

MAGNACHIP SEMICONDUCTOR Corp

Form 10-K

February 22, 2019

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

or

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

Commission File Number 001-34791

MagnaChip Semiconductor Corporation

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(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of

83-0406195
(I.R.S. Employer

Incorporation or Organization)

Identification No.)

c/o MagnaChip Semiconductor S.A.

1, Allée Scheffer, L-2520

Luxembourg, Grand Duchy of Luxembourg

(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (352) 45-62-62

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

Title of each class
Common Stock, par value \$0.01 per share

Name of each exchange on which registered
New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

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

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

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

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

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

Large Accelerated Filer
Non-Accelerated Filer

Accelerated Filer
Smaller Reporting Company

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Emerging growth company

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

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

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter. \$280,313,167.

As of February 15, 2019, the registrant had 34,091,378 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement relating to its 2019 annual meeting of stockholders will be incorporated by reference into Part III of this Annual Report on Form 10-K or included by amendment to this report within 120 days after the end of the fiscal year to which this report relates.

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MAGNACHIP SEMICONDUCTOR CORPORATION AND SUBSIDIARIES

FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2018

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PART I

INDUSTRY AND MARKET DATA

We have made statements in this Annual Report on Form 10-K for the year ended December 31, 2018 (this Report) regarding our industry and our position in the industry based on our experience in the industry and our own views of market conditions, but we have not independently verified those statements. We do not have any obligation to announce or otherwise make publicly available updates or revisions to forecasts contained in these documents.

Statements made in this Report, unless the context otherwise requires, include the use of the terms us, we, our, the Company and MagnaChip refer to MagnaChip Semiconductor Corporation and its consolidated subsidiaries. The term Korea refers to the Republic of Korea or South Korea.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

We have made certain forward-looking statements in this Report within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), and Section 27A of the Securities Act of 1933, as amended (the Securities Act), that involve risks and uncertainties. Forward-looking statements give our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business. You can identify these statements by the fact that they do not relate strictly to historical or current facts. These statements may include words such as anticipate, estimate, expect, project, intend, plan, believe and other words of similar meaning in connection with any discussion of the timing or nature of future operating or financial performance or other events. All statements other than statements of historical facts included in this Report that address activities, events or developments that we expect, believe or anticipate will or may occur in the future are forward-looking statements.

These forward-looking statements are largely based on our expectations and beliefs concerning future events, which reflect estimates and assumptions made by our management. These estimates and assumptions reflect our best judgment based on currently known market conditions and other factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. Although we believe our estimates and assumptions to be reasonable, they are inherently uncertain and involve a number of risks and uncertainties that are beyond our control. In addition, management's assumptions about future events may prove to be inaccurate. Management cautions all readers that the forward-looking statements contained in this Report are not guarantees of future performance, and we cannot assure any reader that those statements will be realized or the forward-looking events and circumstances will occur. Actual results may differ materially from those anticipated or implied in the forward-looking statements due to the factors listed in the Risk Factors, Management's Discussion and Analysis of Financial Condition and Results of Operations and Business sections and elsewhere in this Report.

All forward-looking statements speak only as of the date of this Report. We do not intend to publicly update or revise any forward-looking statements as a result of new information or future events or otherwise, except as required by law. These cautionary statements qualify all forward-looking statements attributable to us or persons acting on our behalf.

MagnaChip is a registered trademark of us and our subsidiaries and MagnaChip Everywhere is our registered trademark and service mark. All other product, service and company names mentioned in this Report are the service marks or trademarks of their respective owners.

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Item 1. Business

General

We are a designer and manufacturer of analog and mixed-signal semiconductor platform solutions for communications, Internet of Things (IoT) applications, consumer, industrial and automotive applications. We provide technology platforms for analog, mixed-signal, power, high voltage, non-volatile memory, and Radio Frequency (RF) applications. We have a proven record with about 40 years of operating history, a portfolio of approximately 3,000 registered patents and pending applications and extensive engineering and manufacturing process expertise. Our business is comprised of two operating segments: Foundry Services Group and Standard Products Group. Our Foundry Services Group provides specialty analog and mixed-signal foundry services mainly for fabless and Integrated Device Manufacturer (IDM) semiconductor companies that primarily serve communications, IoT, consumer, industrial and automotive applications. Our Standard Products Group is comprised of two business lines: Display Solutions and Power Solutions. Our Display Solutions products provide panel display solutions to major suppliers of large and small rigid and flexible panel displays, mobile, automotive applications and home appliances. Our Power Solutions products include discrete and integrated circuit solutions for power management in communications, consumer and industrial applications.

Our wide variety of analog and mixed-signal semiconductor products and manufacturing services combined with our mature technology platform allow us to address multiple high-growth end markets and to rapidly develop and introduce new products and services in response to market demands. Our design center and substantial manufacturing operations in Korea place us at the core of the global electronics device supply chain. We believe this enables us to quickly and efficiently respond to our customers' needs and allows us to better serve and capture additional demands from existing and new customers.

We have a long history of supplying and collaborating on product and technology development with leading innovators in the consumer electronics market. As a result, we have been able to strengthen our technology platform and develop products and services that are in high demand by our customers and end consumers. We sold over 2,000 distinct products in each of the years ended December 31, 2018 and December 31, 2017, with a substantial portion of our revenues derived from a concentrated number of customers. Our largest Foundry Services Group customers include some of the leading semiconductor companies that design analog and mixed-signal products for communications, IoT, consumer, industrial and automotive applications.

Our business is largely driven by innovation in the consumer electronics markets and the growing adoption by consumers worldwide of electronic devices for use in their daily lives. The consumer electronics market is large and growing rapidly, largely due to consumers increasingly accessing a wide variety of rich media content, such as high definition audio and video, mobile devices, televisions and games on advanced consumer electronic devices. Electronics manufacturers are continuously implementing advanced technologies in new generations of electronic devices using analog and mixed-signal semiconductor components, such as display drivers that enable display of high resolution images, encoding and decoding devices that allow playback of high definition audio and video, and power management semiconductors that increase power efficiency, thereby improving heat dissipation and extending battery life.

For the year ended December 31, 2018, we generated net sales of \$750.9 million, net loss of \$3.9 million, Adjusted EBITDA of \$84.3 million and Adjusted Net Income of \$27.1 million. See Item 6. Selected Financial Data and Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations elsewhere in this Report for an explanation of our use of Adjusted EBITDA and Adjusted Net Income and a reconciliation to net income (loss) prepared in accordance with United States Generally Accepted Accounting Principles (US GAAP).

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Our History

Our business was named MagnaChip Semiconductor when it was acquired from SK hynix Inc., formerly known as Hynix Semiconductor, Inc. (SK hynix), in October 2004. We refer to this acquisition as the Original Acquisition.

On March 10, 2011, we completed our initial public offering. In connection with our initial public offering, we converted from a Delaware limited liability company to a Delaware corporation.

Our Products and Services

Our Display Solutions line of products provides flat panel display solutions to major suppliers of large and small flat panel displays. These products include source and gate drivers and timing controllers that cover a wide range of flat panel displays used in high definition (HD), full high definition (FHD), ultra high definition (UHD), light emitting diode (LED), 3D and organic light emitting diodes (OLED) televisions and displays, notebooks and mobile communications and entertainment devices. Our Display Solutions line of products support the industry's most advanced display technologies, such as OLEDs, and low temperature polysilicon thin film transistor (LTPS TFT), as well as high-volume display technologies such as amorphous silicon thin film transistors (a-Si TFTs). Our Display Solutions products represented 34.1%, 30.8% and 41.0% of our net sales for the fiscal years ended December 31, 2018, 2017 and 2016, respectively.

We expanded our business and market opportunity by establishing our Power Solutions product line in late 2007. We have introduced a number of power management semiconductor products, including discrete and integrated circuit solutions for power management in high-volume consumer applications. These products include metal oxide semiconductor field effect transistors (MOSFETs), insulated-gate bipolar transistors (IGBTs), AC-DC converters, DC-DC converters, LED drivers, switching regulators and linear regulators for a range of devices, including televisions, smartphones, mobile phones, desktop PCs, notebooks, tablet PCs, other consumer electronics, and industrial applications such as power suppliers, e-bike, photovoltaic inverter, LED lighting, motor drive and home appliances. Our Power Solutions products represented 22.5%, 22.0% and 19.1% of our net sales for the fiscal years ended December 31, 2018, 2017 and 2016, respectively.

Through our Foundry Services Group, we also offer foundry services to fabless analog and mixed-signal semiconductor companies and IDMs that require differentiated, specialty analog and mixed-signal process technologies. Our process technologies are optimized for analog and mixed-signal devices and include standard complementary metal-oxide semiconductor (CMOS), high voltage CMOS, ultra-low leakage high voltage CMOS and bipolar complementary double-diffused metal oxide semiconductor (BCDMOS) and electronically erasable programmable read only memory (EEPROM). Our Foundry Services Group customers use us to manufacture a wide range of products, including display drivers, LED drivers, audio encoding and decoding devices, microcontrollers, touch screen controllers, RF switches, park distance control sensors for automotive, electronic tag memories and power management semiconductors. Our Foundry Services Group business represented 43.3%, 47.1% and 39.8% of our net sales for the fiscal years ended December 31, 2018, 2017 and 2016, respectively.

We manufacture the majority of our products at our two fabrication facilities located in Korea. We have approximately 508 proprietary process flows we can utilize for our products and offer to our Foundry Services Group customers. Our manufacturing base serves both our display driver and power management businesses and Foundry Services Group customers, allowing us to optimize our asset utilization and leverage our investments across our product and service offerings. Analog and mixed-signal manufacturing facilities and processes are typically distinguished by design and process implementation expertise rather than the use of the most advanced equipment. These processes also tend to migrate more slowly to smaller geometries due to technological barriers and increased costs. For example, some of our products use high-voltage technology that requires larger geometries and that may not migrate to smaller geometries for several years, if at all. As a result, our manufacturing base and strategy do not require substantial investment in leading edge process equipment, allowing us to utilize our facilities and equipment over an extended period of time with moderate required capital investments.

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Market Opportunity

The semiconductor market is large and is expanding its applications. Growth in this market is being driven by consumers seeking to enjoy a wide variety of rich media content, such as high definition audio and video, mobile devices, televisions and games. Electronics device manufacturers recognize that the consumer entertainment experience plays a critical role in differentiating their products. To address and further stimulate consumer demand, electronics manufacturers have been driving rapid advances in the technology, functionality, form factor, cost, quality, reliability and power consumption of their products. Electronics manufacturers are continuously implementing advanced technologies in new generations of electronic devices using analog and mixed-signal semiconductor components, such as display drivers that enable display of high resolution images, encoding and decoding devices that allow playback of high definition audio and video, and power management semiconductors that increase power efficiency, thereby improving heat dissipation and extending battery life. These advanced generations of consumer devices are growing faster than the overall electronics device market.

The user experience delivered by a consumer electronic device is substantially driven by the quality of the display, audio and video processing capabilities and power efficiency of the device. Analog and mixed-signal semiconductors enable and enhance these capabilities. Examples of these analog and mixed-signal semiconductors include display drivers, timing controllers, audio encoding and decoding devices, or codecs, and interface circuits, as well as power management semiconductors such as voltage regulators, converters and switches.

Requirements of Leading Electronic Devices Manufacturers

We believe our target customers view the following characteristics and capabilities as key differentiating factors among available analog and mixed-signal semiconductor suppliers and manufacturing service providers:

Broad Offering of Differentiated Products with Advanced System-Level Features and Functions. Leading electronic devices manufacturers seek to differentiate their products by incorporating innovative semiconductor products that enable unique system-level functionality and enhance performance. These consumer electronics manufacturers seek to closely collaborate with semiconductor solutions providers that continuously develop new and advanced products, technologies, and manufacturing processes that enable state of the art features and functions, such as bright and thin displays, small form factor and energy efficiency.

Fast Time-to-Market with New Products. As a result of rapid technological advancements and short product lifecycles, our target customers typically prefer suppliers who have a compelling pipeline of new products and capacity to leverage a substantial intellectual property and technology base to accelerate product design and manufacturing when needed.

Nimble, Stable and Reliable Manufacturing Services. Fabless semiconductor providers who rely on external manufacturing services often face rapidly changing product cycles. If these fabless companies are unable to meet the demand for their products due to issues with their manufacturing services providers, their profitability and market share can be significantly impacted. As a result, they prefer foundry service providers that can increase production quickly and meet demand consistently through periods of constrained industry capacity. Furthermore, many fabless semiconductor providers serving the consumer electronics and industrial sectors need specialty analog and mixed-signal manufacturing capabilities to address their product performance and cost requirements.

Ability to Deliver Cost Competitive Solutions. Electronics manufacturers are under constant pressure to deliver cost-competitive solutions. To accomplish this objective, they need strategic semiconductor suppliers that have the ability to provide system-level solutions, highly integrated products and a broad product offering at a range of price points and have the design and manufacturing infrastructure and logistical support to deliver cost competitive products.

Focus on Delivering Highly Energy-Efficient Products. Consumers increasingly seek longer run-time, environmentally friendly and energy-efficient consumer electronic products. In addition, there is increasing

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regulatory focus on reducing energy consumption of consumer electronic products. As a result of global focus on more environmentally friendly products, our customers are seeking analog and mixed-signal semiconductor suppliers that have the technological expertise to deliver solutions that satisfy these ever increasing regulatory and consumer power efficiency demands.

Our Competitive Strengths

Designing and manufacturing analog and mixed-signal semiconductors capable of meeting the evolving functionality requirements for electronics devices are challenging. In order to grow and succeed in the industry, we believe semiconductor suppliers must have a broad, advanced intellectual property portfolio, product design expertise, comprehensive product offerings and specialized manufacturing process technologies and capabilities. Our competitive strengths enable us to offer our customers solutions to solve their key challenges. We believe our strengths include:

Advanced Analog and Mixed-Signal Semiconductor Technology and Intellectual Property Platform. We believe we have one of the broadest and deepest analog and mixed-signal semiconductor technology platforms in the industry. Our long operating history, large patent portfolio, extensive engineering and manufacturing process expertise and wide selection of analog and mixed-signal intellectual property libraries allow us to leverage our technology and develop new products across multiple end markets. Our product development efforts are supported by a team of 419 engineers as of the date of this Report. Our platform allows us to develop and introduce new products quickly as well as to integrate numerous functions into a single product. For example, we were one of the first companies to introduce a commercial OLED display driver for mobile phones.

Established Relationships and Close Collaboration with Leading Global Electronics Companies. We have a long history of supplying and collaborating on product and technology development with leading innovators in the consumer electronics market. Our close customer relationships have been built based on many years of close collaborative product development which provides us with deep system level knowledge and key insights into our customers' needs. As a result, we are able to continuously strengthen our technology platform in areas of strategic interest for our customers and focus on those products and services that our customers and end consumers demand the most.

Longstanding Presence in Asia and Proximity to Global Electronics Devices Supply Chain. Our presence in Asia facilitates close contact with our customers and fast response to their needs, and enhances our visibility into new product opportunities, markets and technology trends. Our design center and substantial manufacturing operations in Korea place us close to many of our largest customers and to the core of the global electronics devices supply chain. We have active applications, engineering, product design and customer support resources, as well as senior management and marketing resources, in geographic locations close to our customers. This allows us to strengthen our relationship with customers through better service, faster turnaround time and improved product design collaboration. We believe this also helps our customers to deliver products faster than their competitors and to solve problems more efficiently than would be possible with other suppliers.

Broad Portfolio of Product and Service Offerings Targeting Large, High-Growth Markets. We continue to develop a wide variety of analog and mixed-signal semiconductor solutions for multiple high-growth electronics device end markets. We believe our expanding product and service offerings allow us to provide additional products to new and existing customers and to cross-sell our products and services to our established customers. For example, we have leveraged our technology expertise and customer relationships to develop and grow power management solutions to customers. Our power management solutions enable our customers to increase system stability and improve heat dissipation and energy use, resulting in improved system efficiency and system cost savings for our customers, as well as environmental benefits. We have been able to sell these new products to our existing customers as well as expand our customer base.

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Distinctive Analog and Mixed-Signal Process Technology Expertise and Manufacturing Capabilities. We have developed specialty analog and mixed-signal manufacturing processes such as high voltage CMOS, power and embedded memory. These processes enable us to flexibly ramp mass production of display, power and mixed-signal products, and shorten the duration from design to delivery of highly integrated, high-performance analog and mixed-signal semiconductors.

Highly Efficient Manufacturing Capabilities. Our manufacturing strategy is focused on optimizing our asset utilization across our display driver and power management products as well as our foundry services, which enables us to maintain the price competitiveness of our products and services through our low-cost operating structure and improve our operational efficiency. We believe the location of our primary manufacturing and research and development facilities in Asia and the relatively low need for ongoing capital expenditures provide us with a number of cost advantages. We offer specialty analog process technologies that do not require substantial investment in leading edge, smaller geometry process equipment. We are able to utilize our manufacturing base over an extended period of time and thereby minimize our capital expenditure requirements.

Our Strategy

Our objective is to grow our business, cash flow and profitability and to continue strengthening our position in the semiconductor industry as a leading provider of analog and mixed-signal semiconductor products and services for high-volume markets. Our business strategy emphasizes the following key elements:

Leverage Our Advanced Analog and Mixed-Signal Technology Platform to Innovate and Deliver New Products and Services. We intend to continue to utilize our extensive patent and technology portfolio, analog and mixed-signal design and manufacturing expertise and specific end-market applications and system-level design expertise to deliver products with high levels of performance by utilizing our systems expertise and leveraging our deep knowledge of our customers' needs.

Increase Business with Existing Customers. We have a global customer base consisting of leading consumer electronics OEMs that sell into multiple end markets. We intend to continue to strengthen our relationships with our customers by collaborating on critical design and product development in order to improve our design-win rates. We seek to increase our customer penetration by more closely aligning our product roadmap with those of our key customers and take advantage of our broad product portfolio, our deep knowledge of customer needs and existing relationships to sell more existing and new products. For example, two of our largest display driver customers have display modules in production using our power management products. These power management semiconductor products have been purchased and evaluated via their key subcontractors for LCD backlight units and LCD integrated power supplies.

Broaden Our Customer Base. We expect to continue to expand our global design centers, local application engineering support and sales presence, particularly in China, Hong Kong, Taiwan and Macau, or collectively, Greater China, and other high-growth geographies, to penetrate new accounts. In addition, we intend to introduce new products and variations of existing products to address a broader customer base. In order to broaden our market penetration, we are complementing our direct customer relationships and sales with an improved base of distributors, especially to aid the growth of our power management business.

Drive Execution Excellence. We intend to improve our execution through a number of management initiatives, new processes for product development, customer service and personnel development. We expect these ongoing initiatives will contribute to improvement of our new product development and customer service as well as enhance our commitment to a culture of quick action and execution by our workforce. In addition, we have focused on improving our manufacturing efficiency during the past several years.

Optimize Asset Utilization, Return on Capital Investments and Cash Flow Generation. We intend to keep our capital expenditures relatively low by maintaining our focus on specialty process technologies that do not require substantial investment in frequent upgrades to the latest manufacturing equipment. By utilizing

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our manufacturing facilities for our Display Solutions and Power Solutions products and our Foundry Services Group customers, we seek to maximize return on our capital investments and our cash flow generation.

Our Technology

We continuously strengthen our advanced analog and mixed-signal semiconductor technology platform by developing innovative technologies and integrated circuit building blocks that enhance the functionality of electronics devices through brighter, thinner displays, enhanced image quality, smaller form factor and longer battery life. We seek to further build our technology platform through proprietary processes and selective licensing and acquisition of complementary technologies, as well as disciplined process improvements in our manufacturing operations. Our goal is to leverage our experience and development initiatives across multiple end markets and utilize our understanding of system-level issues our customers face to introduce new technologies that enable our customers to develop more advanced, higher performance products.

Our display technology portfolio includes building blocks for display drivers and timing controllers, processor and interface technologies, as well as sophisticated production techniques, such as chip-on-glass (COG) and chip-on-film (COF) for rigid, flexible bezel-less, edge type, and trench type OLED displays. Our advanced display drivers incorporate LTPS TFT and OLED panel technologies that enable the highest resolution displays. Furthermore, we are developing a broad intellectual property portfolio to improve the power efficiency of displays, including the development of our contents-based automatic brightness control (CABC), automatic current limit (ACL) and optical compensation technology for OLED displays.

We have a long history of specialized process technology development and have a number of distinctive process implementations. We have approximately 508 process flows we can utilize for our products and offer to our Foundry Services Group customers. Our process technologies include standard CMOS, high voltage CMOS, ultra-low leakage high voltage CMOS, low noise CMOS with embedded bipolar-CMOS-DMOS(BCD) and BCDMOS and radio frequency silicon on insulator (RFSOI). Our manufacturing processes incorporate embedded memory solutions, such as static random access memory (SRAM), one-time programmable (OTP) memory, multiple-time programmable (MTP) memory, electrical fuse, and EEPROM. More broadly, we focus extensively on processes that reduce die size across all of the products we manufacture, in order to deliver cost-effective solutions to our customers.

Expertise in ultra-high voltage (UHV), high voltage and deep trench BCDMOS process technologies, low power analog and mixed-signal design capabilities and packaging know-how are key requirements in the power management market. We are currently leveraging our capabilities in these areas with products such as AC-DC converters, DC-DC converters, LED drivers, linear regulators and analog switches, power MOSFETs and IGBTs. We believe our system-level understanding of applications such as LCD televisions and smartphones will allow us to more quickly develop and customize power management solutions for our customers in these markets.

Products and Services by Business Line

Our broad portfolio of products and services addresses multiple high-growth, consumer-focused end markets. A key component of our product strategy is to supply multiple related product and service offerings to each of the end markets that we serve.

Foundry Services

We provide specialty analog and mixed-signal foundry services to fabless semiconductor companies and IDMs that serve communications, IoT, consumer, industrial and automotive applications. We manufacture wafers based on our customers' product designs. We do not market these products directly to end customers but rather supply manufactured wafers and products to our customers to market to their end customers. We offer

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approximately 508 process flows to our Foundry Services Group customers. We also often partner with key customers to jointly develop or customize specialized processes that enable our customers to improve their products and allow us to develop unique manufacturing expertise.

Our Foundry Services Group targets customers who require differentiated, specialty analog and mixed-signal process technologies such as high voltage CMOS, non-volatile memory and power. We refer to our approach of delivering specialized services to our customers as our application-specific technology strategy. We differentiate ourselves through the depth of our intellectual property portfolio, ability to customize process technology to meet the customers' requirements effectively, long history in this business and reputation for excellence.

Our Foundry Services Group customers vary from small fabless companies to large IDMs who serve communications, IoT, consumer, industrial and automotive applications.

Process Technology Overview

Mixed-Signal. Mixed-signal process technology is used in devices that require conversion of light and sound into electrical signals for processing and display. Our mixed-signal processes include advanced technologies such as low-noise process using triple gate, which allows die size reduction at any given performance level.

Power. Power process technology, such as BCD, includes high-voltage capabilities as well as the ability to integrate functionalities, such as self-regulation, internal protection and other intelligent features. Unique process features, such as deep trench isolation, are suited for chip shrink and device performance enhancement.

High Voltage CMOS. High-voltage CMOS process technology facilitates the use of high-voltage levels in conjunction with smaller transistor sizes. This process technology includes several variations, such as bipolar processes, which use transistors with qualities well suited for amplifying and switching applications, mixed-mode processes, which incorporate denser, more power efficient FETs, and thick metal processes.

Non-Volatile Memory. Non-volatile memory (NVM), process technology enables the integration of non-volatile memory cells that allow retention of the stored information even when power is removed from the circuit. This type of memory is typically used for long-term persistent storage.

The table below sets forth the key process technologies in Foundry Services Group that we currently offer to customers:

Process	Technology	Device	Application
Mixed-Signal	0.13-0.5μm	Analog to digital converter	Smartphones
	Low noise	Digital to analog converter	Tablet PCs
	Ultra low power	Audio codec	Notebooks
	Triple gate	Chipset	PC peripherals
	RF SOI	RF switch	DVD players
	0.13μm Slim*	Digital tunable capacitor	LCD TVs
	0.18μm Slim	Fingerprint sensor	

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Process	Technology	Device	Application
Power	0.13*-0.35µm	Power management	Smartphones
	BCD 40V-120V*	LED driver	Tablet PCs
	Deep trench isolation	High power audio amp	Notebooks
	MOSFET	Power Over Ethernet	LCD TVs
	Ultra high voltage	DC/DC converter	LED lighting
	Thick metal	USB type-C	LCD monitors
	Slim BCD 100V*	Wireless power charger	Automotive
	Simplified UHV		
High-Voltage CMOS	0.11-0.35µm	Display driver	Smartphones
	18V-45V	CSTN driver	Tablet PCs
	Bipolar		LCD TVs
			Desktop PCs
NVM			LCD monitors
	0.11*-0.35µm	Microcontroller	Smartphones
	EEPROM, Ultra low leakage	Touch screen controller	Tablet PCs
	Slim flash, Ultra low leakage	Electronic tag memory	Industrial applications
	eFlash	Hearing aid controller	Medical equipment
	OTP	Fingerprint sensor	Automotive
	MTP	Auto Focus IC	

* In customer qualification stage

Display Solutions

Display Driver Characteristics. Display drivers deliver defined analog voltages and currents that activate pixels to exhibit images on displays. The following key characteristics determine display driver performance and end-market application:

Resolution and Number of Channels. Resolution determines the level of detail displayed within an image and is defined by the number of pixels per line multiplied by the number of lines on a display. For large displays, higher resolution typically requires more display drivers for each panel. Display drivers that have a greater number of channels, however, generally require fewer display drivers for each panel and command a higher selling price per unit. Mobile displays, conversely, are typically single chip solutions designed to deliver a specific resolution. We cover resolutions ranging from VGA (640 x 480) to UHD (3840 x 2160).

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Color Depth. Color depth is the number of colors that can be displayed on a panel. For example, for TFT-LCD panels, 262 thousand colors are supported by 6-bit source drivers; 16 million colors are supported by 8-bit source drivers; and 1 billion colors are supported by 10-bit source drivers.

Operational Voltage. Display drivers are characterized by input and output voltages. Source drivers typically operate at input voltages from 1.62 to 3.6 volts and output voltages between 9 and 18 volts. Gate drivers typically operate at input voltages from 1.62 to 3.6 volts and output voltages from 30 to 45 volts. Lower input voltage results in lower power consumption and electromagnetic interference (EMI).

Gamma Curve. The relationship between the light passing through a pixel and the voltage applied to the pixel by the source driver is referred to as the gamma curve. The gamma curve of the source driver can correct some imperfections in picture quality in a process generally known as gamma correction. Some advanced display drivers feature up to three independent gamma curves to facilitate this correction.

Driver Interface. Driver interface refers to the connection between the timing controller and the display drivers. Display drivers increasingly require higher bandwidth interface technology to address the larger data transfer rate necessary for higher definition images. The principal types of interface technologies are embedded

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clock point to point interface (EPI), advanced intra panel interface (AIPI), mini-low voltage differential signaling (m-LVDS), unified standard interface for notebook and monitor (USI-GF), unified standard interface (USI), unified standard interface for TV (USI-T) and mobile industry processor interface (MIPI).

Package Type. The assembly of display drivers typically uses COF and COG package types.

Large Display Solutions. We provide display solutions for a wide range of flat panel display sizes used in LCD televisions, including ultra-high definition televisions, or UHD TVs, FHD TVs, HD TVs, LED TVs, 3D TVs, OLED TVs, LCD monitors, notebooks, tablet PCs, public information displays and automotive.

Our large display solutions include source and gate drivers and timing controllers with a variety of interfaces, voltages, frequencies and packages to meet customers' needs. These products include advanced technologies such as high channel count, with products in mass production to provide up to 1,542 channels. Our large display solutions are designed to allow customers to cost-effectively meet the increasing demand for high resolution displays. We focus extensively on reducing the die size of our large display drivers and other solutions products to reduce costs without having to migrate to smaller geometries. For example, we have implemented several solutions to reduce die size in large display drivers, such as optimizing design schemes and design rules and applying specific technologies that we have developed internally. We have recently introduced a number of new large display drivers with reduced die size.

The table below sets forth the features of our products, both in mass production and in customer qualification, which is the final stage of product development, for large-sized displays:

Product	Key Features	Applications
TFT-LCD Source Drivers	480 to 1,542 output channels	UHD/HD/LED/3D TVs
	6-bit (262 thousand colors), 8-bit (16 million colors), 10-bit (1 billion colors)	Notebooks
	Output voltage ranging from 9V to 18V	LCD/LED monitors
	Low power consumption and low EMI	Automotive
	COF package types	
	EPI, m-LVDS, AIPI, USI interface technologies	
TFT-LCD Gate Drivers	272 to 960 output channels	Tablet PCs
	Output voltage ranging from 30V to 45V	HD/LED/3D TVs
	COF and COG package types	Notebooks
		Automotive
Timing Controllers	Wide range of resolutions	Tablet PCs
	EPI, m-LVDS, MIPI, USI-T interface technologies	Public information display
	Input voltage ranging from 1.6V to 3.6V	
OLED Source Drivers	960 output channels	OLED TVs
	10 bit (1 billion colors)	

Output voltage: 18V

COF package type

EPI interface technology

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Mobile Display Solutions. Our mobile display solutions incorporate the industry's most advanced display technologies, such as OLED and LTPS, as well as high-volume technologies such as a-Si TFT. Our mobile display products offer specialized capabilities, including high speed serial interfaces, such as mobile display digital interface (MDDI), MIPI, reduced swing differential signaling interface (RSDS) and logic-based OTP memory. We focus extensively on reducing the die size of our mobile display drivers and other solutions products to reduce costs without having to migrate to smaller geometries. For example, we have implemented several solutions to reduce die size in mobile display drivers, such as optimizing design schemes and design rules and applying specific technologies that we have developed internally. Further, we are building a distinctive intellectual property portfolio that allows us to provide features that reduce power consumption, such as CABC and ACL. This intellectual property portfolio will also support our power management product development initiatives, as we leverage our system level understanding of power efficiency. Our OLED driver ICs can support various configurations such as high resolution from FHD+(2,240x1,080) to QHD+(3,120x1,440), wide aspect ratio from 16:9 to 21:9 and flexible bezel-less, edge type, and trench type OLED displays.

The following table summarizes the features of our products, both in mass production and in customer qualification, which is the final stage of product development, for mobile displays:

Product	Key Features	Applications
OLED	Resolutions of HD720, WXGA, FHD, FHD+, QHD and QHD+	Smartphones
	Aspect ratio from 16:9 to 21:9	Game consoles
	Color depth of 16 million	Digital still cameras
	MIPI, eRVDS interface	Tablet PCs
	Logic-based OTP	Virtual reality headsets
	ABC, ACL	
LTPS	Resolutions of VGA, WSVGA, WVGA and DVGA	Smartphones
	Color depth of 16 million	Digital still cameras
	MDDI, MIPI interface	
	Logic-based OTP	
	Separated gamma control	
a-Si TFT	Resolutions of WQVGA and HVGA	Mobile phones
	Color depth of 16 million	Digital still cameras
	RSDS, MDDI, MIPI interface	Automotive
	CABC	
	Separated gamma control	

Power Solutions

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We develop, manufacture and market power management solutions for a wide range of end-market customers. The products include MOSFETs, IGBTs, AC-DC converters, DC-DC converters, LED drivers, regulators, for a range of devices, including LCD, LED, and UHD televisions, digital signage, smartphones, mobile phones, desktop PCs, notebooks, tablet PCs, other consumer electronics, consumer appliances and industrial applications such as power suppliers, e-bikes, photovoltaic inverters, LED lighting and motor drives.

MOSFETs. Our MOSFETs include low-voltage to mid-voltage, Trench MOSFETs, 12V to 150V, high-voltage Planar MOSFETs, 200V through 700V, and super junction MOSFETs, 500V through 900V. MOSFETs are used in applications to switch, shape or transfer electricity under varying power requirements. The key application segments are smartphones, mobile phones, LCD, LED, and UHD televisions, desktop PCs, notebooks, tablet PCs, servers, lighting and power supplies for consumer electronics and industrial equipment. MOSFETs allow electronics manufacturers to achieve specific design

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goals of high efficiency and low standby power consumption. For example, computing solutions focus on delivering efficient controllers and MOSFETs for power management in VCORE, DDR and chipsets for audio, video and graphics processing systems.

IGBTs. Our IGBTs include 650V to 1200V field stop trench IGBTs. IGBTs are used in high power industrial applications, such as UPSs, power supplies, motor drives, solar inverters, welding machines and consumer appliances.

AC-DC Converters and DC-DC Converters. We offer AC-DC and DC-DC converters targeting mobile applications and high power applications like LCD, LED, and UHD televisions, notebooks, smartphones, mobile phones, set-top boxes and display modules. We expect our AC-DC and DC-DC converters will meet customer's green power requirements by featuring wide input voltage ranges, high efficiency and small size.

LED Drivers. LED backlighting drivers serve the fast-growing LCD and LED panel backlighting market for LCD and LED televisions, LCD monitors, digital signage, notebooks, smartphones and tablet PCs. Our products are designed to provide high efficiency and wide input voltage range, as well as pulse width modulation (PWM) dimming for accurate white LED dimming control. LED lighting drivers have a wide input voltage range applicable to incandescent bulb and fluorescent lamp replacement.

Regulators. We also provide analog regulators for mobile and consumer applications. Our products are designed for high efficiency and low power consumption in mobile applications.

SSD PMIC. We also provide solid state drive power management integrated circuit (SSD PMIC) for the computing segment. Our product is designed for high frequency switching, high efficiency and pulse frequency modulation (PFM) function to reduce power consumption in low load converters.

Our power management solutions enable customers to increase system stability and improve heat dissipation and energy use, resulting in cost savings for our customers and consumers, as well as environmental benefits. Our in-house process technology capabilities and eight-inch wafer production lines increase efficiency and contribute to the competitiveness of our products.

The following table summarizes the features of our products, both in mass production and in customer qualification, which is the final stage of product development:

Product	Key Features	Applications
Low-Mid Voltage MOSFET	Voltage options of 12V-150V	Smartphones and mobile phones
	Advanced Trench MOSFET Process	Tablet PCs, Notebooks
	High cell density	Desktop PCs, Servers
	Advanced packages to enable reduction of PCB mounting area	LCD/LED/UHD TVs
		Industrial applications
High Voltage MOSFET		Cryptocurrency miner
	Voltage options of 200V-700V	Adaptors for tablet PC/mobile phone/smartphone
	R2FET (rapid recovery) option to shorten reverse diode recovery time	Power supplies

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Zenor FET option for MOSFET protection for abnormal input Lighting (ballast, HID, LED)

Advanced Planar MOSFET Process

Industrial applications

Advanced packages to enable reduction of PCB mounting area

LCD/LED/UHD TVs

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Product	Key Features	Applications
Super Junction MOSFET	Voltage options of 500V-900V	LCD/LED/UHD TVs
	Low $R_{DS(on)}$	Lightings applications (ballast, HID, LED)
	Epi stack process	Smartphones
		Power supplies
		Servers
IGBTs		Industrial applications
	Voltage options of 650V/1200V	Industrial applications
	Field Stop Trench IGBT	Consumer appliances
AC-DC Converter	Current options from 15A to 60A	
	Wide control range for high power application (>150W)	LCD/LED/UHD TVs
	Advanced BCDMOS process	Power supplies
	High Precision Voltage Reference	
DC-DC Converters	Very low startup current consumption	
	High efficiency, wide input voltage range	LCD/LED/UHD TVs
	Advanced BCDMOS process	Smartphones
	Fast load and line regulation	Mobile phones
	Accurate output voltage	Notebooks
	OCP, SCP and thermal protections	Set-top boxes
	High efficiency, wide input voltage range	Tablet PCs
	Advanced BCDMOS process	Notebooks
LED Backlighting Drivers	OCP, SCP, OVP and UVLO protections	Smartphones
	Accurate LED current control and multi-channel matching	LED/UHD TVs
	Programmable current limit, boost up frequency	LED monitors
	Multi-channel constant current control	Digital signage
	12Bit gray scale with SPI	

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LED Lighting Drivers

High efficiency, wide input
voltage range

AC and DC LED lighting

Simple solutions with external components
fully integrated

Advanced high voltage BCDMOS process

Accurate LED current control and high power
factor and low THB

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Product	Key Features	Applications
Regulators	Single and multi-regulators	Smartphones and Mobile phones
	Low Noise Output regulators	Notebooks
	Wide range of input voltage and various output current	
SSD PMIC	CMOS and BCDMOS processes	
	High current buck	Computing
	PFM function	
	High frequency switching	
	High efficiency	
	High integration technology	
	Small QFN package	

Sales and Marketing

We focus our sales and marketing strategy on continuing to grow and leverage our existing relationships with leading consumer electronics OEMs, while expanding into industrial and automotive end markets. For Foundry Services Group, we focus on analog and mixed-signal semiconductor companies who see the benefit of our innovative technology and cost structure. We believe our close collaboration with customers allows us to align our product and process technology development with our customers' existing and future needs. Because our customers often service multiple end markets, our product sales teams are organized by customers within the major geographies. We believe this facilitates the sale of products that address multiple end-market applications to each of our customers. Our Foundry Services Group sales teams focus on marketing our services to analog and mixed-signal semiconductor companies that require specialty manufacturing processes.

We sell our products through a direct sales force and a network of authorized agents and distributors. We have strategically located our sales and technical support offices near our customers. Our direct sales force consists primarily of representatives co-located with our design center in Korea, as well as our local sales and support offices in the US, Japan, Greater China and Europe. We have a network of agents and distributors in Korea, the US, Japan, Greater China and Europe. For the years ended December 31, 2018, 2017 and 2016, we derived 77%, 75% and 77% of net sales through our direct sales force, respectively, and 23%, 25% and 23% of net sales through our network of authorized agents and distributors, respectively.

Customers

We sell our Display Solutions and Power Solutions products to consumer, computing and industrial electronics OEMs, original design manufacturers and electronics manufacturing services companies, as well as subsystem designers. We sell our foundry services to analog and mixed-signal semiconductor companies. For the years ended December 31, 2018, 2017 and 2016, our ten largest customers accounted for 61%, 57% and 64% of our net sales, respectively. For the year ended December 31, 2018, sales to Samsung Display Corporation represented 19.3% of our net sales and 56.6% of our Display Solutions division's net sales, and LG Display represented 13.3% of our net sales and 38.9% of our Display Solutions division's net sales. For the year ended December 31, 2017, sales to LG Display represented 15.6% of our net sales and 50.6% of our Display Solutions division's net sales. For the year ended December 31, 2016, sales to Samsung Display Corporation represented 23.5% of our net sales and 57.3% of our Display Solutions division's net sales, and sales to LG Display represented 11.4% of our net sales and 27.9% of our Display Solutions division's net sales. For the year ended December 31, 2018, we recorded revenues of \$37.5 million from customers in the US and \$713.4 million from all foreign countries, of which 39.6% was from Korea, 14.0% from Taiwan, 4.5% from the United Kingdom and 35.5% from Greater China. For the year ended December 31, 2017, we recorded revenues of \$35.1 million from customers in the US and \$644.6 million from all foreign countries, of which 43.4% was from Korea, 18.2% from Taiwan, 3.7% from the United Kingdom and 24.9% from Greater China. For the year ended December 31, 2016, we recorded revenues of \$33.2 million from

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customers in the US and \$654.8 million from all foreign countries, of which 33.5% was from Korea, 16.5% from Taiwan, 5.0% from the United Kingdom and 37.3% from Greater China.

Intellectual Property

As of December 31, 2018, our portfolio of intellectual property assets included approximately 2,678 registered patents and 307 pending patent applications. Approximately 1,948 and 137 of our patents and pending applications, respectively, are novel in that they are not a foreign counterpart of an existing patent or patent application. Because we file patents in multiple jurisdictions, we additionally have approximately 730 registered patents and 170 pending applications that relate to identical technical claims in our base patent portfolio. Our patents expire at various times approximately over the next 19 years. While these patents are in the aggregate important to our competitive position, we do not believe that any single registered or pending patent is material to us.

We have entered into exclusive and non-exclusive licenses and development agreements with third parties relating to the use of intellectual property of the third parties in our products and design processes, including licenses related to embedded memory technology, design tools, process simulation tools, circuit designs and processor cores. Some of these licenses, including our agreements with Silicon Works Co., Ltd. and ARM Limited, are material to our business and may be terminated by the licensors prior to the expiration of these licenses should we fail to cure any breach under such licenses. Our license with Silicon Works Co., Ltd. relates to our large display drivers, and our license from ARM Limited primarily relates to product lines in our Foundry Services Group business. The loss of either license could have a material adverse impact on our results of operations. Additionally, in connection with the Original Acquisition, SK hynix retained a perpetual license to use the intellectual property that we acquired from SK hynix in the Original Acquisition. Under this license, SK hynix and its subsidiaries are free to develop products that may incorporate or embody intellectual property developed by us prior to October 2004.

Competition

We operate in highly competitive markets characterized by rapid technological change and continually advancing customer requirements. Although no one company competes with us in all of our product lines, we face significant competition in each of our market segments. Our competitors include other independent and captive manufacturers and designers of analog and mixed-signal integrated circuits, including display driver and power management semiconductor devices, as well as companies providing specialty manufacturing services.

We compete based on design experience, manufacturing capabilities, the ability to service customer needs from the design phase through the shipping of a completed product, length of design cycle and quality of technical support and sales personnel. Our ability to compete successfully will depend on internal and external variables, both within and outside of our control. These variables include the timeliness with which we can develop new products and technologies, product performance and quality, manufacturing yields, capacity availability, customer service, pricing, industry trends and general economic trends.

Employees

Our worldwide workforce consisted of 2,515 employees (full- and part-time) as of December 31, 2018, of which 346 were involved in sales, marketing, general and administrative, 419 in research and development (including 194 with advanced degrees), 103 in quality, reliability and assurance and 1,647 in manufacturing (comprised of 256 in engineering and 1,391 in operations). As of December 31, 2018, our workforce consisted of 2,515 employees, of which 1,479 employees, or approximately 59% of our workforce, were represented by the MagnaChip Semiconductor Labor Union.

Environmental

We are subject to a variety of environmental, health and safety laws and regulations in each of the jurisdictions in which we operate, governing, among other things, air emissions, wastewater discharges, the

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generation, use, handling, storage and disposal of, and exposure to, hazardous substances (including asbestos) and waste, soil and groundwater contamination and employee health and safety. These laws and regulations are complex, change frequently and have tended to become more stringent over time. Since 2015, our Korean subsidiary has been subject to a new set of greenhouse gas emissions regulation, the Korean Emissions Trading Scheme, or K-ETS, under the Act on Allocation and Trading of Greenhouse Gas Emission Allowances. Under K-ETS, our Korean subsidiary was allocated a certain amount of emissions allowance in accordance with the National Allocation Plan prepared by the Korean government and is required to meet its allocated target by either reducing the emission or purchasing the allowances from other participants in the emission trading market. Another example is the newly reinforced regulations on chemicals under Chemicals Control Act and K-REACH, which came into effect on January 1, 2015. Under these laws, our Korean subsidiary is required to comply with various requirements to report, evaluate, manage and ensure the safe usage of the chemicals used in its facilities. There can be no assurance that we have been or will be in compliance with all of these laws and regulations, or that we will not incur material costs or liabilities in connection with these laws and regulations in the future. The adoption of new environmental, health and safety laws and the failure to comply with new or existing laws or issues relating to hazardous substances could subject us to material liability (including substantial fines or penalties), impose the need for additional capital equipment or other process requirements upon us, curtail our operations or restrict our ability to expand operations.

Raw Materials

We use processes that require specialized raw materials that are generally available from a limited number of suppliers. We continue to attempt to qualify additional suppliers for our raw materials. The Securities and Exchange Commission (the SEC), as mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, adopted new disclosure regulations for public companies that manufacture products containing certain minerals that are mined from the Democratic Republic of Congo and adjoining countries. These conflict minerals are commonly found in metals used in the manufacture of semiconductors. The implementation of these new requirements could adversely affect the sourcing, availability and pricing of metals used in the manufacture of our products. See Item 1A. Risk Factors Risks Related to Our Business Compliance with new regulations regarding the use of conflict minerals could limit the supply and increase the cost of certain raw materials used in manufacturing our products.

Available Information

Our principal executive offices are located at: c/o MagnaChip Semiconductor S.A., 1, Allée Scheffer, L-2520 Luxembourg, Grand Duchy of Luxembourg, and our telephone number is (352) 45-62-62. Our website address is www.magnachip.com. Our annual, quarterly and current reports on Forms 10-K, 10-Q or 8-K, respectively, and all amendments thereto filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, can be accessed, free of charge, at our website as soon as practicable after such reports are filed with the SEC. In addition, our Corporate Governance Guidelines, Code of Business Conduct and Ethics, Clawback Policy, Audit Committee Charter, Compensation Committee Charter, Nominating and Governance Committee Charter and Risk Committee Charter are available on our website. Information contained on our website does not constitute, and shall not be deemed to constitute, part of this Report and shall not be deemed to be incorporated by reference into this Report. In addition, the SEC maintains an internet site, www.sec.gov, from which you can access our annual, quarterly and current reports on Form 10-K, 10-Q and 8-K, respectively, and all amendments to these materials after such reports and amendments are filed with the SEC. You may also request a copy of these filings, at no cost, by writing or telephoning us at the following address or phone number: c/o MagnaChip Semiconductor, Inc., 60 South Market Street, Suite 750, San Jose, CA 95113, Attention: General Counsel and Secretary; the telephone number at that address is (408) 625-5999.

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The following table sets forth certain information regarding our current executive officers:

Name	Age	Position
Young-Joon (YJ) Kim	54	Chief Executive Officer and Director
Jonathan Kim	44	Chief Financial Officer, Executive Vice President and Chief Accounting Officer
Theodore Kim	49	Chief Compliance Officer, Executive Vice President, General Counsel and Secretary
Woung Moo Lee	56	Executive Vice President and General Manager, Standard Products Group

Young-Joon (YJ) Kim, Chief Executive Officer and Director. Mr. YJ Kim became our Chief Executive Officer in May 2015 and has also served as a director on our Board since that time. Mr. Kim joined our company in May 2013 and served as our Executive Vice President and General Manager, Display Solutions Division. He was promoted to Interim Chief Executive Officer in May 2014. He also served as the acting General Manager of our Foundry Services Group from May to November 2015. Prior to joining our company, Mr. Kim held a variety of senior management roles at several global semiconductor firms in a career spanning nearly 30 years. His past roles include marketing, engineering, product development and strategic planning, and his product expertise includes microprocessors, network processors, FLASH, EPROM, analog, mixed-signal, sensors, workstations and servers. Immediately before joining our company, Mr. Kim served as Vice President, Infrastructure Processor Division, and General Manager of the OCTEON Multi-Core Processor Group of Cavium, Inc., where he worked from 2006 to 2013. Prior to Cavium, Mr. Kim served as Core Team Lead and General Manager of the Tolapai Program at Intel Corporation from 2004 to 2006. In 1998, Mr. Kim co-founded API Networks, a joint venture between Samsung and Compaq, where he served as the head of product management, worldwide sales and business development for Alpha processors. Prior to API Networks, Mr. Kim served as Director of Marketing at Samsung Semiconductor, Inc. from 1996 to 1998. Mr. Kim began his career as a product engineer at Intel Corporation. Mr. Kim holds B.S. and M. Eng. degrees in Electrical Engineering from Cornell University. Our Board has concluded that Mr. YJ Kim is a valuable member of the Board based on his understanding of our company's products and technology as our Chief Executive Officer and his deep knowledge of the semiconductor industry.

Jonathan Kim (J. Kim), Chief Financial Officer, Executive Vice President and Chief Accounting Officer. Mr. Jonathan Kim was appointed Chief Financial Officer and Executive Vice President in May 2015, after serving as our Interim Chief Financial Officer, Chief Accounting Officer and Senior Vice President since March 2014. Prior to joining MagnaChip, Mr. Kim served since July 2010 as the Chief Financial Officer of StartForce, Inc., a VC backed desktop virtualization company, which was acquired in February 2011 by ZeroDesktop, Inc., a leading developer of next-generation desktop virtualization and cloud computing solutions. Mr. Kim continued to serve as the Chief Financial Officer at ZeroDesktop through March 2014. Mr. Kim also served as a principal at a Silicon Valley based investment and advisory firm where he led investments in startup companies in the US and Korea. Mr. Kim began his career in public accounting and held various positions with Deloitte for nearly 10 years, serving Global Fortune 500 and US multinational publicly traded clients in the Technology, Media & Telecommunication sectors. Mr. Kim holds a B.A. degree in Business Administration from the Foster School of Business at the University of Washington and is a Certified Public Accountant.

Theodore Kim (T. Kim), Chief Compliance Officer, Executive Vice President, General Counsel and Secretary. Mr. T. Kim became our Chief Compliance Officer and Executive Vice President in May 2015, and became our General Counsel and Secretary in November 2013. Mr. T. Kim previously served as our Senior Vice President from November 2013 to May 2015. Prior to joining our company, Mr. T. Kim served as Head Lawyer, Global Business Development at Samsung Fire & Marine Insurance from October 2012 to October 2013. Mr. T. Kim was employed by Gibson, Dunn & Crutcher LLP, a law firm, from October 2005 to July 2012,

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serving most recently as Of Counsel. Prior to that, he served as Foreign Legal Consultant at Kim & Chang, a law firm in Korea, from 2001 to 2005, and prior to that, he worked as an associate attorney at Morrison & Foerster LLP, a law firm, from 1997 to 2001. Mr. Kim holds a B.A. degree in Economics and a B.S. degree in Mechanical Engineering from the University of California, Irvine, and a J.D. degree from the University of California, Los Angeles, School of Law.

Woung Moo Lee, Executive Vice President and General Manager, Standard Products Group. Mr. Woung Moo Lee became our Executive Vice President and General Manager, Standard Products Group in November 2015. He previously served as our Senior Vice President, Korea Sales from 2013. Prior to joining our company, he was one of the founding executives and served as Vice President, Global Strategy and Marketing, Samsung LED Co., Ltd. from 2009 to 2011. In 1984, Mr. Lee began his career as a memory semiconductor design engineer and served as Vice President of Memory Strategy & Marketing Team at Samsung Electronics Co., Ltd. until 2009. Mr. Lee received the Proud Samsung Employee Award in 2005 and holds a B.S. degree in Electronic Engineering from Inha University.

Item 1A. Risk Factors

You should carefully consider the risk factors set forth below as well as the other information contained in this Report. Any of the following risks could materially and adversely affect our business, financial condition or results of operations. As a result, the price of our common stock could decline and you could lose all or part of your investment in our common stock. Additional risks and uncertainties not currently known to us or those currently viewed by us to be immaterial may also materially and adversely affect our business, financial condition or results of operations.

Risks Related to Our Business

We operate in the highly cyclical semiconductor industry, which is subject to significant downturns that may negatively impact our results of operations.

The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change and price erosion, evolving technical standards, short product life cycles (for semiconductors and for the end-user products in which they are used) and wide fluctuations in product supply and demand. From time to time, these and other factors, together with changes in general economic conditions, cause significant upturns and downturns in the industry in general and in our business in particular. Periods of industry downturns have been characterized by diminished demand for end-user products, high inventory levels, underutilization of manufacturing capacity, changes in revenue mix and accelerated erosion of average selling prices. We have experienced these conditions in our business in the past and may experience renewed, and possibly more severe and prolonged, downturns in the future as a result of such cyclical changes. This may reduce our results of operations.

We base our planned operating expenses in part on our expectations of future revenue, and a significant portion of our expenses is relatively fixed in the short term. If revenue for a particular quarter is lower than we expect, we likely will be unable to proportionately reduce our operating expenses for that quarter, which would harm our operating results for that quarter.

Our restructuring activities and dispositions of assets and businesses could result in lost business and other costs that could have a material adverse effect on our results of operations.

From time to time, we may choose to sell assets, restructure business operations, shut down manufacturing lines or otherwise dispose of assets and businesses as part of management's strategies to better align our product offerings with market demands and our customers' needs. In connection with these activities, we face risks that we will disrupt service to our customers, lose business and incur significant costs related to such activities. These

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risks include potential damage to our reputation and customer relationships if we are unable to effectively transition such customer relationships to other production lines or products or if we cannot effectively manage our supplier and vendor relationships during such activities. In addition, we may also face claims or costs associated with transitioning or eliminating certain employee positions and modifying or terminating vendor relationships in connection with those exit activities.

If we fail to develop new products and process technologies or enhance our existing products and services in order to react to rapid technological change and market demands, our business will suffer.

Our industry is subject to constant and rapid technological change and product obsolescence as customers and competitors create new and innovative products and technologies. Products or technologies developed by other companies may render our products or technologies obsolete or noncompetitive, and we may not be able to access advanced process technologies, including smaller geometries, or to license or otherwise obtain essential intellectual property required by our customers.

We must develop new products and services and enhance our existing products and services to meet rapidly evolving customer requirements. We design products for customers that continually require higher performance and functionality at lower costs. We must, therefore, continue to enhance the performance and functionality of our products. The development process for these advancements is lengthy and requires us to accurately anticipate technological changes and market trends. Developing and enhancing these products is uncertain and can be time-consuming, costly and complex. If we do not continue to develop and maintain process technologies that are in demand by our Foundry Services Group customers, we may be unable to maintain existing customers or attract new customers.

Customer and market requirements can change during the development process. There is a risk that these developments and enhancements will be late, fail to meet customer or market specifications or not be competitive with products or services from our competitors that offer comparable or superior performance and functionality. Any new products, such as our expanding line of power management solutions, or product or service enhancements, may not be accepted in new or existing markets. Our business will suffer if we fail to develop and introduce new products and services or product and service enhancements on a timely and cost-effective basis.

We manufacture our products based on our estimates of customer demand, and if our estimates are incorrect, our financial results could be negatively impacted.

We make significant decisions, including determining the levels of business that we will seek and accept, production schedules, component procurement commitments, personnel needs and other resource requirements, based on our estimates of customer demand and expected demand for and success of their products. The short-term nature of commitments by many of our customers and the possibility of rapid changes in demand for their products reduces our ability to estimate accurately future customer demand for our products. On occasion, customers may require rapid increases in supply, which can challenge our production resources and reduce margins. We may not have sufficient capacity at any given time to meet our customers' increased demand for our products. Conversely, downturns in the semiconductor industry have caused and may in the future cause our customers to reduce significantly the amount of products they order from us. Because many of our costs and operating expenses are relatively fixed, a reduction in customer demand would decrease our results of operations, including our gross profit.

Our customers may cancel their orders, reduce quantities or delay production, which would adversely affect our margins and results of operations.

We generally do not obtain firm, long-term purchase commitments from our customers. Customers may cancel their orders, reduce quantities or delay production for a number of reasons. Cancellations, reductions or delays by a significant customer or by a group of customers, which we have experienced as a result of periodic

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downturns in the semiconductor industry, or failure to achieve design-wins, have affected and may continue to affect our results of operations adversely. These risks are exacerbated because many of our products are customized, which hampers our ability to sell excess inventory to the general market. We may incur charges resulting from the write-off of obsolete inventory. In addition, while we do not obtain long-term purchase commitments, we generally agree to the pricing of a particular product over a set period of time. If we underestimate our costs when determining pricing, our margins and results of operations would be adversely affected.

We depend on high utilization of our manufacturing capacity, a reduction of which could have a material adverse effect on our business, financial condition and the results of our operations.

An important factor in our success is the extent to which we are able to utilize the available capacity in our fabrication facilities. As many of our costs are fixed, a reduction in capacity utilization, as well as changes in other factors, such as reduced yield or unfavorable product mix, could reduce our profit margins and adversely affect our operating results. A number of factors and circumstances may reduce utilization rates, including periods of industry overcapacity, low levels of customer orders, operating inefficiencies, strategic evaluations and decisions by the Board related to the Company's overall business, divisions and business lines, mechanical failures and disruption of operations due to expansion or relocation of operations, power interruptions and fire, flood or other natural disasters or calamities. The potential delays and costs resulting from these factors and circumstances could have a material adverse effect on our business, financial condition and results of operations.

A significant portion of our sales comes from a relatively limited number of customers, the loss of which would adversely affect our financial results.

Historically, we have relied on a limited number of customers for a substantial portion of our total revenue. If we were to lose key customers or if customers cease to place orders for our high-volume products or services, our financial results would be adversely affected. For the years ended December 31, 2018, 2017 and 2016, our ten largest customers accounted for 61%, 57% and 64% of our net sales, respectively. For the year ended December 31, 2018, sales to Samsung Display Corporation represented 19.3% of the Company's net sales and 56.6% of our Display Solutions division's net sales, and sales to LG Display represented 13.3% of the Company's net sales and 38.9% of our Display Solutions division's net sales. For the year ended December 31, 2017, sales to LG Display represented 15.6% of the Company's net sales and 50.6% of our Display Solutions division's net sales. For the year ended December 31, 2016, sales to Samsung Display Corporation represented 23.5% of the Company's net sales and 57.3% of our Display Solutions division's net sales, and sales to LG Display represented 11.4% of the Company's net sales and 27.9% of our Display Solutions division's net sales. Significant reductions in sales to any of these customers, especially our few largest customers, the loss of other major customers or a general curtailment in orders for our high-volume products or services within a short period of time would adversely affect our business.

The average selling prices of our semiconductor products have at times declined rapidly and will likely do so in the future, which could harm our revenue and gross profit.

The semiconductor products we develop and sell are subject to rapid declines in average selling prices. From time to time, we have had to reduce our prices significantly to meet customer requirements, and we may be required to reduce our prices in the future. This would cause our gross profit to decrease. Our financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing our costs or developing new or enhanced products on a timely basis with higher selling prices or gross profit.

Our industry is highly competitive, and our ability to compete could be negatively impacted by a variety of factors.

The semiconductor industry is highly competitive and includes hundreds of companies, a number of which have achieved substantial market share within both our product categories and end markets. Current and

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prospective customers for our products and services evaluate our capabilities against the merits of our competitors. Some of our competitors are well established as independent companies and have substantially greater market share and manufacturing, financial, research and development and marketing resources than we do. We also compete with emerging companies that are attempting to sell their products in certain of our end markets and with the internal semiconductor design and manufacturing capabilities of many of our significant customers. We expect to experience continuing competitive pressures in our markets from existing competitors and new entrants.

Any consolidation among our competitors could enhance their product offerings and financial resources, further enhancing their competitive position. Our ability to compete will depend on a number of factors, including the following:

our ability to offer cost-effective and high quality products and services on a timely basis using our technologies;

our ability to accurately identify and respond to emerging technological trends and demand for product features and performance characteristics;

our ability to continue to rapidly introduce new products that are accepted by the market;

our ability to adopt or adapt to emerging industry standards;

the number and nature of our competitors and competitiveness of their products and services in a given market;

entrance of new competitors into our markets;

our ability to enter the highly competitive power management market; and

our ability to continue to offer in demand foundry services at competitive prices.

Many of these factors are outside of our control. In the future, our competitors may replace us as a supplier to our existing or potential customers, and our customers may satisfy more of their requirements internally. As a result, we may experience declining revenues and results of operations.

Changes in demand for consumer electronics in our end markets can impact our results of operations.

Demand for our products will depend in part on the demand for various consumer electronics products, in particular, mobile phones and multimedia devices, digital televisions, flat panel displays, mobile PCs and digital cameras, which in turn depends on general economic conditions and other factors beyond our control. If our customers fail to introduce new products that employ our products or component parts, demand for our products will suffer. To the extent that we cannot offset periods of reduced demand that may occur in these markets through greater penetration of these markets or reduction in our production and costs, our sales and gross profit may decline, which would negatively impact our business, financial condition and results of operations.

If we fail to achieve design-wins for our semiconductor products, we may lose the opportunity for sales to customers for a significant period of time and be unable to recoup our investments in our products.

We expend considerable resources on winning competitive selection processes, known as design-wins, to develop semiconductor products for use in our customers' products. These selection processes are typically lengthy and can require us to incur significant design and development expenditures. We may not win the competitive selection process and may never generate any revenue despite incurring significant design and development expenditures. Once a customer designs a semiconductor into a product, that customer is likely to continue to use the same

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semiconductor or enhanced versions of that semiconductor from the same supplier across a number of similar and successor products for a lengthy period of time due to the significant costs associated with qualifying a new supplier and potentially redesigning the product to incorporate a different

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semiconductor. If we fail to achieve initial design-wins in a customer's qualification process, we may lose the opportunity for significant sales to that customer for a number of products and for a lengthy period of time. This may cause us to be unable to recoup our investments in our semiconductor products, which would harm our business.

We have lengthy and expensive design-to-mass production and manufacturing process development cycles that may cause us to incur significant expenses without realizing meaningful sales, the occurrence of which would harm our business.

The cycle time from the design stage to mass production for some of our products is long and requires the investment of significant resources with many potential customers without any guarantee of sales. Our design-to-mass production cycle typically begins with a three-to-twelve month semiconductor development stage and test period followed by a three-to-twelve month end-product qualification period by our customers. The fairly lengthy front end of our sales cycle creates a risk that we may incur significant expenses but may be unable to realize meaningful sales. Moreover, prior to mass production, customers may decide to cancel their products or change production specifications, resulting in sudden changes in our product specifications, increasing our production time and costs. Failure to meet such specifications may also delay the launch of our products or result in lost sales.

In addition, we collaborate and jointly develop certain process technologies and manufacturing process flows customized for certain of our Foundry Services Groups customers. To the extent that our Foundry Services Group customers fail to achieve market acceptance for their products, we may be unable to recoup our engineering resources commitment and our investment in process technology development, which would harm our business.

Research and development investments may not yield profitable and commercially viable product and service offerings and thus will not necessarily result in increases in revenues for us.

We invest significant resources in our research and development. Our research and development efforts, however, may not yield commercially viable products or enhance our services offerings. During each stage of research and development, there is a substantial risk that we will have to abandon a potential product or service offering that is no longer marketable and in which we have invested significant resources. In the event we are able to develop viable new products or service offerings, a significant amount of time will have elapsed between our investment in the necessary research and development effort and the receipt of any related revenues.

We face numerous challenges relating to executing our growth strategy, and if we are unable to execute our growth strategy effectively, our business and financial results could be materially and adversely affected.

Our growth strategy is to leverage our advanced analog and mixed-signal technology platform, continue to innovate and deliver new products and services, increase business with existing customers, broaden our customer base, aggressively grow our power business, drive execution excellence and focus on specialty process technologies. If we are unable to execute our growth strategy effectively, we may not be able to take advantage of market opportunities, execute our business plan or respond to competitive pressures. Moreover, if our allocation of resources does not correspond with future demand for particular products, we could miss market opportunities and our business and financial results could be materially and adversely affected.

We are subject to risks associated with currency fluctuations, and changes in the exchange rates of applicable currencies could impact our results of operations.

Historically, a portion of our revenues and greater than the majority of our operating expenses and costs of sales have been denominated in non-U.S. currencies, principally the Korean won, and we expect that this will remain true in the future. Because we report our results of operations in US dollars, changes in the exchange rate

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between the Korean won and the US dollar could materially impact our reported results of operations and distort period to period comparisons. In particular, because of the difference in the amount of our consolidated revenues and expenses that are in US dollars relative to Korean won, a depreciation in the US dollar relative to the Korean won could result in a material increase in reported costs relative to revenues, and therefore could cause our profit margins and operating income to appear to decline materially, particularly relative to prior periods. The converse is true if the US dollar were to appreciate relative to the Korean won. For example, foreign currency fluctuations had an unfavorable impact on our reported profit margins and operating income from operations for the fiscal year ended December 31, 2018 due to a relative stronger Korean won during the period. Moreover, our foreign currency gain or loss would be affected by changes in the exchange rate between the Korean won and the US dollar as a substantial portion of non-cash translation gain or loss is associated with the intercompany long-term loans to our Korean subsidiary, which is denominated in US dollars. As of December 31, 2018, the outstanding intercompany loan balance including accrued interests between our Korean subsidiary and our Dutch subsidiary was \$666.6 million. Our Dutch subsidiary uses the US dollar as their functional currency. As a result of foreign currency fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our common stock or the price of the Exchangeable Notes or the 2021 Notes (each as defined below) could be adversely affected.

From time to time, we may engage in exchange rate hedging activities in an effort to mitigate the impact of exchange rate fluctuations. Our Korean subsidiary enters into foreign currency forward and zero cost collar contracts in order to mitigate a portion of the impact of US dollar-Korean won exchange rate fluctuations on our operating results. These foreign currency forward and zero cost collar contracts typically require us to sell specified notional amounts in US dollars and provide us the option to sell specified notional amounts in US dollars during successive months to our counterparty in exchange for Korean won at specified exchange rates. Obligations under these foreign currency forward and zero cost collar contracts must be cash collateralized if our exposure exceeds certain specified thresholds. These forward and zero cost collar contracts may be terminated by the counterparty in a number of circumstances, including if our total cash and cash equivalents is less than \$30 million at the end of a fiscal quarter. We cannot assure that any hedging technique we implement will be effective. If our hedging activities are not effective, changes in currency exchange rates may have a more significant impact on our results of operations. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations Factors Affecting our Results of Operations for further details.

The loss of our key employees would materially adversely affect our business, and we may not be able to attract or retain the technical or management employees necessary to compete in our industry.

Our key executives have substantial experience and have made significant contributions to our business, and our continued success is dependent upon the retention of our key management executives. The loss of such key personnel would have a material adverse effect on our business. In addition, our future success depends on our ability to attract and retain skilled technical and managerial personnel. We do not know whether we will be able to retain all of these employees as we continue to pursue our business strategy. The loss of the services of key employees, especially our key design and technical personnel, or our inability to retain, attract and motivate qualified design and technical personnel, could have a material adverse effect on our business, financial condition and results of operations. This could hinder our research and product development programs or otherwise have a material adverse effect on our business.

If we encounter future labor problems, we may fail to deliver our products and services in a timely manner, which would adversely affect our revenues and profitability.

As of December 31, 2018, 1,479 employees, or approximately 59% of our employees, were represented by the MagnaChip Semiconductor Labor Union. We can offer no assurance that any issues with the labor union and other employees will be resolved favorably for us in the future, that we will not experience work stoppages or other labor problems in future years or that we will not incur significant expenses related to such issues.

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We may incur costs to engage in future business combinations or strategic investments, and we may not realize the anticipated benefits of those transactions.

As part of our business strategy, we may seek to enter into business combinations, investments, joint ventures and other strategic alliances with other companies in order to maintain and grow revenue and market presence as well as to provide us with access to technology, products and services. Any such transaction would be accompanied by risks that may harm our business, such as difficulties in assimilating the operations, personnel and products of an acquired business or in realizing the projected benefits, disruption of our ongoing business, potential increases in our indebtedness and contingent liabilities and charges if the acquired company or assets are later determined to be worth less than the amount paid for them in an earlier original acquisition. In addition, our indebtedness may restrict us from making acquisitions that we may otherwise wish to pursue.

The failure to achieve acceptable manufacturing yields could adversely affect our business.

The manufacture of semiconductors involves highly complex processes that require precision, a highly regulated and sterile environment and specialized equipment. Defects or other difficulties in the manufacturing process can prevent us from achieving acceptable yields in the manufacturing of our products or those of our Foundry Services Group customers, which could lead to higher costs, a loss of customers or delay in market acceptance of our products. Slight impurities or defects in the photomasks used to print circuits on a wafer or other factors can cause significant difficulties, particularly in connection with the production of a new product, the adoption of a new manufacturing process or any expansion of our manufacturing capacity and related transitions. We may also experience manufacturing problems in achieving acceptable yields as a result of, among other things, transferring production to other facilities, upgrading or expanding existing facilities or changing our process technologies. Yields below our target levels can negatively impact our gross profit and may cause us to eliminate underperforming products.

We rely on a number of independent subcontractors and the failure of any of these independent subcontractors to perform as required could adversely affect our operating results.

A substantial portion of our net sales are derived from semiconductor devices assembled in packages or on film. The packaging and testing of semiconductors require technical skill and specialized equipment. For the portion of packaging and testing that we outsource, we use subcontractors located in Korea, China, and Taiwan. We rely on these subcontractors to package and test our devices with acceptable quality and yield levels. We could be adversely affected by political disorders, labor disruptions and natural disasters where our subcontractors are located. If our semiconductor packagers and test service providers experience problems in packaging and testing our semiconductor devices, experience prolonged quality or yield problems or decrease the capacity available to us, our operating results could be adversely affected.

We cooperate with independent foundries to produce certain advanced technology Display Solutions products, and the failure of such independent foundries to satisfy our demand could materially disrupt our business.

We use independent foundry services for certain of our OLED Display Solutions products that require more advanced technology than is available in our fabrication facilities. Silicon wafer production at these facilities is allocated solely by our vendors and beyond our direct control. Therefore, any disruption in wafer supply from these vendors could have a material impact on our revenue and results of operations.

We depend on successful parts and materials procurement for our manufacturing processes, and a shortage or increase in the price of these materials could interrupt our operations and result in a decline of revenues and results of operations.

We procure materials and electronic and mechanical components from international sources and original equipment manufacturers. We use a wide range of parts and materials in the production of our semiconductors, including silicon, processing chemicals, processing gases, precious metals and electronic and mechanical

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components, some of which, such as silicon wafers, are specialized raw materials that are generally only available from a limited number of suppliers. If demand increases or supply decreases for any reason, the costs of our raw materials could significantly increase. For example, worldwide supplies of silicon wafers, an important raw material for the semiconductors we manufacture, were constrained in recent years due to an increased demand for silicon. We from time to time may enter into multi-year agreements, which specify future quantities and pricing of materials to be supplied by the vendors of these materials; however, this option may not be available to us and we cannot assure that supply increases will match demand increases. If we cannot obtain adequate materials in a timely manner or on favorable terms for the manufacture of our products, revenues and results of operations will decline.

Compliance with regulations regarding the use of conflict minerals could limit the supply and increase the cost of certain raw materials used in manufacturing our products.

The SEC, as mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, adopted disclosure regulations for public companies that manufacture products containing certain minerals that are mined from the Democratic Republic of Congo and adjoining countries and procedures pertaining to a manufacturer's efforts regarding the source of such minerals. These conflict minerals are commonly found in metals used in the manufacture of semiconductors. Manufacturers are also required to disclose their efforts to prevent the sourcing of such minerals and metals produced from them. The implementation of these requirements could adversely affect the sourcing, availability and pricing of metals used in the manufacture of our products. We may also incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals used in our products. We may also face difficulties in satisfying customers who may require that our products be certified as free of conflict materials, which could harm our relationships with these customers and lead to a loss of revenue.

We face warranty claims, product return, litigation and liability risks and the risk of negative publicity if our products fail.

Our semiconductors are incorporated into a number of end products, and our business is exposed to product return, warranty and product liability risk and the risk of negative publicity if our products fail. Although we maintain insurance for product liability claims, the amount and scope of our insurance may not be adequate to cover a product liability claim that is asserted against us. In addition, product liability insurance could become more expensive and difficult to maintain and, in the future, may not be available on commercially reasonable terms, or at all.

In addition, we are exposed to the product liability risk and the risk of negative publicity affecting our customers. Our sales may decline if any of our customers are sued on a product liability claim. We also may suffer a decline in sales from the negative publicity associated with such a lawsuit or with adverse public perceptions in general regarding our customers' products. Further, if our products are delivered with impurities or defects, we could incur additional development, repair or replacement costs, and our credibility and the market's acceptance of our products could be harmed.

We could suffer adverse tax and other financial consequences as a result of changes in, or differences in the interpretation of, applicable tax laws, including the recently enacted tax reform legislation in the United States.

Our company's organizational structure was created in part based on certain interpretations and conclusions regarding various tax laws, including withholding tax and other tax laws of applicable jurisdictions. Our interpretations and conclusions regarding tax laws, however, are not binding on any taxing authority and, if these interpretations and conclusions are incorrect, if our business were to be operated in a way that rendered us ineligible for tax exemptions or caused us to become subject to incremental tax, or if the authorities were to change, modify or have a different interpretation of the relevant tax laws, we could suffer adverse tax and other

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financial consequences, and the anticipated benefits of our organizational structure could be materially impaired. Our company's organizational structure and other tax positions are subject to review by tax authorities in the local and other jurisdictions where we operate our business.

On December 22, 2017, H.R. 1, originally known as the Tax Cuts and Jobs Act in the US, was enacted (the "Tax Reform"). The Tax Reform reduces the US federal statutory rate to 21.0% from 35.0% effective January 1, 2018. The Tax Reform contains several key provisions that affect our assessment of deferred taxes, which include the remeasurement of deferred taxes, recognition of liabilities for taxes on mandatory deemed repatriation and certain other foreign income, and reassessment of the realizability of deferred tax assets.

As of December 31, 2017, we remeasured our deferred tax assets and liabilities at the reduced rate of 21.0%, assessed the realizability of remeasured deferred tax assets and reduced our net deferred tax assets by \$13.4 million in 2017. During 2018, we analyzed the mandatory deemed repatriation tax and concluded that we have no tax liability on previously untaxed accumulated earnings and profits of our foreign subsidiaries. We also reviewed the other components of the Tax Reform and based on our evaluation, no material impact was recorded to our consolidated financial statements for the year ended December 31, 2018.

Recent changes in international trade policy and the imposition and threats of international tariffs, including tariffs applied to goods traded between the United States and China, could materially and adversely affect our business and results of operations.

Since the beginning of 2018, there have been increasing public threats and, in some cases, legislative or executive action, from US and foreign leaders regarding instituting tariffs against foreign imports of certain materials. More specifically, since March of 2018, the US and China have applied tariffs to certain of each other's exports. The institution of trade tariffs globally, and between the US and China specifically, may negatively impacting China's overall economic condition, which could negatively affect demand for our products in China and materially and adversely affect our business and results of operations of our customers serving the China markets. Furthermore, imposition of tariffs could increase costs of the end-user products we supply or those manufactured by our Foundry Services Group that we may not be able to pass on to our customers, which could in turn cause a decrease in the sales of our products and services and materially and adversely affect our business and results of operations.

Our ability to compete successfully and achieve future growth will depend, in part, on our ability to protect our intellectual property, proprietary technology and know-how, as well as our ability to operate without infringing the proprietary rights of others.

We attempt to protect our intellectual property rights, both in the US and in foreign countries, through a combination of patent, trademark, copyright, mask works and trade secret laws, as well as licensing agreements and third-party nondisclosure and assignment agreements. Because of the differences in foreign trademark, patent and other laws concerning proprietary rights, our intellectual property rights may not receive the same degree of protection in foreign countries as they would in the US. In particular, the validity, enforceability and scope of protection of intellectual property in China, where we derive a significant portion of our net sales, and certain other countries where we derive net sales, are uncertain and still evolving and historically have not protected, and may not protect in the future, intellectual property rights to the same extent as do the laws and enforcement procedures in the US. Our failure to obtain or maintain adequate protection of our intellectual property rights for any reason could have a material adverse effect on our business, results of operations and financial condition.

We seek to protect our proprietary technologies and know-how through the use of patents, trade secrets, confidentiality agreements and other security measures. The process of seeking patent protection takes a long time and is expensive. There can be no assurance that patents will issue from pending or future applications or that, if patents issue, they will not be challenged, invalidated or circumvented, or that the rights granted under the patents will provide us with meaningful protection or any commercial advantage. Many of our patents are subject

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to cross licenses, several of which are with our competitors. Some of our technologies are not covered by any patent or patent application. The confidentiality agreements on which we rely to protect these technologies may be breached and may not be adequate to protect our proprietary technologies. Further, it is possible that others will independently develop the same or similar technologies, even without access to our proprietary technologies.

We rely on our trademarks, trade names, and brand names to distinguish our products from the products of our competitors, and have registered or applied to register many of these trademarks. We cannot assure you that our trademark applications will be approved. Third parties may also oppose our trademark applications, or otherwise challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our products, which could result in loss of brand recognition, and could require us to devote resources advertising and marketing new brands. Further, we cannot assure you that competitors will not infringe our trademarks, or that we will have adequate resources to enforce our trademarks.

Our ability to compete successfully depends on our ability to operate without infringing the proprietary rights of others. We have no means of knowing what patent applications have been filed in the US until they are published. In addition, the semiconductor industry is characterized by frequent litigation regarding patent and other intellectual property rights. We may need to file lawsuits to enforce our patents or intellectual property rights, and we may need to defend against claimed infringement of the rights of others. Any litigation could result in substantial costs to us and divert our resources, and we cannot assure you that we will prevail. Any claims of intellectual property infringement or misappropriation against use, even those without merit, could require us to:

pay substantial damages or indemnify customers or licensees for damages they may suffer if the products they purchase from us or the technology they license from us violate the intellectual property rights of others;

stop our manufacture, use, sale or importation of the accused products;

redesign, reengineer or rebrand our products, if feasible;

expend significant resources to develop or acquire non-infringing technologies;

discontinue processes; or

obtain licenses to a third party's intellectual property.

There can be no assurance that we would be successful in such development or acquisition or that such licenses would be available under reasonable terms, or at all.

We license certain intellectual property from third parties. The termination of key third-party licenses relating to the use of intellectual property in our products and our design processes, such as our agreements with Silicon Works Co., Ltd. and ARM Limited, would materially and adversely affect our business.

Our expenses could increase if SK hynix were unwilling or unable to provide certain services related to our shared facilities with SK hynix, and if SK hynix were to become insolvent, we could lose certain of our leases.

We are party to a land lease and easement agreement with SK hynix pursuant to which we lease the land for our facilities in Cheongju, Korea. If this agreement were terminated for any reason, including the insolvency of SK hynix, we would have to renegotiate new lease terms with SK hynix or the new owner of the land. We cannot assure that we will be able to negotiate new lease terms on favorable terms or at all. Because we share certain facilities with SK hynix, several services that are essential to our business are provided to us by or through SK hynix under our general service supply agreement with SK hynix. These services include electricity, bulk gases and de-ionized water, campus facilities and housing, wastewater and sewage management, environmental safety and certain utilities and infrastructure support services. If any of our

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agreements with SK hynix were terminated or if SK hynix were unwilling or unable to fulfill its obligations to us under the terms of these agreements, we would have to procure these services on our own and as a result may experience an increase in our expenses.

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We are subject to many environmental laws and regulations that could affect our operations or result in significant expenses.

We are subject to a variety of environmental, health and safety laws and regulations in each of the jurisdictions in which we operate, governing, among other things, air emissions, wastewater discharges, the generation, use, handling, storage and disposal of, and exposure to, hazardous substances (including asbestos) and wastes, soil and groundwater contamination and employee health and safety. These laws and regulations are complex, change frequently and have tended to become more stringent over time. Among them is the Act on Remediation and Compensation for Damages arising from Environmental Contamination which came into effect in Korea on January 1, 2016 and provides for strict liability of business entities in violation of the act and alleviates the burden of proof for the damaged party. As a result, we have increased potential exposure to liability for environmental contaminations that might have existed in the past or would arise in the future. There can be no assurance that we have been, or will be, in compliance with all such laws and regulations or that we will not incur material costs or liabilities in connection with these laws and regulations in the future. The adoption of new environmental, health and safety laws, the failure to comply with new or existing laws, or issues relating to hazardous substances could subject us to material liability (including substantial fines or penalties), impose the need for additional capital equipment or other process requirements upon us, curtail our operations or restrict our ability to expand operations.

Our Korean subsidiary has been designated as a regulated business under Korean environmental law, and such designation could have an adverse effect on our financial position and results of operations.

Since 2015, our Korean subsidiary has been subject to K-ETS, a new set of greenhouse gas emissions regulation, under the Act on Allocation and Trading of Greenhouse Gas Emission Allowances. Under K-ETS, our Korean subsidiary was allocated a certain amount of emissions allowance in accordance with the National Allocation Plan prepared by the Korean government, and is required to meet its allocated target by either reducing the emission or purchasing the allowances from other participants in the emission trading market. Reduction of our emissions or energy consumption may result in additional and potentially costly compliance or remediation expenses, including potentially the installation of equipment and changes in the type of materials we use in manufacturing, as well as cost of procuring emission allowances to cover the excess emissions, which could adversely affect our financial position and results of operations. During the first implementation period from 2015 to 2017, we did not exceed the allocated emission amount. We are in the second implementation period that covers from 2018 to 2020. We will continue to monitor our compliance with the emissions allowance for the referred 3-year period on a cumulative basis as well as for an individual year basis. As of December 31, 2018, we had a sufficient emissions allowance and, accordingly, no liability was recorded. In addition, from time to time, if we assess that we have excess allowances, we may sell such excess allowances to manufacturers in the emission market in Korea.

We may need additional capital in the future, and such capital may not be available on acceptable terms or at all, which would have a material adverse effect on our business, financial condition and results of operations.

We may require more capital in the future from equity or debt financings to fund operating expenses, such as research and development costs, finance investments in equipment and infrastructure, acquire complementary businesses and technologies, and respond to competitive pressures and potential strategic opportunities. If we raise additional funds through further issuances of equity or other securities convertible into equity, our existing stockholders could suffer significant dilution, and any new shares we issue could have rights, preferences or privileges senior to those of the holders of our common stock. There can be no assurance that any additional equity or debt financing would be available to us, or if available, that such financing would be on favorable terms to us. Accordingly, if we are unable to obtain additional capital or our business does not generate sufficient cash flows from operating activities to fund our working capital needs and planned capital expenditures, and our cash reserves are depleted, we may need to take various actions, such as down-sizing and/or eliminating certain operations, which could include additional exit costs, reducing or delaying capital expenditures, selling assets, or

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other restructuring actions. There can be no assurance that we would be successful in taking such actions and, in any event, such actions may result in a material adverse effect on our business and results of operations. In addition, our indebtedness limits our ability to incur additional indebtedness under certain circumstances.

Our business depends on international customers, suppliers and operations in Asia, and as a result we are subject to regulatory, operational, financial and political risks, which could adversely affect our financial results.

We rely on, and expect to continue to rely on, suppliers, subcontractors and operations located primarily in Asia. As a result, we face risks inherent in international operations, such as unexpected changes in regulatory requirements, tariffs and other market barriers, political, social and economic instability, adverse tax consequences, war, civil disturbances and acts of terrorism, difficulties in accounts receivable collection, extended payment terms and differing labor standards, enforcement of contractual obligations and protection of intellectual property. These risks may lead to increased costs or decreased revenue growth, or both.

Tensions with North Korea could have an adverse effect on us and the market value of our shares.

Relations between South Korea and North Korea have been tense throughout Korea's modern history. The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of current and future events. In particular, in recent years, there have been heightened security concerns stemming from North Korea's nuclear weapon and long-range missile programs and increased uncertainty regarding North Korea's actions and possible responses from the international community.

North Korea's economy also faces severe challenges, and any adverse economic developments may further aggravate social and political tensions within North Korea.

Although we do not derive any revenue from, nor sell any products in, North Korea, any future increase in tensions between South Korea and North Korea that may occur, for example, if North Korea experiences a leadership crisis, high-level contacts between South Korea and North Korea break down, or military hostilities occur, could have a material adverse effect on the South Korean economy and on our business, financial condition, results of operations and the market value of our common stock.

We may be subject to disruptions, breaches or cyber-attacks of our secured networks and information technology systems that could damage our reputation, harm our business, expose us to liability and materially adversely affect our results of operations.

In the ordinary course of our business, we collect and store sensitive data, including IP and other proprietary information about our business and that of our customers, suppliers and business partners. Secure maintenance, processing and transmission of this information is critical to our operations and business strategy. We may be subject to disruptions, breaches or cyber-attacks of our secured networks and information technology systems caused by illegal hacking, criminal fraud or impersonation, computer viruses, acts of vandalism or terrorism or employee error, and our security measures or those of any third party service providers we use may not detect or prevent such security breaches. We may incur significant costs to eliminate or alleviate cybersecurity breaches and vulnerabilities, which could be significant, and our efforts to protect against such breaches or vulnerabilities may not be successful and could result in system interruptions that may materially impede our sales, manufacturing, distribution, finance or other critical functions. Any such compromise of our information security could also result in the unauthorized publication of our confidential business or proprietary information or that of other parties with which we do business, an interruption in our operations, the unauthorized transfer of cash or other assets, the unauthorized release of customer or employee data or a violation of privacy or other laws in the jurisdictions in which we operate. Any of the foregoing could irreparably damage our reputation and business and/or expose us to material monetary liability, which could have a material adverse effect on our results of operations.

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You may not be able to bring an action or enforce any judgment obtained in United States courts, or bring an action in any other jurisdiction, against us or our subsidiaries or our directors, officers or independent auditors that are organized or residing in jurisdictions other than the United States.

Most of our subsidiaries are organized or incorporated outside of the US and some of our directors and executive officers as well as our independent auditors are organized or reside outside of the US. Most of our and our subsidiaries' assets are located outside of the US and in particular, in Korea. Accordingly, any judgment obtained in the US against us or our subsidiaries may not be collectible in the US. As a result, it may not be possible for you to effect service of process within the US upon these persons or to enforce against them or us court judgments obtained in the US that are predicated upon the civil liability provisions of the federal securities laws of the US or of the securities laws of any state of the US. In particular, there is doubt as to the enforceability in Korea or any other jurisdictions outside the US, either in original actions or in actions for enforcement of judgments of US courts, of civil liabilities predicated on the federal securities laws of the US or the securities laws of any state of the US.

Our level of indebtedness is substantial, and we may not be able to generate sufficient cash to service all of our indebtedness and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful. A decline in the ratings of our existing or future indebtedness may make the terms of any new indebtedness we choose to incur more costly.

As of December 31, 2018, our total indebtedness was \$303.6 million, which represents the principal amount outstanding under our 6.625% Senior Notes due 2021 ("2021 Notes") and 5.0% Exchangeable Senior Notes due 2021 ("Exchangeable Notes"), excluding \$5.6 million of unamortized discount and debt issuance costs. We are permitted under the indentures governing our outstanding Exchangeable Notes and 2021 Notes to incur additional debt under certain conditions, including additional secured debt. If new debt were to be incurred in the future, the related risks that we now face could intensify. Our substantial debt could have important consequences, including:

resulting in an event of default if we fail to satisfy our obligations under our outstanding debt or fail to comply with the financial or other restrictive covenants contained in the indentures governing our outstanding Exchangeable Notes and 2021 Notes or agreements governing our other indebtedness, which event of default could result in all of our debt becoming immediately due and payable and could permit our lenders to foreclose on the assets securing any such debt;

increasing our vulnerability to general economic and industry conditions;

requiring a substantial portion of our cash flow from operations to be dedicated to the payment of principal and interest on our indebtedness, therefore reducing our ability to use our cash flow to fund our operations, capital expenditures and future business opportunities;

limiting our ability to obtain additional financing for working capital, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes;

limiting our ability to adjust to changing market conditions and placing us at a competitive disadvantage compared to our competitors who have less debt; and

negatively affecting our ability to fund a change of control offer.

Our ability to make scheduled payments on or to refinance our debt obligations depends on our financial condition and operating performance, which is subject to prevailing economic and competitive conditions and to certain financial, business and other factors beyond our control. We cannot assure that we will generate a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness.

The credit ratings assigned to our debt reflect each rating agency's opinion of our ability to make payments on the debt obligations when such payments are due. A rating may be subject to revision or withdrawal at any

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time by the assigning rating agency. We may experience downgrades in our debt ratings in the future. Any lowering of our debt ratings would adversely impact our ability to raise additional debt financing and increase the cost of any such financing that is obtained. In the event any ratings downgrades are significant, we may choose not to incur new debt or refinance existing debt if we are unable to incur or refinance such debt at favorable interest rates or on favorable terms.

If our cash flows and capital resources are insufficient to fund our debt service obligations or if we are unable to refinance existing indebtedness on favorable terms, we may be forced to reduce or delay capital expenditures, sell assets, seek additional capital or restructure or refinance our indebtedness. These alternative measures may not be successful and thus render us unable to meet our scheduled debt service obligations. In the absence of such operating results and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. The indentures governing our outstanding Exchangeable Notes and 2021 Notes restrict our ability to dispose of assets and use the proceeds from the disposition. We may not be able to consummate those dispositions or be able to obtain the proceeds which we could realize from them and these proceeds may not be adequate to meet any debt service obligations then due.

We are a holding company and will depend on the business of our subsidiaries to satisfy our obligations under our outstanding Exchangeable Notes and 2021 Notes and other obligations.

We are a holding company with no independent operations of our own. Our subsidiaries conduct substantially all of the operations necessary to fund payments on our outstanding Exchangeable Notes and 2021 Notes, other debt and any other obligations. Our ability to make payments on our outstanding Exchangeable Notes and 2021 Notes and our other obligations will depend on our subsidiaries' cash flow and their payment of funds to us. Our subsidiaries' ability to make payments to us will depend on:

their earnings;

covenants contained in our debt agreements (including the indentures governing our outstanding Exchangeable Notes and 2021 Notes) and the debt agreements of our subsidiaries;

covenants contained in other agreements to which we or our subsidiaries are or may become subject;

business and tax considerations; and

applicable law, including any restrictions under Korean law that may be imposed on MagnaChip Korea that would restrict its ability to make payments on intercompany loans from MagnaChip Semiconductor B.V.

We cannot assure that the operating results of our subsidiaries at any given time will be sufficient to make distributions or other payments to us or that any distributions or payments will be adequate to pay principal and interest, and any other payments, on our outstanding Exchangeable Notes and 2021 Notes, other debt or any other obligations when due, and the failure to make such payments could have a material adverse effect on our business, financial condition and results of operations.

Restrictions on MagnaChip Korea's ability to make payments on its intercompany loans from MagnaChip Semiconductor B.V., or on its ability to pay dividends in excess of statutory limitations, could hinder our ability to make payments on our outstanding Exchangeable Notes and 2021 Notes.

We anticipate that payments under our outstanding Exchangeable Notes and 2021 Notes will be funded in part by MagnaChip Korea's repayment of its existing loans from MagnaChip Semiconductor B.V., with MagnaChip Semiconductor B.V. using such repayments in turn to repay the loans owed to MagnaChip Semiconductor S.A., which will repay loans owed to us. Under the Korean Foreign Exchange Transaction Act, the minister of the Ministry of Strategy and Finance is authorized to temporarily suspend payments in foreign currencies in the event of natural calamities, wars, conflicts of arms, grave and sudden changes in domestic or

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foreign economic conditions, or other similar situations. In addition, under the Korean Commercial Code, a Korean company is permitted to make a dividend payment in accordance with the provisions in its articles of incorporation out of retained earnings (as determined in accordance with the Korean Commercial Code and the generally accepted accounting principles in Korea), but no more than twice a year. If MagnaChip Korea is prevented from making payments under its intercompany loans due to restrictions on payments of foreign currency or if it has an insufficient amount of retained earnings under the Korean Commercial Code to make dividend payments to MagnaChip Semiconductor B.V., we and MagnaChip Semiconductor S.A. may not have sufficient funds to make payments on the notes or our outstanding Exchangeable Notes and 2021 Notes.

The indentures governing our outstanding Exchangeable Notes and 2021 Notes contain, and our future debt agreements will likely contain, covenants that significantly restrict our operations.

The indentures governing our outstanding Exchangeable Notes and 2021 Notes contain, and our future debt agreements will likely contain, numerous covenants imposing financial and operating restrictions on our business. These restrictions may affect our ability to operate our business, may limit our ability to take advantage of potential business opportunities as they arise and may adversely affect the conduct of our current business, including by restricting our ability to finance future operations and capital needs and by limiting our ability to engage in other business activities. These covenants will place restrictions on our ability and the ability of our operating subsidiaries to, among other things:

pay dividends, redeem shares or make other distributions with respect to equity interests, make payments with respect to subordinated indebtedness or other restricted payments;

incur debt or issue preferred stock;

create liens;

make certain investments;

consolidate, merge or dispose of all or substantially all of our assets, taken as a whole;

sell or otherwise transfer or dispose of assets, including equity interests of our subsidiaries;

enter into sale-leaseback transactions;

enter into transactions with our affiliates; and

designate our subsidiaries as unrestricted subsidiaries.

In addition, our future debt agreements will likely contain financial ratios and other financial conditions tests. Our ability to meet those financial ratios and tests could be affected by events beyond our control, and we cannot assure that we will meet those ratios and tests. A breach of any of these covenants could result in a default under such debt agreements. Upon the occurrence of an event of default under such debt agreements, our lenders under such agreements could elect to declare all amounts outstanding under such debt agreements to be immediately due and payable and terminate all commitments to extend further credit.

We may not have the ability to raise the funds necessary to repurchase the Exchangeable Notes upon a fundamental change, and our future debt may contain limitations on our ability to repurchase the Exchangeable Notes.

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Holders of the Exchangeable Notes have the right to require us to repurchase their notes upon the occurrence of a fundamental change at a fundamental change repurchase price equal to 100% of the principal amount of the Exchangeable Notes to be repurchased, plus accrued and unpaid interest, if any. However, we may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of Exchangeable Notes surrendered therefor. In addition, our ability to repurchase the Exchangeable Notes may be limited by law, by regulatory authority or by agreements governing our future indebtedness. Our failure to

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repurchase Exchangeable Notes at a time when the repurchase is required by the indenture would constitute a default under the indenture. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the repayment of our then-existing indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Exchangeable Notes.

A fundamental change may adversely affect us.

A fundamental change could have a negative effect on us and the trading price of the common stock and Exchangeable Notes. Furthermore, the fundamental change provisions, including the provisions requiring the increase in the exchange rate for exchanges in connection with a fundamental change prior to the maturity date, may in certain circumstances make it more difficult or discourage a takeover of our company and the removal of incumbent management.

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our substantial debt.

Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

We have a history of losses and may not achieve or sustain profitability in the future.

From the time we began operations as a separate entity in 2004 until we emerged from our 2009 reorganization proceedings under Chapter 11 of the US Bankruptcy Code, which we refer to as our reorganization proceedings, we generated significant net losses and did not generate a profit for a full fiscal year. In addition, since 2013 until 2016, we again had substantial net losses despite some improvements made in 2016. We may increase spending to support increased research and development and sales and marketing efforts. These expenditures may not result in increased revenue or an increase in the number of customers immediately or at all. Because many of our expenses are fixed in the short term, or are incurred in advance of anticipated sales, we may not be able to decrease our expenses in a timely manner to offset any shortfall of sales. If we cannot maintain profitability, the value of the enterprise may decline.

Despite our current debt levels, we may still incur substantially more debt or take other actions which would intensify the risks discussed above.

Despite our current consolidated debt levels, we and our subsidiaries, may be able to incur substantial additional debt in the future, some of which may be secured debt, subject to the restrictions contained in our debt instruments. We will not be restricted under the terms of the indenture governing the notes from incurring additional debt, securing existing or future debt, recapitalizing our debt or taking a number of other actions that are not limited by the terms of the indenture governing the notes that could have the effect of diminishing our ability to make payments on the notes when due.

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We may need to incur impairment, restructuring and other restructuring related charges, which could materially affect our results of operations and financial condition.

During industry downturns and for other reasons, we may need to record impairment, restructuring or other restructuring related charges. From November 9, 2009, the date we emerged from Chapter 11 reorganization proceedings, through December 31, 2016, we recognized aggregate restructuring and impairment charges of \$24.1 million, which consisted of \$21.2 million of impairment charges and \$2.9 million of restructuring charges. Although we recognized a net restructuring and other gain of \$17.0 million and \$6.5 million for the years ended December 31, 2017 and 2016, respectively, we also recorded early termination charges of \$13.4 million and \$4.2 million for the same periods in connection with our workforce reduction efforts. In the future, we may need to record additional impairment charges or to further restructure our business or incur additional restructuring charges, any of which could have a material adverse effect on our results of operations or financial condition.

We are subject to litigation risks, which may be costly to defend and the outcome of which is uncertain.

All industries, including the semiconductor industry, are subject to legal claims, with and without merit, that may be particularly costly and which may divert the attention of our management and our resources in general. We are involved in a variety of legal matters, most of which we consider routine matters that arise in the normal course of business. These routine matters typically fall into broad categories such as those involving customers, employment and labor and intellectual property. Even if the final outcome of these legal claims does not have a material adverse effect on our financial position, results of operations or cash flows, defense and settlement costs can be substantial. Due to the inherent uncertainty of the litigation process, the resolution of any particular legal claim or proceeding could have a material effect on our business, financial condition, results of operations or cash flows.

The price of our common stock may be volatile and you may lose all or a part of your investment.

The trading price of our common stock might be subject to wide fluctuations. Factors, some of which are beyond our control, that could affect the trading price of our common stock may include:

actual or anticipated variations in our results of operations from quarter to quarter or year to year;

announcements by us or our competitors of significant agreements, technological innovations or strategic alliances;

changes in recommendations or estimates by any securities analysts who follow our securities;

addition or loss of significant customers;

recruitment or departure of key personnel;

changes in economic performance or market valuations of competing companies in our industry;

price and volume fluctuations in the overall stock market;

market conditions in our industry, end markets and the economy as a whole;

subsequent sales of stock and other financings; and

litigation, legislation, regulation or technological developments that adversely affect our business. In the past, following periods of volatility in the market price of a public company's securities, securities class action litigation often has been instituted against the public company. Regardless of its outcome, this type of litigation could result in substantial costs to us and a likely diversion of our management's attention. You may not receive a positive return on your investment when you sell your shares, and you could lose some or the entire amount of your investment.

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Significant ownership of our common stock by certain stockholders could adversely affect our other stockholders.

The concentration of ownership of our common stock by certain stockholders may limit the ability of other stockholders to influence corporate matters and, as a result, we may take actions that our public stockholders do not view as beneficial. For example, our concentration of ownership could have the effect of delaying or preventing a change in control or otherwise discouraging a potential acquirer from attempting to obtain control of us, which in turn could cause the market price of our common stock to decline or prevent our stockholders from realizing a premium over the market price for their shares of our common stock.

Under our certificate of incorporation, our non-employee directors and non-employee holders of five percent or more of our outstanding common stock do not have a duty to refrain from engaging in a corporate opportunity in the same or similar activities or lines of business as those engaged in by us, our subsidiaries and other related parties. Also, we have renounced any interest or expectancy in such business opportunities even if the opportunity is one that we might reasonably have pursued or had the ability or desire to pursue if granted an opportunity to do so.

Provisions in our charter documents and Delaware Law may make it difficult for a third party to acquire us and could depress the price of our common stock.

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. Among other things, our certificate of incorporation and bylaws:

authorize our Board of Directors to issue, without stockholder approval, preferred stock with such terms as the Board of Directors may determine;

prohibit action by written consent of our stockholders;

prohibit any person other than our Board of Directors, the chairman of our Board of Directors, our Chief Executive Officer or holders of at least 25% of the voting power of all then outstanding shares of capital stock of the corporation entitled to vote generally in the election of directors to call a special meeting of our stockholders; and

specify advance notice requirements for stockholder proposals and director nominations.

In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law (the "DGCL"), regulating corporate takeovers and which has an anti-takeover effect with respect to transactions not approved in advance by our Board of Directors, including discouraging takeover attempts that might result in a premium over the market price for shares of our common stock. In general, those provisions prohibit a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

the transaction is approved by the board of directors before the date the interested stockholder attained that status;

upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced; or

on or after such date, the business combination is approved by the board of directors and authorized at a meeting of stockholders, and not by written consent, by at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

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In general, DGCL Section 203 defines a business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, DGCL Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by any such entity or person.

A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of, and do not currently intend to opt out of, this provision.

We do not intend to pay dividends for the foreseeable future, and therefore, investors should rely on sales of their common stock as the only way to realize any future gains on their investments.

We do not intend to pay any cash dividends in the foreseeable future. The payment of cash dividends on common stock is restricted under the terms of the indentures for our outstanding Exchangeable Notes and 2021 Notes. Any determination to pay dividends in the future will be at the discretion of our Board of Directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Our manufacturing operations consist of two fabrication facilities located in Korea in Cheongju and Gumi. Our facilities have a combined capacity of approximately 113,000 eight-inch equivalent wafers per month. We manufacture wafers utilizing geometries ranging from 0.11 to 0.50 microns. The Cheongju facilities have two main buildings totaling 121,672 square meters devoted to manufacturing and development. The Gumi facility has one main building with 41,022 square meters devoted to manufacturing, testing and packaging.

In addition to our fabrication facilities, we lease facilities in Seoul, Korea, and San Jose, California. Each of these facilities includes administration, sales and marketing and research and development functions. We lease sales and marketing offices through our subsidiaries in several other countries.

The ownership of our wafer manufacturing assets is an important component of our business strategy. Maintaining manufacturing control enables us to develop proprietary, differentiated products and results in higher production yields, as well as shortened design and production cycles. We believe our facilities are suitable and adequate for the conduct of our business for the foreseeable future and that we have sufficient production capacity to service our business as currently contemplated without significant capital investment.

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A substantial majority of our assembly, test and packaging services for our Display Solutions business and all of such services for our Power Solutions business are outsourced with the balance handled in-house. Our independent providers of these services are located in Korea, China, and Taiwan. The relative cost of outsourced services, as compared to in-house services, depends upon many factors specific to each product and circumstance. However, we generally incur higher costs for outsourced services, which can result in lower margins.

Although we own our manufacturing facilities, we are party to a land lease and easement agreement with SK hynix pursuant to which we lease the land for our facilities in Cheongju, Korea from SK hynix for an indefinite term. Because we share certain facilities with SK hynix, several services that are essential to our business are provided to us by or through SK hynix under our general service supply agreement with SK hynix. These services include electricity, bulk gases and de-ionized water, campus facilities and housing, wastewater and sewage management, environmental safety and certain utilities and infrastructure support services. The services agreement continues for an indefinite term subject to each party having a right to terminate in the event of an uncured breach by the other party.

Item 3. Legal Proceedings

We are involved in a variety of legal matters, most of which we consider routine matters that arise in the normal course of business. These routine matters typically fall into broad categories such as those involving customers, employment and labor and intellectual property. Intellectual property litigation and infringement claims, in particular, could cause us to incur significant expenses or prevent us from selling our products. We are currently not involved in any legal proceedings that we believe would have a material adverse effect on our business, financial condition or results of operations.

See also Item 1A. Risk Factors and Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 18 in this Report for additional information.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

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

Market Information

Our common stock is listed on the New York Stock Exchange under the symbol **MX**.

Stock Performance Graph

The graph and table below compare the cumulative total stockholder return of our common shares with the cumulative total return of the S&P 500 Index and the Philadelphia Semiconductor Index (PHLX) from December 31, 2013 (the last trading day before the beginning of our fifth preceding fiscal year) through December 31, 2018. The graph assumes that \$100 was invested on December 31, 2013 in our common shares and in each index and that any dividends were reinvested. No cash dividends have been declared on our common shares during the five-year period ended December 31, 2018.

Comparison of Cumulative Total Return*

Among MagnaChip Semiconductor Corporation, the S&P 500 Index and the PHLX

* The stock performance included in this graph is not necessarily indicative of future stock performance.

Total Return to Stockholders (Including Reinvestment of Dividends)

Indexed Returns

Company/Index	Base Period					
	12/31/2013	12/31/2014	12/31/2015	12/30/2016	12/29/2017	12/31/2018
MagnaChip Semiconductor Corporation	100	66.62	27.13	31.79	51.03	31.85
S&P 500 Index	100	111.39	110.58	121.13	144.65	135.63
Philadelphia Semiconductor Index	100	128.38	124.01	169.42	234.20	215.91

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Holders

The approximate number of record holders of our outstanding common stock as of February 15, 2019 was 71. This number does not include beneficial owners for whom shares are held by nominees in street name.

Dividends

We do not intend to pay any cash dividends on our common stock in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our Board of Directors.

Issuer Purchases of Equity Securities

On October 7, 2011, our Board of Directors adopted a stock repurchase program whereby we were authorized, subject to prevailing market conditions and other factors, to repurchase up to \$35.0 million of our outstanding common stock. Our Board of Directors extended and increased the program by an additional \$25.0 million in August 2012, for a maximum aggregate repurchase amount under the original program of up to \$60.0 million. On July 30, 2013, we announced that our Board of Directors approved a new stock repurchase program under which we are authorized to repurchase up to \$100.0 million of our common stock. The new stock repurchase program was effective August 5, 2013 through December 15, 2014, and replaced the original stock repurchase program. The stock repurchase program did not require that we purchase a minimum amount of shares of our common stock and may be commenced, suspended, resumed or terminated at any time without notice. The timing and extent of any repurchases were dependent upon prevailing market conditions, the trading price of the Company's common stock and other factors, and subject to contractual restrictions and restrictions under applicable law and regulations. As of December 31, 2013, we had repurchased 6,578,765 shares of our common stock in the open market under these programs at an aggregate cost of \$90.9 million. In March 2014, our Board of Directors suspended the stock repurchase program indefinitely pending the completion of the independent investigation commenced by our Audit Committee in January 2014, and the stock repurchase program expired by its terms on December 15, 2014. Accordingly, we did not repurchase any shares under the stock repurchase program during the period from 2014 to 2016.

In January 2017, in connection with the offering of our Exchangeable Notes, our Board of Directors adopted a stock repurchase program, under which we were permitted to repurchase up to \$15.0 million of our outstanding common stock, of which \$11.4 million was used at the time of the offering. In December 2018 and January 2019, we repurchased an aggregate of 560,192 shares of our common stock in the open market under the program at an aggregate cost of \$3.6 million. This represents the remaining portion of the stock repurchase program that was authorized by our Board of Directors at the time of the offering of our Exchangeable Notes in January 2017. The following table details our repurchases of our outstanding common stock from October 1, 2018 through December 31, 2018:

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program(1)	Approximate dollar value of shares that may yet be purchased under the Program
October 1, 2018 – October 31, 2018				\$ 3,598,930.60
November 1, 2018 – November 30, 2018				\$ 3,598,930.60
December 1, 2018 – December 31, 2018	198,204	\$ 6.32	198,204	\$ 2,346,499.46
Total:	198,204		198,204	

- (1) On January 10, 2017, we announced that our Board of Directors had authorized a stock repurchase program covering the repurchase of up to \$15.0 million of shares of our outstanding common stock in open market, privately negotiated or other transactions. The stock repurchase program does not have an expiration date and can be discontinued, suspended, resumed or terminated at any time by our Board of Directors without notice. Whether we make any repurchases will depend on many factors, including but not limited to our business and financial performance, the business and market conditions at the time, including the price of our shares, and other factors that management considers relevant.

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The following tables set forth selected historical consolidated financial data of MagnaChip Semiconductor Corporation on or as of the dates and for the periods indicated. The selected historical consolidated financial data presented below should be read together with Item 7. Management Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, including the notes to those consolidated financial statements, appearing elsewhere in this Report.

We have derived the selected consolidated financial data as of December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017 and 2016 from the audited consolidated financial statements of the Company included in this Report. We have derived the selected consolidated financial data as of December 31, 2016, 2015 and 2014 and for the years ended December 31, 2015 and 2014 from the historical consolidated financial statements of MagnaChip Semiconductor Corporation not included in this Report. The historical financial data of MagnaChip Semiconductor Corporation for any period are not necessarily indicative of the results to be expected in any future period.

	Year Ended December 31, 2018(1)	Year Ended December 31, 2017(1)	Year Ended December 31, 2016(1)(2)	Year Ended December 31, 2015(1)	Year Ended December 31, 2014(1)
(In millions, except per share data)					
Statements of Operations Data:					
Net sales	\$ 750.9	\$ 679.7	\$ 688.0	\$ 633.7	\$ 698.2
Cost of sales	552.8	491.8	531.7	498.8	545.4
Gross profit	198.1	187.9	156.2	134.9	152.9
Selling, general and administrative expenses	72.6	81.8	83.5	94.4	127.0
Research and development expenses	78.0	70.5	72.2	83.4	92.8
Restructuring, impairment and other charges (gain), net		(17.0)	(6.5)		10.3
Early termination charges		13.4	4.2		
Operating income (loss) from continuing operations	47.4	39.2	2.7	(42.9)	(77.1)
Interest expense	(22.3)	(21.6)	(16.2)	(16.3)	(16.8)
Foreign currency gain (loss), net	(24.4)	65.5	(15.4)	(42.5)	(24.7)
Loss on early extinguishment of long-term borrowings, net	(0.2)				
Others, net	0.3	2.9	3.0	1.8	2.9
	(46.7)	46.9	(28.6)	(57.0)	(38.6)
Income (loss) from operations before income taxes	0.7	86.1	(25.9)	(100.0)	(115.7)
Income tax expenses (benefits)	4.6	1.2	3.7	(15.1)	1.5
Net income (loss)	\$ (3.9)	\$ 84.9	\$ (29.6)	\$ (84.9)	\$ (117.2)
Per share data:					
Earnings (loss) per share					
Basic	\$ (0.11)	\$ 2.50	\$ (0.85)	\$ (2.47)	\$ (3.44)
Diluted	\$ (0.11)	\$ 2.02	\$ (0.85)	\$ (2.47)	\$ (3.44)
Weighted average number of shares					
Basic	34.470	33.943	34.834	34.381	34.056
Diluted	34.470	44.755	34.834	34.381	34.056

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	Year Ended December 31, 2018(1)	Year Ended December 31, 2017(1)	Year Ended December 31, 2016(1)(2)	Year Ended December 31, 2015(1)	Year Ended December 31, 2014(1)
(In millions, except per share data)					
Balance Sheet Data (at period end):					
Cash and cash equivalents	\$ 132.4	\$ 128.6	\$ 83.4	\$ 90.9	\$ 102.4
Total assets(3)	583.2	558.8	442.0	474.1	523.4
Total indebtedness(3)(4)	303.6	303.4	221.1	220.4	219.7
Stockholders' equity (deficit)	(17.3)	(39.6)	(72.1)	(62.3)	(18.5)
Supplemental Data:					
Adjusted EBITDA(5)	\$ 84.3	\$ 78.7	\$ 40.7	\$ 0.8	\$ 8.5
Adjusted Net Income (Loss)(6)	\$ 27.1	\$ 28.9	\$ (4.5)	\$ (26.7)	\$ (38.1)

- (1) The FASB issued the new revenue recognition standard through several Accounting Standards Updates that superseded the legacy revenue recognition requirements. The new revenue recognition standard became effective on January 1, 2018. As we adopted the new revenue standard using the modified retrospective method, which allowed the recognition of the cumulative effect of initially applying the new revenue standard as an adjustment to our equity as of January 1, 2018. The comparative prior period amounts were not restated and continued to be reported under the accounting standards in effect for such periods. For further description of the adoption of the new revenue standard, see Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 1 Business, Basis of Presentation and Summary of Significant Accounting Policies Recently Adopted Accounting Pronouncements in this Report.
- (2) Certain charges related to the closure of our 6-inch fab and headcount reduction, previously included in selling, general and administrative expenses in the consolidated statements of operations for the year ended December 31, 2016, have been reclassified to restructuring, impairment and other charges (gain), net and early termination charges, respectively, to conform to the presentation for the year ended December 31, 2017.
- (3) In April 2015, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update No. 2015-03, Interest Imputation of Interest , which requires that debt issuance costs are presented in the balance sheet as a direct deduction from the carrying amount of debt liability, consistent with debt discounts or premiums. We adopted ASU 2015-03 in 2016 and reclassified all prior periods presented in the table above. As of December 31, 2015 and December 31, 2014, \$3.8 million and \$4.3 million of debt issuance costs were reclassified from total assets to a reduction of total indebtedness. The adoption of ASU 2015-03 did not impact our consolidated statements of operations.
- (4) Total indebtedness represents long-term borrowings.
- (5) We define Adjusted EBITDA for the periods indicated as EBITDA (as defined below), adjusted to exclude (i) restructuring and other gain, net, (ii) early termination charges, (iii) equity-based compensation expense, (iv) foreign currency loss (gain), net, (v) derivative valuation loss (gain), net, (vi) restatement related expenses (gain), (vii) secondary offering expense, (viii) loss on early extinguishment of long-term borrowings, net and (ix) other indemnification costs and reimbursement. EBITDA for the periods indicated is defined as net income (loss) before interest expense, net, income tax expenses (benefits) and depreciation and amortization. This is a non-US GAAP financial measure and is discussed under Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations Explanation and Reconciliation of Non-US GAAP measures Adjusted EBITDA and Adjusted Net Income (Loss).
- (6) We define Adjusted Net Income (Loss) for the periods indicated as net income (loss), adjusted to exclude (i) restructuring and other gain, net, (ii) early termination charges, (iii) equity-based compensation expense, (iv) foreign currency loss (gain), net, (v) derivative valuation loss (gain), net, (vi) restatement related expenses (gain), (vii) secondary offering expense, (viii) loss on early extinguishment of long-term borrowings, net and (ix) other indemnification costs and reimbursement. This is a non-US GAAP financial measure and is discussed under Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations Explanation and Reconciliation of Non-US GAAP measures Adjusted EBITDA and Adjusted Net Income (Loss).

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

The following discussion and analysis should be read in conjunction with the audited consolidated financial statements and unaudited consolidated interim financial statements, together in each case with the related notes, included elsewhere in this Report. This discussion and analysis contains, in addition to historical information, forward-looking statements that include risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of certain factors, including those set forth under the heading "Risk Factors" and elsewhere in this Report.

Overview

We are a designer and manufacturer of analog and mixed-signal semiconductor platform solutions for communications, IoT, consumer, industrial and automotive applications. We provide technology platforms for analog, mixed-signal, power, high voltage, non-volatile memory, and RF applications. We have a proven record with about 40 years of operating history, a portfolio of approximately 3,000 registered patents and pending applications and extensive engineering and manufacturing process expertise.

Our Foundry Services Group provides specialty analog and mixed-signal foundry services mainly for fabless and IDM semiconductor companies that primarily serve communications, IoT, consumer, industrial and automotive applications. Our Standard Products Group includes our Display Solutions and Power Solutions business lines. Our Display Solutions products provide flat panel display solutions to major suppliers of large and small rigid and flexible panel displays, and mobile, automotive applications and home appliances. Our Power Solutions products include discrete and integrated circuit solutions for power management in communications, consumer, computing and industrial applications.

Our wide variety of analog and mixed-signal semiconductor products and manufacturing services combined with our mature technology platform allow us to address multiple high-growth end markets and to rapidly develop and introduce new products and services in response to market demands. Our design center and substantial manufacturing operations in Korea place us at the core of the global electronics device supply chain. We believe this enables us to quickly and efficiently respond to our customers' needs and allows us to better serve and capture additional demand from existing and new customers.

To maintain and increase our profitability, we must accurately forecast trends in demand for electronics devices that incorporate semiconductor products we produce. We must understand our customers' needs as well as the likely end market trends and demand in the markets they serve. We must balance the likely manufacturing utilization demand of our product businesses and foundry business to optimize our capacity utilization. We must also invest in relevant research and development activities and manufacturing capacity and purchase necessary materials on a timely basis to meet our customers' demand while maintaining our target margins and cash flow.

The semiconductor markets in which we participate are highly competitive. The prices of our products tend to decrease regularly over their useful lives, and such price decreases can be significant as new generations of products are introduced by us or our competitors. We strive to offset the impact of declining selling prices for existing products through cost reductions and the introduction of new products that command selling prices above the average selling price of our existing products. In addition, we seek to manage our inventories and manufacturing capacity so as to mitigate the risk of losses from product obsolescence.

Demand for our products and services is driven by overall demand for communications, IoT, consumer, industrial and automotive products and can be adversely affected by periods of weak consumer and enterprise spending or by market share losses by our customers. In order to mitigate the impact of market volatility on our business, we are diversifying our portfolio of products, customers, and target applications. We also expect that new competitors will emerge in these markets that may place increased pressure on the pricing for our products and services. While we believe we are well positioned competitively to compete in these markets and against these new competitors as a result of our long operating history, existing manufacturing capacity and our

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worldwide customer base, if we are not effective in competing in these markets our operating results may be adversely affected.

Within our Foundry Services Group, net sales are driven by customers' decisions on which manufacturing services provider to use for a particular product. Most of our Foundry Services Group customers are fabless, while some are IDM customers. A customer will often have more than one supplier of manufacturing services. In any given period, our net sales depend heavily upon the end-market demand for the goods in which the products we manufacture for customers are used, the inventory levels maintained by our customers and in some cases, allocation of demand for manufacturing services among selected qualified suppliers.

Within our Standard Products Group, net sales are driven by design wins in which we are selected by an electronics original equipment manufacturer (OEM) or other potential customer to supply its demand for a particular product. A customer will often have more than one supplier designed in to multi-source components for a particular product line. Once we have design wins and the products enter into mass production, we often specify the pricing of a particular product for a set period of time, with periodic discussions and renegotiations of pricing with our customers. In any given period, our net sales depend heavily upon the end-market demand for the goods in which our products are used, the inventory levels maintained by our customers and in some cases, allocation of demand for components for a particular product among selected qualified suppliers.

In contrast to completely fabless semiconductor companies, our internal manufacturing capacity provides us with greater control over manufacturing costs and the ability to implement process and production improvements for our internally manufactured products, which can favorably impact gross profit margins. Our internal manufacturing capacity also allows for better control over delivery schedules, improved consistency over product quality and reliability and improved ability to protect intellectual property from misappropriation on these products. However, having internal manufacturing capacity exposes us to the risk of under-utilization of manufacturing capacity that results in lower gross profit margins, particularly during downturns in the semiconductor industry.

Our products and services require investments in capital equipment. Analog and mixed-signal manufacturing facilities and processes are typically distinguished by the design and process implementation expertise rather than the use of the most advanced equipment. Many of these processes also tend to migrate more slowly to smaller geometries due to technological barriers and increased costs. For example, some of our products use high-voltage technology that requires larger geometries and that may not migrate to smaller geometries for several years, if at all. As a result, our manufacturing base and strategy do not require substantial investment in leading edge process equipment for those products, allowing us to utilize our facilities and equipment over an extended period of time with moderate required capital investments. In addition, we are less likely to experience significant industry overcapacity, which can cause product prices to decline significantly. In general, we seek to invest in manufacturing capacity that can be used for multiple high-value applications over an extended period of time. In addition, we outsource manufacturing of those products which do require advanced technology and 12-inch wafer capacity. We believe this capital investment strategy enables us to optimize our capital investments and facilitates more diversified product and service offerings.

Since 2007, we have designed and manufactured organic light emitting diodes (OLED) display driver ICs in our internal manufacturing facilities. As we expanded our design capabilities to products that require lower geometries unavailable at our existing manufacturing facilities, we began outsourcing manufacturing of certain OLED display driver ICs to an external foundry from the second half of 2015. This additional source of manufacturing is an increasingly important part of our supply chain management. By outsourcing manufacturing of advanced OLED products to external foundries, we are able to dynamically adapt to the changing customer requirements and address growing markets without substantial capital investments by us. Both at the internal manufacturing facilities and external foundries, we apply our unique OLED process patents as well as other intellectual property, proprietary process design kits and custom design-flow methodologies.

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In our previous public filings, we had used a term “active matrix organic light emitting diodes (AMOLED)” that described a display technology used in certain display driver ICs that we had designed and manufactured in our internal and external foundries. Beginning in the second quarter of 2017, we have used the term “OLED” instead of the term “AMOLED” in our public filings in order to be consistent with commonly accepted industry naming practices for this product category. There is no change to the products that we previously referred to as AMOLED display driver ICs.

Our success going forward will depend upon our ability to adapt to future challenges such as the emergence of new competitors for our products and services or the consolidation of current competitors. Additionally, we must innovate to remain ahead of, or at least rapidly adapt to, technological breakthroughs that may lead to a significant change in the technology necessary to deliver our products and services. We believe that our established relationships and close collaboration with leading customers enhance our awareness of new product opportunities, market and technology trends and improve our ability to adapt and grow successfully. In our Foundry Services Group, we strive to maintain competitiveness by offering high-value added processes, high-flexibility and excellent service by tailoring existing standard processes to meet customers’ design needs and porting customers’ own process technologies into our fabrication facilities.

We are in a period of weaker demand from our foundry customers in part as a result of recent softening global market conditions, including macroeconomic uncertainties. This, together with significantly lower than expected utilization, among other factors will adversely impact our Foundry Services Group gross margin and other operating results, and such impact likely will be material. We are also currently evaluating a number of options to optimize our foundry operations and expense structure with an intent toward maximizing shareholder value.

On February 14, 2019, we announced that we have undertaken a strategic evaluation of our Foundry Services Group business and fabrication facility located in Cheongju (“Fab 4”), the larger of our two 8” manufacturing facilities. Fab 4 is an analog and mixed signal fab that produces approximately 73% of our total capacity, and is used primarily to meet wafer demand from customers of our Foundry Services Group that rely on outside suppliers. The strategic evaluation is expected to include a range of possible options, including, but not limited to, joint ventures, strategic partnerships as well as M&A possibilities. We have engaged J.P. Morgan Securities LLC as our financial advisor to assist in the evaluation. It is possible that the announced strategic evaluation of our Foundry Services Group business and Fab 4 could adversely impact foundry loadings and Company margins.

Recent Developments

Repurchase of Long-term Borrowings

In December 2018, we repurchased a principal amount of \$0.5 million and \$1.6 million of the 2021 Notes and the Exchangeable Notes, respectively. As a result, we recorded a \$0.2 million net loss as early extinguishment loss on our consolidated statements of operations for the year ended December 31, 2018.

Water Treatment Facility Arrangement

On June 29, 2018, we entered into an arrangement whereby we acquired a water treatment facility to support our fabrication facility in Gumi, Korea from SK hynix for \$4.2 million, and sold it for \$4.2 million to a third party management company that we have engaged to run the facility for a 10-year term. This arrangement is accounted for as a financing due to our Korean subsidiary’s continuing involvement with the facility. As a result, on the acquisition date, we recorded the water treatment facility of \$4.2 million as property, plant and equipment, net, which is depreciated over its useful life. We also recorded the related liabilities of \$0.6 million as other current liabilities and \$3.6 million as other non-current liabilities, which relates to the financing and service portion of the arrangement and is amortized using the effective interest method over the contract period.

Segment Change

In January 2018, as part of our ongoing portfolio optimization effort to realign business processes and streamline our organizational structure, we transferred a portion of our non-OLED display solutions business

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from our Standards Products Group to our Foundry Services Group. The transferred non-OLED display business has technical and business characteristics more closely aligned with our Foundry Services business than with our Standard Products business, which resided within our Display solutions business line primarily as a result of a long standing customer relationship established in the past. The transferred non-OLED display business represented \$33.0 million of net sales for the year ended December 31, 2018. The corresponding non-OLED display business represented \$30.3 million and \$25.2 million of net sales for the years ended December 31, 2017 and 2016, respectively.

Tax Audit

In September 2017, MagnaChip Semiconductor Ltd. (MSK), our Korean operating subsidiary, was notified that the Korean National Tax Service (the KNTS) would be examining the income- and non-income-based taxes of MSK for its 2012 to 2014 tax years. The KNTS had conducted its audit, primarily focusing on non-income-based value added tax (VAT) transactions associated with the periods with respect to which we previously restated our financial statements as a result of the independent investigation commenced by our Audit Committee in January 2014 (the Restatement).

As a result, the aggregate tax and penalty assessment by the KNTS was \$6.0 million, of which \$3.3 million had already been accrued by us in our financial statements in connection with the Restatement filed in 2015. Such amount also included approximately \$0.5 million related to employee withholding amounts and associated penalties, and to the extent any such tax obligation was that of MSK s employees. In addition, KNTS assessed an administrative fine of \$2.0 million in connection with the above-described tax audit.

In December 2017, the KNTS concluded that no criminal charges would be brought against any current officers or directors of MSK or MSK itself. As a result, we took a charge of \$4.2 million in the fourth quarter of 2017 related to this additional tax assessment and associated penalties and administrative fine. We recorded the \$0.5 million related to employee withholding amounts as other receivables in our consolidated balance sheets as of December 31, 2017, as we expected to obtain reimbursement of the applicable amounts from those employees. Of the \$0.5 million, we have collected \$0.1 million and established an allowance of \$0.4 million and recorded it as selling, general and administrative expense for the three months ended September 30, 2018.

Secondary offering

On August 15, 2017, certain of our stockholders that are affiliates of Avenue Capital Management II, L.P. (the Selling Stockholders) closed an underwritten registered public offering of 4,088,978 shares of our common stock at a price per share of \$11.10. We did not receive any proceeds from the sale of our common stock by the Selling Stockholders, but paid certain expenses in connection with such secondary offering pursuant to an existing contractual arrangement with the Selling Stockholders.

Events associated with the closure of our 6-inch fab and reduction of workforce

In December 2014, we announced that our Board of Directors had adopted a plan to close our 6-inch fab. During the fourth quarter of 2015, we received an \$8.2 million deposit for sale of machinery in conjunction with the planned closure of our 6-inch fab. According to this plan, the 6-inch fab was closed on February 29, 2016. During the first quarter of 2016, we completed all procedures necessary to sell all machineries in our closed 6-inch fab and recognized a \$7.8 million restructuring gain from the related deposit of \$8.2 million, net of certain direct selling costs. On April 4, 2016, we commenced a voluntary resignation program (the Program), which was available to certain manufacturing employees, including our 6-inch fab employees, through April 29, 2016.

As of April 29, 2016, 169 employees elected to resign under the terms of the Program. We paid approximately \$8 million for severance benefits, which are required by law and had already been fully accrued in our financial statements, in a lump sum during the second quarter of 2016. Beginning in May 2016, we also

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began to pay a portion of the \$4.2 million other termination benefits under the Program, which were paid in equal monthly installments over twelve months. We recorded the \$4.2 million charge related to the full amount of these other termination benefits payable under the Program during the second quarter of 2016.

As of December 21, 2016, we entered into a purchase and sale agreement to sell a building located in Cheongju, South Korea. The building has historically been used to house the 6-inch fab and became vacant upon the closure of the fabrication facility. As of December 31, 2015, the building was fully impaired. We received proceeds of \$18.2 million, including a \$1.7 million value-added tax, for the sale of the building on December 26, 2016. We recorded the \$18.2 million as restricted cash in our consolidated balance sheets as of December 31, 2016 as we were obligated to perform certain removal construction work that was expected to be completed by the end of March 2017. During the first quarter of 2017, we completed all removal construction work necessary to transfer the title of the building, and the \$18.2 million of restricted cash was fully released.

As of February 22, 2017, our Board of Directors approved the implementation of a headcount reduction plan (the *Headcount Reduction Plan*). As of June 30, 2017, 352 employees elected to resign from the Company during the period in which the Headcount Reduction Plan was offered. The Headcount Reduction Plan is expected to result in estimated annual cost savings of approximately \$24 million. The total cash cost of approximately \$31 million has been fully paid. We recorded in our consolidated statement of operations \$11.1 million and \$2.3 million termination related charges as *early termination charges* for the three months ended March 31, 2017 and June 30, 2017, respectively. The remaining total cost relates to statutory severance benefits, which are required by law and had already been fully accrued in our financial statements.

Issuance of Exchangeable Senior Notes and Stock Repurchase

As of January 17, 2017, we closed the offering (the *Exchangeable Notes Offering*) by our Luxembourg subsidiary, MagnaChip Semiconductor S.A., of \$86.25 million aggregate principal amount of its 5.00% Exchangeable Senior Notes due 2021 (the *Exchangeable Notes*), reflecting the full exercise of the initial purchasers' option to purchase additional Exchangeable Notes. We used a portion of the net proceeds from the Exchangeable Notes Offering to repurchase 1,795,444 shares of our common stock under our stock repurchase program, which was authorized by our board of directors on January 10, 2017, at an aggregate cost of \$11.4 million.

Sale of Sensor Business

In March 2017, we sold our sensor product business, which was included in and reported as part of the Display Solutions line of our Standard Products Group, to a third party for proceeds of \$1.3 million, in an effort to improving our overall profitability. We recorded a \$0.4 million gain from this sale after deducting the book values of certain assets transferred to the buyer.

Restatement

In January 2014, our Audit Committee commenced an independent investigation that resulted in the Restatement. In March, 2014, we voluntarily reported to the SEC that our Audit Committee had determined that we incorrectly recognized revenue on certain transactions and as a result would restate our financial statements, and that our Audit Committee had commenced an independent investigation.

On December 10, 2015, we entered into a Memorandum of Understanding with the plaintiffs' representatives to settle the Class Action Litigation, as defined and detailed in *Item 8. Financial Statements and Supplementary Data* Notes to Consolidated Financial Statements *Note 18. Commitments and Contingencies* in this Report, for an aggregate settlement payment of \$23.5 million. This settlement payment was fully funded by insurance proceeds that were received in the first quarter of 2016 and disbursed from the escrow account, previously recorded as restricted cash, in the third quarter of 2016.

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On January 22, 2016, we entered into a stipulation of settlement with the plaintiffs in the shareholder derivative actions, as described in Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 18. Commitments and Contingencies in this Report, for an aggregate payment of \$3.0 million from our insurance proceeds that were received in the first quarter of 2016 and recorded in the escrow account. In October 2016, the court approved the settlement of the shareholder derivative actions for \$3.0 million, which included \$0.75 million awarded to plaintiffs' counsel. Upon the expiration of the appeals period, \$2.25 million was disbursed from the escrow account, previously recorded as restricted cash, in December 2016. The remaining restricted cash related to insurance proceeds of \$3.1 million was also released in December 2016.

On May 1, 2017, the SEC announced that it had reached a final settlement with us, resolving the SEC's investigation, as detailed in Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 18. Commitments and Contingencies in this Report. In connection therewith, we have consented, without admitting or denying the SEC's findings, to the entry of an administrative order by the SEC directing that we cease and desist from committing or causing any violations of certain provisions of the federal securities laws and related SEC regulations. The SEC's administrative order was entered on May 1, 2017. The SEC imposed a monetary penalty of \$3.0 million on us. In the three months ended March 31, 2017, we established a reserve in that amount for the potential settlement of this matter and recorded it as selling, general and administrative expense in the consolidated statements of operations for the three months ended March 31, 2017. The reserved monetary penalty of \$3.0 million was paid to the SEC during the three months ended June 30, 2017.

As a result of the Restatement, we incurred substantial external accounting, legal and other related costs associated with the Restatement and certain litigation and other regulatory investigations and actions related thereto. We recorded Restatement related costs of \$10.3 million for the year ended December 31, 2017, which included tax assessment, and associated penalties of \$4.3 million, primarily related to non-income-based VAT transactions in the Restatement periods, compared to \$7.0 million of Restatement related costs for the year ended December 31, 2016. For the three months March 31, 2018, the reversal of a \$0.8 million accrual related to certain legal fees, incurred in prior periods and reimbursed by insurers in the current quarter, was recorded as a Restatement related gain.

Segments

We report our financial results in two operating segments: Foundry Services Group and Standard Products Group. We identified these segments based on how we allocate resources and assess our performance.

In January 2018, as part of our ongoing portfolio optimization effort to realign business processes and streamline our organizational structure, we transferred a portion of our non-OLED display solutions business from our Standards Products Group to our Foundry Services Group. The transferred non-OLED display business has technical and business characteristics more closely aligned with our Foundry Services business than with our Standard Products business, which resided within our Display solutions business line primarily as a result of a long standing customer relationship established many years ago. We recast comparative segment financial information to conform to this current period change.

Foundry Services Group: Our Foundry Services Group provides specialty analog and mixed-signal foundry services to fabless semiconductor companies and IDMs that serve communications, IoT, consumer, industrial and automotive applications. We manufacture wafers based on our customers' product designs. We do not market these products directly to end customers but rather supply manufactured wafers and products to our customers to market to their end customers. We offer approximately 508 process flows to our foundry services customers. We also often partner with key customers to jointly develop or customize specialized processes that enable our customers to improve their products and allow us to develop unique manufacturing expertise. Our foundry services target customers who require differentiated, specialty analog

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and mixed-signal process technologies such as high voltage complementary metal-oxide-semiconductor (CMOS), non-volatile memory or bipolar-CMOS-DMOS (BCD). These customers typically serve the consumer, computing, communication, industrial, automotive and IoT applications. For the year ended December 31, 2018, our Foundry Services Group business represented 43.3% of our net sales and its gross profit was \$82.6 million. For the years ended December 31, 2017 and 2016, our Foundry Services Group business represented, on an adjusted basis after recasting, 51.6% and 43.5% of our net sales, respectively, and its gross profit was \$101.8 million and \$73.1 million, respectively, as adjusted for the segment change described above.

Standard Products Group: Our Standard Products Group includes our Display Solutions and Power Solutions business lines. Our Display Solutions products include source, gate drivers, timing controllers, and one-chip integrated solutions that cover a wide range of panel displays used in ultra high definition (UHD), high definition (HD), light emitting diode (LED), 3D and OLED televisions public displays, notebooks, mobile communications, entertainment devices and automotive applications. Our Display Solutions products support the industry's most advanced display technologies, such as OLEDs, and low temperature polysilicons (LTPS), as well as high-volume display technologies such as thin film transistors (TFT). Since 2007, we have designed and manufactured OLED display driver IC products. Our current portfolio of OLED solutions address a wide range of resolutions ranging from HD to Wide Quad High Definition (WQHD) for applications including smartphones, TVs, and other mobile devices. We believe we have a unique intellectual property portfolio and mixed-signal design and manufacturing expertise in the OLED industry. Our Power Solutions business line produces power management semiconductor products including discrete and integrated circuit solutions for power management in high-volume consumer applications. These products include metal oxide semiconductor field effect transistors (MOSFETs), insulated-gate bipolar transistors (IGBTs), AC-DC converters, DC-DC converters, LED drivers, switching regulators and linear regulators for a range of devices, including televisions, smartphones, mobile phones, desktop PCs, notebooks, tablet PCs, other consumer electronics, and industrial applications such as power suppliers, LED lighting, motor control and home appliances. For the year ended December 31, 2018, our Standard Products Group, which includes our Display Solutions and Power Solutions business lines, represented 56.7% of our net sales and its gross profit was \$115.5 million. For the years ended December 31, 2017 and 2016, our Standard Products Group business represented, on an adjusted basis after recasting, 48.4% and 56.4% of our net sales, respectively, and its gross profit was \$85.9 million and \$83.5 million, respectively, as adjusted for the segment change described above.

Explanation and Reconciliation of Non-US GAAP Measures

Adjusted EBITDA and Adjusted Net Income (Loss)

We use the terms Adjusted EBITDA and Adjusted Net Income (Loss) throughout this Report. Adjusted EBITDA, as we define it, is a non-US GAAP measure. We define Adjusted EBITDA for the periods indicated as EBITDA (as defined below), adjusted to exclude (i) restructuring and other gain, net, (ii) early termination charges, (iii) equity-based compensation expense, (iv) foreign currency loss (gain), net, (v) derivative valuation loss (gain), net, (vi) restatement related expenses (gain), (vii) secondary offering expense, (viii) loss on early extinguishment of long-term borrowings, net and (ix) other indemnification costs and reimbursement. EBITDA for the periods indicated is defined as net income (loss) before interest expense, net, income tax expenses, and depreciation and amortization.

See the footnotes to the table below for further information regarding these items. We present Adjusted EBITDA as a supplemental measure of our performance because:

we believe that Adjusted EBITDA, by eliminating the impact of a number of items that we do not consider to be indicative of our core ongoing operating performance, provides a more comparable measure of our operating performance from period-to-period and may be a better indicator of future performance;

we believe that Adjusted EBITDA is commonly requested and used by securities analysts, investors and other interested parties in the evaluation of the Company as an enterprise level performance measure that

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eliminates the effects of financing, income taxes and the accounting effects of capital spending, as well as other one time or recurring items described above; and

we believe that Adjusted EBITDA is useful for investors, among other reasons, to assess the Company's period-to-period core operating performance and to understand and assess the manner in which management analyzes operating performance. We use Adjusted EBITDA in a number of ways, including:

for planning purposes, including the preparation of our annual operating budget;

to evaluate the effectiveness of our enterprise level business strategies;

in communications with our Board of Directors concerning our consolidated financial performance; and

in certain of our compensation plans as a performance measure for determining incentive compensation payments.

We encourage you to evaluate each adjustment and the reasons we consider them appropriate. In evaluating Adjusted EBITDA, you should be aware that in the future we may incur expenses similar to the adjustments in this presentation. Adjusted EBITDA is not a measure defined in accordance with US GAAP and should not be construed as an alternative to income from continuing operations, cash flows from operating activities or net income, as determined in accordance with US GAAP. A reconciliation of net income to Adjusted EBITDA is as follows:

	Year Ended December 31, 2018	Year Ended December 31, 2017 (In millions)	Year Ended December 31, 2016
Net Income (Loss)	\$ (3.9)	\$ 84.9	\$ (29.6)
Interest expense, net	20.4	20.5	16.0
Income tax expenses	4.6	1.2	3.7
Depreciation and amortization	32.0	28.1	25.4
EBITDA	\$ 53.2	\$ 134.7	\$ 15.5
Adjustments:			
Restructuring and other gain, net(a)		(17.0)	(5.5)
Early termination charges(b)		13.4	4.2
Equity-based compensation expense(c)	4.4	2.3	3.8
Foreign currency loss (gain), net(d)	24.4	(65.5)	15.4
Derivative valuation loss (gain), net(e)	2.4	(0.2)	0.3
Restatement related expenses (gain)(f)	(0.8)	10.3	7.0
Secondary offering expenses(g)		0.7	
Loss on early extinguishment of long-term borrowings, net(h)	0.2		
Other indemnification costs and reimbursement(i)	0.4		
Adjusted EBITDA	\$ 84.3	\$ 78.7	\$ 40.7

- (a) For the year ended December 31, 2017, this adjustment eliminates the \$16.6 million restructuring gain on sale of a building in connection with the closure of our 6-inch fab and the \$0.4 million gain on sale of our sensor business. For the year ended December 31, 2016, this adjustment eliminates the \$7.8 million restructuring gain on sale of machinery in connection with the closure of our 6-inch fab, net of \$2.3 million training and transition costs related to our 6-inch fab employees.

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- (b) This adjustment eliminates the charges related to the reduction of workforce through the Headcount Reduction Plan in the first half of 2017 and the Program in the second quarter of 2016. As these termination related charges are recorded as a result of implementing the company-wide headcount reduction and are not

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expected to represent ongoing operating expenses to us, we believe our operating performance results are more usefully compared if these expenses are excluded.

- (c) This adjustment eliminates the impact of non-cash equity-based compensation expenses. Although we expect to incur non-cash equity-based compensation expenses in the future, these expenses do not generally require cash settlement, and, therefore, are not used by us to assess the profitability of our operations. We believe that analysts and investors will find it helpful to review our operating performance without the effects of these non-cash expenses as supplemental information.
- (d) This adjustment mainly eliminates the impact of non-cash foreign currency translation associated with intercompany debt obligations and foreign currency denominated receivables and payables, as well as the cash impact of foreign currency transaction gains or losses on collection of such receivables and payment of such payables. Although we expect to incur foreign currency translation gains or losses in the future, we believe that analysts and investors will find it helpful to review our operating performance without the effects of these primarily non-cash gains or losses, which we cannot control. Additionally, we believe the isolation of this adjustment provides investors with enhanced comparability to prior and future periods of our operating performance results.
- (e) This adjustment eliminates the impact of gain or loss recognized in income on derivatives, which represents hedge ineffectiveness or derivatives value changes excluded from the risk being hedged. We enter into derivative transactions to mitigate foreign exchange risks. As our derivative transactions are limited to a certain portion of our expected cash flows denominated in US dollars, and we do not enter into derivative transactions for trading or speculative purposes, we do not believe that these charges or gains are indicative of our core operating performance.
- (f) This adjustment eliminates expenses in connection with the Audit Committee's independent investigation and related restatement and litigation, primarily comprised of legal, audit and consulting fees, and certain other expenses. For 2018, this adjustment eliminates the reversal of a \$0.8 million accrual related to certain legal fees incurred in prior periods and reimbursed by insurers in the first quarter of 2018. For 2017, this adjustment includes the \$3.0 million civil penalty imposed by the SEC and the \$4.3 million of the additional tax assessment and associated penalties, primarily related to non-income-based VAT transactions in the Restatement periods, administrative fine and related legal fees. As these expenses meaningfully impacted our operating results and are not expected to represent an ongoing operating expense to us, we believe our operating performance results are more usefully compared if these expenses are excluded.
- (g) This adjustment eliminates expenses incurred for the secondary offering by the Selling Stockholders primarily in the third quarter of 2017.
- (h) This adjustment eliminates expenses related to the repurchase of a portion of the 2021 Notes and the Exchangeable Notes in December 2018.
- (i) This adjustment eliminates a \$0.4 million legal expense related to the indemnification of a former employee. As the legal expense for the former employee is borne by us under a negotiated separation agreement, we do not believe that this charge is indicative of our core operating performance and has been excluded for comparative purposes.

Adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation, or as a substitute for analysis of our results as reported under US GAAP. Some of these limitations are:

Adjusted EBITDA does not reflect our cash expenditures, or future requirements, for capital expenditures or contractual commitments;

Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;

Adjusted EBITDA does not reflect the interest expense, or the cash requirements necessary to service interest or principal payments, on our debt;

although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will often need to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for such replacements;

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Adjusted EBITDA does not consider the potentially dilutive impact of issuing equity-based compensation to our management team and employees;

Adjusted EBITDA does not reflect the costs of holding certain assets and liabilities in foreign currencies; and

other companies in our industry may calculate Adjusted EBITDA differently than we do, limiting its usefulness as a comparative measure.

Because of these limitations, Adjusted EBITDA should not be considered as a measure of discretionary cash available to us to invest in the growth of our business. We compensate for these limitations by relying primarily on our US GAAP results and using Adjusted EBITDA only supplementally.

We present Adjusted Net Income (Loss) as a further supplemental measure of our performance. We prepare Adjusted Net Income (Loss) by adjusting net income (loss) to eliminate the impact of a number of non-cash expenses and other items that may be either one time or recurring that we do not consider to be indicative of our core ongoing operating performance. We believe that Adjusted Net Income (Loss) is particularly useful because it reflects the impact of our asset base and capital structure on our operating performance. We present Adjusted Net Income (Loss) for a number of reasons, including:

we use Adjusted Net Income (Loss) in communications with our Board of Directors concerning our consolidated financial performance without the impact of non-cash expenses and the other items as we discussed below since we believe that it is a more consistent measure of our core operating results from period to period; and

we believe that reporting Adjusted Net Income (Loss) is useful to readers in evaluating our core operating results because it eliminates the effects of non-cash expenses as well as the other items we discuss below, such as foreign currency gains and losses, which are out of our control and can vary significantly from period to period.

Adjusted Net Income (Loss) is not a measure defined in accordance with US GAAP and should not be construed as an alternative to income from continuing operations, cash flows from operating activities or net income, as determined in accordance with US GAAP. We encourage you to evaluate each adjustment and the reasons we consider them appropriate. Other companies in our industry may calculate Adjusted Net Income (Loss) differently than we do, limiting its usefulness as a comparative measure. In addition, in evaluating Adjusted Net Income (Loss), you should be aware that in the future we may incur expenses similar to the adjustments in this presentation. We define Adjusted Net Income (Loss) for the periods indicated as net income (loss), adjusted to exclude (i) restructuring and other gain, net, (ii) early termination charges, (iii) equity-based compensation expense, (iv) foreign currency loss (gain), net, (v) derivative valuation loss (gain), net, (vi) restatement related expenses (gain), (vii) secondary offering expense, (viii) loss on early extinguishment of long-term borrowings, net and (ix) other indemnification costs and reimbursement.

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The following table summarizes the adjustments to net income (loss) that we make in order to calculate Adjusted Net Income (Loss) for the periods indicated:

	Year Ended December 31, 2018	Year Ended December 31, 2017 (In millions)	Year Ended December 31, 2016
Net Income (Loss)	\$ (3.9)	\$ 84.9	\$ (29.6)
Adjustments:			
Restructuring and other gain, net(a)		(17.0)	(5.5)
Early termination charges(b)		13.4	4.2
Equity-based compensation expense(c)	4.4	2.3	3.8
Foreign currency loss (gain), net(d)	24.4	(65.5)	15.4
Derivative valuation loss (gain), net(e)	2.4	(0.2)	0.3
Restatement related expenses (gain)(f)	(0.8)	10.3	7.0
Secondary offering expenses(g)		0.7	
Loss on early extinguishment of long-term borrowings, net(h)	0.2		
Other indemnification costs and reimbursement(i)	0.4		
Adjusted Net Income (Loss)	\$ 27.1	\$ 28.9	\$ (4.5)

- (a) For the year ended December 31, 2017, this adjustment eliminates the \$16.6 million restructuring gain on sale of a building in connection with the closure of our 6-inch fab and the \$0.4 million gain on sale of our sensor business. For the year ended December 31, 2016, this adjustment eliminates the \$7.8 million restructuring gain on sale of machinery in connection with the closure of our 6-inch fab, net of \$2.3 million training and transition costs related to our 6-inch fab employees.
- (b) This adjustment eliminates the charges related to the reduction of workforce through the Headcount Reduction Plan in the first half of 2017 and the Program in the second quarter of 2016. As these termination related charges are recorded as a result of implementing the company-wide headcount reduction and are not expected to represent ongoing operating expenses to us, we believe our operating performance results are more usefully compared if these expenses are excluded.
- (c) This adjustment eliminates the impact of non-cash equity-based compensation expenses. Although we expect to incur non-cash equity-based compensation expenses in the future, these expenses do not generally require cash settlement, and, therefore, are not used by us to assess the profitability of our operations. We believe that analysts and investors will find it helpful to review our operating performance without the effects of these non-cash expenses as supplemental information.
- (d) This adjustment mainly eliminates the impact of non-cash foreign currency translation associated with intercompany debt obligations and foreign currency denominated receivables and payables, as well as the cash impact of foreign currency transaction gains or losses on collection of such receivables and payment of such payables. Although we expect to incur foreign currency translation gains or losses in the future, we believe that analysts and investors will find it helpful to review our operating performance without the effects of these primarily non-cash gains or losses, which we cannot control. Additionally, we believe the isolation of this adjustment provides investors with enhanced comparability to prior and future periods of our operating performance results.
- (e) This adjustment eliminates the impact of gain or loss recognized in income on derivatives, which represents hedge ineffectiveness or derivatives value changes excluded from the risk being hedged. We enter into derivative transactions to mitigate foreign exchange risks. As our derivative transactions are limited to a certain portion of our expected cash flows denominated in US dollars, and we do not enter into derivative transactions for trading or speculative purposes, we do not believe that these charges or gains are indicative of our core operating performance.
- (f) This adjustment eliminates expenses in connection with the Audit Committee's independent investigation and related restatement and litigation, primarily comprised of legal, audit and consulting fees, and certain

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other expenses. For 2018, this adjustment eliminates the reversal of a \$0.8 million accrual related to certain legal fees incurred in prior periods and reimbursed by insurers in the first quarter of 2018. For 2017, this adjustment includes the \$3.0 million civil penalty imposed by the SEC and the \$4.3 million of the additional tax assessment and associated penalties, primarily related to non-income-based VAT transactions in the Restatement periods, administrative fine and related legal fees. As these expenses meaningfully impacted our operating results and are not expected to represent an ongoing operating expense to us, we believe our operating performance results are more usefully compared if these expenses are excluded.

- (g) This adjustment eliminates expenses incurred for the secondary offering by the Selling Stockholders primarily in the third quarter of 2017.
- (h) This adjustment eliminates expenses related to the repurchase of a portion of the 2021 Notes and the Exchangeable Notes in December 2018.
- (i) This adjustment eliminates a \$0.4 million legal expense related to the indemnification of a former employee. As the legal expense for the former employee is borne by us under a negotiated separation agreement, we do not believe that this charge is indicative of our core operating performance and has been excluded for comparative purposes.

There was no tax impact from the adjustments to net income to calculate our Adjusted Net Income (Loss) for the years ended December 31, 2018, 2017 and 2016 due to net operating loss carry-forwards available to offset taxable income and full allowance for deferred tax assets. We believe that all adjustments to net income (loss) used to calculate Adjusted Net Income (Loss) were applied consistently to the periods presented.

Adjusted Net Income (Loss) has limitations as an analytical tool, and you should not consider it in isolation, or as a substitute for analysis of our results as reported under US GAAP. Some of these limitations are:

Adjusted Net Income (Loss) does not reflect changes in, or cash requirements for, our working capital needs;

Adjusted Net Income (Loss) does not consider the potentially dilutive impact of issuing equity-based compensation to our management team and employees;

Adjusted Net Income (Loss) does not reflect the costs of holding certain assets and liabilities in foreign currencies; and

other companies in our industry may calculate Adjusted Net Income (Loss) differently than we do, limiting its usefulness as a comparative measure.

Because of these limitations, Adjusted Net Income (Loss) should not be considered as a measure of profitability of our business. We compensate for these limitations by relying primarily on our US GAAP results and using Adjusted Net Income (Loss) only supplementally.

Our Adjusted EBITDA and Adjusted Net Income for the year ended December 31, 2018 were \$84.3 million and \$27.1 million, respectively. Our Adjusted EBITDA and Adjusted Net Income for the year ended December 31, 2017 were \$78.7 million and \$28.9 million, respectively. Our Adjusted EBITDA and Adjusted Net Loss for the year ended December 31, 2016 were \$40.7 million and \$4.5 million, respectively.

Factors Affecting Our Results of Operations

Net Sales. We derive virtually all of our sales (net of sales returns and allowances) from two segments: Foundry Services Group and Standard Products Group. Our product inventory is primarily located in Korea and is available for drop shipment globally. Outside of Korea, we maintain limited product inventory, and our sales representatives generally relay orders to our factories in Korea for fulfillment. We have strategically located our sales and technical support offices near concentrations of major customers. Our sales offices are located in Korea, the United States, Japan and Greater China. Our network of authorized agents and distributors is in the United States, Europe and the Asia Pacific region. Our net sales from All other consist principally of the disposal of scrap materials.

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Prior to the adoption of the new revenue standard effective on January 1, 2018, we had historically recognized revenue when risk and reward of ownership pass to the customer either upon shipment, upon product delivery at the customer's location or upon customer acceptance, depending on the terms of the arrangement. After the adoption of the new revenue standard effective on January 1, 2018, we recognize revenue over time for those foundry products without alternative use where we have an enforceable right to payment for the related foundry services completed to date. As we adopted the new revenue standard under the modified retrospective method, we have not changed the comparative information in our interim consolidated financial statements for the year ended December 31, 2017. Such comparative information continues to be reported under the accounting standards in effect for that period. See Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 1 Business, Basis of Presentation and Significant Accounting Policies Basis of Presentation and Recent Accounting Pronouncements in this Report for further discussion. For the years ended December 31, 2018 and 2017, we sold products to 370 and 343 customers, respectively, and our net sales to our ten largest customers represented 61% and 57% of our net sales, respectively. We have a combined production capacity of approximately 113,000 semiconductor wafers per month. We believe our large-scale, cost-effective fabrication facilities enable us to rapidly adjust our production levels to meet shifts in demand by our end customers.

Gross Profit. Our overall gross profit generally fluctuates as a result of changes in overall sales volumes and in the average selling prices of our products and services. Other factors that influence our gross profit include changes in product mix, the introduction of new products and services and subsequent generations of existing products and services, shifts in the utilization of our manufacturing facilities and the yields achieved by our manufacturing operations, changes in material, labor and other manufacturing costs including outsourced manufacturing expenses, and variation in depreciation expense.

Average Selling Prices. Average selling prices for our products tend to be highest at the time of introduction of new products which utilize the latest technology and tend to decrease over time as such products mature in the market and are replaced by next generation products. We strive to offset the impact of declining selling prices for existing products through our product development activities and by introducing new products that command selling prices above the average selling price of our existing products. In addition, we seek to manage our inventories and manufacturing capacity so as to preclude losses from product and productive capacity obsolescence.

Material Costs. Our cost of material consists of costs of raw materials, such as silicon wafers, chemicals, gases and tape and packaging supplies. We use processes that require specialized raw materials, such as silicon wafers, that are generally available from a limited number of suppliers. If demand increases or supplies decrease, the costs of our raw materials could increase significantly.

Labor Costs. A significant portion of our employees are located in Korea. Under Korean labor laws, most employees and certain executive officers with one or more years of service are entitled to severance benefits upon the termination of their employment based on their length of service and rate of pay. As of December 31, 2018, approximately 98% of our employees were eligible for severance benefits.

Depreciation Expense. We periodically evaluate the carrying values of long-lived assets, including property, plant and equipment and intangible assets, as well as the related depreciation periods. We depreciated our property, plant and equipment using the straight-line method over the estimated useful lives of our assets. Depreciation rates vary from 30-40 years on buildings to 5 to 12 years for certain equipment and assets. Our evaluation of carrying values is based on various analyses including cash flow and profitability projections. If our projections indicate that future undiscounted cash flows are not sufficient to recover the carrying values of the related long-lived assets, the carrying value of the assets is impaired and will be reduced, with the reduction charged to expense so that the carrying value is equal to fair value.

Selling Expenses. We sell our products worldwide through a direct sales force as well as a network of sales agents and representatives to OEMs, including major branded customers and contract manufacturers, and

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indirectly through distributors. Selling expenses consist primarily of the personnel costs for the members of our direct sales force, a network of sales representatives and other costs of distribution. Personnel costs include base salary, benefits and incentive compensation.

General and Administrative Expenses. General and administrative expenses consist of the costs of various corporate operations, including finance, legal, human resources and other administrative functions. These expenses primarily consist of payroll-related expenses, consulting and other professional fees and office facility-related expenses.

Research and Development. The rapid technological change and product obsolescence that characterize our industry require us to make continuous investments in research and development. Product development time frames vary but, in general, we incur research and development costs one to two years before generating sales from the associated new products. These expenses include personnel costs for members of our engineering workforce, cost of photomasks, silicon wafers and other non-recurring engineering charges related to product design. Additionally, we develop base line process technology through experimentation and through the design and use of characterization wafers that help achieve commercially feasible yields for new products. The majority of research and development expenses of our Foundry Services Group are for process development that serves as a common technology platform for all of our product lines. For our Standard Products Group, the majority of research and development expenses are material-related costs for OLED display driver IC product development involving fine processes.

Interest Expense. Our interest expense was incurred primarily under our 2021 Notes and our Exchangeable Notes.

Impact of Foreign Currency Exchange Rates on Reported Results of Operations. Historically, a portion of our revenues and greater than the majority of our operating expenses and costs of sales have been denominated in non-US currencies, principally the Korean won, and we expect that this will remain true in the future. Because we report our results of operations in US dollars converted from our non-US revenues and expenses based on monthly average exchange rates, changes in the exchange rate between the Korean won and the US dollar could materially impact our reported results of operations and distort period to period comparisons. In particular, because of the difference in the amount of our consolidated revenues and expenses that are in US dollars relative to Korean won, depreciation in the US dollar relative to the Korean won could result in a material increase in reported costs relative to revenues, and therefore could cause our profit margins and operating income (loss) to appear to decline materially, particularly relative to prior periods. The converse is true if the US dollar were to appreciate relative to the Korean won. Moreover, our foreign currency gain or loss would be affected by changes in the exchange rate between the Korean won and the US dollar as a substantial portion of non-cash translation gain or loss is associated with the intercompany long-term loans to our Korean subsidiary, which is denominated in US dollars. As of December 31, 2018, the outstanding intercompany loan balance including accrued interest between our Korean subsidiary and our Dutch subsidiary was \$666.6 million. This amount included an intercompany loan of \$75.0 million executed during the three months ended March 31, 2017, which was used to transfer a portion of the net proceeds from the offering of the Exchangeable Notes from our Luxembourg subsidiary to our Dutch subsidiary, and then to our Korean subsidiary. As a result of such foreign currency fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our stock could be adversely affected.

From time to time, we may engage in exchange rate hedging activities in an effort to mitigate the impact of exchange rate fluctuations. Our Korean subsidiary enters into foreign currency forward and zero cost collar contracts in order to mitigate a portion of the impact of US dollar-Korean won exchange rate fluctuations on our operating results. Obligations under these foreign currency forward and zero cost collar contracts must be cash collateralized if our exposure exceeds certain specified thresholds. These forward and zero cost collar contracts may be terminated by the counterparty in a number of circumstances, including if our total cash and cash

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equivalents is less than \$30.0 million at the end of a fiscal quarter unless a waiver is obtained from the counterparty. We cannot assure that any hedging technique we implement will be effective. If our hedging activities are not effective, changes in currency exchange rates may have a more significant impact on our results of operations.

Foreign Currency Gain or Loss. Foreign currency translation gains or losses on transactions by us or our subsidiaries in a currency other than our or our subsidiaries' functional currency are included in our statements of operations as a component of other income (expense). A substantial portion of this net foreign currency gain or loss relates to non-cash translation gain or loss related to the principal balance of intercompany balances at our Korean subsidiary that are denominated in US dollars. This gain or loss results from fluctuations in the exchange rate between the Korean won and US dollar.

Income Taxes. We record our income taxes in each of the tax jurisdictions in which we operate. This process involves using an asset and liability approach whereby deferred tax assets and liabilities are recorded for differences in the financial reporting bases and tax bases of our assets and liabilities. We exercise significant management judgment in determining our provision for income taxes, deferred tax assets and liabilities. We assess whether it is more likely than not that the deferred tax assets existing at the period-end will be realized in future periods. In such assessment, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies and recent results of operations. In the event we were to determine that we would be able to realize the deferred income tax assets in the future in excess of their net recorded amount, we would adjust the valuation allowance, which would reduce the provision for income taxes.

We are subject to income- or non-income-based tax examinations by tax authorities of the US, Korea and multiple other foreign jurisdictions, where applicable, for all open tax years. Significant estimates and judgments are required in determining our worldwide provision for income- or non-income based taxes. Some of these estimates are based on interpretations of existing tax laws or regulations. The ultimate amount of tax liability may be uncertain as a result. See Item 8, Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 16. Income Taxes included elsewhere in this Report.

Capital Expenditures. We primarily invest in manufacturing equipment, software design tools and other tangible assets mainly for fabrication facility maintenance, capacity expansion and technology improvement. Capacity expansions and technology improvements typically occur in anticipation of increases in demand. We typically pay for capital expenditures in partial installments with portions due on order, delivery and final acceptance. Our capital expenditures mainly include our payments for the purchase of property, plant and equipment.

Inventories. We monitor our inventory levels in light of product development changes and market expectations. We may be required to take additional charges for quantities in excess of demand, cost in excess of market value and product age. Our analysis may take into consideration historical usage, expected demand, anticipated sales price, new product development schedules, the effect new products might have on the sales of existing products, product age, customer design activity, customer concentration and other factors. These forecasts require us to estimate our ability to predict demand for current and future products and compare those estimates with our current inventory levels and inventory purchase commitments. Our forecasts for our inventory may differ from actual inventory use.

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The following table sets forth, for the periods indicated, certain information related to our operations, expressed in US dollars and as a percentage of our net sales:

	Year Ended December 31, 2018		Year Ended December 31, 2017 (As adjusted)		Year Ended December 31, 2016 (As adjusted)	
	Amount	% of net sales	Amount	% of net sales	Amount	% of net sales
(In millions)						
Consolidated statements of operations data:						
Net sales	\$ 750.9	100.0%	\$ 679.7	100.0%	\$ 688.0	100.0%
Cost of sales	552.8	73.6	491.8	72.4	531.7	77.3
Gross profit	198.1	26.4	187.9	27.6	156.2	22.7
Selling, general and administrative expenses	72.6	9.7	81.8	12.0	83.5	12.1
Research and development expenses	78.0	10.4	70.5	10.4	72.2	10.5
Restructuring and other gain, net			(17.0)	(2.5)	(6.5)	(0.9)
Early termination charges			13.4	2.0	4.2	0.6
Operating income (loss)	47.4	6.3	39.2	5.8	2.7	0.4
Interest expense	(22.3)	(3.0)	(21.6)	(3.2)	(16.2)	(2.4)
Foreign currency gain (loss), net	(24.4)	(3.3)	65.5	9.6	(15.4)	(2.2)
Loss on early extinguishment of long-term borrowings, net	(0.2)	(0.0)				
Others, net	0.3	0.0	2.9	0.4	3.0	0.4
	(46.7)	(6.2)	46.9	6.9	(28.6)	(4.2)
Income (loss) before income taxes	0.7	0.1	86.1	12.7	(25.9)	(3.8)
Income tax expenses (benefits)	4.6	0.6	1.2	0.2	3.7	0.5
Net income (loss)	\$ (3.9)	(0.5)%	\$ 84.9	12.5%	\$ (29.6)	(4.3)%
Net Sales:						
Foundry Services Group	\$ 325.3	43.3%	\$ 350.4	51.6%	\$ 299.1	43.5%
Standard Products Group						
Display Solutions	256.1	34.1	179.2	26.4	256.8	37.3
Power Solutions	169.3	22.5	149.8	22.0	131.5	19.1
Total Standard Products Group	425.4	56.7	329.1	48.4	388.3	56.4
All other	0.2	0.0	0.2	0.0	0.6	0.1
Total net sales	\$ 750.9	100.0%	\$ 679.7	100.0%	\$ 688.0	100.0%

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The following table sets forth consolidated results of operations for the years ended December 31, 2018 and 2017:

	Year Ended December 31, 2018		Year Ended December 31, 2017		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Net sales	\$ 750.9	100.0%	\$ 679.7	100.0%	\$ 71.2
Cost of sales	552.8	73.6	491.8	72.4	61.0
Gross profit	198.1	26.4	187.9	27.6	10.2
Selling, general and administrative expenses	72.6	9.7	81.8	12.0	(9.1)
Research and development expenses	78.0	10.4	70.5	10.4	7.5
Restructuring and other gain, net			(17.0)	(2.5)	17.0
Early termination charges			13.4	2.0	(13.4)
Operating income	47.4	6.3	39.2	5.8	8.2
Interest expense	(22.3)	(3.0)	(21.6)	(3.2)	(0.7)
Foreign currency gain (loss), net	(24.4)	(3.3)	65.5	9.6	(90.0)
Loss on early extinguishment of long-term borrowings, net	(0.2)	(0.0)			(0.2)
Others, net	0.3	0.0	2.9	0.4	(2.6)
	(46.7)	(6.2)	46.9	6.9	(93.5)
Income (loss) before income taxes	0.7	0.1	86.1	12.7	(85.3)
Income tax expenses	4.6	0.6	1.2	0.2	3.5
Net income (loss)	\$ (3.9)	(0.5)	\$ 84.9	12.5	\$ (88.8)

Results by segment

	Year Ended December 31, 2018		Year Ended December 31, 2017 (As adjusted)		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Net Sales					
Foundry Services Group	\$ 325.3	43.3%	\$ 350.4	51.6%	\$ (25.1)
Standard Products Group					
Display Solutions	256.1	34.1	179.2	26.4	76.9
Power Solutions	169.3	22.5	149.8	22.0	19.4
Total Standard Products Group	425.4	56.7	329.1	48.4	96.3
All other	0.2	0.0	0.2	0.0	(0.0)
Total net sales	\$ 750.9	100.0%	\$ 679.7	100.0%	\$ 71.2

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	Year Ended December 31, 2018		Year Ended December 31, 2017 (As adjusted)		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Gross Profit					
Foundry Services Group	\$ 82.6	25.4%	\$ 101.8	29.0%	\$ (19.2)
Standard Products Group	115.5	27.1	85.9	26.1	29.6
All other	0.0	21.2	0.2	100.0	(0.2)
Total gross profit	\$ 198.1	26.4%	\$ 187.9	27.6%	\$ 10.2

Net Sales

Net sales were \$750.9 million for the year ended December 31, 2018, a \$71.2 million, or 10.5%, increase compared to \$679.7 million for the year ended December 31, 2017. This increase was primarily attributable to an increase in revenue from our Standard Products Group, which was offset in part by a decrease in revenue from our Foundry Services Group.

Foundry Services Group. Net sales from our Foundry Services Group segment were \$325.3 million for the year ended December 31, 2018, a \$25.1 million, or 7.2%, decrease compared to net sales of \$350.4 million for the year ended December 31, 2017. The decrease was primarily attributable to a decrease in demand of low margin product sales from a global power management IC foundry customer and a decrease in demand from a customer serving the low- to mid-range mobile phone market. This decrease was offset in part by an increase in sales of certain battery charger related products from a global power management IC foundry customer.

Standard Products Group. Net sales from our Standard Products Group segment were \$425.4 million for the year ended December 31, 2018, a \$96.3 million, or 29.3%, increase compared to \$329.1 million for the year ended December 31, 2017. This increase was primarily attributable to an increase in revenue related to an improvement in mobile OLED display driver ICs due to the introduction of new OLED smartphones by Chinese manufacturers and higher demand for premium power products such as high-end MOSFETs and IGBTs primarily for TV and industrial applications. This increase was offset in part by a strategic reduction of our lower margin LCD business.

All Other. All other net sales remained constant at \$0.2 million for each of the years ended December 31, 2018 and 2017.

Gross Profit

Total gross profit was \$198.1 million for the year ended December 31, 2018 compared to \$187.9 million for the year ended December 31, 2017, a \$10.2 million, or 5.4%, increase. Gross profit as a percentage of net sales for the year ended December 31, 2018 decreased to 26.4% compared to 27.6% for the year ended December 31, 2017, primarily due to a decrease in gross profit as a percentage of net sales from our Foundry Services Group, which was offset in part by an increase in gross profits as a percentage of net sales from our Standard Products Group.

Foundry Services Group. Gross profit from our Foundry Services Group segment was \$82.6 million for the year ended December 31, 2018, a \$19.2 million, or 18.9%, decrease compared to \$101.8 million for the year ended December 31, 2017. Gross profit as a percentage of net sales for the year ended December 31, 2018 decreased to 25.4% compared to 29.0% for the year ended December 31, 2017. The decrease in gross profit as a percentage of net sales was mainly attributable to a lower utilization rate, which was affected in part by a softening global market conditions, including macroeconomic uncertainties, and a strategic reduction of low margin LCD business. This decrease was also attributable to an unfavorable product mix and an increase in raw wafer prices.

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Standard Products Group. Gross profit from our Standard Products Group segment was \$115.5 million for the year ended December 31, 2018, a \$29.6 million, or 34.4%, increase from \$85.9 million for the year ended December 31, 2017. Gross profit as a percentage of net sales for the year ended December 31, 2018 increased to 27.1% compared to 26.1% for the year ended December 31, 2017. The increase in both gross profit and gross profit margin was primarily attributable to a favorable product mix from an increase in sales of mobile OLED display driver ICs.

All Other. All other gross profit was \$0.04 million for the year ended December 31, 2018 and \$0.2 million for the year ended December 31, 2017.

Net Sales by Geographic Region

We report net sales by geographic region based on the location to which the products are billed. The following table sets forth our net sales by geographic region and the percentage of total net sales represented by each geographic region for the years ended December 31, 2018 and 2017:

	Year Ended December 31, 2018		Year Ended December 31, 2017		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Korea	\$ 282.5	37.6%	\$ 279.9	41.2%	\$ 2.6
Asia Pacific (other than Korea)	380.6	50.7	322.6	47.5	58.0
U.S.A.	37.5	5.0	35.1	5.2	2.4
Europe	47.8	6.4	41.1	6.0	6.7
Others	2.5	0.3	1.0	0.1	1.5
	\$ 750.9	100.0%	\$ 679.7	100.0%	\$ 71.2

Net sales in Korea for the year ended December 31, 2018 increased from \$279.9 million to \$282.5 million compared to the year ended December 31, 2017, or by \$2.6 million, or 0.9%, primarily due to higher sales of premium power product and an increase in revenue related to the introduction of new OLED display driver ICs, which was offset in part by a strategic reduction of low margin LCD business.

Net sales in the Asia Pacific for the year ended December 31, 2018 increased from \$322.6 million to \$380.6 million compared to the year ended December 31, 2017, or by \$58.0 million, or 18.0%, primarily due to an increase in revenue related to increased sales to mobile OLED display driver ICs in connection with the introduction of new OLED smartphones. This increase was in part offset by a decrease in sales of certain products from a foundry customer serving the low- to mid-range mobile phone market, and a decrease in sales of certain low margin products from a global power management IC foundry customer.

Net sales in the United States for the year ended December 31, 2018 increased from \$35.1 million to \$37.5 million compared to the year ended December 31, 2017, or by \$2.4 million, or 6.8%, primarily due to an increase in sales of certain products from a global power management IC foundry customer.

Net sales in Europe for the year ended December 31, 2018 increased from \$41.1 million to \$47.8 million compared to the year ended December 31, 2017, or by \$6.7 million, or 16.4%, primarily due to an increase in sales of certain battery charger related products from a global power management IC foundry customer, which was offset in part by lower demand from a customer serving the high-end smartphone market.

Operating Expenses

Selling, General and Administrative Expenses. Selling, general and administrative expenses were \$72.6 million, or 9.7% of net sales for the year ended December 31, 2018, compared to \$81.8 million, or 12.0%

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of net sales for the year ended December 31, 2017. The decrease of \$9.1 million, or 11.2%, was primarily attributable to a \$6.7 million decrease in professional fees, which were mainly comprised of legal and consulting services and a \$4.2 million charge related to an additional tax assessment and associated penalties and an administrative fine as a result of the tax audit conducted by the KNTS which concluded in the fourth quarter of 2017. These decreases were offset in part by an increase in employee compensation, including issuance of equity-based compensation.

Research and Development Expenses. Research and development expenses were \$78.0 million, or 10.4%, of net sales for the year ended December 31, 2018, compared to \$70.5 million, or 10.4%, of net sales for the year ended December 31, 2017. The increase of \$7.5 million, or 10.7%, was primarily attributable to an increase in development activities for new OLED products.

Restructuring and Other Gain. Restructuring and other gain of \$17.0 million recorded for the year ended December 31, 2017 resulted from a \$16.6 million restructuring gain on the sale of the building related to the closure of our 6-inch fab and a \$0.4 million gain on sale of our sensor business.

Early Termination Charges. Early termination charges of \$13.4 million for the year ended December 31, 2017 were recorded for the termination benefits payable to the employees affected under our Headcount Reduction Plan.

Operating Income

As a result of the foregoing, operating income increased by an \$8.2 million in the year ended December 31, 2018 compared to the year ended December 31, 2017. As discussed above, the increase in operating income resulted from a \$10.2 million increase in gross profit, a \$9.1 million decrease in selling, general and administrative expenses and a \$13.4 million decrease in early termination charges, which were partially offset by a \$17.0 million decrease in restructuring and other gain and a \$7.5 million increase in research development expenses.

Other Income (Expense)

Interest Expense. Interest expenses were \$22.3 million and \$21.6 million for the year ended December 31, 2018 and December 31, 2017, respectively.

Foreign Currency Gain (Loss), Net. Net foreign currency loss for the year ended December 31, 2018 was \$24.4 million compared to net foreign currency gain of \$65.5 million for the year ended December 31, 2017. The net foreign currency loss for the year ended December 31, 2018 was due to the depreciation in value of the Korean won relative to the US dollar during the period. The net foreign currency gain for the year ended December 31, 2017 was due to the appreciation in value of the Korean won relative to the US dollar during the period.

A substantial portion of our net foreign currency gain or loss is non-cash translation gain or loss associated with the intercompany long-term loans to our Korean subsidiary, which is denominated in US dollars, and is affected by changes in the exchange rate between the Korean won and the US dollar. As of December 31, 2018, the outstanding intercompany loan balance including accrued interest between our Korean subsidiary and our Dutch subsidiary was \$666.6 million. Foreign currency translation gain or loss from intercompany balances was included in determining our consolidated net income since the intercompany balances were not considered long-term investments in nature because management intended to settle these intercompany balances at their respective maturity dates.

Loss on Early Extinguishment of Long-Term Borrowings, Net. In December 2018, we repurchased a principal amount of \$0.5 million and \$1.6 million of the 2021 Notes and the Exchangeable Notes, respectively. In connection with these repurchases, we recognized a \$0.2 million of net loss for the year ended December 31, 2018.

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Others, Net. Others were comprised of gains and losses on the valuation of derivatives which were designated as hedging instruments, rental income and interest income. Others for the year ended December 31, 2018 and December 31, 2017 were \$0.3 million and \$2.9 million, respectively.

Income Tax Expenses

We are subject to income taxes in the United States and many foreign jurisdictions and our effective tax rate is affected by changes in the mix of earnings between countries with differing tax rates. Our primary foreign operations are in Korea where the statutory tax rate applicable to us was approximately 24.2% in each of 2018 and 2017. Statutory tax rates for our foreign subsidiaries except those in Luxembourg, Netherlands and Korea, were less than the US federal statutory rate of 21.0%.

We recorded income tax expenses of \$4.6 million and \$1.2 million for the years ended December 31, 2018 and 2017, respectively. The increase in income tax expenses for the year ended December 31, 2018 was primarily attributable to taxable income generated by our Korean subsidiary combined with its ability to utilize net operating carryforwards up to 70% of the taxable income, and a decrease in our uncertain tax positions that resulted in a reduction of income tax expense for the year ended December 31, 2017. Our effective tax rate was 620.6% for the year ended December 31, 2018, as compared to 1.3% for the year ended December 31, 2017.

We make an ongoing assessment regarding the realization of US and non-US deferred tax assets. The valuation allowances at December 31, 2018 and 2017 were primarily attributable to deferred tax assets for the uncertainty in taxable income at our Korean subsidiary for which we have recorded a full valuation allowance against the deferred tax assets, net of its deferred tax liabilities, and against certain of our foreign subsidiaries' deferred tax assets pertaining to their related tax loss carry-forwards and tax credits that are not anticipated to generate a tax benefit.

Net Income

As a result of the foregoing, net income decreased by \$88.8 million in the year ended December 31, 2018 compared to the year ended December 31, 2017. As discussed above, the decrease primarily resulted from a \$90.0 million increase in foreign currency loss and a \$3.5 million increase in income tax expenses, which was partially offset by an \$8.2 million increase in operating income.

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Results of Operations Comparison of Years Ended December 31, 2017 and 2016

The following table sets forth consolidated results of operations for the years ended December 31, 2017 and 2016:

	Year Ended December 31, 2017		Year Ended December 31, 2016		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Net sales	\$ 679.7	100.0%	\$ 688.0	100.0%	\$ (8.3)
Cost of sales	491.8	72.4	531.7	77.3	(40.0)
Gross profit	187.9	27.6	156.2	22.7	31.7
Selling, general and administrative expenses	81.8	12.0	83.5	12.1	(1.8)
Research and development expenses	70.5	10.4	72.2	10.5	(1.7)
Restructuring and other charges (gain), net	(17.0)	(2.5)	(6.5)	(0.9)	(10.5)
Early termination charges	13.4	2.0	4.2	0.6	9.1
Operating income	39.2	5.8	2.7	0.4	36.5
Interest expense	(21.6)	(3.2)	(16.2)	(2.4)	(5.3)
Foreign currency gain (loss), net	65.5	9.6	(15.4)	(2.2)	80.9
Others, net	2.9	0.4	3.0	0.4	(0.1)
	46.9	6.9	(28.6)	(4.2)	75.5
Income (loss) before income taxes	86.1	12.7	(25.9)	(3.8)	112.0
Income tax expenses (benefits)	1.2	0.2	3.7	0.5	(2.6)
Net income (loss)	\$ 84.9	12.5	\$ (29.6)	(4.3)	\$ 114.6

Results by segment

	Year Ended December 31, 2017 (As adjusted)		Year Ended December 31, 2016 (As adjusted)		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Net Sales					
Foundry Services Group	\$ 350.4	51.6%	\$ 299.1	43.5%	\$ 51.3
Standard Products Group					
Display Solutions	179.2	26.4	256.8	37.3	(77.6)
Power Solutions	149.8	22.0	131.5	19.1	18.4
Total Standard Products Group	329.1	48.4	388.3	56.4	(59.2)
All other	0.2	0.0	0.6	0.1	(0.4)
Total net sales	\$ 679.7	100.0%	\$ 688.0	100.0%	\$ (8.3)

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	Year Ended December 31, 2017 (As adjusted)		Year Ended December 31, 2016 (As adjusted)		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Gross Profit					
Foundry Services Group	\$ 101.8	29.0%	\$ 73.1	24.4%	\$ 28.7
Standard Products Group	85.9	26.1	83.5	21.5	2.4
All other	0.2	100.0	(0.4)	(66.3)	0.6
Total gross profit	\$ 187.9	27.6%	\$ 156.2	22.7%	\$ 31.7

Net Sales

Net sales were \$679.7 million for the year ended December 31, 2017, an \$8.3 million, or 1.2%, decrease compared to \$688.0 million for the year ended December 31, 2016. This decrease was primarily attributable to a net decrease in revenue from our Standard Products Group, which was offset in part by an increase in revenue from our Foundry Services Group as described below.

Foundry Services Group. Net sales from our Foundry Services Group segment were \$350.4 million for the year ended December 31, 2017, a \$51.3 million, or 17.1%, increase compared to net sales of \$299.1 million for the year ended December 31, 2016. The increase was primarily attributable to higher demand for our foundry services from certain customers serving the mid-range smartphone and consumer electronics markets and higher sales of certain products from a global power management IC foundry customer. These increases were partially offset by a net decrease in demand of our foundry services from a customer serving the high-end smartphone market.

Standard Products Group. Net sales from our Standard Products Group segment were \$329.1 million for the year ended December 31, 2017, a \$59.2 million, or 15.2%, decrease compared to \$388.3 million for the year ended December 31, 2016. This substantial decrease was primarily due to a significant decrease in revenue related to our Display Solutions business line, partially offset by increase in revenue related to our Power Solutions business line as described below.

Net sales from our Display Solutions business line were \$179.2 million for the year ended December 31, 2017, a \$77.6 million, or 30.2%, decrease from \$256.8 million for the year ended December 31, 2016. This decrease was primarily attributable to a decrease in revenue from our mobile OLED display driver ICs stemming from a timing mismatch between the drop-off in revenue from our existing OLED products and the introduction of new OLED products, and also from a prolonged slowdown in the China smartphone market. This decrease was partially offset by an increase in revenue from large display products mainly due to higher demand of source drivers for ultra high definition TVs. Net sales from our Power Solutions business line were \$149.8 million for the year ended December 31, 2017, a \$18.4 million, or 14.0%, increase from \$131.5 million for the year ended December 31, 2016. The increase in sales was primarily due to premium power products and MOSFETs for TV and mobile battery applications.

All Other. All other net sales were \$0.2 million for the year ended December 31, 2017 and \$0.6 million for the year ended December 31, 2016, respectively.

Gross Profit

Total gross profit was \$187.9 million for the year ended December 31, 2017 compared to \$156.2 million for the year ended December 31, 2016, a \$31.7 million, or 20.3%, increase. Gross profit as a percentage of net sales for the year ended December 31, 2017 increased to 27.6% compared to 22.7% for the year ended December 31,

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2016. The increase in gross profit as a percentage of net sales was due to both our Foundry Services Group and Standard Products Group segments as described below.

Foundry Services Group. Gross profit from our Foundry Services Group segment was \$101.8 million for the year ended December 31, 2017, a \$28.7 million, or 39.3%, increase compared to \$73.1 million for the year ended December 31, 2016. Gross profit as a percentage of net sales for the year ended December 31, 2017 increased to 29.0% compared to 24.4% for the year ended December 31, 2016. The increase in gross profit as a percentage of net sales was mainly attributable to a better product mix, a higher utilization rate and a favorable impact from reduction in headcount, which was offset in part primarily by an increase in wafer price and employee costs associated with unused vacation.

Standard Products Group. Gross profit from our Standard Products Group segment was \$85.9 million for the year ended December 31, 2017, a \$2.4 million, or 2.8%, increase from \$83.5 million for the year ended December 31, 2016. Gross profit as a percentage of net sales for the year ended December 31, 2017 increased to 26.1% compared to 21.5% for the year ended December 31, 2016. The increase in gross profit as a percentage of net sales was mainly attributable to a higher utilization rate and a favorable impact from reduction in headcount, which was offset in part primarily by an increase in wafer price and employee costs associated with unused vacation.

All Other. All other gross profit for the year ended December 31, 2017 was \$0.2 million. All other gross profit for the year ended December 31, 2016 was a negative \$0.4 million mainly attributable to training and transition costs related to our closed 6-inch fab employees, which was partially offset by revenue from the disposal of waste materials.

Net Sales by Geographic Region

We report net sales by geographic region based on the location to which the products are billed. The following table sets forth our net sales by geographic region and the percentage of total net sales represented by each geographic region for the years ended December 31, 2017 and 2016:

	Year Ended December 31, 2017		Year Ended December 31, 2016		Change Amount
	Amount	% of Net Sales	Amount (In millions)	% of Net Sales	
Korea	\$ 279.9	41.2%	\$ 219.6	31.9%	\$ 60.3
Asia Pacific (other than Korea)	322.6	47.5	391.9	57.0	(69.3)
U.S.A.	35.1	5.2	33.2	4.8	1.9
Europe	41.1	6.0	42.3	6.1	(1.2)
Others	1.0	0.1	1.0	0.1	(0.0)
	\$ 679.7	100.0%	\$ 688.0	100.0%	\$ (8.3)

Net sales in Korea for the year ended December 31, 2017 increased from \$219.6 million to \$279.9 million compared to the year ended December 31, 2016, or by \$60.3 million, or 27.4%, primarily due to higher demand of large display applications for TVs and our foundry services from certain customers serving the mid-range smartphone and consumer electronics markets. Higher sales of premium power products and MOSFETs also had a favorable impact.

Net sales in Asia Pacific for the year ended December 31, 2017 decreased from \$391.9 million to \$322.6 million compared to the year ended December 31, 2016, or by \$69.3 million, or 17.7%, primarily due to lower level of sales of OLED display driver ICs, which was partially offset by an increase in sales of certain products from higher demand for our foundry services.

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Operating Expenses

Selling, General and Administrative Expenses. Selling, general and administrative expenses were \$81.8 million, or 12.0% of net sales for the year ended December 31, 2017, compared to \$83.5 million, or 12.1% of net sales for the year ended December 31, 2016. The decrease of \$1.8 million, or 2.1%, was attributable to a \$2.9 million decrease in salary expense as a result of our headcount reduction and a \$6.6 million decrease in professional fees mainly comprised of legal and consulting services. These decreases were offset in part primarily by a \$4.2 million charge of the additional tax assessment and associated penalties and administrative fine as a result of the tax audit conducted by the KNTS which concluded in the fourth quarter of 2017.

Research and Development Expenses. Research and development expenses were \$70.5 million, or 10.4% of net sales for the year ended December 31, 2017, compared to \$72.2 million, or 10.5% of net sales for the year ended December 31, 2016. The decrease of \$1.7 million, or 2.3%, was primarily attributable to a decrease in salary expense as a result of our headcount reduction of non-key R&D personnel.

Restructuring and Other Charges(Gain), Net. Restructuring and other charges (gain), net of \$17.0 million recorded for the year ended December 31, 2017 resulted from a \$16.6 million restructuring gain on the sale of the building related to the closure of our 6-inch fab and a \$0.4 million gain on sale of our sensor business. Restructuring and other charges (gain), net of \$6.5 million recorded for the year ended December 31, 2016 resulted from the sale of machinery related to the closure of our 6-inch fab, which was offset by \$1.3 million of training and transition costs related to the employees at our closed 6-inch fab.

Early Termination Charges. Termination related charges related to the reduction of workforce through the Headcount Reduction Plan for the year ended December 31, 2017 and the Program for the year ended December 31, 2016 were \$13.4 million and \$4.2 million, respectively.

Operating Income (Loss)

As a result of the foregoing, operating income increased by \$36.5 million in the year ended December 31, 2017 compared to the year ended December 31, 2016. As discussed above, the increase in operating income resulted from a \$31.7 million increase in gross profit, a \$1.8 million decrease in selling, general and administrative expenses, a \$1.7 million decrease in research and development expenses and a \$10.5 million increase in restructuring gain, which was partially offset by a \$9.1 million increase in termination related charges.

Other Income (Expense)

Interest Expense. Interest expense for the year ended December 31, 2017 was \$21.6 million compared to interest expense of \$16.2 million for the year ended December 31, 2016. The increase of \$5.3 million was attributable to the interest expense recorded for the Exchangeable Notes issued in January 2017.

Foreign Currency Gain (Loss), Net. Net foreign currency gain for the year ended December 31, 2017 was \$65.5 million compared to net foreign currency loss of \$15.4 million for the year ended December 31, 2016. The net foreign currency gain for the year ended December 31, 2017 was due to the appreciation in value of the Korean won relative to the US dollar during the period. The net foreign currency loss for the year ended December 31, 2016 was due to the depreciation in value of the Korean won relative to the US dollar during the period.

A substantial portion of our net foreign currency gain or loss is non-cash translation gain or loss associated with the intercompany long-term loans to our Korean subsidiary, which is denominated in US dollars, and is affected by changes in the exchange rate between the Korean won and the US dollar. As of December 31, 2017, the outstanding intercompany loan balance including accrued interest between our Korean subsidiary and our

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Dutch subsidiary was \$677.3 million. Foreign currency translation gain or loss from intercompany balances was included in determining our consolidated net income since the intercompany balances were not considered long-term investments in nature because management intended to settle these intercompany balances at their respective maturity dates.

Others, Net. Others were comprised of gains and losses on the valuation of derivatives which were designated as hedging instruments, rental income and interest income. Others for the year ended December 31, 2017 and December 31, 2016 were \$2.9 million and \$3.0 million, respectively.

Income Tax Expenses (Benefits)

We are subject to income taxes in the United States and many foreign jurisdictions and our effective tax rate is affected by changes in the mix of earnings between countries with differing tax rates. Our primary foreign operations are in Korea where the statutory tax rate applicable to us was approximately 24.2% in 2017 and 2016. Statutory tax rates for all foreign subsidiaries were less than the US federal statutory rate of 35.0%.

We recorded income tax expenses of \$1.2 million and \$3.7 million for the years ended December 31, 2017 and 2016, respectively. The decrease in income tax expenses in 2017 was primarily attributable to our revised tax positions in connection with our Korean subsidiary. The effective tax rate was 1.3% for the year ended December 31, 2017, as compared to negative for the year ended December 31, 2016.

We make an ongoing assessment regarding the realization of US and non-US deferred tax assets. The valuation allowances at December 31, 2017 and 2016 were primarily attributable to deferred tax assets for the uncertainty in taxable income at our Korean subsidiary for which we have recorded a full valuation allowance against the deferred tax assets, net of its deferred tax liabilities, and against certain of our foreign subsidiaries' deferred tax assets pertaining to their related tax loss carry-forwards and tax credits that are not anticipated to generate a tax benefit.

Net Income

As a result of the foregoing, net income increased by \$114.6 million in the year ended December 31, 2017 compared to the year ended December 31, 2016. As discussed above, the increase primarily resulted from a \$36.5 million increase in operating income and an \$80.9 million increase in foreign currency gain, which was partially offset by a \$5.3 million increase in interest expense recorded for the Exchangeable Notes issued in January 2017.

Liquidity and Capital Resources

Our principal capital requirements are to fund sales and marketing, invest in research and development and capital equipment, to make debt service payments and to fund working capital needs. We calculate working capital as current assets less current liabilities.

Our principal sources of liquidity are our cash, cash equivalents, our cash flows from operations and our financing activities. Our ability to manage cash and cash equivalents may be limited, as our primary cash flows are dictated by the terms of our sales and supply agreements, contractual obligations, debt instruments and legal and regulatory requirements. From time to time, we may sell accounts receivable to third parties under factoring agreements or engage in accounts receivable discounting to facilitate the collection of cash. For a description of our factoring arrangements and accounts receivable discounting, please see Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 3. Accounts Receivable included elsewhere in this Report. In addition, from time to time, we may make payments to our vendors on extended terms with their consent. As of December 31, 2018, we do not have any accounts payable on extended terms or payment deferment with our vendors.

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We currently believe that we will have sufficient cash reserves from cash on hand and expected cash from operations to fund our operations as well as capital expenditures for the next twelve months and the foreseeable future.

As of December 31, 2018, cash and cash equivalents held by our Korean subsidiary were \$109.0 million, which represents 82% of our total cash and cash equivalents of \$132.4 million on a consolidated basis. We, as a holding company resident in the United States, issued our 2021 Notes. Payments under our outstanding 2021 Notes are currently funded in part by our Korean subsidiary's repayment of its existing loans from our Dutch subsidiary, with our Dutch subsidiary using such repayments in turn to repay the loans owed to our Luxembourg subsidiary, which repays loans owed to us. Our Exchangeable Notes were issued by our Luxembourg subsidiary and the proceeds from the Exchangeable Notes Offering, were transferred to our Dutch and Korean subsidiaries through intercompany loans. Therefore, we expect payments under the Exchangeable Notes to be funded in part by our Korean subsidiary's repayment of its existing or new loans from our Dutch subsidiary, with our Dutch subsidiary using such repayments in turn to repay loans owed to our Luxembourg subsidiary.

We may, from time to time, repurchase a portion of our outstanding 2021 Notes and our Exchangeable Notes through open market purchases or privately negotiated transactions subject to prevailing market conditions and our available cash reserves.

Year ended December 31, 2018 compared to year ended December 31, 2017

As of December 31, 2018, our cash and cash equivalents balance was \$132.4 million, a \$3.9 million increase, compared to \$128.6 million as of December 31, 2017. The increase resulted from a \$39.2 million of cash inflow provided by operating activities and a \$1.3 million of cash inflow provided by financing activities, which was partially offset by a \$33.3 million of cash outflow used in investing activities.

Cash inflow provided by operating activities totaled \$39.2 million for the year ended December 31, 2018, compared to \$20.3 million of cash outflow used in operating activities for the year ended December 31, 2017. The net operating cash inflow for the year ended December 31, 2018 reflects our net loss of \$3.9 million, as adjusted favorably by \$86.3 million, which mainly consisted of depreciation and amortization, provision for severance benefits and net foreign currency loss, and net unfavorable impact of \$43.1 million from changes of operating assets and liabilities.

Our working capital balance as of December 31, 2018 was \$220.1 million compared to \$192.1 million as of December 31, 2017. The \$28.0 million increase was primarily attributable to a \$38.2 million increase in unbilled accounts receivable, which was a new item created in our balance sheet beginning January 1, 2018 to conform with the new revenue recognition standard and represented our contractual right to consideration for manufacturing work performed on a customer contract or an individual purchase order basis, which had not been invoiced to the customer. This increase was offset in part by a \$12.0 million decrease in account receivables.

Cash outflow used in investing activities totaled \$33.3 million for the year ended December 31, 2018, compared to \$35.4 million for the year ended December 31, 2017. The \$2.1 million decrease in investing activities was attributable to a \$5.7 million net decrease in hedge collateral, which was partially offset by a \$3.6 million net increase in guarantee deposits.

Cash inflow generated by financing activities totaled \$1.3 million for the year ended December 31, 2018, compared to \$72.7 million for the year ended December 31, 2017. The financing cash inflow for the year ended December 31, 2018 was primarily attributable to proceeds of \$4.3 million in connection with the water treatment facility arrangement and \$1.1 million of proceeds received from the issuance of common stock in connection with the exercise of stock options, which was offset in part by the payment of \$2.2 million for the repurchases of 2021 Notes and Exchangeable Notes in December 2018 and \$1.6 million for the repurchase of our common stock in December 2018 pursuant to our stock repurchase plan. The financing cash inflow for the year ended December 31, 2017 consisted of \$80.3 million of net proceeds received from the issuance of the Exchangeable

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Notes and \$3.7 million of proceeds received from the exercise of stock options, which was partly offset by the payment of \$11.4 million for the repurchase of 1,795,444 shares of our common stock in January 2017 pursuant to our stock repurchase plan.

We routinely make capital expenditures for fabrication facility maintenance, enhancement of our existing facilities and reinforcement of our global research and development capability. For the year ended December 31, 2018, capital expenditures for plant, property and equipment were \$33.2 million, a \$0.6 million, or 1.7%, increase from \$32.7 million for the year ended December 31, 2017. The capital expenditures for the year ended December 31, 2018 included a \$4.3 million payment for the purchase of the water treatment facility. The remaining expenditures were related to meeting our customer demand, and supporting technology and facility improvements at our fabrication facilities.

Year ended December 31, 2017 compared to year ended December 31, 2016

As of December 31, 2017, our cash, cash equivalents and restricted cash balance was \$128.6 million, a \$27.0 million increase, compared to \$101.6 million as of December 31, 2016. The increase resulted from a \$72.7 million of cash inflow provided by financing activities, which was partially offset by a \$20.3 million of cash outflow used in operating activities and a \$35.4 million of cash outflow used in investing activities.

Cash outflow used in operating activities totaled \$20.3 million for the year ended December 31, 2017, compared to \$9.4 million of cash inflow provided by operating activities for the year ended December 31, 2016. The net operating cash outflow for the year ended December 31, 2017 reflects our net income of \$84.9 million and non-cash adjustments of a net negative \$37.7 million, which mainly consisted of depreciation and amortization, provision for severance benefits and net foreign currency gain, and a net decrease in operating assets and liabilities of \$67.5 million. The decrease in operating assets and liabilities was primarily related to an increase in accounts receivable as of December 31, 2017 due to a significant decrease in accounts receivable discounting during 2017 and the payments of statutory severance to the employees that resigned from our Company.

Our working capital balance as of December 31, 2017 was \$192.1 million compared to \$89.3 million as of December 31, 2016. The \$102.9 million increase was primarily attributable to a \$45.2 million increase in cash and cash equivalents, a \$30.3 million increase in account receivables, a \$16.0 million increase in inventory and a \$16.5 million decrease in deposits received, which were partially offset by an \$18.3 million decrease in restricted cash and a \$14.4 million increase in account payables.

Cash outflow used in investing activities totaled \$35.4 million for the year ended December 31, 2017, compared to cash inflow provided by investing activities totaled \$1.0 million for the year ended December 31, 2016. The \$36.4 million increase was attributable to a \$16.4 million decrease in proceeds from disposal of plant, property and equipment, a \$13.9 million net increase in capital expenditures and a \$7.0 million net increase in hedge collateral, which was partially offset by a \$1.0 million net decrease in guarantee deposits.

Cash inflow generated by financing activities totaled \$72.7 million for the year ended December 31, 2017, compared to \$1.7 million for the year ended December 31, 2016. The \$71.0 million increase was primarily was attributable to \$80.3 million of net proceeds received from the issuance of the Exchangeable Notes and a \$2.0 million increase in proceeds received from exercised stock options, which was partly offset by the payment of \$11.4 million for the repurchase of 1,795,444 shares of our common stock in January 2017 pursuant to our stock repurchase plan.

We routinely make capital expenditures for fabrication facility maintenance, enhancement of our existing facilities and reinforcement of our global research and development capability. For the year ended December 31, 2017, capital expenditures for plant, property and equipment were \$32.7 million, a \$13.9 million, or 74.4%, increase from \$18.7 million for the year ended December 31, 2016. The increase was mainly for meeting our customer demand, and supporting technology and facility improvements at our fabrication facilities.

Table of Contents**Contractual Obligations**

The following summarizes our contractual obligations as of December 31, 2018:

	Total	2019	Payments Due by Period				2023	Thereafter
			2020	2021	2022			
			(In millions)					
Exchangeable Notes(1)	\$ 95.2	\$ 4.2	\$ 4.2	\$ 86.8	\$	\$	\$	
Senior notes(2)	269.1	14.9	14.9	239.4				
Operating leases(3)	26.1	4.3	3.6	1.6	1.3	1.3	14.0	
Water Treatment Services(3)(4)	57.6	8.7	8.7	8.6	8.5	5.9	17.2	
Others(5)	24.8	11.5	10.6	2.6				

- (1) Interest payments as well as \$84.66 million aggregate principal amount of the Exchangeable Notes outstanding as of December 31, 2018, which bear interest at a rate of 5.0% per annum and are scheduled to mature in 2021 if not earlier converted.
- (2) Interest payments as well as \$224.5 million aggregate principal amount of the 2021 Notes outstanding as of December 31, 2018, which bear interest at a rate of 6.625% per annum and are scheduled to mature in 2021 if not earlier redeemed.
- (3) Assumes constant currency exchange rate for Korean won to US dollars of 1,118.1:1, the exchange rate as of December 31, 2018.
- (4) Includes future payments for water treatment services for our fabrication facilities in Korea based on the contractual terms.
- (5) Includes license agreements, funding obligations for the accrued severance benefits and other contractual obligations.

The indentures relating to the Exchangeable Notes and the 2021 Notes contain covenants as detailed in Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Note 10. Long-term Borrowings in this Report. Those covenants are subject to a number of exceptions and qualifications. Certain of those restrictive covenants will terminate if the Exchangeable Notes or the 2021 Notes are rated investment grade at any time.

We lease land, office space and equipment under various operating lease agreements that expire through 2034.

We are a party to arrangements for the water treatment facilities in Cheongju and Gumi, Korea, which include 5-year and 10-year service agreements, respectively.

Beginning in July 2018, we have contributed a certain percentage of severance benefits, accrued for eligible employees for their services beginning January 1, 2018, to certain severance insurance deposit accounts. These accounts consist of time deposits and other guaranteed principal and interest, and are maintained at insurance companies, banks or security companies for the benefit of employees. We deduct the contributions made to these severance insurance deposit accounts from our accrued severance benefits. As of December 31, 2018, our accrued severance benefits totaled \$146.0 million and cumulative contributions to these severance insurance deposit accounts amounted to \$2.5 million. Our related cash payments for future contributions are \$2.7 million and \$3.6 million for 2019 and 2020, respectively, to the extent that our obligations are contractual, fixed and reasonably estimable.

We follow US GAAP guidance on uncertain tax positions. Our unrecognized tax benefits totaled \$0.4 million as of December 31, 2018. These unrecognized tax benefits have been excluded from the above table because we cannot estimate the period of cash settlement with the respective taxing authorities.

Critical Accounting Policies and Estimates

Preparing financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the financial statements, the

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