaware of the incident, its magnitude, or its effects until significant harm is done. In recent years, we have implemented improvements to our protective measures which are not limited to the following: firewalls, antivirus measures, patches, log monitors, routine backups with offsite

retention of storage media, system audits, data partitioning and routine password modifications. There can be no assurance that such system improvements will be sufficient to prevent or limit the damage from any future cyber attacks or disruptions. Any such attack or disruption could result in additional costs related to rebuilding of our internal systems, defending litigation, responding to regulatory actions, or paying damages. Such attacks or disruptions could have a material adverse impact on our business, operations and financial results.

Third-party service providers, such as wafer foundries, assembly and test contractors, distributors, credit card processors and other vendors, have access to certain portions of our and our customers' sensitive data. In the event that these service providers do not properly safeguard the data that they hold, security breaches and loss of data could result. Any such loss of data by our third-party service providers could negatively impact our business, operations and financial results, as well as our relationship with our customers.

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The occurrence of events for which we are self-insured, or which exceed our insurance limits, may adversely affect our profitability and liquidity.

We have insurance contracts with independent insurance companies related to many different types of risk; however, we self-insure for some potentially significant risks and obligations. In these circumstances, we believe that it is more cost effective for us to self-insure certain risks than to pay the high premium costs. The risks and exposures that we self-insure include, but are not limited to certain property, product defects, employment risks, environmental matters, political risks, and intellectual property matters. Should there be a loss or adverse judgment or other decision in an area for which we are self-insured, then our financial condition, results of operations and liquidity may be adversely affected.

We are subject to stringent environmental and other regulations, which may force us to incur significant expenses.

We must comply with many federal, state, local and foreign governmental regulations related to the use, storage, discharge and disposal of toxic, volatile or otherwise hazardous substances used in our products and manufacturing processes. Our failure to comply with applicable regulations could result in fines, suspension of production, cessation of operations or future liabilities. Such environmental regulations have required us in the past, and could require us in the future to buy costly equipment or to incur significant expenses to comply with such regulations. Our failure to control the use of, or adequately restrict the discharge of, hazardous substances could impact the health of our employees and others and could impact our ability to operate. Such failure could also restrict our ability to ship certain products to certain countries, require us to modify our operations logistics, or require us to incur other significant costs and expenses. There is a continuing expansion in environmental laws with a focus on reducing or eliminating hazardous substances and substances of high concern in electronic products and shipping materials. These and other future environmental regulations could require us to reengineer certain of our existing products and may make it more expensive for us to manufacture, sell and ship our products. In addition, the number and complexity of laws focused on the energy efficiency of electronic products and accessories, the recycling of electronic products, and the reduction in the quantity and the recycling of packing materials have expanded significantly. It may be difficult for us to timely comply with these laws and we may not have sufficient quantities of compliant products to meet customers' needs, thereby adversely impacting our sales and profitability. We may also have to write off inventory in the event that we hold unsaleable inventory as a result of changes to regulations or customer requirements. We expect these risks and trends to continue. In addition, we anticipate increased customer requirements to meet voluntary criteria related to the reduction or elimination of substances of high concern in our products, energy efficiency measures, and supplier practices associated with sourcing and manufacturing. These requirements may increase our own costs, as well as those passed on to us by our supply chain.

Customer demands for us to implement business practices that are more stringent than existing legal requirements may reduce our revenue opportunities or cause us to incur higher costs.

Some of our customers and potential customers are requiring that we implement operating practices that are more stringent than what is required by applicable laws with respect to workplace and labor requirements, the type of materials we use in our products, environmental matters or other items. To comply with such requirements, we may have to pass these same operating practices on to our suppliers. Our suppliers may refuse to implement these operating practices, or may charge us more for complying with them. The cost to implement such practices may cause us to incur higher costs and reduce our profitability, and if we choose not to implement such practices, such customers may disqualify us as a supplier, resulting in decreased revenue opportunities. Developing, administering, monitoring and auditing these customer-requested practices at our own sites and those in our supply chain will increase our costs and may require that we hire more personnel.

Customer demands and regulations related to conflict-free minerals may force us to incur additional expenses.



As required by the Dodd-Frank Wall Street Reform and Consumer Protection Act, in August 2012, the SEC released investigation, disclosure and reporting requirements regarding the use of "conflict" minerals mined from the Democratic Republic of Congo and adjoining countries and which are necessary to the functionality or production of products. We filed a report on Form SD with the SEC regarding such matters on May 26, 2016. Other countries are considering similar regulations. If we cannot certify that we are using conflict-free minerals, customers may demand that we change the sourcing of minerals and other materials used in the manufacture of our products, even if the costs for compliant minerals and materials significantly increases and availability is limited. If we make changes to materials or suppliers, there will likely be costs associated with qualifying new suppliers and production capacity and quality could be negatively impacted. Our relationships with customers and suppliers may be adversely affected if we are unable to certify that our products are "conflict-free." We have incurred, and expect in the future to incur, additional costs associated with complying with these new disclosure requirements, such as costs related to determining the source of any conflict minerals used in our products. We may also encounter challenges to satisfy those customers who require that all of the components of our products be certified as conflict free in a materially different

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manner than advocated by the Conflict Free Smelter Initiative or the Dodd-Frank Wall Street Reform and Consumer Protection Act. If we are not able to meet customer requirements, customers may choose to disqualify us as a supplier and we may have to write off inventory in the event that it cannot be sold.

Regulatory authorities in jurisdictions into which we ship our products could levy fines or restrict our ability to export products.

A significant portion of our sales are made outside of the U.S. through the exporting and re-exporting of products. In addition to local jurisdictions' export regulations, our U.S.-manufactured products or products based on U.S. technology are subject to U.S. laws and regulations governing international trade and exports, including, but not limited to the Foreign Corrupt Practices Act, Export Administration Regulations (EAR), International Traffic in Arms Regulations (ITAR) and trade sanctions against embargoed countries and destinations administered by the U.S. Department of the Treasury, Office of Foreign Assets Control (OFAC). Licenses or proper license exceptions are required for the shipment of our products to certain countries. A determination by the U.S. or foreign government that we have failed to comply with these or other export regulations or anti-bribery regulations can result in penalties which may include denial of export privileges, fines, civil or criminal penalties, and seizure of products. Such penalties could have a material adverse effect on our business, sales and earnings. Further, a change in these laws and regulations could restrict our ability to export to previously permitted countries, customers, distributors or other third parties. Any one or more of these sanctions or a change in laws or regulations could have a material adverse effect on our business, financial condition and results of operations.

The outcome of future examinations of our income tax returns could have an adverse effect on our results of operations.

We are subject to examination of our income tax returns by the IRS and other tax authorities for fiscal 2005 and later. We are subject to certain income tax examinations in foreign jurisdictions for fiscal 2007 and later. We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuing examinations will not have an adverse effect on our future operating results.

We could be subject to changes in tax rates and potential U.S. tax legislation regarding our foreign earnings that could materially and adversely impact our business and financial results.

Currently, a majority of our revenue is generated from customers located outside the U.S., and a substantial portion of our assets, including employees, are located outside of the U.S. Present U.S. income taxes and foreign withholding taxes have not been provided on undistributed earnings for certain of our non-U.S. subsidiaries, because such earnings are intended to be indefinitely reinvested in the operations of those subsidiaries. However, changes to the U.S. income tax regulations and jurisdictions in which we operate, or in the interpretation of such laws, could, significantly increase our tax provisions and ultimately reduce our cash flow from operations and otherwise have a material adverse effect on our financial condition. Other factors or events, including business combinations, changes in the valuation of our deferred tax assets and liabilities, adjustments to income taxes upon finalization of various tax returns or as a result of deficiencies asserted by taxing authorities, increases in expenses not deductible for tax purposes, changes in available tax credits, and changes in tax rates could also increase our future effective tax rate.

The future trading price of our common stock could be subject to wide fluctuations in response to a variety of factors.

The market price of our common stock has fluctuated significantly in the past and is likely to fluctuate in the future. The future trading price of our common stock could be subject to wide fluctuations in response to a variety of factors, many of which are beyond our control, including, but not limited to:

quarterly variations in our operating results or the operating results of other technology companies;  
general conditions in the semiconductor industry;  
global economic and financial conditions;  
changes in our financial guidance or our failure to meet such guidance;  
changes in analysts' estimates of our financial performance or buy/sell recommendations;  
any acquisitions we pursue or complete; and  
actual or anticipated announcements of technical innovations or new products by us or our competitors.

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In addition, the stock market has from time to time experienced significant price and volume fluctuations that have affected the market prices for many companies and that often have been unrelated to the operating performance of such companies. These broad market fluctuations and other factors have harmed and may harm the market price of our common stock. Some or all of the foregoing factors could also cause the market price of our convertible debentures to decline or fluctuate substantially.

Anti-takeover defenses in our charter documents and under Delaware law could discourage takeover attempts, which could also reduce the market price of our common stock.

Our certificate of incorporation and bylaws contain provisions that could delay or prevent a change in control of Microchip. These provisions could also make it difficult for stockholders to elect directors that are not nominated by the current members of our board of directors or take other corporate actions, including effecting changes in our management. These provisions include:

the ability of our board of directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;

the right of our board of directors to elect a director to fill a vacancy created by the expansion of our board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;

the requirement that a special meeting of stockholders may be called only by the holders of 50% or more of the combined voting power of all classes of our capital stock, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;

the ability of our board of directors, by majority vote, to amend the bylaws, which may allow our board of directors to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquiror to amend the bylaws to facilitate an unsolicited takeover attempt; and

advance notice procedures with which stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time. The application of Section 203 also could have the effect of delaying or preventing a change in control of us.

Any of these provisions could, under certain circumstances, depress the market price of our common stock.

As a result of our acquisition activity, our goodwill and intangible assets have increased significantly in recent years and we may in the future incur impairments to goodwill or intangible assets.

When we acquire a business, a substantial portion of the purchase price of the acquisition is allocated to goodwill and other identifiable intangible assets. The amount of the purchase price which is allocated to goodwill is determined by the excess of the purchase price over the net identifiable assets acquired. As of March 31, 2017, we had goodwill of \$2,299.0 million and net intangible assets of \$2,148.1 million. We review our indefinite-lived intangible assets, including goodwill, for impairment annually in the fourth fiscal quarter or whenever events or changes in circumstances indicate that the carrying amount of those assets is more likely than not impaired. Factors that may be considered in assessing whether goodwill or intangible assets may be impaired include a decline in our stock price or market capitalization, reduced estimates of future cash flows and slower growth rates in our industry. Our valuation

methodology for assessing impairment requires management to make judgments and assumptions based on historical experience and to rely heavily on projections of future operating performance. Because we operate in highly competitive environments, projections of our future operating results and cash flows may vary significantly from our actual results. No goodwill impairment charges were recorded in fiscal 2017 or fiscal 2016. In fiscal 2017, we recognized \$11.9 million of intangible asset impairment charges. If in future periods, we determine that our goodwill or intangible assets are impaired, we will be required to write down these assets which would have a negative effect on our consolidated financial statements.

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Our foreign pension plans are unfunded, and any requirement to fund these plans in the future could negatively affect our cash position and operating capital.

In connection with our acquisition of Atmel, we assumed unfunded defined benefit pension plans that cover certain of our French and German employees. Plan benefits are managed in accordance with local statutory requirements. Benefits are based on years of service and employee compensation levels. The projected benefit obligation totaled \$50.4 million at March 31, 2017. The plans are unfunded in compliance with local statutory regulations, and we have no immediate intention of funding these plans. Benefits are paid when amounts become due, commencing when participants retire. We expect to pay approximately \$0.7 million in fiscal 2018 for benefits earned. Should legislative regulations require complete or partial funding of these plans in the future, it could negatively affect our cash position and operating capital.

From time to time we receive grants from governments, agencies and research organizations. If we are unable to comply with the terms of those grants, we may not be able to receive or recognize grant benefits or we may be required to repay grant benefits previously paid to us and recognize related charges, which would adversely affect our operating results and financial position.

From time to time, we receive economic incentive grants and allowances from European governments, agencies and research organizations targeted at increasing employment at specific locations. The subsidy grant agreements typically contain economic incentive, headcount, capital and research and development expenditure and other covenants that must be met to receive and retain grant benefits, and these programs can be subjected to periodic review by the relevant governments. Noncompliance by us with the conditions of the grants could result in our forfeiture of all or a portion of any future amounts to be received, as well as the repayment of all or a portion of amounts received to date.

Conversion of our debentures will dilute the ownership interest of existing stockholders.

The conversion of some or all of our outstanding debentures will dilute the ownership interest of existing stockholders to the extent we deliver common stock upon conversion of the debentures. Upon conversion, we may satisfy our conversion obligation by delivering cash, shares of common stock or any combination, at our option. If upon conversion we elect to deliver cash for the lesser of the conversion value and principal amount of the debentures, we would pay the holder the cash value of the applicable number of shares of our common stock. Upon conversion, we intend to satisfy the lesser of the principal amount or the conversion value of the debentures in cash. If the conversion value of a debenture exceeds the principal amount of the debenture, we may also elect to deliver cash in lieu of common stock for the conversion value in excess of the one thousand dollars principal amount (i.e., the conversion spread). There would be no adjustment to the numerator in the net income per common share computation for the cash settled portion of the debentures as that portion of the debt instrument will always be settled in cash. The conversion spread will be included in the denominator for the computation of diluted net income per common share. Any sales in the public market of any common stock issuable upon conversion of our debentures could adversely affect prevailing market prices of our common stock. In addition, the existence of the debentures may encourage short selling by market participants because the conversion of the debentures could be used to satisfy short positions, or anticipated conversion of the debentures into shares of our common stock could depress the price of our common stock.

Our reported financial results may be adversely affected by new accounting pronouncements or changes in existing accounting standards and practices.

We prepare our financial statements in conformity with accounting principles generally accepted in the U.S. These accounting principles are subject to interpretation or changes by the Financial Accounting Standards Board (FASB) and the Securities and Exchange Commission (SEC). New accounting pronouncements and varying interpretations of accounting standards and practices have occurred in the past and are expected to occur in the future. New accounting

pronouncements or a change in the interpretation of existing accounting standards or practices may have a significant effect on our reported financial results and may even affect our reporting of transactions completed before the change is announced or effective. In May 2014, the FASB issued Accounting Standards Update (ASU) 2014-09 - Revenue from Contracts with Customers (Topic 606), which will supersede nearly all existing revenue guidance under US GAAP. The standard's core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. Upon adoption of ASU 2014-09, we will no longer defer revenue until sale by the distributor to the end customer, but rather, will be required to estimate the effects of returns and allowances provided to distributors and record revenue at the time of sale to the distributor. We are currently evaluating the impact that the adoption of the standard may have on our consolidated financial statements. We currently expect to adopt the standard under the full retrospective method. The final adoption method will depend on the results of our final assessment, which is expected to be completed later in fiscal 2018. Refer to Note 1 to our consolidated financial statements for additional information on the new guidance and its potential impact on us.

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Climate change regulations and sustained adverse climate change pose regulatory and physical risks that could harm our results of operations or affect the way we conduct business.

Climate change regulations at the federal, state or local level or in international jurisdictions could require us to limit emissions, change our manufacturing processes, obtain substitute materials which may cost more or be less available, increase our investment in control technology for greenhouse gas emissions, fund offset projects or undertake other costly activities. These regulations could significantly increase our costs and restrict our manufacturing operations by virtue of requirements for new equipment. New permits may be required for our current operations, or expansions thereof. Failure to timely receive permits could result in fines, suspension of production, or cessation of operations at one or more facilities. In addition, restrictions on carbon dioxide or other greenhouse gas emissions could result in significant costs such as higher energy costs, and utility companies passing down carbon taxes, emission cap and trade programs and renewable portfolio standards. The cost of complying, or of failing to comply, with these and other climate change and emissions regulations could have an adverse effect on our operating results.

Further, any sustained adverse change in climate could have a direct adverse economic impact on us, such as water and power shortages, and higher costs of water or energy to control the temperature of our facilities. Certain of our operations are located in arid or tropical regions, such as Arizona and Thailand. Some environmental experts predict that these regions may become vulnerable to storms, severe floods and droughts due to climate change. While we maintain business recovery plans that are intended to allow us to recover from natural disasters or other events that can interrupt business, we cannot be certain that our plans will protect us from all such disasters or events.

## Item 1B. UNRESOLVED STAFF COMMENTS

None.

## Item 2. PROPERTIES

At March 31, 2017, we owned and used the facilities described below:

Location	Approximate Total Sq. Ft.	Uses
Gresham, Oregon	826,500	Wafer Fabrication (Fab 4); R&D Center; Administrative Offices; and Warehousing
Chacherngsao, Thailand	489,000	Assembly and Test; Wafer Probe; Sample Center; Warehousing; and Administrative Offices
Colorado Springs, Colorado	480,000	Manufacturing, Test, Research and Development, Computer and Service Functions, Design and Engineering
Calamba, Philippines	460,000	Wafer Probe, Test and Administrative Offices
Tempe, Arizona	457,000	Wafer Fabrication (Fab 2); R&D Center; Administrative Offices; and Warehousing
Chandler, Arizona	415,000	Executive and Administrative Offices; Wafer Probe; R&D Center; Sales and Marketing; and Computer and Service Functions
Bangalore, India	281,000	Research and Development; Sales and Marketing Support, and Administrative Offices
Chacherngsao, Thailand	215,000	Assembly and Test
Rousset, France	170,000	Design, Engineering, Test and Administrative
Nantes, France	77,000	Design, Engineering, Test and Probe, Administrative and Warehousing



Shanghai, China	21,000	Research and Development; Marketing Support, and Administrative Offices
Hsinchu, Taiwan	15,000	Design, Engineering and Administrative

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In addition to the facilities we own, we lease several research and development facilities and sales offices in North America, Europe and Asia. Our aggregate monthly rental payment for our leased facilities is approximately \$2.2 million.

We currently believe that our existing facilities are suitable and will be adequate to meet our requirements for at least the next 12 months.

See page 43 for a discussion of the capacity utilization of our manufacturing facilities.

### Item 3. LEGAL PROCEEDINGS

In the ordinary course of our business, we are involved in a limited number of legal actions, both as plaintiff and defendant. Consequently, we could incur uninsured liability in any of those actions. We also periodically receive notifications from various third parties alleging infringement of patents or other intellectual property rights or from customers requesting reimbursement for various costs. With respect to pending legal actions to which we are a party, although the outcomes of these actions are generally not determinable, we believe that the ultimate resolution of these matters will not harm our business and will not have a material adverse effect on our financial position, cash flows or results of operations. However, if an unfavorable ruling were to occur in any of the legal proceedings described below or in other legal proceedings or matters that were not deemed material to us as of the date hereof, then such legal proceedings or matters could have a material adverse effect on our financial position, cash flows or results of operations. Litigation relating to the semiconductor industry is not uncommon, and we are, from time to time, subject to such litigation. As a result, no assurances can be given with respect to the extent or outcome of any such litigation in the future.

As a result of our acquisition of Atmel, which closed on April 4, 2016, we became involved with the following lawsuits.

**In re: Continental Airbag Products Liability Litigation.** On May 11, 2016, an Amended and Consolidated Class Action Complaint ("Complaint") was filed in the United States District Court for the Southern District of Florida (Miami Division) against Atmel, Continental Automotive Systems, Inc., Honda Motor Co., Ltd. and an affiliate, and Daimler AG and an affiliate. The Complaint which includes claims arising under federal law and Florida, California, New Jersey, Michigan and Louisiana state law-alleges that class members unknowingly purchased or leased vehicles containing defective airbag control units (incorporating allegedly defective application specific integrated circuits manufactured by our Atmel subsidiary between 2006 and 2010), and thereby suffered financial harm, including a loss in the value of their purchased or leased vehicles. The plaintiffs are seeking, individually and on behalf of a putative case, unspecified compensatory and exemplary damages, statutory penalties, pre- and post-judgment interest, attorneys' fees, and injunctive and other relief. Our Atmel subsidiary contested plaintiffs' claims vigorously, and on May 23, 2017 the case was ordered to be dismissed.

**Continental Claim ICC Arbitration.** On December 29, 2016, Continental Automotive GmbH ("Continental") filed a Request for Arbitration with the ICC, naming as respondents our subsidiaries Atmel Corporation, Atmel SARL, Atmel Global Sales Ltd., and Atmel Automotive GmbH (collectively, "Atmel"). The Request alleges that a quality issue affecting Continental airbag control units in certain recalled vehicles stems from allegedly defective Atmel application specific integrated circuits ("ASICs"). The Continental airbag control units, ASICs and vehicle recalls are also at issue in In re: Continental Airbag Products Liability Litigation, described above. Continental seeks to recover from Atmel all related costs and damages incurred as a result of the vehicle manufacturers' airbag control unit-related recalls, currently alleged to be \$61.6 million (but subject to increase). Our Atmel subsidiaries intend to defend this action vigorously.

**Southern District of New York Action by LFoundry Rousset ("LFR") and LFR Employees.** On March 4, 2014, LFR and Jean-Yves Guerrini, individually and on behalf of a putative class of LFR employees, filed an action in the United States District Court for the Southern District of New York (the "District Court") against our Atmel subsidiary, our French subsidiary, Atmel Rousset S.A.S. ("Atmel Rousset"), and LFoundry GmbH ("LF"), LFR's German parent. The

case purports to relate to Atmel Rousset's June 2010 sale of its wafer manufacturing facility in Rousset, France to LF, and LFR's subsequent insolvency, and later liquidation, more than three years later. The District Court dismissed the case on August 21, 2015, and the United States Court of Appeals for the Second Circuit affirmed the dismissal on June 27, 2016. On July 25, 2016, the plaintiffs filed a notice of appeal from the District Court's June 27, 2016 denial of their motion for relief from the dismissal judgment. On May 19, 2017, the United States Court of Appeals for the Second Circuit affirmed the June 27, 2016 order dismissing the case.

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Individual Labor Actions by former LFR Employees. In the wake of LFR's insolvency and liquidation, over 500 former employees of LFR have filed individual labor actions against Atmel Rousset in a French labor court. Our Atmel Rousset subsidiary believes that each of these actions is entirely devoid of merit, and, further, that any assertion by any of the Claimants of a co-employment relationship with our Atmel Rousset subsidiary is based substantially on the same specious arguments that the Paris Commercial Court summarily rejected in 2014 in related proceedings. Our Atmel Rousset subsidiary therefore intends to defend vigorously against each of these claims.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

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## PART II

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

Our common stock is traded on the NASDAQ Global Market under the symbol "MCHP." The following table sets forth the quarterly high and low closing prices of our common stock as reported by NASDAQ for our last two fiscal years.

Fiscal 2017	High	Low	Fiscal 2016	High	Low
First Quarter	\$52.99	\$47.16	First Quarter	\$50.41	\$46.66
Second Quarter	62.80	49.49	Second Quarter	46.64	39.57
Third Quarter	66.18	58.41	Third Quarter	49.11	42.19
Fourth Quarter	74.52	62.59	Fourth Quarter	49.11	39.65

## Stock Price Performance Graph

The following graph and table show a comparison of the five-year cumulative total stockholder return, calculated on a dividend reinvestment basis, for Microchip Technology Incorporated, the Standard & Poor's (S&P) 500 Stock Index, and the Philadelphia Semiconductor Index.

## Comparison of 5 year Cumulative Total Return\*

\*\$100 invested on March 31, 2012 in stock or index, including reinvestment of dividends  
Fiscal year ending March 31.

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	Cumulative Total Return					
	March 2012	March 2013	March 2014	March 2015	March 2016	March 2017
Microchip Technology Incorporated	100.00	103.11	138.65	146.35	148.88	233.40
S&P 500 Stock Index	100.00	113.96	138.87	156.55	159.34	186.71
Philadelphia Semiconductor Index	100.00	100.34	129.24	150.30	149.32	209.36

Data acquired by Research Data Group, Inc. (www.researchdatagroup.com)

On May 19, 2017, there were approximately 560 holders of record of our common stock. This figure does not reflect beneficial ownership of shares held in nominee names.

We have been declaring and paying quarterly cash dividends on our common stock since the third quarter of fiscal 2003. Our total cash dividends paid were \$315.4 million, \$291.1 million and \$286.5 million in fiscal 2017, fiscal 2016 and fiscal 2015, respectively. The following table sets forth our quarterly cash dividends per common share and the total amount of the dividend payment for each quarter in fiscal 2017 and fiscal 2016 (amounts in thousands, except per share amounts):

Fiscal 2017	Dividends per Common Share	Aggregate Amount of Dividend Payment	Fiscal 2016	Dividends per Common Share	Aggregate Amount of Dividend Payment
First Quarter	\$ 0.3595	\$ 77,237	First Quarter	\$ 0.3575	\$ 72,331
Second Quarter	0.3600	77,640	Second Quarter	0.3580	72,686
Third Quarter	0.3605	77,970	Third Quarter	0.3585	72,923
Fourth Quarter	0.3610	82,582	Fourth Quarter	0.3590	73,147

On May 9, 2017, we declared a quarterly cash dividend of \$0.3615 per share, which will be paid on June 6, 2017 to stockholders of record on May 23, 2017 and the total amount of such dividend is expected to be approximately \$83.0 million. Our Board of Directors is free to change our dividend practices at any time and to increase or decrease the dividend paid, or not to pay a dividend, on our common stock on the basis of our results of operations, financial condition, cash requirements and future prospects, and other factors deemed relevant by our Board of Directors. Our current intent is to provide for ongoing quarterly cash dividends depending upon market conditions and our results of operations.

Refer to "Item 12 - Security Ownership Of Certain Beneficial Owners And Management And Related Stockholder Matters," at page 53 below, for the information required by Item 201(d) of Regulation S-K with respect to securities authorized for issuance under our equity compensation plans at March 31, 2017.

#### Issuer Purchases of Equity Securities

In May 2015, our Board of Directors authorized the repurchase of up to 20.0 million shares of our common stock in the open market or in privately negotiated transactions. As of March 31, 2016, we had repurchased 8.6 million shares under this authorization for approximately \$363.8 million. In January 2016, our Board of Directors authorized an increase in the existing share repurchase program to 15.0 million shares of common stock from the approximately 11.4 million shares remaining under the prior authorization. There were no repurchases of common stock during fiscal 2017. There is no expiration date associated with this repurchase program.



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## Item 6. SELECTED FINANCIAL DATA

You should read the following selected consolidated financial data for the five-year period ended March 31, 2017 in conjunction with our consolidated financial statements and notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Items 7 and 8 of this Form 10-K. Our consolidated statements of income data for each of the years in the three-year period ended March 31, 2017, and the balance sheet data as of March 31, 2017 and 2016, are derived from our audited consolidated financial statements, included in Item 8 of this Form 10-K. The statement of income data for the years ended March 31, 2014 and 2013 and balance sheet data as of March 31, 2015, 2014 and 2013 have been derived from our audited consolidated financial statements not included herein (in the tables below all amounts are in thousands, except per share data).

## Statement of Income Data:

	Year ended March 31,				
	2017 <sup>(1)</sup>	2016 <sup>(1)</sup>	2015 <sup>(1)</sup>	2014	2013
Net sales	\$3,407,807	\$2,173,334	\$2,147,036	\$1,931,217	\$1,581,623
Cost of sales	1,650,611	967,870	917,472	802,474	743,164
Research and development	545,293	372,596	349,543	305,043	254,723
Selling, general and administrative	499,811	301,670	274,815	267,278	261,471
Amortization of acquired intangible assets	337,667	174,896	176,746	94,534	111,537
Special charges and other, net <sup>(2)</sup>	98,608	3,957	2,840	3,024	32,175
Operating income	275,817	352,345	425,620	458,864	178,553
Losses on equity method investments	(222)	(345)	(317)	(177)	(617)
Interest income	3,079	24,447	19,527	16,485	15,560
Interest expense	(146,346)	(104,018)	(62,034)	(48,716)	(40,915)
Loss on settlement of convertible debt <sup>(3)</sup>	(43,879)	—	(50,631)	—	—
Other income (loss), net	1,338	8,864	13,742	5,898	(404)
Income from continuing operations before income taxes	89,787	281,293	345,907	432,354	152,177
Income tax (benefit) provision	(80,805)	(42,632)	(19,418)	37,073	24,788
Net income from continuing operations	170,592	323,925	365,325	395,281	127,389
Less: Net loss attributable to noncontrolling interests	—	207	3,684	—	—
Net income from continuing operations attributable to Microchip Technology	\$170,592	\$324,132	\$369,009	\$395,281	\$127,389
Basic net income per common share from continuing operations attributable to Microchip Technology stockholders	\$0.79	\$1.59	\$1.84	\$1.99	\$0.65
Diluted net income per common share from continuing operations attributable to Microchip Technology stockholders	\$0.73	\$1.49	\$1.65	\$1.82	\$0.62
Dividends declared per common share	\$1.441	\$1.433	\$1.425	\$1.417	\$1.406
Basic common shares outstanding	217,196	203,384	200,937	198,291	194,595
Diluted common shares outstanding	234,806	217,388	223,561	217,630	205,776

<sup>(1)</sup> Refer to Note 2 to our consolidated financial statements for an explanation of our material business combinations during fiscal 2017, fiscal 2016, and fiscal 2015.



<sup>(2)</sup> The following table presents a summary of special charges and other, net for the five-year period ended March 31, 2017:

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	March 31,				
	2017	2016	2015	2014	2013
Acquisition related expenses	\$98,608	\$11,163	\$2,840	\$1,654	\$16,259
Legal settlement	—	(7,206 )	—	—	11,516
Adjustment to contingent consideration	—	—	—	1,370	4,400
Totals	\$98,608	\$3,957	\$2,840	\$3,024	\$32,175

Discussions of the special charges and other, net for fiscal 2017, fiscal 2016 and fiscal 2015 are contained in Note 3 to our consolidated financial statements.

During fiscal 2014, we incurred special charges and other, net of \$3.0 million related to severance, office closing and other costs associated with our acquisition activity.

During fiscal 2013, we incurred special charges and other, net of \$32.2 million comprised of a \$4.4 million net increase in the fair value of contingent consideration related to one of our acquisitions, \$16.3 million of primarily severance-related costs in addition to office closing and other costs associated with our acquisition of SMSC and legal settlement costs of approximately \$11.5 million for certain legal matters related to an entity which we acquired in April 2010 in excess of previously accrued amounts.

(3) Refer to Note 11 to our consolidated financial statements for an explanation of the loss on settlement of debt of approximately \$43.9 million in fiscal 2017 and approximately \$50.6 million in fiscal 2015.

## Balance Sheet Data:

	March 31,				
	2017	2016	2015	2014	2013
Working capital	\$1,600,590	\$2,714,704	\$2,310,645	\$1,633,320	\$1,894,759
Total assets	7,686,881	5,537,883	4,780,713	4,067,630	3,851,405
Long-term obligations, less current portion	2,900,524	2,453,405	1,826,858	1,003,258	983,385
Microchip Technology Stockholders' equity	3,270,711	2,150,919	2,044,654	2,135,461	1,933,470

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

Note Regarding Forward-looking Statements

This report, including "Item 1 – Business," "Item 1A – Risk Factors," and "Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations," contains certain forward-looking statements that involve risks and uncertainties, including statements regarding our strategy, financial performance and revenue sources. We use words such as "anticipate," "believe," "plan," "expect," "future," "continue," "intend" and similar expressions to identify forward-looking statements. Our actual results could differ materially from the results anticipated in these forward-looking statements as a result of certain factors including those set forth under "Risk Factors," beginning at page 12 and elsewhere in this Form 10-K. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. You should not place undue reliance on these forward-looking statements. We disclaim any obligation to update information contained in any forward-looking statement. These forward-looking statements include, without limitation, statements regarding the following:

- The effects that adverse global economic conditions and fluctuations in the global credit and equity markets may have on our financial condition and results of operations;
- The effects and amount of competitive pricing pressure on our product lines;
- Our ability to moderate future average selling price declines;
- The effect of product mix, capacity utilization, yields, fixed cost absorption, competition and economic conditions on gross margin;
- The amount of, and changes in, demand for our products and those of our customers;
- Our expectation that in the future we will acquire additional businesses that we believe will complement our existing businesses;
- Our expectation that in the future we will enter into joint development agreements or other business or strategic relationships with other companies;
- The level of orders that will be received and shipped within a quarter;
- Our expectation that our days of inventory levels in the June 2017 quarter will be 97 days to 106 days. Our belief that our existing level of inventory will allow us to maintain competitive lead times and provide strong delivery performance to our customers;
- The effect that distributor and customer inventory holding patterns will have on us;
- Our belief that customers recognize our products and brand name and use distributors as an effective supply channel;
- Anticipating increased customer requirements to meet voluntary criteria related to the reduction or elimination of substances in our products;
- Our belief that deferred cost of sales are recorded at their approximate carrying value and will have low risk of material impairment;
- Our belief that our direct sales personnel combined with our distributors provide an effective means of reaching our customer base;
- Our ability to increase the proprietary portion of our analog and interface product lines and the effect of such an increase;
- Our belief that our processes afford us both cost-effective designs in existing and derivative products and greater functionality in new product designs;
- The impact of any supply disruption we may experience;
- Our ability to effectively utilize our facilities at appropriate capacity levels and anticipated costs;
- That we adjust capacity utilization to respond to actual and anticipated business and industry-related conditions;
- That our existing facilities will provide sufficient capacity to respond to increases in demand with modest incremental capital expenditures;

- That manufacturing costs will be reduced by transition to advanced process technologies;
- Our ability to maintain manufacturing yields;
- Continuing our investments in new and enhanced products;
- The cost effectiveness of using our own assembly and test operations;
- Our anticipated level of capital expenditures;
- Continuation and amount of quarterly cash dividends;
- The sufficiency of our existing sources of liquidity to finance anticipated capital expenditures and otherwise meet our anticipated cash requirements, and the effects that our contractual obligations are expected to have on them;

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That our U.S. operations and capital requirements are funded primarily by cash generated from U.S. operating activities, which has been and is expected to be sufficient to meet our business needs in the U.S. for the foreseeable future;

• The impact of seasonality on our business;

• The accuracy of our estimates used in valuing employee equity awards;

• That the resolution of legal actions will not have a material effect on our business, and the accuracy of our assessment of the probability of loss and range of potential loss;

• The recoverability of our deferred tax assets;

• The adequacy of our tax reserves to offset any potential tax liabilities, having the appropriate support for our income tax positions and the accuracy of our estimated tax rate;

• Our belief that our determinations with respect to the tax consequences of the Atmel acquisition are reasonable;

• Our belief that the expiration of any tax holidays will not have a material impact on our overall tax expense or effective tax rate;

• Our belief that the estimates used in preparing our consolidated financial statements are reasonable;

• Our belief that some of the recently issued accounting pronouncements listed in this document will not have a material impact on our consolidated financial statements;

• The accuracy of our estimates of the useful life and values of our property, assets and other liabilities;

• The adequacy of our patent strategy, and our belief that the impact of the expiration of any particular patent will not have a material effect on our business;

• Our actions to vigorously and aggressively defend and protect our intellectual property on a worldwide basis;

• Our ability to obtain patents and intellectual property licenses and minimize the effects of litigation;

• The level of risk we are exposed to for product liability claims or indemnification claims;

• The effect of fluctuations in market interest rates on our income and/or cash flows;

• The effect of fluctuations in currency rates;

That our offshore earnings are considered to be permanently reinvested offshore and that we could determine to repatriate some of our offshore earnings in future periods to fund stockholder dividends, share repurchases, acquisitions or other corporate activities;

• That a significant portion of our future cash generation will be in our foreign subsidiaries;

• Our intention to satisfy the lesser of the principal amount or the conversion value of our debentures in cash;

• Our intention to indefinitely reinvest undistributed earnings of certain non-US subsidiaries in those subsidiaries;

• Our intent to maintain a high-quality investment portfolio that preserves principal, meets liquidity needs, avoids inappropriate concentrations and delivers an appropriate yield; and

• Our ability to collect accounts receivable.

Our actual results could differ materially from the results anticipated in these forward-looking statements as a result of certain factors including those set forth in "Item 1A – Risk Factors," and elsewhere in this Form 10-K. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. You should not place undue reliance on these forward-looking statements. We disclaim any obligation to update the information contained in any forward-looking statement.

## Introduction

The following discussion should be read in conjunction with the consolidated financial statements and the related notes that appear elsewhere in this document, as well as with other sections of this Annual Report on Form 10-K, including "Item 1 – Business;" "Item 6 – Selected Financial Data;" and "Item 8 – Financial Statements and Supplementary Data."

We begin our Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) with a summary of our overall business strategy to give the reader an overview of the goals of our business and the overall direction of our business and products. This is followed by a discussion of the Critical Accounting Policies and Estimates that we believe are important to understanding the assumptions and judgments incorporated in our reported financial results. In the next section, beginning at page 39, we discuss our Results of Operations for fiscal 2017 compared to fiscal 2016, and for fiscal 2016 compared to fiscal 2015. We then provide an analysis of changes in our balance sheet and cash flows, and discuss our financial commitments in the sections titled "Liquidity and Capital Resources," "Contractual Obligations" and "Off-Balance Sheet Arrangements."

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### Strategy

Our goal is to be a worldwide leader in providing specialized semiconductor products for a wide variety of embedded control applications. Our strategic focus is on embedded control solutions, including general purpose and specialized microcontrollers, development tools and related software, analog, interface, mixed signal and timing products, wired and wireless connectivity products, memory products and technology licensing. We provide highly cost-effective embedded control solutions that also offer the advantages of small size, high performance, extreme low power usage, wide voltage range operation, mixed signal integration and ease of development, thus enabling timely and cost-effective integration of our solutions by our customers in their end products. We license our SuperFlash technology and other technologies to wafer foundries, integrated device manufacturers and design partners throughout the world for use in the manufacture of advanced microcontroller products, gate array, radio frequency (RF) and analog products that require embedded non-volatile memory.

We sell our products to a broad base of domestic and international customers across a variety of industries. The principal markets that we serve include consumer, automotive, industrial, office communication, computing and aerospace. Our business is subject to fluctuations based on economic conditions within these markets.

Our manufacturing operations include wafer fabrication, wafer probe and assembly and test. The ownership of a substantial portion of our manufacturing resources is an important component of our business strategy, enabling us to maintain a high level of manufacturing control resulting in us being one of the lowest cost producers in the embedded control industry. By owning wafer fabrication facilities and our assembly and test operations, and by employing statistical process control techniques, we have been able to achieve and maintain high production yields. Direct control over manufacturing resources allows us to shorten our design and production cycles. This control also allows us to capture a portion of the wafer manufacturing and the assembly and test profit margin. We do outsource a significant portion of our manufacturing requirements to third parties.

We employ proprietary design and manufacturing processes in developing our embedded control products. We believe our processes afford us both cost-effective designs in existing and derivative products and greater functionality in new product designs. While many of our competitors develop and optimize separate processes for their logic and memory product lines, we use a common process technology for both microcontroller and non-volatile memory products. This allows us to more fully leverage our process research and development costs and to deliver new products to market more rapidly. Our engineers utilize advanced computer-aided design tools and software to perform circuit design, simulation and layout, and our in-house photomask and wafer fabrication facilities enable us to rapidly verify design techniques by processing test wafers quickly and efficiently.

We are committed to continuing our investment in new and enhanced products, including development systems, and in our design and manufacturing process technologies. We believe these investments are significant factors in maintaining our competitive position. Our current research and development activities focus on the design of new microcontrollers, digital signal controllers, memory, analog and mixed-signal products, Flash-IP systems, development systems, software and application-specific software libraries. We are also developing new design and process technologies to achieve further cost reductions and performance improvements in our products.

We market and sell our products worldwide primarily through a network of direct sales personnel and distributors. Our distributors focus primarily on servicing the product and technical support requirements of a broad base of diverse customers. We believe that our direct sales personnel combined with our distributors provide an effective means of reaching this broad and diverse customer base. Our direct sales force focuses primarily on major strategic accounts in three geographical markets: the Americas, Europe and Asia. We currently maintain sales and support centers in major metropolitan areas in North America, Europe and Asia. We believe that a strong technical service presence is essential to the continued development of the embedded control market. Many of our client

engagement manager (CEMs), embedded system engineer (ESEs), and sales management personnel have technical degrees and have been previously employed in an engineering environment. We believe that the technical knowledge of our sales force is a key competitive advantage in the sale of our products. The primary mission of our ESE team is to provide technical assistance to strategic accounts and to conduct periodic training sessions for CEMs and distributor sales teams. ESEs also frequently conduct technical seminars for our customers in major cities around the world, and work closely with our distributors to provide technical assistance and end-user support.

See "Our operating results are impacted by both seasonality and the wide fluctuation of supply and demand in the semiconductor industry," on page 15 for discussion of the impact of seasonality on our business.



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### Critical Accounting Policies and Estimates

#### General

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. We review the accounting policies we use in reporting our financial results on a regular basis. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, business combinations, share-based compensation, inventories, income taxes, senior and junior subordinated convertible debt and contingencies. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our results may differ from these estimates due to actual outcomes being different from those on which we based our assumptions. We review these estimates and judgments on an ongoing basis. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements. We also have other policies that we consider key accounting policies, such as our policy regarding revenue recognition to original equipment manufacturers (OEMs); however, we do not believe these policies require us to make estimates or judgments that are as difficult or subjective as our policies described below.

#### Revenue Recognition – Distributors

Our distributors worldwide generally have broad price protection and product return rights which prevent the sales pricing from being fixed or determinable at the time of shipment to our distributors. Therefore, revenue recognition is deferred until the pricing uncertainty is resolved, which generally occurs when the distributor sells the product to their customer. At the time of shipment to these distributors, we record a trade receivable for the selling price as there is a legally enforceable right to payment, relieve inventory for the carrying value of goods shipped since legal title has passed to the distributor, and record the gross margin in deferred income on shipments to distributors on our consolidated balance sheets.

In connection with our acquisitions of Atmel and Micrel, we acquired certain distributor relationships where revenue was recognized upon shipment to the distributors based on certain contractual terms or prevailing business practices that result in the price not being fixed and determinable at such time. Following an acquisition, we undertake efforts to align the contract terms and business practices of the acquired entity with our own. Once these efforts are complete, revenue recognition is changed. With respect to such distributor relationships acquired in the Atmel acquisition, as of October 1, 2016, these business practices were conformed to those of our other distributors resulting in the deferral of revenue recognition until the distributor sells the product to their customers. With respect to such distributor relationships acquired in the Micrel acquisition, in the December 2015 quarter, these distributor contracts were changed to be consistent with those of our other distributors which resulted in the deferral of revenue recognition under such contracts until the distributor sells the product to their customers.

Deferred income on shipments to distributors effectively represents the gross margin on the sale to the distributor; however, the amount of gross margin that we recognize in future periods could be less than the deferred margin as a result of credits granted to distributors on specifically identified products and customers to allow the distributors to earn a competitive gross margin on the sale of our products to their end customers and price protection concessions related to market pricing conditions.

We sell the majority of the items in our product catalog to our distributors worldwide at a uniform list price. However, distributors resell our products to end customers at a very broad range of individually negotiated price points. The majority of our distributors' resales require a reduction from the original list price paid. Often, under these circumstances, we remit back to the distributor a portion of their original purchase price after the resale transaction is completed in the form of a credit against the distributors' outstanding accounts receivable balance. The credits are on a per unit basis and are not given to the distributor until they provide information to us regarding the sale to their end customer. The price reductions vary significantly based on the customer, product, quantity ordered, geographic location and other factors. Discounts to a price less than our cost have historically been rare. The effect of granting these credits establishes the net selling price to our distributors for the product and results in the net revenue recognized by us when the product is sold by the distributors to their end customers. Thus, a portion of the "deferred income on shipments to distributors" balance represents the amount of distributors' original purchase price that will be credited back to the distributors in the future. The wide range and variability of negotiated price concessions granted to distributors does not allow us to accurately estimate the portion of the balance in the deferred income on shipments to distributors account that will be credited back to the distributors. Therefore, we do not reduce deferred income on shipments to distributors or accounts receivable by anticipated future concessions; rather, price concessions are typically recorded against

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deferred income on shipments to distributors and accounts receivable when incurred, which is generally at the time the distributor sells the product. At March 31, 2017, we had approximately \$418.0 million of deferred revenue and \$125.2 million in deferred cost of sales recognized as \$292.8 million of deferred income on shipments to distributors. At March 31, 2016, we had approximately \$267.2 million of deferred revenue and \$83.8 million in deferred cost of sales recognized as \$183.4 million of deferred income on shipments to distributors. The increase in deferred income on shipments to distributors in fiscal 2017 compared to fiscal 2016 resulted primarily from our acquisition of Atmel. The deferred income on shipments to distributors that will ultimately be recognized in our income statement will be lower than the amount reflected on the balance sheet due to additional price credits to be granted to the distributors when the product is sold to their customers. These additional price credits historically have resulted in the deferred income approximating the overall gross margins that we recognize in the distribution channel of our business.

Distributor advances, reflected as a reduction of deferred income on shipments to distributors on our consolidated balance sheets, totaled \$203.9 million at March 31, 2017 and \$102.9 million at March 31, 2016. The increase in distributor advances in fiscal 2017 compared to fiscal 2016 resulted primarily from our acquisition of Atmel. On sales to distributors, our payment terms generally require the distributor to settle amounts owed to us for an amount in excess of their ultimate cost. The sales price to our distributors may be higher than the amount that the distributors will ultimately owe us because distributors often negotiate price reductions after purchasing products from us and such reductions are often significant. It is our practice to apply these negotiated price discounts to future purchases, requiring the distributor to settle receivable balances, on a current basis, generally within 30 days, for amounts originally invoiced. This practice has an adverse impact on the working capital of our distributors. As such, we have entered into agreements with certain distributors whereby we advance cash to the distributors to reduce the distributors' working capital requirements. These advances are reconciled at least on a quarterly basis and are estimated based on the amount of ending inventory as reported by the distributor multiplied by a negotiated percentage. Such advances have no impact on our revenue recognition or our consolidated statements of operations. We process discounts taken by distributors against our deferred income on shipments to distributors' balance and true-up the advanced amounts generally after the end of each completed fiscal quarter. The terms of these advances are set forth in binding legal agreements and are unsecured, bear no interest on unsettled balances and are due upon demand. The agreements governing these advances can be canceled by us at any time.

We reduce product pricing through price protection based on market conditions, competitive considerations and other factors. Price protection is granted to distributors on the inventory they have on hand at the date the price protection is offered. When we reduce the price of our products, it allows the distributor to claim a credit against its outstanding accounts receivable balances based on the new price of the inventory it has on hand as of the date of the price reduction. There is no immediate revenue impact from the price protection, as it is reflected as a reduction of the deferred income on shipments to distributors' balance.

Products returned by distributors and subsequently scrapped have historically been immaterial to our consolidated results of operations. We routinely evaluate the risk of impairment of the deferred cost of sales component of the deferred income on shipments to distributors account. Because of the historically immaterial amounts of inventory that have been scrapped, and historically rare instances where discounts given to a distributor result in a price less than our cost, we believe the deferred costs are recorded at their approximate carrying value.

### Recent Updates to Revenue Recognition

In May 2014, the FASB issued ASU 2014-09-Revenue from Contracts with Customers (Topic 606) and in August 2015, the FASB subsequently issued ASU 2015-14 "Deferral of the Effective Date," which supersedes existing revenue guidance pursuant to US GAAP and will no longer permit us to defer revenue on sales to distributors until the products are sold to the end customer. Upon adoption of ASU 2014-09 and 2015-14, a portion of this deferred revenue

will be required to be estimated and recognized upon sale to the distributor rather than upon the sale by the distributor to the end customer. See “Recently Issued Accounting Pronouncements Not Yet Adopted” for additional information on the new guidance.

#### Business Combinations

All of our business combinations are accounted for at fair value under the acquisition method of accounting. Under the acquisition method of accounting, (i) acquisition-related costs, except for those costs incurred to issue debt or equity securities, will be expensed in the period incurred; (ii) non-controlling interests will be valued at fair value at the acquisition date; (iii) in-process research and development will be recorded at fair value as an intangible asset at the acquisition date and amortized once the technology reaches technological feasibility; (iv) restructuring costs associated with a business combination will be expensed subsequent to the acquisition date; and (v) changes in deferred tax asset valuation allowances and income tax uncertainties after the acquisition date will be recognized through income tax expense or directly in contributed capital. The

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measurement of the fair value of assets acquired and liabilities assumed requires significant judgment. The valuation of intangible assets, in particular, requires that we use valuation techniques such as the income approach. The income approach includes the use of a discounted cash flow model, which includes discounted cash flow scenarios and requires the following significant estimates: revenue, expenses, capital spending and other costs, and discount rates based on the respective risks of the cash flows. Under the acquisition method of accounting, the aggregate amount of consideration we pay for a company is allocated to net tangible assets and intangible assets based on their estimated fair values as of the acquisition date. The excess of the purchase price over the value of the net tangible assets and intangible assets is recorded to goodwill. On an annual basis, we test goodwill for impairment and through March 31, 2017, we have never recorded an impairment charge against our goodwill balance.

### Share-based Compensation

We measure at fair value and recognize compensation expense for all share-based payment awards, including grants of employee stock options, restricted stock units (RSUs) and employee stock purchase rights, to be recognized in our financial statements based on their respective grant date fair values. For the past several years, we have utilized RSUs as our primary equity incentive compensation instrument for employees. Share-based compensation cost is measured on the grant date based on the fair market value of our common stock discounted for expected future dividends and is recognized as expense straight-line over the requisite service periods. Total share-based compensation expense recognized in fiscal 2017 was \$128.2 million, of which \$109.5 million was reflected in operating expenses and \$18.7 million was reflected in cost of sales. Total share-based compensation included in our inventory balance was \$8.2 million at March 31, 2017.

During the year ended March 31, 2017, we elected to early adopt ASU 2016-09, Compensation - Stock Compensation, Improvements to Employee Share-Based Payment Accounting (Topic 718). Under this standard, entities are permitted to make an accounting policy election to either estimate forfeitures on share-based payment awards, as previously required, or to recognize forfeitures as they occur. We have elected to recognize forfeitures as they occur. Prior to the adoption of ASU 2016-09, we estimated the number of share-based awards to be forfeited due to employee turnover. The effect of forfeiture adjustments in the years ended March 31, 2016 and 2015 was immaterial.

If there are any modifications or cancellations of the underlying unvested securities, we may be required to accelerate, increase or cancel any remaining unearned share-based compensation expense. Future share-based compensation expense and unearned share-based compensation will increase to the extent that we grant additional equity awards to employees or we assume unvested equity awards in connection with acquisitions.

### Inventories

Inventories are valued at the lower of cost or market using the first-in, first-out method. We write down our inventory for estimated obsolescence or unmarketable inventory in an amount equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. If actual market conditions are less favorable than those we projected, additional inventory write-downs may be required. Inventory impairment charges establish a new cost basis for inventory and charges are not subsequently reversed to income even if circumstances later suggest that increased carrying amounts are recoverable. In estimating our inventory obsolescence, we primarily evaluate estimates of demand over a 12-month period and record impairment charges for inventory on hand in excess of the estimated 12-month demand. Estimates for projected 12-month demand are generally based on the average shipments of the prior three-month period, which are then annualized to adjust for any potential seasonality in our business. The estimated 12-month demand is compared to our most recently developed sales forecast to further reconcile the 12-month demand estimate. Management reviews and adjusts the estimates as appropriate based on specific situations. For example, demand can be adjusted up for new products for which historic sales are not representative of future demand. Alternatively, demand can be adjusted down

to the extent any existing products are being replaced or discontinued.

In periods where our production levels are substantially below our normal operating capacity, the reduced production levels of our manufacturing facilities are charged directly to cost of sales. As a result of production below normal operating levels in our wafer fabrication facilities, approximately \$1.9 million and \$0.8 million was charged directly to cost of sales in fiscal 2016 and fiscal 2015, respectively. There was no charge to cost of sales for reduced production levels in fiscal 2017.

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## Income Taxes

As part of the process of preparing our consolidated financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. This process involves estimating our actual current tax exposure together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheets. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income within the relevant jurisdiction and to the extent we believe that recovery is not likely, we must establish a valuation allowance. We have provided valuation allowances for certain of our deferred tax assets, including state net operating loss carryforwards, foreign tax credits and state tax credits, where it is more likely than not that some portion, or all of such assets, will not be realized. At March 31, 2017, the valuation allowances totaled \$210.1 million. Should we determine that we would not be able to realize all or part of our net deferred tax asset in the future, an adjustment to the deferred tax asset would be charged to income in the period such determination was made.

Various taxing authorities in the U.S. and other countries in which we do business scrutinize the tax structures employed by businesses. Companies of our size and complexity are regularly audited by the taxing authorities in the jurisdictions in which they conduct significant operations. During the year ended March 31, 2017, the U.S. Internal Revenue Service (IRS) finalized the audit of our 2011 and 2012 income tax years. The close of this audit did not have an adverse impact on our financial statements. Also, during the year ended March 31, 2017, the German and French tax authorities finalized the audit of our 2010 through 2013 and our 2012 through 2014 income tax years, respectively. The close of these audits did not have an adverse impact on our financial statements. We are currently being audited by the tax authorities in France. We recognize liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional tax payments are probable. We believe that we maintain adequate tax reserves to offset any potential tax liabilities that may arise upon these and other pending audits in the U.S. and other countries in which we do business. If such amounts ultimately prove to be unnecessary, the resulting reversal of such reserves would result in tax benefits being recorded in the period the reserves are no longer deemed necessary. If such amounts ultimately prove to be less than an ultimate assessment, a future charge to expense would be recorded in the period in which the assessment is determined.

The accounting model as defined in ASC 740 related to the valuation of uncertain tax positions requires us to presume that the tax position will be examined by the relevant taxing authority that has full knowledge of all relevant information and that each tax position will be evaluated without consideration of the possibility of offset or aggregation with other positions. The recognition requirement for the liability exists even if we believe the possibility of examination by a taxing authority or discovery of the related risk matters is remote or where we have a long history of the taxing authority not performing an exam or overlooking an issue. We will record an adjustment to a previously recorded position if new information or facts related to the position are identified in a subsequent period. All adjustments to the positions are recorded through the income statement. Generally, adjustments will be recorded in periods subsequent to the initial recognition if the taxing authority has completed an audit of the period or if the statute of limitation expires. Due to the inherent uncertainty in the estimation process and in consideration of the criteria of the accounting model, amounts recognized in the financial statements in periods subsequent to the initial recognition may significantly differ from the estimated exposure of the position under the accounting model.

## Senior and Junior Subordinated Convertible Debt

We separately account for the liability and equity components of our senior and junior subordinated convertible debt in a manner that reflects our nonconvertible debt (unsecured debt) borrowing rate when interest cost is recognized. This results in a bifurcation of a component of the debt, classification of that component in equity and the accretion of the resulting discount on the debt to be recognized as part of interest expense in our consolidated statements of operations. Lastly, we include the dilutive effect of the shares of our common stock issuable upon

conversion of the outstanding senior and junior subordinated convertible debt in our diluted income per share calculation regardless of whether the market price triggers or other contingent conversion features have been met. We apply the treasury stock method as we have the intent and have adopted an accounting policy to settle the principal amount of the senior and junior subordinated convertible debentures in cash. This method results in incremental dilutive shares when the average fair value of our common stock for a reporting period exceeds the conversion prices per share and adjusts as dividends are recorded in the future.

#### Contingencies

In the ordinary course of our business, we are exposed to various liabilities as a result of contracts, product liability, customer claims and other matters. Additionally, we are involved in a limited number of legal actions, both as plaintiff and defendant. Consequently, we could incur uninsured liability in any of those actions. We also periodically receive notifications from various third parties alleging infringement of patents or other intellectual property rights, or from customers requesting



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reimbursement for various costs. With respect to pending legal actions to which we are a party and other claims, although the outcomes are generally not determinable, we believe that the ultimate resolution of these matters will not have a material adverse effect on our financial position, cash flows or results of operations. Litigation and disputes relating to the semiconductor industry are not uncommon, and we are, from time to time, subject to such litigation and disputes. As a result, no assurances can be given with respect to the extent or outcome of any such litigation or disputes in the future.

We accrue for claims and contingencies when losses become probable and reasonably estimable. As of the end of each applicable reporting period, we review each of our matters and, where it is probable that a liability has been or will be incurred, we accrue for all probable and reasonably estimable losses. Where we can reasonably estimate a range of losses we may incur regarding such a matter, we record an accrual for the amount within the range that constitutes our best estimate. If we can reasonably estimate a range but no amount within the range appears to be a better estimate than any other, we use the amount that is the low end of such range. Contingencies of an acquired company that exist as of the date of the acquisition are measured at fair value if determinable, which generally is based on a probability weighted model. If fair value is not determinable, contingencies of an acquired company are recognized when they become probable and reasonably estimable.

## Results of Continuing Operations

The following table sets forth certain operational data as a percentage of net sales for the years indicated:

	Year Ended March 31,		
	2017	2016	2015
Net sales	100.0%	100.0%	100.0%
Cost of sales	48.4	44.5	42.7
Gross profit	51.6	55.5	57.3
Research and development	16.0	17.1	16.3
Selling, general and administrative	14.7	13.9	12.8
Amortization of acquired intangible assets	9.9	8.1	8.3
Special charges and other, net	2.9	0.2	0.1
Operating income	8.1	% 16.2	% 19.8 %

## Net Sales

We operate in two segments and engage primarily in the design, development, manufacture and sale of semiconductor products as well as the licensing of our SuperFlash and other technologies. We sell our products to distributors and OEMs, in a broad range of markets, perform ongoing credit evaluations of our customers and generally require no collateral. In certain circumstances, a customer's financial condition may require collateral, and, in such cases, the collateral would be typically provided by letters of credit.

Our net sales of \$3,407.8 million in fiscal 2017 increased by \$1,234.5 million, or 56.8%, compared to fiscal 2016, and our net sales of \$2,173.3 million in fiscal 2016 increased by \$26.3 million, or 1.2%, compared to fiscal 2015. The increase in net sales in fiscal 2017 compared to fiscal 2016 was due primarily to our acquisition of Atmel and also by growth in our historical business driven by general economic and semiconductor industry conditions. The increase in net sales in fiscal 2016 compared to fiscal 2015 was due primarily to our acquisition of Micrel, offset in part by weaker general economic and semiconductor industry conditions. Average selling prices for our semiconductor products were flat in fiscal 2017 compared to fiscal 2016 and down approximately 3% in fiscal 2016 compared to fiscal 2015. The number of units of our semiconductor products sold was up approximately 58% in fiscal 2017 compared to fiscal 2016 and up approximately 6% in fiscal 2016 compared to fiscal 2015.



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The average selling prices and the unit volumes of our sales are impacted by the mix of our products sold and overall semiconductor market conditions. Key factors impacting the amount of net sales during the last three fiscal years include:

- our acquisition of Atmel, which closed on April 4, 2016;
- our acquisition of Micrel, which closed on August 3, 2015;
- global economic conditions in the markets we serve;
- semiconductor industry conditions;
- our acquisition of ISSC on July 17, 2014;
- our acquisition of Supertex on April 1, 2014;
- our new product offerings that have increased our served available market;
- customers' increasing needs for the flexibility offered by our programmable solutions;
- inventory holding patterns of our customers;
- increasing semiconductor content in our customers' products; and
- continued market share gains in the segments of the markets we address.

Net sales by product line for fiscal 2017, 2016 and 2015 were as follows (dollars in thousands):

	Year Ended March 31,					
	2017	%	2016	%	2015	%
Microcontrollers	\$2,147,338	63.0	\$1,345,499	61.9	\$1,393,607	64.9
Analog, interface, mixed signal and timing products	888,878	26.1	595,455	27.4	501,048	23.3
Memory products	184,107	5.4	116,945	5.4	132,258	6.2
Technology licensing	91,156	2.7	89,124	4.1	89,593	4.2
Multi-market and other	96,328	2.8	26,311	1.2	30,530	1.4
Total net sales	\$3,407,807	100.0	\$2,173,334	100.0	\$2,147,036	100.0

### Microcontrollers

Our microcontroller product line represents the largest component of our total net sales. Microcontrollers and associated application development systems accounted for approximately 63.0% of our net sales in fiscal 2017, approximately 61.9% of our net sales in fiscal 2016 and approximately 64.9% of our net sales in fiscal 2015.

Net sales of our microcontroller products increased approximately 59.6% in fiscal 2017 compared to fiscal 2016, and decreased approximately 3.5% in fiscal 2016 compared to fiscal 2015. The increase in net sales in fiscal 2017 compared to fiscal 2016 resulted primarily from our acquisition of Atmel and also by growth in our historical business driven by general economic and semiconductor industry conditions. The decrease in net sales in fiscal 2016 compared to fiscal 2015 resulted primarily from weaker general economic and semiconductor industry conditions in the end markets we serve including the consumer, automotive, industrial control, communications and computing markets.

Historically, average selling prices in the semiconductor industry decrease over the life of any particular product. The overall average selling prices of our microcontroller products have remained relatively constant over time due to the proprietary nature of these products. We have experienced, and expect to continue to experience, moderate pricing pressure in certain microcontroller product lines, primarily due to competitive conditions. We have in the past been able to, and expect in the future to be able to, moderate average selling price declines in our microcontroller product lines by introducing new products with more features and higher prices. We may be unable to maintain average selling prices for our microcontroller products as a result of increased pricing pressure in the future, which could adversely affect our operating results.

### Analog, Interface, Mixed Signal and Timing Products

Sales of our analog, interface, mixed signal and timing products accounted for approximately 26.1% of our net sales in fiscal 2017, approximately 27.4% of our net sales in fiscal 2016 and approximately 23.3% of our net sales in fiscal 2015.

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Net sales of our analog, interface, mixed signal and timing products increased approximately 49.3% in fiscal 2017 compared to fiscal 2016 and increased approximately 18.8% in fiscal 2016 compared to fiscal 2015. The increase in net sales in fiscal 2017 compared to fiscal 2016 was driven primarily by our acquisition of Atmel and also by growth in our historical business driven by general economic and semiconductor industry conditions. The increase in net sales in fiscal 2016 compared to fiscal 2015 was driven primarily by our acquisition of Micrel in the second quarter of fiscal 2016 and market share gains achieved within the analog, interface, mixed signal and timing market.

Analog, interface, mixed signal and timing products can be proprietary or non-proprietary in nature. Currently, we consider the majority of our analog, interface, mixed signal and timing product mix to be proprietary in nature, where prices are relatively stable, similar to the pricing stability experienced in our microcontroller products. The non-proprietary portion of our analog, interface, mixed signal and timing business will experience price fluctuations, driven primarily by the current supply and demand for those products. We may be unable to maintain the average selling prices of our analog, interface, mixed signal and timing products as a result of increased pricing pressure in the future, which could adversely affect our operating results. We anticipate the proprietary portion of our analog, interface, mixed signal and timing products will increase over time.

### Memory Products

Sales of our memory products accounted for approximately 5.4% of our net sales in fiscal 2017, approximately 5.4% of our net sales in fiscal 2016 and approximately 6.2% of our net sales in fiscal 2015.

Net sales of our memory products increased approximately 57.4% in fiscal 2017 compared to fiscal 2016, and decreased approximately 11.6% in fiscal 2016 compared to fiscal 2015. The increase in memory product net sales in fiscal 2017 compared to fiscal 2016 was driven primarily by our acquisition of Atmel. The decrease in memory product net sales in fiscal 2016 compared to fiscal 2015 was driven primarily by adverse customer demand conditions within the Serial EEPROM and Flash memory markets.

Memory product pricing has historically been cyclical in nature, with steep price declines followed by periods of relative price stability, driven by changes in industry capacity at different stages of the business cycle. We have experienced, and expect to continue to experience, varying degrees of competitive pricing pressures in our memory products. We may be unable to maintain the average selling prices of our memory products as a result of increased pricing pressure in the future, which could adversely affect our operating results.

### Technology Licensing

Technology licensing revenue includes a combination of royalties associated with licenses for the use of our SuperFlash and other technologies and fees for engineering services. Technology licensing accounted for approximately 2.7% of our net sales in fiscal 2017, approximately 4.1% of our net sales in fiscal 2016 and approximately 4.2% of our net sales in fiscal 2015.

Net sales related to our technology licensing increased approximately 2.3% in fiscal 2017 compared to fiscal 2016 and decreased approximately 0.5% in fiscal 2016 compared to fiscal 2015. Revenue from technology licensing can fluctuate over time based on the production activities of our licensees as well as general economic and semiconductor industry conditions.

### Multi-Market and Other

Multi-market and other (MMO) consists of manufacturing services (wafer foundry and assembly and test subcontracting), legacy application specific integrated circuits, complex programmable logic devices, and aerospace

products. Revenue from these services and products accounted for approximately 2.8% of our net sales in fiscal 2017, approximately 1.2% of our net sales in fiscal 2016, and approximately 1.4% of our net sales in fiscal 2015.

Net sales related to these services and products increased approximately \$70.0 million in fiscal 2017 compared to fiscal 2016 and decreased approximately \$4.2 million in fiscal 2016 compared to fiscal 2015. The increase in MMO net sales in fiscal 2017 compared to fiscal 2016 was driven primarily by our acquisition of Atmel. The decrease in MMO net sales in fiscal 2016 compared to fiscal 2015 was driven primarily by general economic and semiconductor industry conditions.

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## Distribution

Distributors accounted for approximately 55% of our net sales in fiscal 2017, approximately 53% of our net sales in fiscal 2016 and approximately 51% of our net sales in fiscal 2015. Our distributors focus primarily on servicing the product requirements of a broad base of diverse customers. We believe that distributors provide an effective means of reaching this broad and diverse customer base. We believe that customers recognize Microchip for its products and brand name and use distributors as an effective supply channel.

Our two largest distributors together accounted for approximately 14% of our net sales in fiscal 2017, and approximately, 12% of our net sales in each of fiscal 2016 and fiscal 2015. No single distributor accounted for more than 10% of our net sales in fiscal 2017, 2016 or 2015.

Generally, we do not have long-term agreements with our distributors and we, or our distributors, may terminate our relationship with each other with little or no advanced notice. The loss of, or the disruption in the operations of, one or more of our distributors could reduce our future net sales in a given quarter and could result in an increase in inventory returns.

At March 31, 2017, our distributors maintained 33 days of inventory of our products compared to 32 days at March 31, 2016 and 37 days at March 31, 2015. Over the past five fiscal years, the days of inventory maintained by our distributors have fluctuated between approximately 27 days and 37 days. We do not believe that inventory holding patterns at our distributors will materially impact our net sales, due to the fact that we recognize revenue based on when the distributor sells the product to their customer.

## Sales by Geography

Sales by geography for fiscal 2017, 2016 and 2015 were as follows (dollars in thousands):

	Year Ended March 31,					
	2017	%	2016	%	2015	%
Americas	\$641,849	18.8	\$417,579	19.2	\$421,947	19.7
Europe	808,583	23.7	474,629	21.8	452,165	21.0
Asia	1,957,375	57.5	1,281,126	59.0	1,272,924	59.3
Total net sales	\$3,407,807	100.0	\$2,173,334	100.0	\$2,147,036	100.0

Americas sales include sales to customers in the U.S., Canada, Central America and South America. Sales to foreign customers accounted for approximately 84% of our total net sales in each of fiscal 2017, 2016 and 2015. Substantially all of our foreign sales are U.S. dollar denominated. Sales to customers in Asia have generally increased over time due to many of our customers transitioning their manufacturing operations to Asia and growth in demand from the emerging Asian market. Our sales force in the Americas and Europe supports a significant portion of the design activity for products which are ultimately shipped to Asia.

Sales to customers in China, including Hong Kong, accounted for approximately 32%, 30% and 28% of our net sales in fiscal 2017, 2016 and 2015, respectively. The increases in sales to customers in China, including Hong Kong, in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 were due primarily to our continued focus on the Chinese market as a key component to our global growth strategy and our acquisition of Atmel, which had a slightly higher percentage of its net sales from China, including Hong Kong. Sales to customers in Taiwan accounted for approximately 9%, 12% and 14% of our net sales in fiscal 2017, 2016 and 2015, respectively. The decreases in sales to customers in Taiwan in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 were due primarily to our acquisitions of Atmel and Micrel, which had lower percentages of their net sales from Taiwan. We did not have sales into any other foreign countries that exceeded 10% of our net sales during fiscal 2017,

2016 or 2015.

Gross Profit

Our gross profit was