ANALOG DEVICES INC
Form 10-K
November 27, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K
(Mark One)
þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended November 3, 2018
OR
o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File No. 1-7819
Analog Devices, Inc.
(Exact name of registrant as specified in its charter)

Massachusetts	04-2348234
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Technology Way, Norwood, MA	02062-9106
(Address of principal executive offices)	(Zip Code)

(781) 329-4700
(Registrant’s telephone number, including area code)

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

Common Stock $0.16 2/3 Par Value	Nasdaq Global Select Market
Title of Each Class	Name of Each Exchange on Which Registered

Securities registered pursuant to Section 12(g) of the Act:
None
Title of Class
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES þ NO o
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES o NO þ
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES þ NO o
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Sec. 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES þ NO o
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Sec. 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant’s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer þ	Accelerated filer o	Non-accelerated filer o	Smaller reporting company o	Emerging growth company o

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) if the Exchange Act o

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately $26,590,000,000 based on the last reported sale of the Common Stock on The Nasdaq Global Select Market on May 6, 2018. Shares of voting and non-voting stock beneficially owned by executive officers, directors and holders of more than 5% of the outstanding stock have been excluded from this calculation because such persons or institutions may be deemed affiliates. This determination of affiliate status is not a conclusive determination for other purposes.

As of November 3, 2018, there were 370,159,553 shares of Common Stock, $0.16 2/3 par value per share, outstanding.

Documents Incorporated by Reference

Document Description	Form 10-K Part
Portions of the Registrant's Proxy Statement for the Annual Meeting of Shareholders to be held March 13, 2019	III

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Note About Forward-Looking Statements

This Annual Report on Form 10-K, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contains forward-looking statements regarding future events and our future results that are subject to the safe harbor created under the Private Securities Litigation Reform Act of 1995 and other safe harbors under the Securities Act of 1933 and the Securities Exchange Act of 1934. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. These statements are based on current expectations, estimates, forecasts, and projections about the industries in which we operate and the beliefs and assumptions of our management. Words such as “expects,” “anticipates,” “targets,” “goals,” “projects,” “intends,” “plans,” “be “seeks,” “estimates,” “continues,” “may,” “could” and “will,” and variations of such words and similar expressions are intende identify such forward-looking statements. In addition, any statements that refer to projections regarding our future financial performance; our anticipated growth and trends in our businesses; our future liquidity, capital needs and capital expenditures; our future market position and expected competitive changes in the marketplace for our products; our ability to pay dividends or repurchase stock; our ability to service our outstanding debt; our expected tax rate; expected cost savings; the effect of new accounting pronouncements; our ability to successfully integrate acquired businesses and technologies, including the integration of the acquired business, operations and employees of Linear Technology Corporation; and other characterizations of future events or circumstances are forward-looking statements. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict, including those identified in Part I, Item 1A. "Risk Factors" and elsewhere in our Annual Report on Form 10-K. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. We undertake no obligation to revise or update any forward-looking statements, including to reflect events or circumstances occurring after the date of the filing of this report, except to the extent required by law.

PART I

ITEM 1. BUSINESS

Company Overview

Analog Devices, Inc. (we, Analog Devices or the Company) is a leading global high-performance analog technology company. Since our inception in 1965, we have focused on solving our customers' toughest signal processing engineering challenges and playing a fundamental role in efficiently converting, conditioning, and processing real-world phenomena such as temperature, pressure, sound, light, speed, and motion into electrical signals to be used in a wide array of electronic applications. We produce innovative products and technologies that accurately and securely sense, measure, connect, interpret and power, allowing our customers to intelligently bridge the physical and digital domains.

We design, manufacture, and market a broad portfolio of solutions, including integrated circuits (ICs), algorithms, software, and subsystems that leverage high-performance analog, mixed-signal, and digital signal processing technologies. Our fusion of cutting-edge sensors, data converters, amplifiers and linear products, radio frequency (RF) ICs, power management products, and other signal processing products with deep industry expertise allows us to create robust technology platforms that meet a broad spectrum of customer and market needs. As new generations of applications evolve - such as autonomous vehicles, 5G networks, intelligent factories, and smart healthcare devices - the demand for Analog Devices' high-performance analog signal processing and digital signal processing (DSP) products and technologies is increasing.

We focus on key strategic markets such as industrial, automotive, consumer, and communications where our signal processing technology is often a critical differentiator in our customers' products. Used by more than 125,000 customers worldwide, our products are embedded inside many different types of electronic equipment including:

- Industrial process control systems
- Factory process automation systems
- Instrumentation and measurement systems
- Energy management systems
- Aerospace and defense electronics
- Automobiles
- Medical imaging equipment
- Patient vital signs monitoring devices
- Wireless infrastructure equipment
- Networking equipment
- Optical systems
- Portable consumer devices

We were incorporated in Massachusetts in 1965. Our headquarters are near Boston, in Norwood, Massachusetts. In addition, we have manufacturing facilities in the United States, Ireland, and Southeast Asia. Our common stock is listed on The Nasdaq Global Select Market under the symbol ADI and is included in the Standard & Poor's 500 Index.

Acquisition of Linear Technology Corporation

On March 10, 2017 (Acquisition Date), we completed the acquisition of Linear Technology Corporation (Linear), an independent manufacturer of high performance analog integrated circuits. The total consideration paid to acquire Linear was approximately $15.8 billion, consisting of $11.1 billion in cash financed through existing cash on hand, net proceeds from bridge and term loan facilities and proceeds received from the issuance of senior unsecured notes, $4.6 billion from the issuance of our common stock and $0.1 billion of consideration related to the replacement of outstanding equity awards held by Linear employees. The acquisition of Linear is referred to as the Acquisition.

Available Information

We maintain a website with the address www.analog.com. We are not including the information contained on our website as a part of, or incorporating it by reference into, this Annual Report on Form 10-K. We make available free of charge through our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K (including exhibits), and amendments to these reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission (SEC). We also make available on our website our by-laws, corporate governance guidelines, the charters for our audit committee, compensation committee, and nominating and corporate governance committee, our equity award granting policies, our code of business conduct and ethics which applies to our directors, officers and employees, and our related person transaction policy, and such information is available in print and free of charge to any shareholder of

Analog Devices who requests it. In addition, we intend to disclose on our website any amendments to, or waivers from, our code of business conduct and ethics that are required to be publicly disclosed pursuant to rules of the SEC or Nasdaq.

Industry Background

Semiconductor components are the electronic building blocks used in electronic systems and equipment. These components are classified as either discrete devices, such as individual transistors or ICs, in which a number of transistors and other elements are combined to form a more complicated electronic circuit. ICs may be divided into two general categories, digital and analog. Digital circuits, such as memory devices and microprocessors, generally process on-off electrical signals, represented by binary digits, “1” and “0.” In contrast, analog ICs monitor, condition, amplify or transform continuous analog signals associated with physical properties, such as temperature, pressure, weight, light, sound or motion, and play an important role in bridging between real world phenomena and a variety of electronic systems. Analog ICs also provide voltage regulation and power control to electronic systems.

Principal Products

We design, manufacture and market a broad line of high-performance ICs that incorporate analog, mixed-signal and digital signal processing technologies. Our ICs are designed to address a wide range of real-world signal processing applications. We sell our ICs to tens of thousands of customers worldwide, many of whom use products spanning our core technologies in a wide range of applications. Our IC product portfolio includes both general-purpose products used by a broad range of customers and applications, as well as application-specific products designed for specific clusters of customers in key target markets. By using readily available, high-performance, general-purpose products in their systems, our customers can reduce the time they need to bring new products to market. Given the high cost of developing more customized ICs, our standard products often provide a cost-effective solution for many low to medium volume applications. We also focus on working with leading customers to design application-specific solutions. We begin with our existing core technologies, which leverage our data conversion, amplification, RF and microwave, microelectromechanical systems (MEMS), power management and DSP capabilities, and devise a solution to more closely meet the needs of a specific customer or group of customers. Because we have already developed the core technology platform for our general-purpose products, we can create application-specific solutions quickly.

We produce and market a broad range of ICs and operate in one reportable segment based on the aggregation of eight operating segments. The ICs sold by each of our operating segments are manufactured using similar semiconductor manufacturing processes and raw materials in either our own production facilities or by third-party wafer fabricators using proprietary processes. Our ICs are sold to customers globally through a direct sales force, third-party distributors, independent sales representatives and via our website. Our technology offerings are aligned with the predominant markets served in order to facilitate decision making throughout our organization. Our ten highest revenue products, in the aggregate, accounted for approximately 10% of our revenue for our fiscal year ended November 3, 2018 (fiscal 2018).

Analog Products

Our analog and mixed signal IC technology has been the foundation of our business for over five decades, and we are one of the world’s largest suppliers of high-performance analog ICs. Our analog signal processing ICs are primarily high-performance devices, offering higher dynamic range, greater bandwidth, and other enhanced features. We believe that the principal advantages these products have as compared to competitors’ products include higher accuracy, higher speed, lower cost per function, smaller size, lower power consumption and fewer components, resulting in improved performance and reliability. Our product portfolio includes several thousand analog ICs, any one of which can have as many as several hundred customers. Our analog ICs typically have long product life cycles. Our analog IC customers include original equipment manufacturers (OEMs) and customers who build electronic subsystems for integration into larger systems.

Converters — We are a leading supplier of data converter products. Data converters translate real-world analog signals into digital data and also translate digital data into analog signals. Data converters remain our largest and most diverse product family and an area where we are continuously innovating to enable our customers to redefine and differentiate their products. Our converter products combine sampling rates and accuracy with the low noise, power, price and small package size required by industrial, automotive, consumer, and communications electronics.

Amplifiers/Radio Frequency (RF) and Microwave— We are also a leading supplier of high-performance amplifiers. Amplifiers are used to condition analog signals. High performance amplifiers emphasize the performance dimensions

of speed and precision. Within this product portfolio we provide precision, instrumentation, high speed, intermediate frequency/RF/microwave, broadband, and other amplifiers. Our analog product line also includes a broad portfolio of high performance RF and microwave ICs covering the entire RF signal chain, from industry-leading stand-alone RF function blocks such as phase locked loops, frequency synthesizers, mixers, modulators, demodulators, and power detectors, to highly integrated broadband and short-range single chip transceiver solutions. Our high performance RF and microwave ICs support the high performance requirements of cellular infrastructure and a broad range of applications in our target markets, including instrumentation, aerospace and automotive.

Power Management & Reference — Power management and reference products, which include functions such as power conversion, driver monitoring, sequencing and energy management, provide efficient solutions for power management and conversion applications in the automotive, communications, industrial and high-end consumer markets. From portable consumer devices to automobiles to high end data centers, the performance and efficiency of modern electronic products is increasingly limited by their power supply systems. Our high performance power ICs include powerful performance, integration and software design simulation tools to provide fast and accurate power supply designs.

Other Analog — Our analog technology portfolio is comprised of sensor and actuator products, including products based on MEMS technology. MEMS technology enables us to build extremely small sensors that incorporate an electromechanical structure and the supporting analog circuitry for conditioning signals obtained from the sensing element. Our MEMS product portfolio includes accelerometers used to sense acceleration, gyroscopes used to sense rotation, inertial measurement units used to sense multiple degrees of freedom combining multiple sensing types along multiple axes, and broadband switches suitable for radio and instrument systems. We offer other high performance sensors, from temperature to magnetic fields that are deployed in a variety of systems. In addition to sensor products, our other analog product category includes isolators that enable designers to implement isolation in designs without the cost, size, power, performance, and reliability constraints found with optocouplers. Our isolators have been designed into hundreds of applications, such as universal serial bus isolation in patient monitors, where it allows hospitals and physicians to adopt the latest advances in computer technology to supervise patient health and wirelessly transmit medical records. In smart metering applications, our isolators provide reliable electrostatic discharge performance that helps reduce meter tampering. Likewise, in satellites, where any malfunction can be catastrophic, our isolators help protect the power system while enabling designers to achieve small form factors.

Digital Signal Processing and System Products

Digital Signal Processing products (DSPs) are optimized for high-speed numeric calculations, which are essential for instantaneous, or real-time, processing of digital data generated, in most cases, from analog to digital signal conversion. Our DSPs are designed to be fully programmable and to efficiently execute specialized software programs, or algorithms, associated with processing digitized real-time, real-world data. Programmable DSPs are designed to provide the flexibility to modify the device’s function quickly and inexpensively using software. Our general-purpose DSP IC customers typically write their own algorithms using software development tools provided by us and third-party suppliers. Our DSPs are designed in families of products that share common architectures and therefore can execute the same software across a range of products. We support these products with easy-to-use development tools, which are designed to reduce our customers’ product development costs and time-to-market. Our customers use our products to solve a wide range of signal processing challenges across our core market and segment focus areas within the industrial, automotive, consumer and communications end markets. In many cases, DSPs are embedded with mixed signal functionality to provide System on Chip (SOC) integrated solutions, combining that analog and digital signal processing circuitry to provide a complete signal chain for demanding applications.

Markets and Applications

The breakdown of our fiscal 2018 revenue by end market is set out in the table below.

End Market	Percent of Fiscal 2018 Revenue
Industrial	50%
Automotive	16%
Consumer	14%
Communications	20%

The following describes some of the characteristics of, and customer products within, our major end markets:

Industrial — Our industrial market includes the following sectors:

Industrial and Instrumentation — Our industrial automation applications generally require ICs that offer performance greater than that available from commodity-level ICs but generally do not have production volumes that warrant custom ICs. There is a trend towards development of products focused on particular sub-applications, which

incorporate combinations of analog, mixed-signal, and DSP ICs to achieve the necessary functionality. Our instrumentation customers differentiate themselves by using the highest performance analog and mixed-signal ICs available. Our industrial and instrumentation market includes applications such as:

- Process control systems
- Connected motion and robotics
- Environmental control systems
- Oscilloscopes
- Lab, chemical, and environmental analyzers
- Weigh scales

Defense/Aerospace — The defense, commercial avionics and space markets all require high-performance ICs that meet rigorous environmental and reliability specifications. Many of our analog ICs can be supplied in versions that meet these standards. In addition, many products can be supplied to meet the standards required for broadcast satellites and other commercial space applications. Most of our products sold in this market are specially tested versions of products derived from our standard product offering. As end systems are becoming more complex, many of our customers in this market also look for us to provide higher levels of integration in order to minimize size, weight and power and to improve ease-of-use. As such, we also sell products in the form of SiPs (system in package), printed circuit board assemblies, modules, and subsystems.

Customer products include:

- Navigation systems
- Space and satellite communications
- Communication systems
- Radar systems
- Security devices
- Electronic surveillance and countermeasures

Energy Management — The desire to improve energy efficiency, conservation, reliability, and cleanliness is driving investments in renewable energy, power transmission and distribution systems, electric meters, and other innovative areas. The common characteristic behind these efforts is the addition of sensing, measurement, and communication technologies to electrical infrastructure. Our offerings include both standard and application-specific products and are used in applications such as:

- Utility meters
- Meter communication modules
- Substation relays and automation equipment
- Wind turbines
- Solar inverters
- Building energy automation/control

Healthcare — The healthcare market is calling for increased access to better and more affordable care. To help achieve this, we are collaborating with customers and partners on innovative solutions that are designed to achieve better outcomes for patients and physicians at reduced costs for all.

Our offerings include both standard and application-specific products and are used in applications such as:

- Ultrasound systems
- X-Ray equipment (CT and DR)
- Image guided therapy
- Multi-parameter vital signs monitors
- Disease management, e.g. hypertension and diabetes
- Anesthesia equipment
- Lab diagnostic equipment
- Surgical tools and instruments
- Blood analyzers
- Point-of-care diagnostics

Automotive - We develop differentiated high performance signal processing solutions, which enable sophisticated transportation systems that span Infotainment, Electrification and Autonomous applications. Through collaboration with manufacturers worldwide, we have developed a broad portfolio of analog, digital, power and sensor ICs that address the emerging needs of this evolving industry. Our focus is on audio/video applications that lead to a more enriching in-cabin experience, electrification applications that improve vehicle range and reduce emissions, and mission-critical perception and navigation applications that enable vehicles to more clearly sense the external environment. Specifically, we have developed products used in applications such as:

Infotainment

- Car audio, voice processing and connectivity
- Video processing and connectivity

Electrification

- Hybrid electric / electric vehicles
- Battery monitoring and management systems

Autonomous, ADAS & Safety

- High performance 24GHz & 77/79GHz RADAR systems
- High resolution LIDAR systems
- Inertial MEMS solutions for mission critical navigation, stability and safety systems

Consumer — To address the market demand for state of the art personal and professional entertainment systems and the consumer demand for high quality user interfaces, music, movies and photographs, we have developed analog, digital and mixed-signal solutions that meet the rigorous cost and time-to-market requirements of the consumer electronics market. The emergence of high-performance, feature-rich consumer products has created a market for our high-performance ICs with a high level of specific functionality that enables best in class user experience. These products include:

- Portable devices (smart phones, tablets and wearable devices) for media and vital signs motoring applications
- Prosumer audio/video equipment

Communications — The development of broadband, wireless and internet infrastructures around the world has created an important market for our communications products. Communications technology involves the processing of signals that are converted from analog to digital and digital to analog form during the process of transmitting and receiving data. The need for higher speed and reduced power consumption, coupled with more reliable, bandwidth-efficient communications, creates demand for our products, which are used in the full spectrum of signal processing for data, video, voice and machine-to-machine communications. In wireless and broadband communication applications, our products are incorporated into:

- Cellular basestation equipment
- Optical and cable networking equipment for data center and service providers
- Microwave backhaul systems
- Satellite and terrestrial broadband access equipment

See Note 4, Industry, Segment and Geographic Information, of the Notes to Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K for further information about our products by end market.

Patents and Other Intellectual Property Rights

We seek to establish and maintain our proprietary rights in our technology and products through the use of patents, copyrights, mask works, trademarks and trade secrets. We have a program to file applications for and obtain patents, copyrights, mask works and trademarks in the United States and in selected foreign countries where we believe filing for such protection is appropriate. We also seek to maintain our trade secrets and confidential information by nondisclosure policies and through the use of appropriate confidentiality agreements. We have obtained a substantial number of patents and trademarks in the United States and in other countries. As of November 3, 2018, we held approximately 3,263 U.S. patents and approximately 581 non-provisional pending U.S. patent applications with expiration dates ranging from 2019 through 2039. There can be no assurance, however, that the rights obtained can be successfully enforced against infringing products in every jurisdiction. While our patents, copyrights, mask works, trademarks and trade secrets provide some advantage and protection, we believe our competitive position and future success is largely determined by such factors as the system and application knowledge, innovative skills, technological expertise and management ability and experience of our personnel; the range and success of new products being developed by us; our market brand recognition and ongoing marketing efforts; and customer service and technical support. It is generally our policy to seek patent protection for significant inventions that may be patented, though we may elect, in certain cases, not to seek patent protection even for significant inventions, if we determine other protection, such as maintaining the invention as a trade secret, to be more advantageous. We also have trademarks that are used in the conduct of our business to distinguish genuine Analog Devices products, and we maintain cooperative advertising programs to promote our brands and identify products containing genuine Analog Devices components.

Sales Channels

We sell our products globally through a direct sales force, third-party distributors, independent sales representatives and via our website. We have direct sales offices, sales representatives and/or distributors in over 50 countries outside North America.

We support our worldwide sales efforts through our website and with extensive promotional programs that include editorial coverage and paid advertising in online and printed trade publications, webinars, social media and communities, promotional and training videos, direct mail programs, technical seminars and participation in trade shows. We publish, share and distribute technical content such as data sheets, application guides and catalogs. We maintain a staff of field application engineers who aid customers in incorporating our products into their products. In addition, we offer a variety of web-based tools that ease product selection and aid in the design process for our

customers.

We derived approximately 56% of our fiscal 2018 revenue from sales made through distributors. These distributors typically maintain an inventory of our products. Some of them also sell products that compete with our products, including those for which we are an alternate source. We defer revenue and the related cost of sales on shipments to U.S. distributors and certain international distributors until the distributors resell the products to their customers. We make sales to distributors under agreements that allow certain distributors to receive price adjustment credits and to return qualifying products for credit, as

determined by us, in order to reduce the amounts of slow-moving, discontinued or obsolete product from their inventory. These agreements limit such returns to a certain percentage of our shipments to that distributor during the prior quarter. In addition, certain distributors are allowed to return unsold products if we terminate the relationship with the distributor. Additional information relating to our sales to distributors is set forth in Note 2n, Revenue Recognition, of the Notes to Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K.

Customers

We have over 125,000 customers worldwide. During fiscal 2018, no sales to an individual customer accounted for more than 10% of revenue. Apple Inc. represented approximately 14% and 12% of revenue in the fiscal year ended October 28, 2017 (fiscal 2017) and the fiscal year ended October 29, 2016 (fiscal 2016), respectively. Our customers use hundreds of different types of our products in a wide range of applications spanning the industrial, automotive, consumer and communication markets. Our 20 largest customers accounted for approximately 33% of our fiscal 2018 revenue.

Seasonality

Sales to customers during our first fiscal quarter may be lower than other quarters due to plant shutdowns at some of our customers during the holiday season. In general, the seasonality for any specific period of time has not had a material impact on our results of operations. In addition, as explained in our risk factors contained in Item 1A of this Annual Report on Form 10-K, our revenue is more likely to be influenced on a quarter to quarter basis by cyclicality in the semiconductor industry.

Production and Raw Materials

Monolithic IC components are manufactured in a sequence of semiconductor production steps that include wafer fabrication, wafer testing, dicing the wafer into individual “chips,” or dice, assembly of the dice into packages and electrical testing of the devices in final packaged form. The raw materials used to manufacture these devices include silicon wafers, processing chemicals (including liquefied gases), precious metals laminates, ceramic and plastic used for packaging.

We utilize, develop and employ a wide variety of manufacturing processes, primarily based on bipolar and complementary metal-oxide semiconductor (CMOS) transistors, which are specifically tailored for use in fabricating high-performance analog, DSP and mixed-signal ICs. Devices such as MEMS, iCoupler®isolators and various sensors, are fabricated using specialized processes, which typically use substantially similar equipment as bipolar and CMOS processes.

Our IC products are fabricated on proprietary processes at our internal production facilities in Wilmington, Massachusetts, Milpitas, California, Camas, Washington and Limerick, Ireland and also on a mix of proprietary and non-proprietary processes at third-party wafer fabricators. We currently source approximately half of our wafer requirements annually from third-party wafer fabrication foundries, such as Taiwan Semiconductor Manufacturing Company (TSMC), Global Foundries, Vanguard, and others, typically where deep-submicron lithography capabilities and/or large manufacturing capacity is required.

We operate an assembly and wafer sort facility in Penang, Malaysia, and test facilities in the Philippines and Singapore. We also make extensive use of third-party subcontractors for the assembly and testing of our products. Capital spending was approximately $255 million in fiscal 2018, compared with approximately $204 million in fiscal 2017 and $127 million in fiscal 2016. We expect capital expenditures for the fiscal year ending November 2, 2019 (fiscal 2019) to be approximately 4% of fiscal 2019 revenue.

Our products require a wide variety of components, raw materials and external foundry services, most of which we purchase from third-party suppliers. We have multiple sources for many of the components and materials that we purchase and incorporate into our products. If any of our key suppliers are unable or unwilling to manufacture and deliver sufficient quantities of components to us, on the time schedule and of the quality that we require, we may be forced to seek to engage additional or replacement suppliers, which could result in significant expenses and disruptions or delays in manufacturing, product development and shipment of product to our customers. Although we have experienced shortages of components, materials and external foundry services from time to time, these items have generally been available to us as needed.

Backlog

Backlog at the end of fiscal 2018 and fiscal 2017 was approximately $1.2 billion. We define backlog as of a particular date to mean firm orders from a customer or distributor with a requested delivery date within thirteen weeks. Backlog is impacted by the tendency of customers to rely on shorter lead times available from suppliers, including us, in periods of depressed demand. In periods of increased demand, there is a tendency towards longer lead times that has the effect of increasing backlog and, in some instances, we may not have manufacturing capacity sufficient to fulfill all orders. As is

customary in the semiconductor industry, we allow most orders to be canceled or deliveries to be delayed by customers without significant penalty. Accordingly, we believe that our backlog at any time should not be used as an indication of future revenue.

We typically do not have long-term sales contracts with our customers. In some of our markets where end-user demand may be particularly volatile and difficult to predict, some customers place orders that require us to manufacture product and have it available for shipment, even though the customer is unwilling to make a binding commitment to purchase all, or even any, of the product. In other instances, we manufacture product based on forecasts of customer demand. As a result, we may incur inventory and manufacturing costs in advance of anticipated sales and are subject to the risk of cancellation of orders leading to a sharp reduction of sales and backlog. Further, those orders or forecasts may be for products that meet the customer's unique requirements so that those canceled orders would, in addition, result in an inventory of unsaleable products, resulting in potential inventory write-offs. As a result of lengthy manufacturing cycles for some of our products that are subject to these uncertainties, the amount of unsaleable product could be substantial.

Government Contracts

Less than 5% of our fiscal 2018 revenue was attributable to sales to the U.S. government and U.S. government contractors and subcontractors. Our government contract business is predominantly in the form of negotiated, firm, fixed-price subcontracts. Most of these contracts and subcontracts contain standard provisions relating to termination at the election of the U.S. government.

Acquisitions

An element of our business strategy involves expansion through the acquisition of businesses, assets, products or technologies that allow us to complement our existing product offerings, expand our market coverage, increase our engineering workforce or enhance our technological capabilities. From time to time, we consider acquisitions that may strengthen our business.

On March 10, 2017, we completed the acquisition of Linear. The total consideration paid to acquire Linear was approximately $15.8 billion, consisting of $11.1 billion in cash financed through existing cash on hand, net proceeds from bridge and term loan facilities and proceeds received from the issuance of senior unsecured notes, $4.6 billion from the issuance of our common stock and $0.1 billion of consideration related to the replacement of outstanding equity awards held by Linear employees.

Additional information relating to our acquisition activities during fiscal 2018, fiscal 2017 and fiscal 2016 is set forth in Note 6, Acquisitions, of the Notes to Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K.

Competition

We believe that competitive performance in the marketplace for signal processing products depends upon multiple factors, including technological innovation, strength of brand, diversity of product portfolio, product performance, technical support, delivery capabilities, customer service quality, reliability and price, with the relative importance of these factors varying among products, markets, and customers.

We compete with a number of semiconductor companies in markets that are highly competitive. Our competitors include but are not limited to:

- Broadcom Limited
- Infineon Technologies
- Maxim Integrated Products, Inc.
- Microchip Technology, Inc.
- Monolithic Power Systems, Inc.
- NXP Semiconductors
- Texas Instruments, Inc.

We believe that our technical innovation emphasizing product performance and reliability, supported by our commitment to strong customer service and technical support, enables us to make a fundamental difference to our customers' competitiveness in our chosen markets.

Environment, Health and Safety

We are committed to protecting the environment and the health and safety of our employees, customers and the public. We endeavor to adhere to applicable environmental, health and safety (EHS) regulatory and industry standards across all of our facilities, and to encourage pollution prevention, reduce our water and energy consumption, reduce

waste generation, and strive

towards continual improvement. We strive to achieve excellence in EHS management practices as an integral part of our total quality management system.

Our EHS management systems in all of our facilities are certified to ISO 14001:2015 for environmental management and all of our facilities (excluding certain Linear facilities) conform to OHSAS 18001 for occupational health and safety. We are a member of the Responsible Business Alliance (RBA), which was formerly known as the Electronic Industry Citizenship Coalition (EICC). Our Sustainability Report, first published in 2009, states our commitment to reducing Greenhouse gas (GHG) emissions, conserving resources by consuming less energy and water, complying with our code of business conduct and ethics, and applying fair labor standards, among other things. We are not including the information contained in our Sustainability Report in, or incorporating it by reference into this Annual Report on Form 10-K.

Our manufacturing facilities are subject to numerous and increasingly strict federal, state, local and foreign EHS laws and regulations, particularly with respect to the transportation, storage, handling, use, emission, discharge and disposal of certain chemicals used or produced in the semiconductor manufacturing process. Our products are subject to increasingly stringent regulations regarding chemical content in jurisdictions where we sell products, including the Restriction of Hazardous Substances (RoHS) directive in the European Union and China and the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) directive in the European Union. Contracts with many of our customers reflect these and additional EHS compliance standards. Compliance with these laws and regulations has not had a material impact on our capital expenditures, earnings, financial condition or competitive position. There can be no assurance, however, that current or future environmental laws and regulations will not impose costly requirements upon us. Any failure by us to comply with applicable environmental laws, regulations and contractual obligations could result in fines, suspension of production, the need to alter manufacturing processes and legal liability.

Employees

As of November 3, 2018, we employed approximately 15,800 individuals worldwide. Our future success depends in large part on the continued service of our key technical and senior management personnel, and on our ability to continue to attract, retain and motivate qualified employees, particularly those highly-skilled engineers involved in the design, development, support and manufacture of new and existing products and processes. We believe that relations with our employees are good; however, the competition for such personnel is intense, and the loss of key personnel could have a material adverse impact on our results of operations and financial condition.

ITEM 1A. RISK FACTORS

Set forth below and elsewhere in this report and in other documents we file with the SEC are descriptions of the risks and uncertainties that could cause our actual results to differ materially from the results contemplated by the forward-looking statements contained in this report.

Disruptions in global credit and financial markets could materially and adversely affect our business and results of operations.

Continuing uncertainty regarding the stability of global credit and financial markets may lead consumers and businesses to postpone spending, which may cause our customers to cancel, decrease or delay their existing and future orders for our products and make it difficult for us to accurately forecast and plan our future business activities. Significant disruption to global credit and financial markets may also adversely affect our ability to access external financing sources on acceptable terms. Financial difficulties experienced by our customers could result in nonpayment or payment delays for previously purchased products, thereby increasing our credit risk exposure. Uncertainty regarding the future stability of the global credit and financial markets could cause the value of the currency in the affected markets to deteriorate, thus reducing the purchasing power of those customers. In addition, financial difficulties experienced by our suppliers, distributors or customers could result in product delays, increased accounts receivable defaults and inventory challenges. If economic conditions deteriorate, we may record additional charges relating to restructuring costs or the impairment of assets and our business and results of operations could be materially and adversely affected.

Our future revenue, gross margins, operating results, net income and earnings per share are difficult to predict and may materially fluctuate.

Our future revenue, gross margins, operating results, net income and earnings per share are difficult to predict and may be materially affected by a number of factors, including:

- the effects of adverse economic conditions in the markets in which we sell our products;
- changes in customer demand for our products and/or for end products that incorporate our products;
- the timing, delay, reduction or cancellation of significant customer orders and our ability to manage inventory;
- fluctuations in customer order patterns and seasonality;
- our ability to accurately forecast distributor demand for our products;
- our ability to accurately estimate future distributor pricing credits and/or stock rotation rights;
- our ability to effectively manage our cost structure in both the short term and over a longer duration;
- changes in geographic, product or customer mix;
- changes in our effective tax rates or new or revised tax legislation in the United States, Ireland or worldwide;
- the effects of issued, threatened or retaliatory government sanctions, trade barriers or economic restrictions, changes in law, regulations or other restrictions, including executive orders, changes in import and export regulations or changes in duties and tariffs, particularly with respect to China;
- the timing of new product announcements or introductions by us, our customers or our competitors and the market acceptance of such products;
- pricing decisions and competitive pricing pressures;
- fluctuations in manufacturing yields, adequate availability of wafers and other raw materials, and manufacturing, assembly and test capacity;
- the ability of our third-party suppliers, subcontractors and manufacturers to supply us with sufficient quantities of raw materials, products and/or components;
- a decline in infrastructure spending by foreign governments, including China;
- a decline in the U.S. government defense budget, changes in spending or budgetary priorities, a prolonged U.S. government shutdown or delays in contract awards;
- any significant decline in our backlog;
- our ability to recruit, hire, retain and motivate adequate numbers of engineers and other qualified employees to meet the demands of our customers;

- our ability to generate new design opportunities and win competitive bid selection processes;
- the increasing costs of providing employee benefits worldwide, including health insurance, retirement plan and pension plan contributions and retirement benefits;
- our ability to utilize our manufacturing facilities at efficient levels;
- potential significant litigation-related costs or product warranty and/or indemnity claims, including those not covered by our suppliers or insurers;
- the difficulties inherent in forecasting future operating expense levels, including with respect to costs associated with labor, utilities, transportation and raw materials;
- the costs related to compliance with increasing worldwide government, environmental and social responsibility regulations;
- new accounting pronouncements or changes in existing accounting standards and practices; and
- the effects of public health emergencies, natural disasters, widespread travel disruptions, security risks, terrorist activities, international conflicts and other events beyond our control.

In addition, the semiconductor market has historically been cyclical and subject to significant economic upturns and downturns. Our business and certain of the end markets we serve are also subject to rapid technological changes and material fluctuations in demand based on end-user preferences. There can be no assurance (i) that products stocked in our inventory will not be rendered obsolete before we ship them, or (ii) that we will be able to design, develop and produce products in a timely fashion to accommodate changing customer demand. As a result of these and other factors, we may experience material fluctuations in future revenue, gross margins, operating results, net income and earnings per share on a quarterly or annual basis. Our historical financial performance and results of operations should not be relied upon as indicators of future performance or results. In addition, if our revenue, gross margins, operating results, net income and earnings per share results or expectations do not meet the expectations of securities analysts or investors, the market price of our common stock may decline.

Our acquisition of Linear Technology Corporation (Linear) and the integration of its business, operations and employees with our own may be more difficult, costly or time consuming than expected, and the anticipated benefits and cost savings of the acquisition may not be fully realized, which could adversely impact our business operations, financial condition and results of operations.

We completed the acquisition of Linear, which we refer to as the Acquisition, on March 10, 2017. The success of the Acquisition, including the achievement of anticipated benefits and cost savings of the Acquisition, is subject to a number of uncertainties and will depend, in part, on our ability to successfully combine and integrate Linear's business into our business in an efficient and effective manner. Potential difficulties the combined company may encounter in the integration process include the following:

- the inability to successfully integrate Linear's business into our own in a manner that permits the combined company to achieve the cost savings and operating synergies anticipated to result from the Acquisition, which could result in the anticipated benefits of the Acquisition not being realized partly or wholly in the time frame currently anticipated or at all;
- integrating personnel, IT systems and corporate, finance and administrative infrastructures of the two companies while maintaining focus on providing consistent, high quality products and services;
- coordinating and integrating our internal operations, compensation and benefits programs, policies and procedures, and corporate structures; and
- servicing the substantial debt that we have incurred in connection with the Acquisition.

Any of these factors could result in the combined company failing to realize the anticipated benefits of the Acquisition, on the expected timeline or at all, and could adversely impact our business operations, financial condition and results of operations.

Increases in our effective tax rate and exposure to additional tax liabilities may adversely impact our results of operations.

Our effective tax rate reflects the applicable tax rate in effect in the various tax jurisdictions around the world where our income is earned. Our effective tax rate for fiscal 2018 was below our blended U.S. federal statutory rate of 23.4%

calculated under the provisions of the Tax Cuts and Jobs Act of 2017 (Tax Legislation) enacted on December 22, 2017. It was also below the U.S. statutory tax rate of 35% for fiscal 2017 under the previous tax laws. This is primarily due to lower statutory tax rates applicable to our operations in the foreign jurisdictions in which we earn income. A number of factors may increase our future

effective tax rate, including: new or revised tax laws or legislation or the interpretation of such laws or legislation by governmental authorities; increases in tax rates in various jurisdictions; variation in the mix of jurisdictions in which our profits are earned and taxed; deferred taxes arising from basis differences in investments in foreign subsidiaries; any adverse resolution of ongoing tax audits or adverse rulings from taxing authorities worldwide, including our current transfer pricing appeal in Ireland; changes in the valuation of our deferred tax assets and liabilities; adjustments to income taxes upon finalization of various tax returns; increases in expenses not deductible for tax purposes, including executive compensation subject to the limitations of Section 162(m) of the Internal Revenue Code and amortization of assets acquired in connection with strategic transactions; decreased availability of tax deductions for stock-based compensation awards worldwide; and changes in available tax credits. In addition, we have a partial tax holiday through July 2025 in Malaysia. The ability to extend such tax holiday beyond its expiration date cannot be assured. In addition, if we fail to meet certain conditions of the tax holiday, we may lose the benefit of the tax holiday and/or be subject to additional taxes and/or penalties. Any significant increase in our future effective tax rate could adversely impact our net income during future periods.

In addition, any changes in tax legislation and further interpretation of certain aspects of the U.S. Tax Legislation, which become effective in the fiscal year ending November 2, 2019, may result in changes to long-standing tax principles, which could adversely affect our effective tax rate or result in higher cash tax liabilities. On October 5, 2015, the Organization for Economic Cooperation and Development, an international association of thirty-five countries, including the United States, Ireland and UK, released the final reports from its Base Erosion and Profit Shifting (BEPS) Action Plans. The BEPS recommendations covered a number of issues, including country-by-country reporting, permanent establishment rules, transfer pricing rules and tax treaties. We continue to monitor these developments. Additionally, as a result of the Tax Legislation described above, we recorded provisional estimates of the one-time adjustments for the re-measurement of deferred tax assets (liabilities) and the deemed repatriation tax on unremitted foreign earnings and profits. The final impact of the new Tax Legislation may differ from these estimates, possibly materially, due to, among other things, changes in interpretations and assumptions made, additional guidance that may be issued, unexpected negative changes in business and market conditions that could reduce certain tax benefits, and actions we take as a result of this new tax law.

We may be unable to adequately protect our proprietary intellectual property rights, which may limit our ability to compete effectively.

Our future success depends, in part, on our ability to protect our intellectual property. We primarily rely on patent, mask work, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods, to protect our proprietary technologies and processes. Despite our efforts to protect our intellectual property, it is possible that competitors or other unauthorized third parties may obtain, copy, reverse engineer, use or disclose our technologies, products and processes. Moreover, the laws of foreign countries in which we design, manufacture, market and sell our products may afford little or no effective protection of our proprietary intellectual property. There can be no assurance that the claims allowed in our issued patents will be sufficiently broad to protect our technology. In addition, any of our existing or future patents may be challenged, invalidated or circumvented. As such, any rights granted under these patents may not provide us with adequate protection. We may not be able to obtain foreign patents or pending applications corresponding to our U.S. patents and applications. Even if patents are granted, enforcement may not be available or achieved under the circumstances. If our patents and mask works do not adequately protect our technology, our competitors may be able to offer products similar to ours. Our competitors may also be able to develop similar technology independently or design around our patents.

We generally enter into confidentiality agreements with our employees, consultants and strategic partners. We also try to control access to and distribution of our technologies, documentation and other proprietary information. Despite these efforts, internal or external parties may attempt to copy, disclose, obtain or use our products or technology without our authorization. Also, former employees may seek employment with our business partners, customers or competitors, and there can be no assurance that the confidential nature of our proprietary information will be maintained in the course of such future employment.

A significant disruption in, or breach in security of, our information technology systems or certain of our products could materially and adversely affect our business or reputation.

We rely on information technology systems throughout our company to keep financial records and customer data, process orders, manage inventory, coordinate shipments to customers, maintain confidential and proprietary information, assist in semiconductor engineering and other technical activities and operate other critical functions such as Internet connectivity, network communications and email. Our information technology systems may be susceptible to damage, disruptions or shutdowns due to power outages, hardware failures, telecommunication failures, employee malfeasance, user errors, catastrophes or other unforeseen events. We also rely upon external cloud providers for certain infrastructure activities. If we were to experience a prolonged disruption in the information technology systems that involve our internal communications or our interactions with customers or suppliers, it could result in the loss of sales and customers and significant incremental costs,

which could adversely affect our business. We may also be subject to security breaches of our information technology systems and certain of our products caused by viruses, illegal break-ins or hacking, sabotage, or acts of vandalism by third parties or our employees or contractors. Our security measures or those of our third party service providers may not detect or prevent security breaches, defects, bugs or errors. In addition, we provide our confidential and proprietary information to our strategic partners in certain cases where doing so is necessary to conduct our business. While we employ confidentiality agreements to protect such information, nonetheless those third parties may also be subject to security breaches or otherwise compromise the protection of such information. Security breaches of our information technology systems or those of our partners could result in the misappropriation or unauthorized disclosure of confidential and proprietary information belonging to us or to our employees, partners, customers or suppliers, which could result in our suffering significant financial or reputational damage.

Long-term contracts are not typical for us, and incorrect forecasts or reductions, cancellations or delays in orders for our products could adversely affect our operating results.

We typically do not have long-term sales contracts with our customers. In certain markets where end-user demand may be particularly volatile and difficult to predict, some customers place orders that require us to manufacture product and have it available for shipment, even though the customer is unwilling to make a binding commitment to purchase all, or even any, of the product. In other instances, we manufacture product based on forecasts of customer demands, which may fluctuate significantly on a quarterly or annual basis. Additionally, our U.S. government contracts and subcontracts may be funded in increments over a number of government budget periods and typically can be terminated by the government for its convenience. As a result, we may incur inventory and manufacturing costs in advance of anticipated sales, and we are subject to the risk of lower than expected orders or cancellations of orders, leading to a sharp reduction of sales and backlog. Further, orders or forecasts for products that meet the customer's unique requirements and that are canceled or unrealized orders would, in addition, result in an inventory of unsaleable products, causing potential inventory write-offs, and we may be unable to recover all of our costs incurred or committed. As a result of lengthy manufacturing cycles for certain of the products that are subject to these uncertainties, the amount of unsaleable product could be substantial. Incorrect forecasts, or reductions, cancellations or delays in orders for our products could adversely affect our operating results.

Our future success depends upon our ability to execute our business strategy, continue to innovate, improve our existing products, design, develop, produce and market new products, and identify and enter new markets.

Our future success significantly depends on our continued ability to execute our business strategy, continue to improve our existing products and design, develop, produce and market innovative new products and system-level solutions. Product design, development, innovation and enhancement is often a complex, time-consuming and costly process involving significant investment in research and development, with no assurance of return on investment. There can be no assurance that we will be able to develop and introduce new and improved products in a timely or efficient manner or that new and improved products, if developed, will achieve market acceptance. Our products generally must conform to various evolving and sometimes competing industry standards, which may adversely affect our ability to compete in certain markets or require us to incur significant costs. In addition, our customers generally impose very high quality and reliability standards on our products, which often change and may be difficult or costly to satisfy. Any inability to satisfy customer quality and reliability standards or comply with industry standards and technical requirements may adversely affect demand for our products and our results of operations. In addition, our growth is dependent on our ability to generate new design opportunities and win competitive bid selection processes. Failure to obtain or maintain a particular design win may prevent us from obtaining or maintaining design wins in subsequent generations of a particular product and could also weaken our position in future competitive selection processes. Our growth is also dependent on our ability to identify and penetrate new markets where we have limited experience and competition is intense. Some of our customers in new markets are less established, which could subject us to increased credit risk. There can be no assurance that the markets we serve and/or target based on our business strategy will grow in the future, that our existing and new products will meet the requirements of these markets, that our products, or the products in which our products are used, will achieve customer acceptance in these markets, that competitors will not force price reductions or take market share from us, or that we can achieve or maintain adequate gross margins or profits in these markets. Additionally, developing markets, such as the Industry

4.0, autonomous driving, artificial intelligence and 5G, require significant investments, resources and technological advancements in order to compete effectively and there can be no assurance that we will achieve success in these markets. Furthermore, a decline in demand in one or several of our end-user markets could have a material adverse effect on the demand for our products and our results of operations.

We may not be able to compete successfully in markets within the semiconductor industry in the future.

We face intense competition in the semiconductor industry, and we expect this competition to increase in the future, including from companies located outside of the United States. Competition is generally based on innovation, design, quality and reliability of products, product performance, features and functionality, product pricing, availability and capacity, technological service and support, and the availability of integrated system solutions, with the relative importance of these factors varying among products, markets and customers. Many companies have sufficient financial, manufacturing, technical, sales and marketing resources to develop and market products that compete with our products. Some of our competitors may

have more advantageous supply or development relationships with our current and potential customers or suppliers. Our competitors also include emerging companies selling specialized products in markets we serve and entities outside of the U.S., including entities associated with well-funded efforts by foreign governments to create indigenous semiconductor industries. Existing or new competitors may develop products or technologies that more effectively address the demands of our customers and markets with enhanced performance, features and functionality, lower power requirements, greater levels of integration or lower cost. In addition, as we seek to expand our business, including the design and production of products and services for developing and emerging markets, we may encounter increased competition from our current competitors and/or new competitors. Increased competition in certain markets has resulted in and may continue to result in declining average selling prices, reduced gross margins and loss of market share in those markets. There can be no assurance that we will be able to compete successfully in the future against existing or new competitors, or that our operating results will not be adversely affected by increased competition. In addition, the semiconductor industry has experienced significant consolidation over the past several years. Consolidation among our competitors could lead to a changing competitive landscape, which could negatively impact our competitive position and market share and harm our results of operations.

We rely on third-party suppliers, subcontractors and manufacturers for some industry-standard wafers, manufacturing processes, assembly and test services, and transportation, and we generally cannot control their availability or conditions of supply.

We rely, and plan to continue to rely, on third-party suppliers, assembly and test subcontractors, freight carriers and wafer fabricators (collectively, suppliers) to supply most of our products that can be manufactured using industry-standard processes. This reliance involves several risks, including reduced control over availability, capacity utilization, delivery schedules, manufacturing yields, and costs. We currently source approximately half of our wafer requirements annually from third-party wafer fabrication foundries, primarily Taiwan Semiconductor Manufacturing Company. In addition, these suppliers often provide manufacturing services to our competitors and therefore periods of increased industry demand may result in capacity constraints. In certain instances, the third-party supplier is the sole source of highly specialized processing services. If our suppliers are unable or unwilling to manufacture and deliver components to us on the time schedule and of the quality or quantity that we require or provide us with required manufacturing processes, we may be forced to seek to engage additional or replacement suppliers, which could result in additional expenses and delays in product development or shipment of product to our customers. If additional or replacement suppliers or manufacturing processes are not available, we may also experience delays in product development or shipment which could, in turn, result in the temporary or permanent loss of customers.

A prolonged disruption of our internal manufacturing operations could have a material adverse effect on our business, financial condition and results of operations.

In addition to leveraging an outsourcing model for manufacturing operations, we also rely on our internal manufacturing operations located in the United States, Ireland, the Philippines, Singapore and Malaysia. A prolonged disruption at, or inability to utilize, one or more of our manufacturing facilities, loss of raw materials or damage to our manufacturing equipment for any reason, including due to natural or man-made disasters, civil unrest or other events outside of our control, such as widespread outbreaks of illness or the failure to maintain our labor force at one or more of these facilities, may disrupt our operations, delay production, shipments and revenue and result in us being unable to timely satisfy customer demand. As a result, we could forgo revenue opportunities, potentially lose market share and damage our customer relationships, all of which could materially and adversely affect our business, financial condition and results of operations.

If we are unable to generate sufficient cash flow, we may not be able to service our debt obligations, including making payments on our outstanding term loans and senior unsecured notes.

Our ability to make payments of principal and interest on our indebtedness when due, including the significant indebtedness that we have incurred in connection with the Acquisition, depends upon our future performance, which will be subject to general economic conditions, industry cycles and financial, business and other factors affecting our consolidated operations, many of which are beyond our control. If we are unable to generate sufficient cash flow from operations in the future to service our outstanding debt, we may be required to, among other things:

- seek additional financing in the debt or equity markets;

- refinance or restructure all or a portion of our indebtedness;
- borrow under our revolving credit facility;
- divert funds that would otherwise be invested in our operations;
- repatriate earnings as dividends from foreign locations, attracting foreign withholding and state and local income taxes;
- sell selected assets; or

- reduce or delay planned capital expenditures or operating expenditures.

Such measures might not be sufficient to enable us to service our debt, which could negatively impact our financial results. In addition, we may not be able to obtain any such financing, refinancing or complete a sale of assets on economically favorable terms. In the case of financing or refinancing, favorable interest rates will depend on the health of the debt capital markets.

Our significant existing indebtedness could also have the effect, among other things, of reducing our flexibility to respond to changing business and economic conditions, reducing funds available for working capital, capital expenditures, acquisitions and other general corporate purposes or creating competitive disadvantages relative to other companies with lower debt levels.

The markets for semiconductor products are cyclical, and increased production may lead to overcapacity and lower prices, and conversely, we may not be able to satisfy unexpected demand for our products.

The cyclical nature of the semiconductor industry has resulted in periods when demand for our products has increased or decreased rapidly. The demand for our products is subject to the strength of our four major end markets of Industrial, Communications, Automotive and Consumer. If we expand our operations and workforce too rapidly or procure excessive resources in anticipation of increased demand for our products, and that demand does not materialize at the pace at which we expect, or declines, or if we overbuild inventory in a period of decreased demand, our operating results may be adversely affected as a result of increased operating expenses, reduced margins, underutilization of capacity or asset impairment charges. These capacity expansions by us and other semiconductor manufacturers could also lead to overcapacity in our target markets which could lead to price erosion that would adversely impact our operating results. Conversely, during periods of rapid increases in demand, our available capacity may not be sufficient to satisfy the demand. In addition, we may not be able to expand our workforce and operations in a sufficiently timely manner, procure adequate resources and raw materials, locate suitable third-party suppliers, or respond effectively to changes in demand for our existing products or to demand for new products requested by our customers, and our current or future business could be materially and adversely affected.

Our semiconductor products are complex and we may be subject to product warranty and indemnity claims, which could result in significant costs and damage to our reputation and adversely affect customer relationships, the market acceptance of our products and our operating results.

Semiconductor products are highly complex and may contain defects when they are first introduced or as new versions are developed. Failures in our products and services or in the products of customers could result in damage to our reputation for reliability and increase our legal or financial exposure to third parties. Certain of our products and services could also contain security vulnerabilities, defects, bugs and errors, which could also result in significant data losses, security breaches and theft of intellectual property. We generally warrant our products to our customers for one year from the date title passes from us. We invest significant resources in the testing of our products; however, if any of our products contain defects, we may be required to incur additional development and remediation costs pursuant to warranty and indemnification provisions in our customer contracts and purchase orders. These problems may divert our technical and other resources from other product development efforts and could result in claims against us by our customers or others, including liability for costs and expenses associated with product recalls, which may adversely impact our operating results. We may also be subject to customer indemnity claims. Our customers have on occasion been sued, and may be sued in the future, by third parties alleging infringement of intellectual property rights, or damages resulting from use of our products. Those customers may seek indemnification from us under the terms and conditions of our sales contracts with them. In certain cases, our potential indemnification liability may be significant. If any of our products contain defects, or have reliability, quality or compatibility problems, our reputation may be damaged, which could make it more difficult for us to sell our products to customers and could also adversely affect our operating results.

The fabrication of integrated circuits is highly complex and precise, and our manufacturing processes utilize a substantial amount of technology. Minute impurities, contaminants in the manufacturing environment, difficulties in the fabrication process, defects in the masks used in the wafer manufacturing process, manufacturing equipment failures, wafer breakage or other factors can cause a substantial percentage of wafers to be rejected or numerous dice on each wafer to be nonfunctional. While we have significant expertise in semiconductor manufacturing, it is possible

that some processes could become unstable. This instability could result in manufacturing delays and product shortages, which could have a material adverse effect on our operating results.

We are occasionally involved in litigation, including claims regarding intellectual property rights, which could be costly to litigate and could require us to redesign products or pay significant royalties.

The semiconductor industry is characterized by frequent claims and litigation involving patent and other intellectual property rights. Other companies or individuals have obtained patents covering a variety of semiconductor designs and processes, and we might be required to obtain licenses under some of these patents or be precluded from making and selling infringing products, if those patents are found to be valid and infringed by us. In the event a third party makes a valid intellectual property claim against us and a license is not available to us on commercially reasonable terms, or at all, we could

be forced either to redesign or to stop production of products incorporating that intellectual property, and our operating results could be materially and adversely affected. Litigation may be necessary to enforce our patents or other of our intellectual property rights or to defend us against claims of infringement, and this litigation could be costly and divert the attention of our key personnel. We could also be subject to litigation or arbitration disputes arising under our contractual obligations, as well as customer indemnity, warranty or product liability claims that could lead to significant costs and expenses as we defend those claims or pay damage awards. There can be no assurance that we are adequately insured to protect against all claims and potential liabilities, and we may elect to self-insure with respect to certain matters. An adverse outcome in litigation or arbitration could have a material adverse effect on our financial position or on our operating results or cash flows in the period in which the dispute is resolved.

If we are unable to recruit or retain our key personnel, our ability to execute our business strategy will be adversely affected.

Our continued success depends to a significant extent upon the recruitment, retention and effective succession of our executive officers and key management and technical personnel, particularly our experienced engineers. The competition for these employees is intense. The loss of the services of one or more of our key personnel could have a material adverse effect on our operating results. The inability to attract, hire and retain key employees with critical technical skills to achieve our strategy, including as a result of changes to immigration policies, could also have a material adverse effect on our business. In addition, there could be a material adverse effect on our business should the turnover rates for engineers and other key personnel increase significantly or if we are unable to continue to attract, hire and retain qualified personnel. We do not maintain any key person life insurance policy on any of our officers or employees.

To remain competitive, we may need to invest in or acquire other companies, purchase or license technology from third parties, or enter into other strategic transactions in order to introduce new products or enhance our existing products.

An element of our business strategy involves expansion through the acquisitions of businesses, assets, products or technologies that allow us to complement our existing product offerings, diversify our product portfolio, expand our market coverage, increase our engineering workforce, expand our technical skill sets or enhance our technological capabilities. We may not be able to find businesses that have the technology or resources we need and, if we find such businesses, we may not be able to invest in, purchase or license the technology or resources on commercially favorable terms or at all. Acquisitions, investments and technology licenses are difficult to identify and complete for a number of reasons, including the cost of potential transactions, competition among prospective buyers and licensees, the need for regulatory approvals, and difficulties related to integration efforts. In addition, investments in private companies are subject to a risk of a partial or total loss of our investment. Both in the U.S. and abroad, governmental regulation of acquisitions, including antitrust reviews and approvals, has become more complex, increasing the costs and risks of undertaking and consummating significant acquisitions. In order to finance a potential transaction, we may need to raise additional funds by issuing securities or borrowing money. We may not be able to obtain financing on favorable terms, and the sale of our stock may result in the dilution of our existing shareholders or the issuance of securities with rights that are superior to the rights of our common shareholders.

Acquisitions also involve a number of challenges and risks, including:

- difficulty or delay integrating acquired technologies, operations and personnel with our existing businesses;
- diversion of management's attention in connection with both negotiating the transaction and integrating the assets;
- strain on managerial and operational resources as management tries to oversee larger or more complex operations;
- the future funding requirements for acquired companies, which may be significant;
- potential loss of key employees;
- exposure to unforeseen liabilities or regulatory compliance issues of acquired companies;
- higher than expected or unexpected costs relating to or associated with an acquisition and integration of assets;
- difficulty realizing synergies and growth prospects of an acquisition in a timely manner or at all; and
- increased risk of costly and time-consuming legal proceedings.

If we are unable to successfully address these risks, we may not realize some or all of the expected benefits of the acquisition, which may have an adverse effect on our business strategy, plans and operating results.

We rely on supplies, services and manufacturing capacity located in geologically unstable areas, which could affect our ability to produce products.

We, like many companies in the semiconductor industry, rely on supplies, services, internal manufacturing capacity, wafer fabrication foundries and other subcontractors in geologically unstable locations around the world. Earthquakes, tsunamis, flooding or other natural disasters may disrupt local semiconductor-related businesses and adversely affect

manufacturing capacity, availability and cost of key raw materials, utilities and equipment, and availability of key services, including transport of our products worldwide. Our insurance may not adequately cover losses resulting from such disruptions. Any prolonged inability to utilize one of our manufacturing facilities, or those of our subcontractors or third-party wafer fabrication foundries, as a result of fire, flood, natural disaster, unavailability of utilities or otherwise, could result in a temporary or permanent loss of customers for affected products, which could have a material adverse effect on our results of operations and financial condition.

We are exposed to business, economic, political, legal, regulatory and other risks through our significant worldwide operations, which could adversely affect our business, financial condition and results of operations.

We have significant operations and manufacturing facilities outside the United States, including in Ireland, the Philippines, Singapore and Malaysia. A significant portion of our revenue is derived from customers in international markets, and we expect that international sales will continue to account for a significant portion of our revenue in the future. Risks associated with our international business operations include the following:

- political, legal and economic changes, crises or instability and civil unrest in foreign markets;
- currency conversion risks and exchange rate and interest rate fluctuations;
- trade policy, trade, travel, export or taxation disputes or restrictions, government sanctions, import or export tariffs or other restrictions imposed by the U.S. government or by the governments of the countries in which we do business, particularly in China;
- complex, varying and changing government regulations and legal standards and requirements, particularly with respect to price protection, competition practices, export control regulations and restrictions, customs and tax requirements, immigration, anti-boycott regulations, data privacy, intellectual property, anti-corruption and environmental compliance, including U.S. customs and export regulations and restrictions, International Traffic in Arms Regulations and the Foreign Corrupt Practices Act;
- economic disruption from terrorism and threats of terrorism and the response to them by the U.S. and its allies;
- increased managerial complexities, including different employment practices and labor issues;
- changes in immigration laws, regulations and procedures and enforcement practices of various government agencies;
- greater difficulty enforcing intellectual property rights and weaker laws protecting such rights;
- natural disasters or pandemics;
- transportation disruptions and delays and increases in labor and transportation costs;
- changes to foreign taxes, tariffs and freight rates;
- fluctuations in raw material costs and energy costs;
- greater difficulty in accounts receivable collections and longer collection periods; and
- costs associated with our foreign defined benefit pension plans.

Any of these risks, or any other risks related to international business operations, could materially adversely affect our business, financial condition and results of operations.

Many of these risks are present in China. While we expect to continue to expand our business and operations in China, our success in the Chinese markets may be adversely affected by China’s continuously evolving policies, laws and regulations, including those relating to trade, taxation, import and export tariffs or restrictions, currency controls, antitrust, cybersecurity and data protection, the environment, indigenous innovation and the promotion of a domestic semiconductor industry, and intellectual property rights and enforcement and protection of those rights. Enforcement of existing laws or agreements may be inconsistent. In addition, changes in the political environment, governmental policies, international trade policies and relations, or U.S.-China relations could result in revisions to laws or regulations or their interpretation and enforcement, exposure of our proprietary intellectual property, increased taxation, trade sanctions, the imposition of import duties or tariffs, restrictions on imports or exports, currency revaluations, or retaliatory actions by China in response to U.S. actions, which could have an adverse effect on our business plans and operating results.

At November 3, 2018, our principal source of liquidity was $816.6 million of cash and cash equivalents and short-term investments, of which approximately $383.5 million was held in the United States and the remaining balance was held outside the United States in various foreign subsidiaries. We continue to assert our intent to reinvest substantially all of our foreign earnings indefinitely, however we are in the process of analyzing the impact that the

Tax Legislation has on this indefinite

reinvestment assertion. As we intend to reinvest substantially all of our foreign earnings indefinitely, certain cash held outside the United States may not be available for repatriation as dividends to the United States in the future. We require a substantial amount of cash in the United States for operating requirements, stock repurchases, cash dividends and acquisitions. If we are unable to address our U.S. cash requirements through operations, borrowings under our current revolving credit facility, future debt or equity offerings or other sources of cash obtained at an acceptable cost, it may be necessary for us to consider repatriation of earnings that are indefinitely reinvested, and we may be required to pay additional taxes under current tax laws, which could have a material adverse effect on our results of operations and financial condition.

Our operating results are dependent on the performance of independent distributors.

A significant portion of our sales are through independent distributors that are not under our control. These independent distributors generally represent product lines offered by several companies and thus could reduce their sales efforts applied to our products or they could terminate their representation of us. We generally do not require letters of credit from our distributors and are not protected against accounts receivable default or declarations of bankruptcy by these distributors. Our inability to collect open accounts receivable could adversely affect our operating results. Termination of a significant distributor or a group of distributors, whether at our initiative or the distributor's initiative or through consolidation in the distribution industry, could disrupt our current business, and if we are unable to find suitable replacements, our operating results could be adversely affected. We have also recently reduced the number of distributors we use, which may exacerbate the foregoing risks.

Effective November 4, 2018, all distributor sales will be recognized upon shipment to the distributor under Accounting Standards Update 2014-09, Revenue from Contracts with Customers (ASU 2014-09). Upon adoption of ASU 2014-09, we will no longer be permitted to 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. If our estimates of such credits and rights are materially understated it could cause subsequent adjustments that negatively impact our revenues and gross profits in a future period.

We are subject to environmental, health and safety (EHS) regulations, which could increase our expenses and affect our operating results.

Our industry is subject to EHS requirements, particularly those environmental requirements that control and restrict the sourcing, use, transportation, emission, discharge, storage and disposal of certain chemicals, and materials used or produced in the semiconductor manufacturing process. Public attention to environmental, sustainability and social responsibility concerns continues to increase, and our customers routinely include stringent environmental and other standards in their contracts with us. Changes in EHS laws or regulations may require us to invest in costly equipment or make manufacturing process changes and may adversely affect the sourcing, supply and pricing of materials used in our products. In addition, we use hazardous and other regulated materials that subject us to risks of strict liability for damages caused by potential or actual releases of such materials. Any failure to control such materials adequately or to comply with existing or future EHS statutory or regulatory standards, requirements or contractual obligations could result in any of the following, each of which could have a material adverse effect on our business and operating results:

- liability for damages and remediation;
- the imposition of regulatory penalties and civil and criminal fines;
- the suspension or termination of the development, manufacture, sale or use of certain of our products;
- changes to our manufacturing processes or a need to substitute materials that may cost more or be less available;
- damage to our reputation; and/or
- increased expenses associated with compliance.

If we fail to comply with government contracting regulations, we could suffer a loss of revenue or incur price adjustments or other penalties.

Some of our revenue is derived from contracts with agencies of the United States government and subcontracts with its prime contractors. As a United States government contractor or subcontractor, we are subject to federal contracting regulations, including the Federal Acquisition Regulations, which govern the allowability of costs incurred by us in the performance of United States government contracts. Certain contract pricing is based on estimated direct and

indirect costs, which are subject to change. Additionally, the United States government is entitled after final payment on certain negotiated contracts to examine all of our cost records with respect to such contracts and to seek a downward adjustment to the price of the contract if it determines that we failed to furnish complete, accurate and current cost or pricing data in connection with the negotiation of the price of the contract.

In connection with our United States government business, we are also subject to government audits and to review and approval of our policies, procedures, and internal controls for compliance with procurement regulations and applicable laws. In

certain circumstances, if we do not comply with the terms of a contract or with regulations or statutes, we could be subject to downward contract price adjustments or refund obligations or could in extreme circumstances be assessed civil and criminal penalties or be debarred or suspended from obtaining future contracts for a specified period of time. Any such suspension or debarment or other sanction could have an adverse effect on our business.

Under some of our government subcontracts, we are required to maintain secure facilities and to obtain security clearances for personnel involved in performance of the contract, in compliance with applicable federal standards. If we were unable to comply with these requirements, or if personnel critical to our performance of these contracts were unable to obtain or maintain their security clearances, we might be unable to perform these contracts or compete for other projects of this nature, which could adversely affect our revenue.

Restrictions in our revolving credit facility, term loans and outstanding debt instruments may limit our activities.

Our current revolving credit facility, term loans and outstanding debt instruments impose, and future debt instruments to which we may become subject may impose, restrictions that limit our ability to engage in activities that could otherwise benefit our Company, including to undertake certain transactions, to create certain liens on our assets and to incur certain subsidiary indebtedness. Our ability to comply with these financial restrictions and covenants is dependent on our future performance, which is subject to prevailing economic conditions and other factors, including factors that are beyond our control such as foreign exchange rates, interest rates and changes in technology, government regulations and the level of competition. In addition, our revolving credit facility requires us to maintain compliance with specified financial ratios. If we breach any of the covenants under our revolving credit facility, the indentures governing our outstanding senior unsecured notes, the term loans or any future debt instruments to which we may become subject and do not obtain appropriate waivers, then, subject to applicable cure periods, our outstanding indebtedness thereunder could be declared immediately due and payable or we may be restricted from further borrowing under our revolving credit facility.

Our stock price may be volatile.

The market price of our common stock has been volatile in the past and may be volatile in the future, as it may be significantly affected by factors including:

- global economic conditions generally;
- crises in global credit, debt and financial markets;
- actual or anticipated fluctuations in our revenue and operating results;
- changes in financial estimates or other statements made by securities analysts or others in analyst reports or other publications or our failure to perform in line with those estimates or statements or our published guidance;
- financial results and prospects of our customers;
- U.S. and foreign government actions, including with respect to trade, travel, export and taxation;
- changes in market valuations of other semiconductor companies;
- rumors and speculation in the press, investment community or on social media about us, our customers or other companies in our industry;
- announcements by us, our customers or our competitors of significant new products, technical innovations, material transactions, acquisitions or dispositions, litigation, capital commitments or revised earnings estimates;
- departures of key personnel;
- alleged noncompliance with laws, regulations or ethics standards by us or any of our employees, officers or directors; and
- negative media publicity targeting us or our suppliers, customers or competitors.

The stock market has historically experienced volatility, especially within the semiconductor industry, that often has been unrelated to the performance of particular companies. These market fluctuations may cause our stock price to fall regardless of our operating results.

Our directors and executive officers periodically sell shares of our common stock in the market, including pursuant to Rule 10b5-1 trading plans. Regardless of the individual's reasons for such sales, securities analysts and investors could view such sales as a negative indicator and our stock price could be adversely affected as a result.

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ITEM 1B. UNRESOLVED STAFF COMMENTS
None.

ITEM 2. PROPERTIES
Our corporate headquarters is located in Norwood, Massachusetts. Manufacturing and other operations are conducted in several locations worldwide. The following tables provide certain information about our principal general offices and manufacturing facilities:

Principal Properties Owned:	Use	Approximate Total Sq. Ft.
Cavite, Philippines	Wafer probe and testing, warehouse, engineering and administrative offices	873,000 sq. ft.
Wilmington, MA	Wafer fabrication, testing, engineering, marketing and administrative offices	594,000 sq. ft.
Limerick, Ireland	Wafer fabrication, wafer probe and testing, engineering and administrative offices	491,000 sq. ft.
Milpitas, CA	Wafer fabrication, test and assembly; warehouse and distribution; engineering, sales, marketing and administrative offices	430,000 sq. ft.
Singapore (a)	Wafer test and packaging, warehouse and distribution, engineering, sales and administrative offices	384,000 sq. ft.
Malaysia (b)	Assembly and engineering offices, employee parking	350,000 sq. ft.
Chelmsford, MA	Final assembly of certain module and subsystem-level products, testing, engineering and administrative offices	174,000 sq. ft.
Camas, WA	Wafer fabrication	105,000 sq. ft.
Greensboro, NC	Product testing, engineering and administrative offices	99,000 sq. ft.
San Jose, CA	Engineering, administrative offices	77,000 sq. ft.

(a) Leases on the land used for this facility expire in 2021 through 2022 with an option to extend each lease for an additional 30 years
(b) Leases on the land used for this facility expire in 2054 through 2057

Principal Properties Leased:	Use	Approximate Total Sq. Ft.	Lease Termination (fiscal year)	Renewals
Norwood, MA	Corporate headquarters, engineering, sales and marketing offices	130,000 sq. ft.	2022	2, five-yr. periods
Santa Clara, CA	Engineering, sales, marketing and administrative offices	445,000 sq. ft.	2030	2, five-yr. periods
Bangalore, India	Engineering	175,000 sq. ft.	2027	1, five-yr. period
Greensboro, NC	Engineering and administrative offices	51,000 sq. ft.	2024	2, three-yr. periods
Shanghai, China	Engineering and sales offices	59,000 sq. ft.	2021	1, three-yr. period
Beijing, China	Engineering and sales offices	58,000 sq. ft.	2021	1, three-yr. period

In addition to the principal properties listed in the above table, we also own or lease a number of other facilities in various locations in the United States and internationally that are used for manufacturing, engineering, sales and marketing and administration activities. Leases for these leased facilities expire at various dates through the year 2030. We do not anticipate experiencing significant difficulty in retaining occupancy of any of our manufacturing,

office or sales facilities through lease renewals prior to expiration or through month-to-month occupancy, or in replacing them with equivalent facilities. For information concerning our obligations under all operating leases, see Note 9, Lease Commitments, of the Notes to Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K.

ITEM 3. LEGAL PROCEEDINGS

From time to time in the ordinary course of our business, various claims, charges and litigation are asserted or commenced against us arising from, or related to, contractual matters, patents, trademarks, personal injury, environmental matters, product liability, insurance coverage and personnel and employment disputes. As to such claims and litigation, we can give no assurance that we will prevail. We do not believe that any current legal matters will have a material adverse effect on our financial position, results of operations or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth (i) the name, age and position of each of our executive officers as of November 27, 2018 and (ii) the business experience of each person named in the table during at least the past five years. There is no family relationship among any of our executive officers.

Executive Officer	Age	Position(s)	Business Experience
Vincent Roche	58	President and Chief Executive Officer	President and Chief Executive Officer since May 2013; President since November 2012; Vice President, Strategic Segments Group and Global Sales from October 2009 to November 2012; Vice President, Worldwide Sales from March 2001 to October 2009; Vice President and General Manager, Silicon Valley Business Units and Computer & Networking from 1999 to March 2001; Product Line Director from 1995 to 1999; and Product Marketing Manager from 1988 to 1995.
Prashanth Mahendra-Rajah	48	Senior Vice President, Finance and Chief Financial Officer	Senior Vice President, Finance and Chief Financial Officer since September 2017; Chief Financial Officer of WABCO Holdings Inc., a supplier of commercial vehicle technologies, from June 2014 to September 2017; Corporate Vice President and Segment CFO of the Silicon Systems Group of Applied Materials Inc., a provider of manufacturing equipment, services and software to the global semiconductor industry, from April 2012 to June 2014.
Martin Cotter	53	Senior Vice President, Worldwide Sales and Digital Marketing	Senior Vice President, Worldwide Sales and Digital Marketing since September 2016; Vice President Internet of Things (IoT), Healthcare, and Consumer Business Units, from November 2015 to September 2016; Vice President, Healthcare and Consumer Business Groups from November 2014 to November 2015; and VP, Communications Infrastructure Business Unit from October 2012 to November 2014.
Joseph (John) Hassett	60	Senior Vice President, Global Operations and Technology	Senior Vice President, Global Operations and Technology since May 2015; Vice President Assembly and Test Worldwide Manufacturing from 1994 to May 2015; and Director Assembly Operations Worldwide Manufacturing from 1990 to 1994.

Executive Officer	Age	Position(s)	Business Experience
Gregory Henderson	50	Senior Vice President, Automotive, Communications and Aerospace and Defense	Senior Vice President, Automotive, Communications and Aerospace and Defense since June 2017; Vice President, RF and Microwave Business Unit from July 2014 to June 2017; Vice President of the RF and Microwave Business Unit of Hittite Microwave Corporation, a maker of chips and related components, from October 2013 to July 2014; and Director Product Management of Harris Corporation, a defense contractor and technology provider of communications, electronic, and space and intelligence systems, from 2011 to October 2013.
Yusuf Jamal	41	Senior Vice President, Industrial, Healthcare, Consumer, and IoT Solutions and Security	Senior Vice President, Industrial, Healthcare, Consumer, and IoT Solutions and Security since June 2017; Vice President, Healthcare and Consumer Business Unit from September 2016 to June 2017; General Manager, Consumer Business Unit from September 2014 to September 2016; Product Marketing Director, User eXperience Technologies from October 2012 to September 2014; and Business Director Portable Segment from May 2008 to October 2012.
Steve Pietkiewicz	59	Senior Vice President, Power Products	Senior Vice President, Power Products since June 2017; Vice President and General Manager of S Power Products from March 2017 to June 2017; Vice President and General Manager of S Power Products at Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, from July 2007 to March 2017; General Manager, S Power Products at Linear Technology Corporation from April 2005 to July 2007; and Design Manager at Linear Technology Corporation from April 1995 to April 2005.
Margaret K. Seif	57	Chief People Officer, Chief Legal Officer, Secretary and Senior Vice President of Communications	Chief People Officer, Chief Legal Officer, Secretary and Senior Vice President of Communications since August 2018; Chief Legal Officer, Secretary and Senior Vice President of Communications and Brand from January 2016 to August 2018; Senior Vice President, General Counsel and Secretary from November 2014 to January 2016; Vice President, General Counsel and Secretary from January 2006 to November 2014; Senior Vice President, General Counsel and Secretary of RSA Security Inc., a provider of computer and network security, from January 2000 to November 2005; and Vice President, General Counsel and Secretary of RSA Security Inc. from June 1998 to January 2000.
Eileen Wynne	52	Vice President and Chief Accounting Officer	Vice President and Chief Accounting Officer since April 2015; Interim Chief Financial Officer from March 2017 to September 2017; Vice President, Corporate Controller and Chief Accounting Officer from May 2013 to April 2015; Corporate Controller from April 2011 to May 2013; and Assistant Corporate Controller from February 2004 to April 2011.

PART II

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

Our common stock is listed on The Nasdaq Global Select Market under the symbol ADI.

Information regarding our equity compensation plans and the securities authorized for issuance thereunder is set forth in Item 12 of this Annual Report on Form 10-K.

Issuer Purchases of Equity Securities

On March 10, 2017, we completed the acquisition of Linear Technology Corporation, an independent manufacturer of high performance analog integrated circuits, which we refer to as the Acquisition. In connection with the Acquisition, we temporarily suspended our share repurchase program. On August 21, 2018, we reinstated the share repurchase program, and our Board of Directors approved an increase to the current authorization for the stock repurchase program by an additional $2.0 billion to $8.2 billion in the aggregate. The table below summarizes the activity related to stock repurchases for the three months ended November 3, 2018.

Period	Total Number of Shares Purchased(a)	Average Price Paid Per Share(b)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs(c)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
August 5, 2018 through September 1, 2018	102,443	$ 98.83	90,453	$2,783,503,862
September 2, 2018 through September 29, 2018	847,200	$ 92.87	819,059	$2,707,442,670
September 30, 2018 through November 3, 2018	1,099,271	$ 86.70	1,034,848	$2,617,537,930
Total	2,048,914	$ 89.86	1,944,360	$2,617,537,930

(a) Includes 104,554 shares withheld by us from employees to satisfy employee tax obligations upon vesting of restricted stock units/awards granted to our employees under our equity compensation plans.

(b) The average price paid for shares in connection with vesting of restricted stock units/awards are averages of the closing stock price at the vesting date which is used to calculate the number of shares to be withheld.

(c) Shares repurchased pursuant to the stock repurchase program publicly announced on August 12, 2004. On August 21, 2018, the Board of Directors approved an increase to the current authorization for the stock repurchase program by an additional $2.0 billion to $8.2 billion in the aggregate. Under the repurchase program, we may repurchase outstanding shares of our common stock from time to time in the open market and through privately negotiated transactions. Unless terminated earlier by resolution of our Board of Directors, the repurchase program will expire when we have repurchased all shares authorized for repurchase under the repurchase program.

The number of holders of record of our common stock at November 23, 2018 was 2,164. This number does not include shareholders for whom shares are held in a "nominee" or "street" name. On November 2, 2018, the last reported sales price of our common stock on The Nasdaq Global Select Market was $87.18 per share.

Comparative Stock Performance Graph

The following graph compares cumulative total shareholder return on our common stock since November 2, 2013 with the cumulative total return of the Standard & Poor's (S&P) 500 Index and the S&P Semiconductors Index. This graph assumes the investment of $100 on November 2, 2013 in our common stock, the S&P 500 Index and the S&P Semiconductors Index and assumes all dividends are reinvested. Measurement points are the last trading day for each respective fiscal year.

ITEM 6. SELECTED FINANCIAL DATA

The following table includes selected financial data for each of our last five fiscal years and includes the results of operations from the acquisition of Linear from March 10, 2017 and the acquisition of Hittite Microwave Corporation from July 22, 2014. See Note 6, Acquisitions, of the Notes to Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K for information on the Linear acquisition.

(thousands, except per share amounts)	2018	2017	2016	2015	2014
Statement of Operations data:					
Revenue	$6,200,942	$5,107,503	$3,421,409	$3,435,092	$2,864,773
Net income	1,495,432	727,259	861,664	696,878	629,320
Net income per common share					
Basic	4.02	2.09	2.79	2.23	2.01
Diluted	3.97	2.07	2.76	2.20	1.98
Cash dividends declared per common share	1.89	1.77	1.66	1.57	1.45
Balance Sheet data:					
Total assets	$20,449,779	$21,141,294	$7,970,278	$7,058,777	$6,855,331
Debt	$6,332,674	$7,851,084	$1,732,177	$869,935	$868,430

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (all tabular amounts in thousands except per share amounts)

Results of Operations

Overview

	Fiscal Year			2018 over 2017		2017 over 2016	
	2018	2017	2016	$ Change	% Change	$ Change	% Change
Revenue	$6,200,942	$5,107,503	$3,421,409	$1,093,439	21 %	$1,686,094	49 %
Gross Margin %	68.3 %	59.9 %	65.1 %				
Net income	$1,495,432	$727,259	$861,664	$768,173	106 %	$(134,405)	(16)%
Net income as a % of Revenue	24.1 %	14.2 %	25.2 %				
Diluted EPS	$3.97	$2.07	$2.76	$1.90	92 %	$(0.69)	(25)%

Acquisition of Linear Technology Corporation

On March 10, 2017 (Acquisition Date), we completed the acquisition of Linear Technology Corporation (Linear), a designer, manufacturer and marketer of high performance analog integrated circuits. The total consideration paid to acquire Linear was approximately $15.8 billion, consisting of $11.1 billion in cash financed through existing cash on hand, net proceeds from bridge and term loan facilities and proceeds received from the issuance of senior unsecured notes, $4.6 billion from the issuance of our common stock and $0.1 billion of consideration related to the replacement of outstanding equity awards held by Linear employees. The acquisition of Linear is referred to as the Acquisition. The consolidated financial statements included in this Annual Report on Form 10-K include the financial results of Linear prospectively from the Acquisition Date. See Note 6, Acquisitions and Note 14, Debt, of the Notes to the Consolidated Financial Statements contained in Item 8 of this Annual Report on Form 10-K for further information.

Revenue Trends by End Market

The following table summarizes revenue by end market. The categorization of revenue by end market is determined using a variety of data points including the technical characteristics of the product, the "sold to" customer information, the "ship to" customer information and the end customer product or application into which our product will be incorporated. As data systems for capturing and tracking this data evolve and improve, the categorization of products by end market can vary over time. When this occurs, we reclassify revenue by end market for prior periods. Such reclassifications typically do not materially change the sizing of, or the underlying trends of results within, each end market.

	2018			2017		2016	
	Revenue	% of Total Product Revenue	Y/Y%	Revenue	% of Total Product Revenue	Revenue	% of Total Product Revenue*
Industrial	$3,102,508	50 %	32 %	$2,342,404	46 %	$1,478,452	43 %
Automotive	988,741	16 %	23 %	803,211	16 %	558,631	16 %
Consumer	856,778	14 %	(18)%	1,044,697	20 %	688,176	20 %
Communications	1,252,915	20 %	37 %	917,191	18 %	696,150	20 %
Total Revenue	$6,200,942	100 %	21 %	$5,107,503	100 %	$3,421,409	100 %

* The sum of the individual percentages may not equal the total due to rounding.

Industrial - The Industrial end market included $951.1 million of revenue in the fiscal year ended November 3, 2018 (fiscal 2018), as compared to $489.7 million of revenue in the fiscal year ended October 28, 2017 (fiscal 2017), as a result of the Acquisition. Industrial end market revenue increased in fiscal 2018, as compared to fiscal 2017, primarily as a result of the Acquisition, a broad-based increase in demand for our products in this end market and an additional week of operations in fiscal 2018 as compared to fiscal 2017. Industrial end market revenue increased in fiscal 2017,

as compared to the fiscal year ended October 29, 2016 (fiscal 2016), primarily as a result of the Acquisition and a broad-based increase in demand for our products in this end market.

Automotive - The Automotive end market included $339.9 million of revenue in fiscal 2018, as compared to $199.8 million of revenue in fiscal 2017, as a result of the Acquisition. Automotive end market revenue increased in fiscal 2018, as compared to fiscal 2017, primarily as a result of the Acquisition, a broad-based increase in demand for our products in this end market and an additional week of operations in fiscal 2018 as compared to fiscal 2017. Automotive end market revenue increased in fiscal 2017, as compared to fiscal 2016, primarily as a result of the Acquisition and a broad-based increase in demand for our products.

Consumer - Consumer end market revenue decreased in fiscal 2018, as compared to fiscal 2017, primarily as a result of a decreased demand for products used in portable consumer applications, partially offset by an increase in revenue due to the Acquisition and an additional week of operations in fiscal 2018 as compared to fiscal 2017. Consumer end market revenue increased in fiscal 2017, as compared to fiscal 2016, primarily as a result of an increased demand for products used in portable consumer applications and as a result of the Acquisition.

Communications - The Communications end market included $356.1 million of revenue in fiscal 2018, as compared to $187.6 million of revenue in fiscal 2017, as a result of the Acquisition. Communications end market revenue increased in fiscal 2018, as compared to fiscal 2017, primarily as a result of the Acquisition, a broad-based increase in demand for our products in this end market and an additional week of operations in fiscal 2018 as compared to fiscal 2017. Communications end market revenue increased in fiscal 2017, as compared to fiscal 2016, primarily as a result of the Acquisition.

Revenue Trends by Geographic Region

Revenue by geographic region, based upon the primary end customer location for fiscal 2018, fiscal 2017 and fiscal 2016 was as follows:

	Fiscal Year			Change 2018 over 2017		Change 2017 over 2016	
	2018	2017	2016	$ Change	% Change	$ Change	% Change
United States	$2,105,662	$1,999,041	$1,299,629	$106,621	5 %	$699,412	54 %
Rest of North and South America	103,401	103,077	95,957	324	— %	7,120	7 %
Europe	1,471,689	1,211,435	924,849	260,254	21 %	286,586	31 %
Japan	716,276	506,114	291,649	210,162	42 %	214,465	74 %
China	1,210,042	842,532	575,690	367,510	44 %	266,842	46 %
Rest of Asia	593,872	445,304	233,635	148,568	33 %	211,669	91 %
Total Revenue	$6,200,942	$5,107,503	$3,421,409	$1,093,439	21 %	$1,686,094	49 %

In fiscal 2018, fiscal 2017 and fiscal 2016, the predominant countries comprising “Rest of North and South America” are Canada and Mexico; the predominant countries comprising “Europe” are Germany, the Netherlands and Sweden; and the predominant countries comprising “Rest of Asia” are South Korea and Taiwan.

The United States and Rest of North and South America included $420.0 million of revenue in fiscal 2018, as compared to $207.8 million of revenue in fiscal 2017, as a result of the Acquisition. The sales increase in the United States year-over-year in fiscal 2018 was primarily a result of the Acquisition, an increase in demand for our products sold into the Industrial and Automotive end markets and an additional week of operations in fiscal 2018, as compared to fiscal 2017, partially offset by a decrease in demand for our products sold into the Consumer end market. Europe included $369.7 million of revenue in fiscal 2018, as compared to $211.2 million of revenue in fiscal 2017, as a result of the Acquisition. The sales increase in Europe year-over-year in fiscal 2018 was primarily a result of the Acquisition and an increase in demand for our products sold into the Industrial and Communications end markets and an additional week of operations in fiscal 2018, as compared to fiscal 2017, partially offset by a decrease in demand for our products sold into the Automotive end market. Japan included $274.1 million of revenue in fiscal 2018, as compared to $123.7 million of revenue in fiscal 2017, as a result of the Acquisition. The sales increase in Japan year-over-year in fiscal 2018 was primarily a result of the Acquisition, an increase in demand for our products sold into the Industrial end market and an additional week of operations in fiscal 2018, as compared to fiscal 2017. China

included $379.1 million of revenue in fiscal 2018, as compared to $213.6 million of revenue in fiscal 2017, as a result of the Acquisition. The Rest of Asia included $265.1 million of revenue in fiscal 2018, as compared to $156.9 million of revenue in fiscal 2017, as a result of the Acquisition. The sales increase in China and the Rest of Asia year-over-year in fiscal 2018 was primarily a result of the Acquisition, a broad-based increase in demand for our products sold into all end markets and an additional week of operations in fiscal 2018 as compared to fiscal 2017.

The United States and Rest of North and South America included $207.8 million of revenue as a result of the Acquisition in fiscal 2017. The increase in revenue in the United States in fiscal 2017 as compared to fiscal 2016 was primarily a result of an increase in demand of our products sold into the Consumer and Industrial end markets and as a result of the Acquisition. Europe and Japan included $211.2 million and $123.7 million of revenue, respectively, as a result of the Acquisition in fiscal 2017. The sales increase in Europe and Japan year-over-year in fiscal 2017 was primarily a result of the Acquisition and an increase in demand of our products sold into the Industrial end market. China included $213.6 million of revenue as a result of the Acquisition in fiscal 2017. The sales increase in China year-over-year in fiscal 2017 was primarily a result of the Acquisition and an increase in demand of our products sold into the Industrial and Automotive end markets. The Rest of Asia included $156.9 million of revenue as a result of the Acquisition in fiscal 2017. The sales increase in the Rest of Asia year-over year in fiscal 2017 was primarily a result of the Acquisition and an increase in demand of our products sold into the Industrial and Communications end markets.

Gross Margin

	Fiscal Year			Change 2018 over 2017		2017 over 2016	
	2018	2017	2016	$ Change	% Change	$ Change	% Change
Gross Margin	$4,233,302	$3,061,596	$2,227,173	$1,171,706	38		