

Sensata Technologies Holding plc  
Form 10-K  
February 06, 2019  
Table of Contents

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

FORM 10-K

x 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  
Commission File Number 001-34652

SENSATA TECHNOLOGIES HOLDING PLC  
(Exact Name of Registrant as Specified in Its Charter)

ENGLAND AND WALES 98-1386780  
(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)

Interface House, Interface Business Park  
Bincknoll Lane  
Royal Wootton Bassett +1 (508) 236 3800  
Swindon SN4 8SY  
United Kingdom  
(Address of Principal Executive Offices, including Zip Code) (Registrant’s Telephone Number, Including Area Code)

Securities registered pursuant to Section 12(b) of the Act:  
Title of each class Name of each exchange on which registered  
Ordinary Shares—nominal value €0.01 per share 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 x 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 x  
Indicate by a 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 x 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 x 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 the 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. x

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

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

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

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

The aggregate market value of the registrant's ordinary shares held by non-affiliates at June 30, 2018 was approximately \$8.1 billion based on the New York Stock Exchange closing price for such shares on that date. As of January 15, 2019, 164,158,929 ordinary shares were outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Part III of this Report incorporates information from certain portions of the registrant's Definitive Proxy Statement to be filed with the Securities and Exchange Commission within 120 days of the registrant's fiscal year ended December 31, 2018.

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Table of Contents

TABLE OF CONTENTS

<u>PART I</u>	<u>4</u>
<u>Item 1. Business</u>	<u>4</u>
<u>Item 1A. Risk Factors</u>	<u>13</u>
<u>Item 1B. Unresolved Staff Comments</u>	<u>25</u>
<u>Item 2. Properties</u>	<u>26</u>
<u>Item 3. Legal Proceedings</u>	<u>27</u>
<u>Item 4. Mine Safety Disclosures</u>	<u>27</u>
 <u>PART II</u>	 <u>28</u>
<u>Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities</u>	<u>28</u>
<u>Item 6. Selected Financial Data</u>	<u>30</u>
<u>Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>32</u>
<u>Item 7A. Quantitative and Qualitative Disclosures About Market Risk</u>	<u>58</u>
<u>Item 8. Financial Statements and Supplementary Data</u>	<u>61</u>
<u>Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	<u>127</u>
<u>Item 9A. Controls and Procedures</u>	<u>127</u>
<u>Item 9B. Other Information</u>	<u>130</u>
 <u>PART III</u>	 <u>130</u>
<u>Item 10. Directors, Executive Officers and Corporate Governance</u>	<u>130</u>
<u>Item 11. Executive Compensation</u>	<u>130</u>
<u>Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	<u>130</u>
<u>Item 13. Certain Relationships and Related Transactions, and Director Independence</u>	<u>130</u>
<u>Item 14. Principal Accountant Fees and Services</u>	<u>130</u>
 <u>PART IV</u>	 <u>131</u>
<u>Item 15. Exhibits and Financial Statement Schedules</u>	<u>131</u>
<u>Signatures</u>	<u>136</u>

---

## Table of Contents

### Cautionary Statements Concerning Forward-Looking Statements

This Annual Report on Form 10-K (this "Report"), including any documents incorporated by reference herein, includes "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements relate to analyses and other information that are based on forecasts of future results and estimates of amounts not yet determinable. These forward-looking statements also relate to our future prospects, developments, and business strategies. These forward-looking statements may be identified by terminology such as "may," "will," "could," "should," "expect," "anticipate," "believe," "estimate," "predict," "project," "forecast," "continue," "intend," "plan," and similar terms or phrases, or the negative of such terminology, including references to assumptions. However, these terms are not the exclusive means of identifying such statements.

Forward-looking statements contained herein, or in other statements made by us, are made based on management's expectations and beliefs concerning future events impacting us. These statements are subject to uncertainties and other important factors relating to our operations and business environment, all of which are difficult to predict, and many of which are beyond our control, that could cause our actual results to differ materially from those matters expressed or implied by forward-looking statements. Although we believe that our plans, intentions, and expectations reflected in, or suggested by, such forward-looking statements are reasonable, we can give no assurances that any of the events anticipated by these forward-looking statements will occur or, if any of them do, what impact they will have on our results of operations and financial condition.

We believe that the following important factors, among others (including those described in Item 1A, "Risk Factors," included elsewhere in this Report), could affect our future performance and the liquidity and value of our securities and cause our actual results to differ materially from those expressed or implied by forward-looking statements made by us or on our behalf:

- instability and changes in the global markets, including regulatory, political, economic, and military matters, such as the impending exit of the United Kingdom (the "U.K.") from the European Union (the "EU");
- adverse conditions or competition in the industries upon which we are dependent, including the automotive industry;
  - pressure from customers to reduce prices;
- supplier interruption or non-performance, limiting our access to manufactured components or raw materials;
- we may not realize all of the revenue or achieve anticipated gross margins from products subject to existing purchase orders for which we are currently engaged in development;
- risks related to the acquisition or disposition of businesses, or the restructuring of our business;
- market acceptance of new product introductions and product innovations;
- losses and costs as a result of intellectual property, product liability, warranty, and recall claims;
- business disruptions due to natural disasters or other disasters outside our control;
- labor disruptions or increased labor costs;
- security breaches, cyber theft of our intellectual property, and other disruptions to our information technology infrastructure, or improper disclosure of confidential, personal, or proprietary data;
- foreign currency risks, changes in socio-economic conditions, or changes to monetary and fiscal policies;
- our level of indebtedness, or our inability to meet debt service obligations or comply with the covenants contained in the credit agreement and indentures;
- risks related to the potential for goodwill impairment;
- the impact of United States ("U.S.") federal income tax reform, or taxing authorities challenging our historical and future tax positions or our allocation of taxable income among our subsidiaries, and challenges to the sovereign taxation regimes of EU member states by the European Commission;
- changes to current policies, such as trade tariffs, by the U.S. government;
- changes to, or inability to comply with, various regulations, including tax laws, import/export regulations, anti-bribery laws, environmental, health, and safety laws, and other governmental regulations; and
- risks related to our domicile in the U.K.

All forward-looking statements attributable to us or persons acting on our behalf speak only as of the date of this Report and are expressly qualified in their entirety by the cautionary statements contained in this Report. We

undertake no obligation to update or revise forward-looking statements that may be made to reflect events or circumstances that arise after the date made or to reflect the occurrence of unanticipated events. We urge readers to review carefully the risk factors described in this Report and in the other documents that we file with the U.S. Securities and Exchange Commission. You can read these documents at [www.sec.gov](http://www.sec.gov) or on our website at [www.sensata.com](http://www.sensata.com).

Table of Contents

PART I

ITEM 1. BUSINESS

The Company

The reporting company is Sensata Technologies Holding plc ("Sensata plc"), the successor issuer to Sensata Technologies Holding N.V. ("Sensata N.V."), and its wholly-owned subsidiaries, collectively referred to as the "Company," "Sensata," "we," "our," and "us."

On September 28, 2017, the Board of Directors of Sensata N.V. unanimously approved a plan to change our location of incorporation from the Netherlands to the United Kingdom (the "U.K."). To effect this change, on February 16, 2018 the shareholders of Sensata N.V. approved a cross-border merger between Sensata N.V. and Sensata plc, a newly formed, public limited company incorporated under the laws of England and Wales, with Sensata plc being the surviving entity (the "Merger").

We received approval of the Merger by the U.K. High Court of Justice, and the Merger was completed, on March 28, 2018. As a result thereof, Sensata plc became the publicly-traded parent of the subsidiary companies that were previously controlled by Sensata N.V., with no changes made to the business being conducted by us prior to the Merger. Due to the fact that the Merger was a business combination between entities under common control, the assets and liabilities exchanged were accounted for at their carrying values.

Overview

Sensata plc conducts its operations through subsidiary companies that operate business and product development centers primarily in Belgium, Bulgaria, China, Germany, Japan, the Netherlands, South Korea, the U.K., and the United States (the "U.S."); and manufacturing operations primarily in Bulgaria, China, Germany, Malaysia, Mexico, the U.K., and the U.S.

We develop, manufacture, and sell a wide range of customized sensors and controls that address increasingly complex engineering requirements for specific customer applications and systems such as air conditioning, braking, exhaust, fuel oil, tire, operator controls, and transmission in automotive and heavy vehicle and off-road ("HVOR") systems, and temperature and electrical protection and control in numerous industrial applications, including aircraft, refrigeration, material handling, telecommunications, and heating, ventilation and air conditioning ("HVAC") systems. The acquisition of GIGAVAC, LLC ("GIGAVAC"), discussed further below, expands our product offerings to include high voltage contactors and fuses. We can trace our origins back to entities that have been engaged in the sensors and controls business since 1916.

Our sensors are devices that translate a physical phenomenon, such as pressure, temperature, or position, into electronic signals that microprocessors or computer-based control systems can act upon. Our controls are devices embedded within systems to protect them from excessive heat or current. Underlying these sensors and controls are core technology platforms—thermal and magnetic-hydraulic circuit protection, micro electromechanical systems, ceramic capacitance, Microfused Silicon Strain Gage, and wireless communication protocol—that we leverage across multiple products and applications, enabling us to optimize our substantial research, development, and engineering investments and achieve economies of scale.

By locating our global engineering teams in close proximity to key customers in regional business centers, we are exposed to many development opportunities at an early stage and work closely with our customers to deliver solutions that meet their needs. As a result of the long development lead times and embedded nature of our products, we collaborate closely with our customers throughout the design and development phase of their products. Systems development by our customers typically requires significant multi-year investment for certification and qualification, which are often government or customer mandated. We believe the capital commitment and time required for this process significantly increases the switching costs once a customer has designed and installed a particular sensor or control into a system.

We have a diverse revenue mix by geography, customer, and end market. We organize the sales and marketing function within our business into regions—the Americas, Asia, and Europe—but also globally across all geographies according to market segments, so as to facilitate knowledge sharing and coordinate activities involving our larger customers through global account managers.

Refer to Note 20, "Segment Reporting," of our audited consolidated financial statements and accompanying notes thereto (our "Financial Statements") included elsewhere in this Annual Report on Form 10-K (this "Report") for details of our net revenue and property, plant and equipment, net by region. Refer to Note 3, "Revenue Recognition," of our Financial Statements for details of our net revenue by end market.

## Table of Contents

We organize our business into two segments: Performance Sensing and Sensing Solutions. Performance Sensing designs and manufactures sensors for the automotive and HVOR markets, including low-, medium-, and high-pressure sensors, speed and position sensors, and temperature sensors, and markets them to leading global automotive and HVOR original equipment manufacturers ("OEMs") and their Tier 1 suppliers. Sensing Solutions designs and manufactures various sensors and control products, including bimetal electromechanical controls, thermal and magnetic-hydraulic circuit breakers, solid state relays, power inverters, interconnection products, and temperature, pressure, and position sensors, selling them to a wide range of industrial and commercial manufacturers and suppliers across multiple end markets. The acquisition of GIGAVAC, portions of which will be integrated into each of our operating segments, expands our product offerings to include high voltage contactors and fuses.

### Customers

We have long-standing relationships with a geographically diverse base of leading OEMs and other multinational companies. In geographic and product markets where we lack an established base of customers, we rely on third-party distributors to sell our sensors and control products. We have had relationships with our top ten customers for an average of 29 years. Our largest customer accounted for approximately 8% of our net revenue for the year ended December 31, 2018.

Performance Sensing customers consist primarily of leading global automotive and HVOR OEMs and their Tier 1 suppliers. Our products are ultimately used by the majority of global automotive OEMs, providing us with a balanced customer portfolio, which, we believe, helps to protect us against global shifts in market share between different OEMs. Sensing Solutions customers include a wide range of industrial and commercial manufacturers and suppliers across multiple end markets, primarily OEMs in the climate control, appliance, semiconductor, medical, energy and infrastructure, data/telecom, and aerospace industries, as well as Tier 1 aerospace and motor and compressor suppliers.

### Seasonality

Because of the diverse global nature of the markets in which we operate, our net revenue is only moderately impacted by seasonality. However, Sensing Solutions experiences some seasonality, specifically in its air conditioning and refrigeration products, which tend to peak in the first two quarters of the year as inventory is built up for spring and summer sales. In addition, Performance Sensing net revenue tends to be weaker in the third quarter of the year as automotive OEMs retool production lines for the coming model year.

### Acquisition and Divestiture History

In August 2018 we completed the sale of the capital stock of Schrader Bridgeport International, Inc. and August France Holding Company SAS (collectively, the "Valves Business") to Pacific Industrial Co. Ltd. The Valves Business, which we acquired in connection with the acquisition of Schrader in 2014, manufactures mechanical valves for pressure applications in tires and fluid control and assembles tire hardware aftermarket products with manufacturing locations in the U.S. and Europe. Refer to Note 17, "Acquisitions and Divestitures," of our Financial Statements for additional details on this divestiture.

In October 2018 we acquired GIGAVAC, an industry-leading producer of high voltage contactors and fuses that are mission-critical components for electric vehicles and equipment, for \$233.0 million of cash consideration, subject to working capital and other adjustments. The acquisition of GIGAVAC extends our capabilities on battery electric vehicles, with significant potential for additional growth, and will enable us to tap into a broad market opportunity for high-voltage contactors required in mission-critical sensing and electrical protection applications across electrified vehicles and industrial equipment such as cars, delivery trucks, busses, material handling equipment, and charging stations. It will immediately augment our ongoing investments in electrification for many complex and challenging applications in the automotive, battery storage, industrial, and HVOR markets. Refer to Note 17, "Acquisitions and Divestitures," of our Financial Statements for additional details on this acquisition.



Table of Contents

In addition, we completed the following other acquisitions within the last five years:

Date	Acquired Entity	Segment		Purchase Price (in millions)
		Performance Sensing	Sensing Solutions	
January 2, 2014	Wabash Worldwide Holding Corp. ("Wabash")	X		\$ 59.6
May 29, 2014	Magnum Energy Incorporated ("Magnum")		X	\$ 60.6
August 4, 2014	CoActive U.S. Holdings Inc. ("DeltaTech Controls")	X		\$ 177.8
October 14, 2014	August Cayman Company, Inc. ("Schrader")	X		\$ 1,004.7
December 1, 2015	Custom Sensors & Technologies Ltd. ("CST") <sup>(1)</sup>	X	X	\$ 1,000.8

(1) Included the acquisition of all of the outstanding shares of certain subsidiaries of Custom Sensors & Technologies Ltd. in the U.S., the U.K., and France, as well as certain assets in China.

#### Performance Sensing Segment

##### Overview

Performance Sensing, which accounted for approximately 75% of our net revenue in fiscal year 2018, is a developer and manufacturer of a broad portfolio of application-specific sensors, including pressure sensors, speed and position sensors, and temperature sensors, that are used in a wide variety of automotive and HVOR applications. The acquisition of GIGAVAC, portions of which will be integrated into each of our operating segments, expands our product offerings to include high voltage contactors and fuses.

We believe that we are one of the largest suppliers of pressure and high temperature sensors in the majority of the key markets in which we compete.

##### Markets

Performance Sensing primarily serves the automotive and HVOR sensor markets through the design, manufacture, and sale of various types of sensors. Refer to the Product Categories section below for a summary of the key products, solutions, applications, systems, and end markets for our sensor product category.

The global sensor market is characterized by a broad range of products and applications across a diverse set of market segments. We believe large OEMs and other multinational companies are increasingly demanding a global presence to supply sensors for their key global platforms. According to an October 2018 report prepared by Strategy Analytics, Inc., the global automotive sensor market was \$24.3 billion in 2018, compared to \$23.2 billion in 2017.

The automotive and HVOR sensor markets are characterized by high switching costs and barriers to entry, benefiting incumbent market leaders. Sensors enable a wide variety of applications, and many are critical components that are essential to the proper functioning of the products in which they are incorporated. Sensor application-specific products require close engineering collaboration between the sensor supplier and the OEM or the Tier 1 supplier. As a result, OEMs and Tier 1 suppliers make significant investments in selecting, integrating, and testing sensors as part of their product development. Switching to a different sensor results in considerable additional work, both in terms of sensor customization and extensive platform/product retesting and certification. This results in high switching costs for automotive and HVOR manufacturers once a sensor is designed in. We believe this is one of the reasons that sensors are rarely changed during a platform life-cycle, which in the case of the automotive industry typically lasts five to seven years. Given the importance of reliability and the fact that the sensors must be supported through the length of a product life, our experience has been that OEMs and Tier 1 suppliers tend to work with suppliers that have a long track record of quality and on-time delivery and the scale and resources to meet their needs as the automobile platform evolves and grows. In addition, the automotive industry provides one of the largest markets for sensors, giving participants with a presence in this market significant scale advantages over those participating only in smaller, more niche industrial and medical markets.

Net revenue growth from the automotive and HVOR markets served by Performance Sensing has historically been driven, we believe, by three principal trends, including (1) growth in the number of vehicles produced globally, (2)

expansion in the number of sensors per vehicle, and (3) a shift towards higher value sensors. We are also investing in new technologies that we believe will shape future revenue growth by increasing content per vehicle. In addition, our presence in emerging markets positions us to take advantage of future growth opportunities in these regions.

6

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## Table of Contents

Light vehicle production: Global production of light vehicles has consistently demonstrated annual growth since the recession in 2008 and 2009 and is expected to continue to increase over the long term due to population growth and increased usage of cars in emerging markets. According to the fourth quarter 2018 LMC Automotive "Global Car & Truck Forecast," the production of global light vehicles in 2018 was approximately 94.7 million units, a decrease of 0.4% from 2017.

Number of sensors per vehicle: We believe that the increasing installation in vehicles of emissions, efficiency, safety, and comfort-related features that depend on sensors for proper functioning, such as electronic stability control, tire pressure monitoring, advanced driver assistance, transmission, and advanced combustion and exhaust after-treatment, as well as user interfaces in HVOR applications, will continue to drive increased sensor usage and content growth. For example, government regulation of emissions, including fuel economy standards such as the National Highway Traffic Safety Administration's Corporate Average Fuel Economy requirements in the U.S. and emissions requirements such as "Euro 6d" in Europe and "China National 6" in China lead to sensor-rich automobile powertrain strategies.

Other applications that are driving increased sensor content in vehicles include braking systems, which are transitioning from traditional hydraulic brakes towards electromechanical braking and regenerative braking systems, and electrified vehicles, which require tighter temperature control for efficient operation, driving more sophisticated thermal management systems to control heating and cooling throughout the vehicle.

Higher value sensors: We believe that our revenue growth has been augmented by a continuing shift away from legacy electromechanical products towards higher-value electronic solid-state sensors.

New Technology: As automobiles and heavy vehicles evolve, new alternative technologies are being developed to make these vehicles more efficient, robust, cost effective, and safe. We believe that emerging opportunities, or ("megatrends"), have the potential to grow our business for the foreseeable future, particularly in the areas of electrification, smart & connected, and autonomy. For example, we expect this growth to include content growth in both hybrid and electric vehicles, which require systems and sensors to drive high efficiency across the powertrain, managing better diagnostics, more efficient combustion, and reduced emissions. In addition, we are taking steps and making investments with the intent of positioning ourselves to capitalize on what we believe will be a large, attractive market for autonomous vehicles. In addition, we continue to engage with customers who are seeking enabling sensor technology for autonomous driving.

Also, sensor content on vehicle climate control and thermal management systems, where we enjoy high market share, is increasing. This is driven by the need for high efficiency control of thermal management in hybrid heating and cooling systems. Additionally, as long range plug-in hybrid and full battery electric vehicles gain share, multiple instances of efficient thermal management across the battery, electronics, and cabin systems is required to protect and manage the vehicle, which drive additional core Sensata sensor content on the market today. Other new emerging opportunities to improve on-vehicle energy density and battery life could also provide the potential for additional content per vehicle.

Other safety systems are also evolving on hybrid and electric vehicles. New and emerging energy recuperation technologies, such as regenerative motors, require additional sensing content to manage and efficiently switch between traditional braking systems and regenerative braking. Additionally, semi-automated vehicles containing advanced driver assistance systems benefit from more efficient and faster electromechanical braking systems, driving additional sensor content to control these brakes. Each of these systems enable more efficient use of energy, enabling greater electric vehicle range.

New content in high voltage electrical protection from our recent acquisition of GIGAVAC addresses many of the needs in evolving electric vehicle powertrain systems. These higher voltage systems must be adequately controlled and protected as vehicle voltages and currents increase. This protection is critical both in safeguarding the expensive electronics used to power the vehicle, and allows for an increase in power levels to improve charging times. These high voltage contactors are critical components in multiple sockets on all highly electrified vehicles.

Moreover, we believe our broad customer base, global diversification, and evolving portfolio provide the foundation that will allow us to grow with these megatrends across a diverse set of markets.

Emerging Markets: We have a long-standing position in emerging markets, including a presence in China for more than 20 years. With our presence in China, we believe that our automotive and HVOR businesses are well positioned to grow. With sustained vehicle modernization in China, we expect our content per vehicle in China will continue to increase, moving towards the levels we see in developed markets.

7

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Table of Contents

## Product Categories

Prior to fiscal year 2018, we presented four significant product categories in Performance Sensing: pressure sensors, speed and position sensors, temperature sensors, and pressure switches. Beginning in fiscal year 2018, we are categorizing our products more broadly, as sensors, controls, or other, to better reflect how we view our products. The following table presents the key products, solutions, applications, systems, and end markets related to the sensor product category (Performance Sensing sales of controls is immaterial and is not separately presented below):

Key Products/Solutions	Key Applications/Systems	Key End Markets
Pressure sensors		
Microfused strain gage	Thermal management and air conditioning systems	
Ceramic capacitive	Transmission	
Micro-electromechanical	Engine oil	Automotive
	Suspension	HVOR
Speed and position sensors	Fuel delivery	Motorcycle
Magnetic speed and position sensors	Braking	
Mechanical/electrical control systems	Tire pressure monitoring	
	Exhaust after-treatment	

## High temperature sensors

The table below sets forth the amount of net revenue generated by our sensor product category in Performance Sensing, reconciled to total segment net revenue, for each of the last three fiscal years (prior periods have been recast to reflect current presentation):

(Dollars in thousands)	For the year ended December 31,		
	2018	2017	2016
Net revenue:			
Sensors	\$2,532,631	\$2,341,017	\$2,261,633
Other	95,020	119,583	123,747
Performance Sensing net revenue	\$2,627,651	\$2,460,600	\$2,385,380

## Competitors

Within each of the principal product categories in Performance Sensing, we compete with a variety of independent suppliers as well as the in-house operations of Tier 1 systems suppliers. We believe that the key competitive factors in the markets served by this segment are product performance, quality and reliability, the ability to produce customized solutions on a global basis, technical expertise, development capability, breadth and scale of product offerings, product service and responsiveness, and a commercially competitive offering.

## Sensing Solutions Segment

## Overview

Sensing Solutions, which accounted for approximately 25% of our net revenue in fiscal year 2018, is a developer and manufacturer of a broad portfolio of application-specific products, including bimetal electromechanical controls, thermal and magnetic-hydraulic circuit breakers, solid state relays, power inverters, interconnection products, and temperature, pressure, and position sensors, that are used in a wide variety of applications in various end-markets, including aerospace and defense, industrial, appliance, and HVAC. Our products help our customers' systems run safely and in an efficient and environmentally-friendly manner. The acquisition of GIGAVAC, portions of which will be integrated into each of our operating segments, expands our product offerings to include high voltage contactors and fuses.

We believe that we are one of the largest suppliers of controls in the majority of the key applications in which we compete.

## Markets

Sensing Solutions designs and manufactures various categories of products, each of which serves a variety of markets. Refer to the Product Categories section below for a summary of the key products, solutions, applications, systems, and end markets for each of our significant product categories.



## Table of Contents

These products perform many functions in the applications in which they are used. Bimetal electromechanical controls and thermal and magnetic-hydraulic circuit breakers help prevent damage from excess heat or electrical current. Solid state relays are used where it is necessary to control a circuit by a low-power signal, or where several circuits must also be controlled by one signal. Solid state relays have certain advantages over mechanical relays, including long operation life, silent operation, low power, and low electrical interference. Sensors provided by Sensing Solutions employ similar technology to the automotive and HVOR sensors discussed in the Performance Sensing Segment section above, but often require different customization in terms of packaging, calibration, and electrical output. These sensors measure specific parameters in order to provide real-time information about the state of a specific system or subsystem, so control adjustments can be made to optimize system performance. Power inverters and charge controllers enable conversion of electric power from direct current ("DC") power to alternating current ("AC") power, or AC power to DC power. Our interconnection products consist of semiconductor burn-in test sockets used by semiconductor manufacturers to verify packaged semiconductor reliability.

The demand for bimetal electromechanical controls and thermal and magnetic-hydraulic circuit breakers tend to follow the general economic environment and is affected by the increasing significance of new electronically-controlled applications. Demand for our sensor products used in industrial and commercial applications is driven by many of the same factors as in the automotive sensor market: regulation of emissions, greater energy efficiency, and safety, as well as consumer demand for new features. For example, many HVAC/Refrigeration ("HVAC/R") and industrial systems are converting to more efficient variable speed control, which inherently requires more sensor feedback than traditional fixed speed control systems. Global trends towards environmentally friendly refrigerants also require more sensors to deliver the desired system performance. Demand for power inverters and charge controllers is driven by economic development, the need to meet new energy efficiency standards, electrification of auxiliary loads on work trucks, emerging opportunities for residential energy storage and off-grid power systems, and a growing interest in clean energy to replace generators, which increases demand for both mobile and stationary power. Demand in the semiconductor market is driven by consumer and business computational, entertainment, transportation, and communication needs. These needs are driven by the desire to have smaller, lighter, faster, more functional, and energy conscious devices that make users more productive and interconnected to society. Sensing Solutions benefits from strong agency relationships. For example, a number of electrical standards for motor control products, including portions of the Underwriters' Laboratory ("UL") Standards for Safety, have been written based on the performance and specifications of our control products. We also have U.S. and Canadian Component Recognitions from UL for many of our control products, so that customers can use Klixon<sup>®</sup>, Crydom<sup>®</sup>, and Airpax<sup>®</sup> products throughout North America. Where our component parts are detailed in our customers' certifications from UL, changes to their certifications may be necessary in order for them to incorporate competitors' offerings. Similarly, our aerospace products undergo exhaustive qualification procedures to customer or military performance standards, requiring a significant investment in a re-qualification effort to incorporate competitors' offerings.

We continue to focus our efforts on expanding our presence in all global geographies, both emerging and mature. Our customers include established multinationals, as well as local producers in emerging markets such as China, India, Eastern Europe, and Turkey. China continues to remain a priority for us because of its export focus and the increasing domestic consumption of products that use our devices. In addition, we continue to focus on managing our costs and increasing our productivity in these lower-cost manufacturing regions.

### Product Categories

Prior to fiscal year 2018, we presented five significant product categories in Sensing Solutions: bimetal electromechanical controls, industrial and aerospace sensors, power conversion and control, thermal and magnetic-hydraulic circuit breakers, and interconnection. Beginning in fiscal year 2018, we are categorizing our products more broadly, as sensors, controls, or other, to better reflect how we view our products.

Table of Contents

The following table presents the significant product categories offered by Sensing Solutions and the corresponding key products, solutions, applications, systems, and end markets:

Key Products/Solutions	Key Applications/Systems	Key End Markets
Product category: Controls		
Bimetal electromechanical controls	HVAC/R	
Motor protectors	Industrial equipment	Aerospace and defense
Motor starters	Small/large appliances	HVAC/R
Thermostats	Lighting	Industrial
Switches	DC motors	Medical
	Commercial and military aircraft	Marine
	Marine/industrial	Energy/solar
Circuit breakers	Data and telecom equipment	Automotive
Thermal circuit breakers	Medical equipment	
Magnetic-hydraulic circuit breakers	Recreational vehicles	
Product category: Sensors		
		Aerospace and defense
Linear and rotary position sensors	HVAC/R	HVAC/R
Linear variable differential transformers	Air compressors	Industrial equipment
Pressure sensors	Hydraulic machinery	Energy
Temperature sensors	Motion control systems	Agriculture
Aircraft controls	Pumps and storage tanks	Construction
	Commercial and military aircraft	Marine
		Motors

The table below sets forth the amount of net revenue we generated from each of these product categories in each of the last three fiscal years (prior periods have been recast to reflect current presentation):

(Dollars in thousands)	For the year ended December 31,		
	2018	2017	2016
Net revenue:			
Controls	\$ 508,745	\$ 497,853	\$ 486,207
Sensors	222,649	201,846	193,843
Other	162,582	146,434	136,858
Sensing Solutions net revenue	\$ 893,976	\$ 846,133	\$ 816,908

Competitors

Within each of the principal product categories in Sensing Solutions, we compete with divisions of large multinational industrial corporations and companies with smaller market share that compete primarily in specific markets, applications, or products. We believe that the key competitive factors in these markets are product performance, quality, and reliability, although manufacturers in certain markets also compete based on price. Physical proximity to the facilities of the OEM/Tier 1 manufacturer customer has, in our experience, also increasingly become a basis for competition. We have additionally found that certain of our product categories have other specific competitive factors. For example, strength of technology, quality, and the ability to provide custom solutions are particularly important in thermal circuit breaker, thermostat, and switch products. With hydraulic-magnetic circuit breakers, as another example, we have encountered heightened competition on price and a greater emphasis on agency approvals, including approvals by the UL, a U.S.-based organization that issues safety standards for many electrical products in the U.S., military agencies, and similar organizations outside of the U.S., such as Verband der Elektrotechnik, Elektronik und Informationstechnik, and TÜV Rheinland in Europe, China Compulsory Certification in China, and Canadian Standards Association in Canada.

Technology and Intellectual Property

We develop products that address increasingly complex engineering requirements. We believe that continued focused investment in research and development ("R&D") is critical to our future growth and maintaining our leadership



positions in the markets we serve. Our R&D efforts are directly related to timely development of new and enhanced products that are central to our core business strategy. We continuously develop our technologies to meet an evolving set of customer requirements and new product introductions. In addition, we constantly consider new technologies where we may have expertise for potential investment or acquisition. We incurred R&D expense of \$147.3 million, \$130.1 million, and \$126.7 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Table of Contents

We rely primarily on patents, trade secrets, manufacturing know-how, confidentiality procedures, and licensing arrangements to maintain and protect our intellectual property rights. While we consider our patents to be valuable assets, we do not believe that our overall competitive position is dependent on patent protection or that our overall business is dependent upon any single patent or group of related patents. Many of our patents protect specific functionality in our products, and others consist of processes or techniques that result in reduced manufacturing costs. The following table presents information on our patents and patent applications as of December 31, 2018:

	U.S.	Non-U.S.
Patents	324	450
Pending patent applications, filed within the last five years	34	209

Our patents have expiration dates ranging from 2019 to 2042. We also own a portfolio of trademarks and license various patents and trademarks. "Sensata" and our logo are trademarks.

We use licensing arrangements with respect to certain technology provided in our sensor products and, to a lesser extent, our control products. In 2006, we entered into a perpetual, royalty-free cross-license agreement with our former owner, Texas Instruments Incorporated, which permits each party to use specified technology owned by the other party in its business. No license may be terminated under the agreement, even in the event of a material breach. We purchase sense element assemblies, which are components used primarily in our monosilicon strain gage pressure sensors, from Measurement Specialties, Inc. and its affiliates ("MEAS") and also manufacture them internally as a second source. In March 2013, we entered into an intellectual property licensing arrangement (the "License Agreement") with MEAS that provides for an indefinite duration license and is subject to royalties through 2019 and thereafter is royalty-free. Pursuant to the terms of the License Agreement, we are authorized to produce our entire need for these sense elements within the passenger vehicle and heavy-duty truck fields of use. The License Agreement can be terminated by either party in the event of an uncured material breach. As of December 31, 2018, we only purchase sense element assemblies from MEAS that relate to limited industrial applications. We manufacture the rest internally.

The following table presents net revenue realized related to the sense element assemblies subject to the License Agreement:

(Dollars in millions)	For the year ended		
	December 31,		
	2018	2017	2016
Net revenue:			
Manufactured by Sensata	\$424.6	\$348.4	\$247.1
Manufactured by MEAS	8.8	64.8	150.6
Total net revenue subject to License Agreement	\$433.4	\$413.2	\$397.7

**Raw Materials**

We use a broad range of manufactured components, subassemblies, and raw materials in the manufacture of our products, including those containing certain commodities, resins, and rare earth metals, which may experience significant volatility in their price and availability.

The price and availability of raw materials and manufactured components may be subject to change due to, among other things, new laws or regulations and global economic or political events including strikes, suppliers' allocations to other purchasers, interruptions in production by suppliers, changes in foreign currency exchange rates, and prevailing price levels. It is generally difficult to pass increased prices for manufactured components and raw materials through to our customers in the form of price increases. Therefore, a significant increase in the price or a decrease in the availability of these items could materially increase our operating costs and materially and adversely affect our business and results of operations.

**Employees**

As of December 31, 2018, we had approximately 21,650 employees, of whom approximately 8% were located in the U.S. As of December 31, 2018, approximately 120 of our employees were covered by collective bargaining agreements. In addition, in various countries, local law requires our participation in works councils. We also engage contract workers in multiple locations, primarily to cost-effectively manage variations in manufacturing volume, but

also to perform engineering and other general services. As of December 31, 2018, we had approximately 2,050 contract workers on a worldwide basis. We believe

## Table of Contents

that our relations with our employees are good. However, as discussed in Item 1A, "Risk Factors," included elsewhere in this Report, the loss of key employees or material work stoppages at our or our customers' manufacturing sites could have a material adverse impact on our financial condition and results of operations.

### Environmental Regulations

Our operations and facilities are subject to numerous environmental, health, and safety laws and regulations, both domestic and foreign, including those governing air emissions, chemical usage, water discharges, the management and disposal of hazardous substances and wastes, and the cleanup of contaminated sites. We are, however, not aware of any threatened or pending material environmental investigations, lawsuits, or claims involving us or our operations. Many of our products are governed by material content restrictions and reporting requirements, examples of which include: European Union regulations, such as Registration, Evaluation, Authorization, and Restriction of Chemicals ("REACH"), Restriction of Hazardous Substances ("RoHS"), and End of Life Vehicles ("ELV"); U.S. regulations, such as the conflict minerals requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act; and similar regulations in other countries. Further, numerous customers, across all end markets, are requiring us to provide declarations of compliance or, in some cases, full material content disclosure as a requirement of doing business with them.

Compliance with these laws and meeting customer requirements has increased our cost of doing business in a variety of ways and may continue to do so in the future. We do not currently expect any material capital expenditures during fiscal year 2019 for environmental control facilities. We also do not believe that existing or pending climate change legislation, regulation, or international treaties or accords are reasonably likely to have a material adverse effect in the foreseeable future on our business or the markets we serve, nor on our results of operations, capital expenditures, earnings, competitive position, or financial standing.

### Governmental Regulations

We are subject to compliance with laws and regulations controlling the import and export of goods and services. Certain of our products are subject to International Traffic in Arms Regulation ("ITAR"). The export of many such ITAR-controlled products requires an individual validated license from the U.S. State Department's Directorate of Defense Trade Controls. The State Department makes licensing decisions based on type of product, destination of end use, end user, national security, and foreign policy. We have a trade compliance team and other systems in place to apply for licenses and otherwise comply with import and export regulations. Any failure to maintain compliance with domestic and foreign trade regulations could limit our ability to import or export raw material and finished goods across various jurisdictions. These laws and regulations are subject to change, and any such change may require us to change technology or incur expenditures to comply with such laws and regulations.

### Available Information

We make available free of charge on our Internet website ([www.sensata.com](http://www.sensata.com)) our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file such material with, or furnish it to, the U.S. Securities and Exchange Commission (the "SEC"). Our website and the information contained or incorporated therein are not intended to be incorporated into this Report. The SEC maintains an Internet site that contains reports, proxy, and information statements, and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov). The contents on, or accessible through, this website or our website are not incorporated into this filing. Further, our references to the URLs for the SEC's website and our website are intended to be inactive textual references only.

Table of Contents

ITEM 1A. RISK FACTORS

Business and Operational Risks

Our business is subject to numerous global risks, including regulatory, political, economic, and military concerns and instability.

Our business, including our employees, customers, and suppliers, are located throughout the world. As a result, we are exposed to numerous global and local risks that could decrease revenue and/or increase expenses, and therefore decrease our profitability, including, without limitation:

• trade regulations, including customs, import, and export matters;

• tariffs, trade barriers, and disputes;

• local employment costs, regulations, and conditions;

• difficulties with, and costs for, protecting our intellectual property;

• challenges in collecting accounts receivable;

• tax laws and regulatory changes, including examinations by taxing authorities, variations in tax laws from country to country, changes to the terms of income tax treaties, and difficulties in the tax-efficient repatriation of earnings generated or held in a number of jurisdictions;

• natural disasters;

• instability in economic or political conditions, inflation, recession, actual or anticipated military or political conflicts, and potential impact due to the upcoming exit of the United Kingdom (the "U.K.") from the European Union (the "EU"); and

• impact of each of the foregoing on our outsourcing and procurement arrangements.

The U.K.'s withdrawal from the EU ("Brexit"), which is scheduled to take place on March 29, 2019, has created uncertainty about the future relationship between the U.K. and the EU. A draft withdrawal agreement was published in November 2018, but we are still uncertain about the final agreements they will reach on topics such as financial laws and regulations, tax and free trade agreements, immigration laws, and employment laws. Our publicly traded parent is incorporated in the U.K., and we have significant operations and a substantial workforce therein and therefore enjoy certain benefits based on the U.K.'s membership in the EU. The lack of clarity about Brexit and the future U.K. laws and regulations creates uncertainty for us, as the outcome of these negotiations may affect our business and operations. Additionally, there also is a risk that other countries may decide to leave the EU. The uncertainty surrounding Brexit not only potentially affects our business in the U.K. and the EU, but may have a material adverse effect on global economic conditions and the stability of global financial markets, which in turn could have a material adverse effect on our business, financial condition, and results of operations. Additionally, any development that has the effect of devaluing the Euro could meaningfully reduce the value of our assets and reduce the usefulness of liquidity alternatives denominated in that currency, such as our multicurrency credit facility.

In addition, we have sizable operations in China, including two principal manufacturing sites. Approximately 16% of our net revenue in fiscal year 2018 was generated in China. Economic and political conditions in China have been and may continue to be volatile and uncertain, especially as the United States ("U.S.") and China continue to discuss and have differences in trade policies. In addition, the legal and regulatory system in China is still developing and is subject to change. Accordingly, our operations and transactions with customers in China could be adversely affected by changes to market conditions, changes to the regulatory environment, or interpretation of Chinese law.

Adverse conditions in the industries upon which we are dependent, including the automotive industry, have had, and may in the future have, adverse effects on our business.

We are dependent on market dynamics to sell our products, and our operating results could be adversely affected by cyclical and reduced demand in these markets. Periodic downturns in our customers' industries could significantly reduce demand for certain of our products, which could have a material adverse effect on our results of operations, financial position, and cash flows.

## Table of Contents

Much of our business depends on, and is directly affected by, the global automobile industry. Sales in our automotive end markets accounted for approximately 60% of our total net revenue in fiscal year 2018. Adverse developments like those we have seen in past years in the automotive industry, including but not limited to declines in demand, customer bankruptcies, and increased demands on us for lower prices, could have adverse effects on our results of operations and could impact our liquidity and our ability to meet restrictive debt covenants. In addition, these same conditions could adversely impact certain of our vendors' financial solvency, resulting in potential liabilities or additional costs to us to ensure uninterrupted supply to our customers.

Continued pricing and other pressures from our customers may adversely affect our business.

Many of our customers, including automotive manufacturers and other industrial and commercial original equipment manufacturers ("OEMs"), require annual price reductions. If we are not able to offset continued price reductions through improved operating efficiencies and reduced expenditures, these price reductions may have a material adverse effect on our results of operations and cash flows. In addition, our customers occasionally require engineering, design, or production changes. In some circumstances, we may be unable to cover the costs of these changes with price increases. Further, as our customers grow larger, they may increasingly require us to provide them with our products on an exclusive basis, which could limit sales, cause an increase in the number of products we must carry and, consequently, increase our inventory levels and working capital requirements. Certain of our customers, particularly in the automotive industry, are increasingly requiring their suppliers to agree to their standard purchasing terms without deviation as a condition to engage in future business transactions. As a result, we may find it difficult to enter into agreements with such customers on terms that are commercially reasonable to us.

We operate in markets that are highly competitive, and competitive pressures could require us to lower our prices or result in reduced demand for our products.

We operate in markets that are highly competitive, and we compete on the basis of product performance, quality, service, and/or price across the industries and end markets we serve. A significant element of our competitive strategy is to design and manufacture high-quality products that meet the needs of our customers at a commercially competitive price, particularly in markets where low-cost, country-based suppliers, primarily in China with respect to the Sensing Solutions segment, have entered the markets or increased their per-unit sales in these markets by delivering products at low cost to local OEMs. In addition, certain of our competitors in the automotive sensor market are influenced or controlled by major OEMs or suppliers, thereby limiting our access to these customers. Many of our customers also rely on us as their sole source of supply for many of the products that we have historically sold to them. These customers may choose to develop relationships with additional suppliers or elect to produce some or all of these products internally, primarily to reduce risk of delivery interruptions or as a means of extracting price reductions from us. Certain of our customers currently have, or may develop in the future, the capability to internally produce the products that we sell to them and may compete with us with respect to those and other products and with respect to other customers. Competitive pressures such as these, and others, could affect prices or customer demand for our products, negatively impacting our profit margins and/or resulting in a loss of market share.

Increasing costs for, or limitations on the supply of or access to, manufactured components and raw materials may adversely affect our business and results of operations.

We use a broad range of manufactured components, subassemblies, and raw materials in the manufacture of our products, including those containing certain commodities, resins, and rare earth metals, which may experience significant volatility in their price and availability. We have entered into hedge arrangements in an attempt to minimize commodity pricing volatility and may continue to do so from time to time in the future. Such hedges might not be economically successful. In addition, these hedges do not qualify as accounting hedges in accordance with U.S. generally accepted accounting principles ("GAAP"). Accordingly, the change in fair value of these hedges is recognized in earnings immediately, which could cause volatility in our results of operations from quarter to quarter. Refer to Note 19, "Derivative Instruments and Hedging Activities," of our audited consolidated financial statements and accompanying notes thereto (our "Financial Statements") included elsewhere in this Annual Report on Form 10-K (this "Report") for further discussion of accounting for hedges of commodity prices, and Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," included elsewhere in this Report, for an analysis of the sensitivity on pretax earnings of changes in the forward prices on these hedges.

The price and availability of raw materials and manufactured components may be subject to change due to, among other things, new laws or regulations and global economic or political events including strikes, suppliers' allocations to other purchasers, interruptions in production by suppliers, changes in foreign currency exchange rates, and prevailing price levels. It is generally difficult to pass increased prices for manufactured components and raw materials through to our customers in the form of price increases. Therefore, a significant increase in the price or a decrease in the availability of these items could materially increase our operating costs and materially and adversely affect our business and results of operations.

Table of Contents

We may not realize all of the revenue or achieve anticipated gross margins from products subject to existing purchase orders or for which we are currently engaged in development.

Our ability to generate revenue from products pending customer awards is subject to a number of important risks and uncertainties, many of which are beyond our control, including the number of products our customers will actually produce, as well as the timing of such production. Many of our customer agreements provide for the supply of a certain share of the customer's requirements for a particular application or platform, rather than for a specific quantity of products. In some cases, we have no remedy if a customer chooses to purchase less than we expect. In cases where customers do make minimum volume commitments to us, our remedy for their failure to meet those minimum volumes may be limited to increased pricing on those products that the customer does purchase from us or renegotiating other contract terms. There is no assurance that such price increases or new terms will offset a shortfall in expected revenue. In addition, some of our customers may have the right to discontinue a program or replace us with another supplier under certain circumstances. As a result, products for which we are currently incurring development expenses may not be manufactured by our customers at all, or may be manufactured in smaller amounts than currently anticipated. Therefore, our anticipated future revenue from products relating to existing customer awards or product development relationships may not result in firm orders from customers for the originally contracted amount. We also incur capital expenditures and other costs, and price our products, based on estimated production volumes. If actual production volumes were significantly lower than estimated, our anticipated revenue and gross margin from those new products would be adversely affected. We cannot predict the ultimate demand for our customers' products, nor can we predict the extent to which we would be able to pass through unanticipated per-unit cost increases to our customers.

In connection with the implementation of our corporate strategies, we face risks associated with the acquisition or disposition of businesses, the entry into new lines of business, the integration of acquired businesses, and the growth and development of these businesses.

In pursuing our corporate strategy, we often acquire other businesses or dispose of or exit businesses we currently own. The success of this strategy is dependent upon our ability to identify appropriate acquisition and disposition targets, negotiate transactions on favorable terms, complete transactions and, in the case of acquisitions, successfully integrate them into our existing businesses. If a proposed transaction is not consummated, the time and resources spent pursuing it could adversely result in missed opportunities to locate and acquire other businesses. If acquisitions are made, there can be no assurance that we will realize the anticipated benefits of such acquisitions, including, but not limited to, revenue growth, operational efficiencies, or expected synergies. If we dispose of or otherwise exit certain businesses, we may incur significant write-offs, including those related to goodwill and other intangible assets, and face other risks, including difficulties in the separation of operations, services, products, and personnel; the diversion of management's attention from other business concerns; the disruption of our business; and the potential loss of key employees. There can be no assurance that we will be successful in addressing these or any other significant risks encountered.

Subject to the terms of our indebtedness, we may finance future acquisitions with cash from operations, additional indebtedness, and/or by issuing additional equity securities. In addition, we could face financial risks associated with incurring additional indebtedness such as reducing our liquidity, limiting our access to financing markets, and increasing the amount of service on our debt. The availability of debt to finance future acquisitions may be restricted, and our ability to make future acquisitions may be limited.

There can be no assurance that any anticipated synergies or cost savings related to acquisitions will be achieved or that they will be achieved in our estimated time frame. We may not be able to successfully integrate and streamline overlapping functions from future acquisitions, and integration may be more costly to accomplish than we expect. In addition, we could encounter difficulties in managing our combined company due to its increased size and scope. We also may seek to restructure our business in the future by disposing of certain assets or by consolidating operations. There can be no assurance that any restructuring of our business will not adversely affect our financial position, leverage, or results of operations. In addition, any significant restructuring of our business will require significant managerial attention, which may be diverted from our other operations.



Further, from time to time, either through acquisitions or internal development, we enter new lines of business or offer new products and services within existing lines of business. These new lines of business or new products and services present us with additional risks, particularly in instances where the markets are not fully developed. Such risks include the investment of significant time and resources; the possibility that these efforts will be not be successful; the possibility that the marketplace does not accept our products or services or that we are unable to retain customers that adopt our new products or services; and the risk of additional liabilities associated with these efforts. In addition, many of the businesses that we acquire and develop will likely have significantly smaller scales of operations prior to the implementation of our growth strategy. If we are not able to manage the growing complexity of these businesses, including improving, refining, or revising our systems and operational

Table of Contents

practices, and enlarging the scale and scope of the businesses, our business may be adversely affected. Other risks include developing knowledge of and experience in the new business, integrating the acquired business into our systems and culture, recruiting professionals, and developing and capitalizing on new relationships with experienced market participants. External factors, such as compliance with new or revised regulations, competitive alternatives, and shifting market preferences may also impact the successful implementation of a new line of business. Failure to manage these risks in the acquisition or development of new businesses could materially and adversely affect our business, results of operations, and financial condition.

Restructuring our business or divesting some of our businesses or product lines in the future may have a material adverse effect on our results of operations, financial position, and cash flows.

We continue to evaluate the strategic fit of specific businesses and products that may result in additional divestitures. Any divestitures may result in significant write-offs, including those related to goodwill and other intangible assets, which could have a material adverse effect on our results of operations and financial position. Divestitures could involve additional risks, including difficulties in the separation of operations, services, products, and personnel; the diversion of management's attention from other business concerns; the disruption of our business; and the potential loss of key employees. There can be no assurance that we will be successful in addressing these or any other significant risks encountered.

We also may seek to restructure our business in the future by disposing of certain assets or by consolidating operations. There can be no assurance that any restructuring of our business will not adversely affect our financial position, leverage, or results of operations. In addition, any significant restructuring of our business will require significant managerial attention, which may be diverted from our other operations.

We are dependent on market acceptance of our new product introductions and product innovations for future revenue. Substantially all markets in which we operate are impacted by technological change or change in consumer tastes and preferences, which are rapid in certain markets. Our operating results depend substantially upon our ability to continually design, develop, introduce, and sell new and innovative products; to modify existing products; and to customize products to meet customer requirements driven by such change. There are numerous risks inherent in these processes, including the risk that we will be unable to anticipate the direction of technological change or that we will be unable to develop and market profitable new products and applications before our competitors or in time to satisfy customer demands.

We may incur material losses and costs as a result of product liability, warranty, and recall claims that may be brought against us.

We have been, and may continue to be, exposed to product liability and warranty claims in the event that our products actually or allegedly fail to perform as expected, or the use of our products results, or is alleged to result, in death, bodily injury, and/or property damage. Accordingly, we could experience material warranty or product liability losses in the future and incur significant costs to defend these claims. In addition, if any of our products are, or are alleged to be, defective, we may be required to participate in a recall of the underlying end product, particularly if the defect or the alleged defect relates to product safety. Depending on the terms under which we supply products, an OEM may hold us responsible for some or all of the repair or replacement costs of these products under warranty when the product supplied did not perform as represented. In addition, a product recall could generate substantial negative publicity about our business and interfere with our manufacturing plans and product delivery obligations as we seek to repair affected products. Our costs associated with product liability, warranty, and recall claims could be material. Natural disasters or other disasters outside of our control could cause significant business interruptions resulting in harm to our business operations and financial condition.

Our operations and those of our suppliers and customers, and the supply chains that support their operations, may potentially suffer interruptions caused by natural disasters such as earthquakes, tsunamis, hurricanes, typhoons, or floods; or other disasters such as fires, explosions, disease, and acts of terrorism or war that are outside of our control. If a business interruption occurs and we are unsuccessful in our continuing efforts to minimize the impact of these events, our business, results of operations, financial position, and/or cash flows could be materially adversely affected. Labor disruptions or increased labor costs could adversely affect our business.

As of December 31, 2018, we had approximately 21,650 employees, of whom approximately 8% were located in the U.S. As of December 31, 2018, approximately 120 of our employees were covered by collective bargaining agreements. In addition, in various countries, local law requires our participation in works councils.

## Table of Contents

A material labor disruption or work stoppage at one or more of our manufacturing facilities could have a material adverse effect on our business. In addition, work stoppages occur relatively frequently in the industries in which many of our customers operate, such as the automotive industry. If one or more of our larger customers were to experience a material work stoppage for any reason, that customer may halt or limit the purchase of our products. This could cause us to shut down production facilities relating to those products, which could have a material adverse effect on our business, results of operations, and/or financial condition.

Security breaches and other disruptions to our information technology ("IT") infrastructure could interfere with our operations, compromise confidential information, and expose us to liability which could materially adversely impact our business and reputation.

Security breaches and other disruptions to our IT infrastructure could interfere with our operations; compromise information belonging to us, our employees, customers, and suppliers; and expose us to liability that could adversely impact our business and reputation. In the ordinary course of business, we rely on IT networks and systems, some of which are managed by third parties, to process, transmit, and store electronic information, and to manage or support a variety of business processes and activities. Additionally, we collect and store certain data, including proprietary business information and customer and employee data, and may have access to confidential or personal information that is subject to privacy and security laws, regulations, and customer-imposed controls. We also face the challenge of supporting our older systems and implementing necessary upgrades. Despite our cybersecurity measures (including employee and third-party training, monitoring of networks and systems, and maintenance of backup and protective systems) that are continuously reviewed and upgraded, our IT networks and infrastructure may still be vulnerable to damage, disruptions, or shutdowns due to attacks by hackers, breaches, employee error or malfeasance, power outages, computer viruses, telecommunication or utility failures, systems failures, natural disasters, or other catastrophic events.

We are at risk of attack by a growing list of adversaries through increasingly sophisticated methods of attack. Because the techniques used to obtain unauthorized access or sabotage systems change frequently, we may be unable to anticipate these techniques or implement adequate preventative measures. We regularly experience attacks to our systems and networks and have from time to time experienced cybersecurity breaches, such as computer viruses, unauthorized parties gaining access to our IT systems, and similar incidents, which to date have not had a material impact on our business. If we are unable to efficiently and effectively maintain and upgrade our system safeguards, we may incur unexpected costs and certain of our systems may become more vulnerable to unauthorized access. While we select our third party vendors carefully, problems with the IT systems of those vendors, including breakdowns or other disruptions in communication services provided by a vendor, failure of a vendor to handle current or higher volumes, cyber-attacks, and security breaches at a vendor could adversely affect our ability to deliver products and services to our customers and otherwise conduct our business.

Additionally, we are an acquisitive organization and the process of integrating the information systems of the businesses we acquire is complex and exposes us to additional risk as we might not adequately identify weaknesses in the targets' information systems, which could expose us to unexpected liabilities or make our own systems more vulnerable to attack. These types of incidents affecting us or our third-party vendors could result in intellectual property or other confidential information being lost or stolen, including client, employee, or company data. In addition, we may not be able to detect breaches in our IT systems or assess the severity or impact of a breach in a timely manner.

Any such events could result in legal claims or proceedings, liability or penalties under privacy laws, disruption in operations, and damage to our reputation, which could materially adversely affect our business. Further, to the extent that any disruption or security breach results in a loss of, or damage to, our data, or an inappropriate disclosure of confidential information, it could cause significant damage to our reputation, affect our relationships with our customers, lead to claims against us, and ultimately harm our business, financial condition, and/or results of operations.

Improper disclosure of confidential, personal, or proprietary data could result in regulatory scrutiny, legal liability, or harm to our reputation.

One of our significant responsibilities is to maintain the security and privacy of our employees' and customers' confidential and proprietary information, including confidential information about our employees' compensation, medical information, and other personally identifiable information. We maintain policies, procedures, and technological safeguards designed to protect the security and privacy of this information. Nonetheless, we cannot eliminate the risk of human error, employee or vendor malfeasance, or cyber-attacks that could result in improper access to or disclosure of confidential, personal, or proprietary information. Such access or disclosure could harm our reputation and subject us to liability under our contracts and laws and regulations that protect personal data, resulting in increased costs, loss of revenue, and loss of customers. The release of confidential information as a result of a security breach could also lead to litigation or other proceedings against us by

## Table of Contents

affected individuals or business partners, or by regulators, and the outcome of such proceedings, which could include penalties or fines, could have a significant negative impact on our business.

In many jurisdictions, including in the EU and the U.S., we are subject to laws and regulations relating to the collection, use, retention, security, and transfer of this information. These laws and regulations are frequently changing and are becoming increasingly complex and sometimes conflict among the various jurisdictions and countries in which we operate, which makes compliance challenging and expensive. Additionally, certain jurisdictions' regulations include notice provisions that may require us to inform affected customers or employees in the event of a breach of confidential information before we fully understand or appreciate the extent of the breach. These notice provisions present operational challenges and related risk.

In particular, the EU's General Data Protection Regulation ("GDPR") went into effect in May 2018. Non-compliance could result in proceedings against us by governmental entities or others. Our failure to adhere to or successfully implement processes in response to changing regulatory requirements in this area could result in legal liability or impair our reputation in the marketplace. Further, regulatory initiatives in the area of data protection are more frequently including provisions allowing authorities to impose substantial fines and penalties, and therefore, failure to comply could also have a significant financial impact.

### Financial Risks

We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.

A portion of our net revenue, expenses, receivables, and payables are denominated in currencies other than the U.S. dollar. We, therefore, face exposure to adverse movements in exchange rates of currencies other than the U.S. dollar, which may change over time and could affect our financial results and cash flows. For financial reporting purposes, we, and each of our subsidiaries, operate under a U.S. dollar functional currency because of the significant influence of the U.S. dollar on our operations. In certain instances, we enter into transactions that are denominated in a currency other than the U.S. dollar. At the date that such transaction is recognized, each asset, liability, revenue, expense, gain, or loss arising from the transaction is measured and recorded in U.S. dollars using the exchange rate in effect at that date. At each balance sheet date, recorded monetary balances denominated in a currency other than the U.S. dollar are adjusted to U.S. dollars using the exchange rate at the balance sheet date, with gains or losses recorded in other, net in the consolidated statements of operations. During times of a weakening U.S. dollar, our reported international sales and earnings may increase because the non-U.S. currency will translate into more U.S. dollars. Conversely, during times of a strengthening U.S. dollar, our reported international sales and earnings may decrease because the local currency will translate into fewer U.S. dollars.

Our level of indebtedness could adversely affect our financial condition and our ability to operate our business.

As of December 31, 2018, we had \$3,303.3 million of gross outstanding indebtedness, including \$917.8 million of indebtedness under the term loan provided by the eighth amendment to the credit agreement dated as of May 12, 2011 (as amended, the "Credit Agreement"), \$500.0 million aggregate principal amount of 4.875% senior notes due 2023 issued under an indenture dated as of April 17, 2013 (the "4.875% Senior Notes"), \$400.0 million aggregate principal amount of 5.625% senior notes due 2024 issued under an indenture dated as of October 14, 2014 (the "5.625% Senior Notes"), \$700.0 million aggregate principal amount of 5.0% senior notes due 2025 issued under an indenture dated as of March 26, 2015 (the "5.0% Senior Notes"), \$750.0 million aggregate principal amount of 6.25% senior notes due 2026 issued under an indenture dated as of November 27, 2015 (the "6.25% Senior Notes," and together with the 4.875% Senior Notes, the 5.625% Senior Notes, and the 5.0% Senior Notes, the "Senior Notes"), and \$35.5 million of capital lease and other financing obligations. We may incur additional indebtedness in the future. Our substantial indebtedness could have important consequences. For example, it could:

- make it more difficult for us to satisfy our debt obligations;
- restrict us from making strategic acquisitions;
- limit our flexibility in planning for, or reacting to, changes in our business and future business opportunities, thereby placing us at a competitive disadvantage if our competitors are not as highly-leveraged;
- increase our vulnerability to general adverse economic and market conditions; or
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require us to dedicate a substantial portion of our cash flows from operations to payments on our indebtedness if we do not maintain specified financial ratios or are not able to refinance our indebtedness as it comes due, thereby reducing the availability of our cash flows for other purposes.

## Table of Contents

In addition, the senior secured credit facilities provided for under the Credit Agreement (the "Senior Secured Credit Facilities"), permit us to incur additional indebtedness in the future, including borrowings under the \$420.0 million revolving credit facility (the "Revolving Credit Facility") and \$1.0 billion incremental availability (the "Accordion") under which, subject to certain limitations as defined in the indentures (the "Senior Notes Indentures") under which the Senior Notes were issued, additional secured debt may be issued or the capacity of the Revolving Credit Facility may be increased. As of December 31, 2018, we had \$416.1 million available to us under the Revolving Credit Facility.

If we increase our indebtedness by borrowing under the Revolving Credit Facility or incur other new indebtedness under the Accordion, the risks described above would increase. Refer to Note 14, "Debt," of our Financial Statements for further discussion of our outstanding indebtedness.

Our business may not generate sufficient cash flows from operations, or future borrowings under the Senior Secured Credit Facilities or from other sources may not be available to us in an amount sufficient to enable us to service and/or repay our indebtedness when it becomes due, or to fund our other liquidity needs, including capital expenditures. We cannot guarantee that we will be able to obtain enough capital to service our debt and fund our planned capital expenditures and business plan. If we complete additional acquisitions, our debt service requirements could also increase. If we cannot service our indebtedness, we may have to take actions such as selling assets, seeking additional equity investments, or reducing or delaying capital expenditures, strategic acquisitions, investments, and alliances, any of which could have a material adverse effect on our operations. Additionally, we may not be able to effect such actions, if necessary, on commercially reasonable terms, or at all.

Our failure to comply with the covenants contained in our credit arrangements, including non-compliance attributable to events beyond our control, could result in an event of default, which could materially and adversely affect our operating results and our financial condition.

The Revolving Credit Facility requires us to maintain a senior secured net leverage ratio not to exceed 5.0:1.0 at the conclusion of certain periods when outstanding loans and letters of credit that are not cash collateralized for the full face amount thereof exceed 10% of the commitments under the Revolving Credit Facility. In addition, Sensata Technologies B.V. and its Restricted Subsidiaries (as defined in the Credit Agreement) are required to satisfy this covenant, on a pro forma basis, in connection with any new borrowings (including any letter of credit issuances) under the Revolving Credit Facility as of the time of such borrowings. Additionally, the Revolving Credit Facility and the Senior Notes Indentures require us to comply with various operational and other covenants.

If we experienced an event of default under any of our debt instruments that was not cured or waived, the holders of the defaulted debt could cause all amounts outstanding with respect to the debt to become due and payable immediately, which, in turn, would result in cross defaults under our other debt instruments. Our assets and cash flows may not be sufficient to fully repay borrowings if accelerated upon an event of default.

If, when required, we are unable to repay, refinance, or restructure our indebtedness under, or amend the covenants contained in, the Credit Agreement, or if a default otherwise occurs, the lenders under the Senior Secured Credit Facilities could: elect to terminate their commitments thereunder; cease making further loans; declare all borrowings outstanding, together with accrued interest and other fees, to be immediately due and payable; institute foreclosure proceedings against those assets that secure the borrowings under the Senior Secured Credit Facilities; and prevent us from making payments on the Senior Notes. Any such actions could force us into bankruptcy or liquidation, and we might not be able to repay our obligations in such an event.

We have recorded a significant amount of goodwill and other identifiable intangible assets, and we may be required to recognize goodwill or intangible asset impairments, which would reduce our earnings.

We have recorded a significant amount of goodwill and other identifiable intangible assets. Goodwill and other intangible assets, net totaled approximately \$4.0 billion as of December 31, 2018, or 59% of our total assets. Goodwill, which represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized, was approximately \$3.1 billion as of December 31, 2018, or 45% of our total assets. Goodwill and other identifiable intangible assets were recognized at fair value as of the corresponding acquisition date. Impairment of goodwill and other identifiable intangible assets may result from, among other things, deterioration in our performance, adverse market conditions, adverse changes in laws or



regulations, significant unexpected or planned changes in the use of assets, and a variety of other factors. The amount of any quantified impairment must be expensed immediately as a charge that is included in operating income, which may impact our ability to raise capital. Although no impairment charges have been recorded during the past three fiscal years, should certain assumptions used in the development of the fair value of our reporting units change, we

Table of Contents

may be required to recognize goodwill or other intangible asset impairments. Refer to Note 11, "Goodwill and Other Intangible Assets, Net," of our Financial Statements for more details on our goodwill and other identifiable intangible assets. Refer to Critical Accounting Policies and Estimates, included in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," included elsewhere in this Report for further discussion of the assumptions used in the development of the fair value of our reporting units.

U.S. federal income tax reform could have a material impact on our business and financial condition.

On December 22, 2017, U.S. federal tax legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Tax Reform Act"), was signed into law, significantly changing the U.S. Internal Revenue Code. These changes include, among other things, lowering the corporate income tax rate, subjecting certain future foreign subsidiary earnings, whether or not distributed, to U.S. tax under a Global Intangible Low-Taxed Income provision, imposing a new alternative "Base Erosion and Anti-Abuse Tax" on U.S. corporations that limits deductions for certain amounts payable to foreign affiliates, imposing significant additional limitations on the deductibility of interest payable to related and unrelated lenders, further limiting deductible executive compensation, and imposing a one-time repatriation tax on deemed repatriated earnings of foreign subsidiaries through the end of 2017. The U.S. Securities and Exchange Commission staff issued Staff Accounting Bulletin No. 118 to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. We completed our analysis of how the Tax Reform Act may impact the results of our operations as of December 31, 2018. We have recognized the provisional tax impacts related to deemed repatriated earnings, the revaluation of deferred tax assets and liabilities, and provided for the probable impact of recently issued regulations concerning the Tax Reform Act. These amounts are included in our Financial Statements. The ultimate impact may differ from these provisional amounts, possibly materially, due to, among other things, issuance of final regulations and regulatory guidance, changes in interpretations and assumptions we have made, and actions we may take as a result of the Tax Reform Act. Continued analysis and resulting uncertainty, along with many of the changes effected pursuant to the Tax Reform Act, may have an adverse or volatile effect on our tax rate in fiscal years 2019 and beyond, thereby affecting our results of operations. Refer to Note 7, "Income Taxes," of our Financial Statements for further discussion of the Tax Reform Act.

Our global effective tax rate is subject to a variety of different factors, which could create volatility in that tax rate, expose us to greater than anticipated tax liabilities or cause us to adjust previously recognized tax assets and liabilities. We are subject to income taxes in the U.K., China, the U.S., and many other jurisdictions. As a result, our global effective tax rate from period to period can be affected by many factors, including changes in tax legislation, such as changes in tax rates and tax laws as those noted in the U.S. Tax Reform Act above, our global mix of earnings, the use of global funding structures, the tax characteristics of our income, the effect of complying with transfer pricing requirements under laws of many different countries on our revenues and costs, the consequences of acquisitions and dispositions of businesses and business segments, and the taxation of subsidiary income in the jurisdiction of its parent company regardless of whether or not distributed. Significant judgment is required in determining our worldwide provision for income taxes, and our determination of the amount of our tax liability is always subject to review by applicable tax authorities.

We believe that our redomicile into the U.K. and related transactions should continue to support our ability to maintain a competitive global tax rate since the U.K. has implemented a dividend exemption system that generally does not subject non-U.K. earnings to U.K. tax when such earnings are repatriated to the U.K. in the form of dividends from non-U.K. subsidiaries. This system should allow us to optimize our capital allocation through global funding structures. However, we cannot provide any assurances as to what our tax rate will be in any period because of, among other things, uncertainty regarding the nature and extent of our business activities in any particular jurisdiction in the future and the tax laws of such jurisdictions, as well as changes in U.S. and other tax laws, treaties and regulations. Our actual global tax rate may vary from our expectation and that variance may be material.

Additionally, the tax laws of the jurisdictions where we operate could change in the future, and such changes could cause a material change in our tax rate.

In addition, we could be subject to future audits conducted by foreign and domestic tax authorities, and the resolution of such audits could impact our tax rate in future periods, as would any reclassification or other changes (such as those in applicable accounting rules) that increases the amounts we have provided for income taxes in our consolidated financial statements. There can be no assurance that we would be successful in attempting to mitigate the adverse impacts resulting from any changes in law, audits and other matters. Our inability to mitigate the negative consequences of any changes in the law, audits and other matters could cause our global tax rate to increase, our use of cash to increase and our financial condition and results of operations to suffer. Refer to Note 7, "Income Taxes," of our Financial Statements for further discussion related to income taxes.

## Table of Contents

If significant tariffs or other restrictions continue or are increased on Chinese imports or any related counter-measures are taken by China, our revenue and results of operations may be materially harmed.

In July 2018, the Office of the U.S. Trade Representative announced a list of thousands of categories of goods that currently face tariffs of 10%. These tariffs may increase to 25% in March 2019 if the U.S. and China cannot reach an agreement on various related matters. These tariffs currently affect some of the products we import from China, and we may raise our prices on those products due to the tariffs or share the cost of such tariffs with our customers, which could harm our operating performance or cause our customers to seek alternative suppliers. It is possible that further tariffs may be imposed on other imports of our products, or that our business will be impacted by retaliatory trade measures taken by China or other countries in response to existing or future tariffs, causing us to raise prices or make changes to our operations, any of which could materially harm our revenue or operating results. In addition, we may seek to shift some of our China manufacturing to other countries, which could result in additional costs and disruption to our operations.

We are a holding company and, therefore, may not be able to receive dividends or other payments in needed amounts from our subsidiaries.

We are organized as a holding company, a legal entity separate and distinct from our operating entities. As a holding company without significant operations of its own, our principal assets are the shares of capital stock of our subsidiaries. We rely on dividends, interest, and other payments from these subsidiaries to meet our obligations for paying principal and interest on outstanding debt, paying dividends to shareholders, repurchasing ordinary shares, and corporate expenses. Certain of our subsidiaries are subject to regulatory requirements of the jurisdictions in which they operate or other restrictions that may limit the amounts that subsidiaries can pay in dividends or other payments to us. No assurance can be given that there will not be further changes in law, regulatory actions, or other circumstances that could restrict the ability of our subsidiaries to pay dividends or otherwise make payments to us. Furthermore, no assurance can be given that our subsidiaries may be able to make timely payments to us in order for us to meet our obligations.

### Legal and Regulatory Risks

We are subject to risks associated with our non-U.S. operations, including changes in local government regulations and policies, which could adversely impact the reported results of operations from our international businesses.

Our subsidiaries located outside of the U.S. generated approximately 61% of our net revenue in fiscal year 2018, and we expect sales from non-U.S. markets to continue to represent a significant portion of our total net revenue.

International sales and operations are subject to changes in local government regulations and policies, including those related to tariffs and trade barriers, investments, taxation, exchange controls, and repatriation of earnings.

In addition, other risks are inherent in our non-U.S. operations, including the potential for changes in socio-economic conditions and/or monetary and fiscal policies, intellectual property protection difficulties and disputes, the settlement of legal disputes through certain foreign legal systems, the collection of receivables, exposure to possible expropriation or other government actions, unsettled political conditions, and possible terrorist attacks. These and other factors may have a material adverse effect on our non-U.S. operations and, therefore, on our business and results of operations.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act (the "FCPA"), the U.K.'s Bribery Act, and similar worldwide anti-bribery laws.

The U.S. FCPA, the U.K.'s Bribery Act, and similar worldwide anti-bribery laws generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business. Our policies mandate compliance with these anti-bribery laws. We operate in many parts of the world that have experienced governmental corruption to some degree, and in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. Despite our training and compliance program, we cannot provide assurance that our internal control policies and procedures will protect us from reckless or criminal acts committed by our employees or agents. Violations of these laws, or allegations of such violations, could disrupt our business and result in a material adverse effect on our results of operations, financial position, and/or cash flows. Export of our products is subject to various export control regulations and may require a license from the U.S. Department of State, the U.S. Department of Commerce, or the U.S. Department of the Treasury. Any failure to

comply with such regulations could result in governmental enforcement actions, fines, penalties, or other remedies, which could have a material adverse effect on our business, results of operations, and financial condition. Certain of our products require us to comply with the U.S. Export Administration Regulations, International Traffic in Arms Regulation ("ITAR"), and the sanctions, regulations, and embargoes administered by the Office of Foreign Assets Control

## Table of Contents

("OFAC"). Our products that have military applications are on the munitions list of ITAR and require an individual validated license in order to be exported to certain jurisdictions. These restrictions also apply to technical data for design, development, production, use, repair, and maintenance of such ITAR-controlled products. The export of ITAR-controlled products or technical data requires an individual validated license from the U.S. State Department's Directorate of Defense Trade Controls. Any delays in obtaining, or our inability to obtain, such licenses could result in a material reduction in revenue.

We also export products that are subject to other export regulations. Any changes in these export regulations may further restrict the export of our products, and we may cease to be able to procure export licenses for our products under existing regulations. This area remains fluid in terms of regulatory developments. Should we need an export license under existing regulations, the length of time required by the licensing process can vary, potentially delaying the shipment of products and the recognition of the corresponding revenue. We have no control over the time it takes to process an export license. Any restriction on the export of a significant product line or a significant amount of our products could cause a significant reduction in revenue.

We have discovered in the past, and may discover in the future, deficiencies in our OFAC and ITAR compliance programs. Although we continue to enhance these compliance programs, we cannot assure you that any such enhancements will ensure that we are in compliance with applicable laws and regulations at all times, or that applicable authorities will not raise compliance concerns or perform audits to confirm our compliance with applicable laws and regulations. Any failure by us to comply with applicable laws and regulations could result in governmental enforcement actions, fines or penalties, criminal and/or civil proceedings, or other remedies, any of which could have a material adverse effect on our business, results of operations, and/or financial condition.

Changes in existing environmental or safety laws, regulations, and programs could reduce demand for our products, which could cause our revenue to decline.

A significant amount of our business is generated either directly or indirectly as a result of existing laws, regulations, and programs related to environmental protection, fuel economy, energy efficiency, and safety regulation.

Accordingly, a relaxation or repeal of these laws and regulations, or changes in governmental policies regarding the funding, implementation, or enforcement of these programs, could result in a decline in demand for environmental and/or safety products, which may have a material adverse effect on our revenue.

Our operations expose us to the risk of material environmental liabilities, litigation, government enforcement actions, and reputational risk.

We are subject to numerous federal, state, and local environmental protection and health and safety laws and regulations in the various countries where we operate and where our products are sold. These laws and regulations govern, among other things:

- the generation, storage, use, and transportation of hazardous materials;
- emissions or discharges of substances into the environment;
- investigation and remediation of hazardous substances or materials at various sites;
- greenhouse gas emissions;
- product hazardous material content; and
- the health and safety of our employees.

We may not have been, or we may not always be, in compliance with all environmental and health and safety laws and regulations. If we violate these laws, we could be fined, criminally charged, or otherwise sanctioned by regulators. In addition, environmental and health and safety laws are becoming more stringent, resulting in increased costs and compliance burdens.

Certain environmental laws assess liability on current or previous owners or operators of real property for the costs of investigation, removal, and remediation of hazardous substances or materials at their properties or properties at which they have disposed of hazardous substances. Liability for investigation, removal, and remediation costs under certain federal and state laws is retroactive, strict, and joint and several. In addition to cleanup actions brought by governmental authorities, private parties could bring personal injury or other claims due to the presence of, or exposure to, hazardous substances.

We cannot provide assurance that our costs of complying with current or future environmental protection and health and safety laws, or our liabilities arising from past or future releases of, or exposures to, hazardous substances will not exceed our estimates or adversely affect our results of operations, financial position, and cash flows, or that we will not be subject to

22

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## Table of Contents

additional environmental claims for personal injury, property damage, and/or cleanup in the future based on our past, present, or future business activities.

Our products are subject to various requirements related to chemical usage, hazardous material content, and recycling. The EU, China, and other jurisdictions in which our products are sold have enacted or are proposing to enact laws addressing environmental and other impacts from product disposal, use of hazardous materials in products, use of chemicals in manufacturing, recycling of products at the end of their useful life, and other related matters. These laws include but are not limited to the EU Restriction of Hazardous Substances ("RoHS"), End of Life Vehicle ("ELV"), and Waste Electrical and Electronic Equipment Directives; the EU Registration, Evaluation, Authorization, and Restriction of Chemicals ("REACH") regulation; and the China law on Management Methods for Controlling Pollution by Electronic Information Products. These laws prohibit the use of certain substances in the manufacture of our products and directly and indirectly impose a variety of requirements for modification of manufacturing processes, registration, chemical testing, labeling, and other matters. These laws continue to proliferate and expand in these and other jurisdictions to address other materials and aspects of our product manufacturing and sale. These laws could make the manufacture or sale of our products more expensive or impossible, could limit our ability to sell our products in certain jurisdictions, and could result in liability for product recalls, penalties, or other claims.

Our ability to compete effectively depends, in part, on our ability to maintain the proprietary nature of our products and technology.

The electronics industry is characterized by litigation regarding patent and other intellectual property rights. Within this industry, companies have become more aggressive in asserting and defending patent claims against competitors. There can be no assurance that we will not be subject to future litigation alleging infringement or invalidity of certain of our intellectual property rights, or that we will not have to pursue litigation to protect our property rights.

Depending on the importance of the technology, product, patent, trademark, or trade secret in question, an unfavorable outcome regarding one of these matters may have a material adverse effect on our results of operations, financial position, and/or cash flows.

We may be subject to claims that our products or processes infringe on the intellectual property rights of others, which may cause us to pay unexpected litigation costs or damages, modify our products or processes, or prevent us from selling our products.

Third parties may claim that our processes and products infringe on their intellectual property rights. Whether or not these claims have merit, we may be subject to costly and time consuming legal proceedings, and this could divert management's attention from operating our business. If these claims are successfully asserted against us, we could be required to pay substantial damages, make future royalty payments, and/or could be prevented from selling some or all of our products. We also may be obligated to indemnify our business partners or customers in any such litigation. Furthermore, we may need to obtain licenses from these third parties or substantially re-engineer or rename our products in order to avoid infringement. In addition, we might not be able to obtain the necessary licenses on acceptable terms, or at all, or be able to re-engineer or rename our products successfully. If we are prevented from selling some or all of our products, our sales could be materially adversely affected.

We are a defendant to a variety of litigation in the course of our business that could cause a material adverse effect on our results of operations, financial position, and/or cash flows.

In the normal course of business, we are, from time to time, a defendant in litigation, including litigation alleging the infringement of intellectual property rights, anti-competitive behavior, product liability, breach of contract, and employment-related claims. In certain circumstances, patent infringement and antitrust laws permit successful plaintiffs to recover treble damages. The defense of these lawsuits may divert our management's attention, and we may incur significant expenses in defending these lawsuits. In addition, we may be required to pay damage awards or settlements, or become subject to injunctions or other equitable remedies, that could cause a material adverse effect on our results of operations, financial position, and/or cash flows.

### U.K. Domicile Risks

As a public limited company incorporated under the laws of England and Wales, we may have less flexibility with respect to certain aspects of capital management.



English law imposes additional restrictions on certain corporate actions. For example, English law provides that a board of directors may only allot, or issue, securities with the prior authorization of shareholders, such authorization being up to the aggregate nominal amount of shares and for a maximum period of five years, each as specified in the articles of association or

## Table of Contents

relevant shareholder resolution. English law also generally provides shareholders with preemptive rights when new shares are issued for cash; however, it is possible for the articles of association, or shareholders at a general meeting, to exclude preemptive rights. Such an exclusion of preemptive rights may be for a maximum period of up to five years as specified in the articles of association or relevant shareholder resolution. We currently only have authorization to issue shares under our equity plan excluding preemptive rights until our next annual general meeting. This authorization and exclusion needs to be renewed by our shareholders periodically and we intend to renew the authorization and exclusion at each annual general meeting.

English law also requires us to have available "distributable reserves" to make share repurchases or pay dividends to shareholders. Distributable reserves may be created through the earnings of the U.K. parent company or other actions. While we intend to maintain a sufficient level of distributable reserves, there is no assurance that we will continue to generate sufficient earnings in order to maintain the necessary level of distributable reserves to make share repurchases or pay dividends.

English law also generally prohibits a company from repurchasing its own shares by way of "off-market purchases" without the prior approval of our shareholders. Such approval lasts for a maximum period of up to five years. Our shares are traded on the New York Stock Exchange, which is not a recognized investment exchange in the U.K.

Consequently, any repurchase of our shares is currently considered an "off-market purchase." Our current authorization expires on May 31, 2023, and we intend to renew this authorization periodically.

As a public limited company incorporated under the laws of England and Wales, the enforcement of civil liabilities against us may be more difficult.

Because we are a public limited company incorporated under the laws of England and Wales, investors could experience more difficulty enforcing judgments obtained against us in U.S. courts than would have been the case for a U.S. company. In addition, it may be more difficult (or impossible) to bring some types of claims against us in courts in England than it would be to bring similar claims against a U.S. company in a U.S. court.

As a public limited company incorporated under the laws of England and Wales, it may not be possible to effect service of process upon us within the U.S. to enforce judgments of U.S. courts against us based on the civil liability provisions of the U.S. federal securities laws.

There is doubt as to the enforceability in England and Wales, in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities solely based on the U.S. federal securities laws. The English courts will, however, treat any amount payable by us under U.S. judgment as a debt and new proceedings can be commenced in the English courts to enforce this debt against us. The following criteria must be satisfied for the English court to enforce the debt created by the U.S. judgment:

- the U.S. court having had jurisdiction over the original proceedings according to English conflicts of laws principles and rules of English private international law at the time when proceedings were initiated;

- the U.S. proceedings not having been brought in breach of a jurisdiction or arbitration clause except with the agreement of the defendant or the defendant's subsequent submission to the jurisdiction of the court;

- the U.S. judgment being final and conclusive on the merits in the sense of being final and unalterable in the court which pronounced it and being for a definite sum of money;

- the recognition or enforcement, as the case may be, of the U.S. judgment not contravening English public policy in a sufficiently significant way or contravening the Human Rights Act 1998 (or any subordinate legislation made thereunder, to the extent applicable);

- the U.S. judgment not being for a sum payable in respect of taxes, or other charges of a like nature, or in respect of a penalty or fine, or otherwise based on a U.S. law that an English court considers to be a penal or revenue law;

- the U.S. judgment not having been arrived at by doubling, trebling or otherwise multiplying a sum assessed as compensation for the loss or damages sustained, and not otherwise being a judgment contrary to section 5 of the Protection of Trading Interests Act 1980 or is a judgment based on measures designated by the Secretary of State under Section 1 of that Act;

- the U.S. judgment not having been obtained by fraud or in breach of English principles of natural justice;



Table of Contents

the U.S. judgment not being a judgment on a matter previously determined by an English court, or another court whose judgment is entitled to recognition (or enforcement as the case may be) in England, in proceedings involving the same parties that conflicts with an earlier judgment of such court;

the party seeking enforcement (being a party who is not ordinarily resident in some part of the U.K. or resident in an EU Member State) providing security for costs, if ordered to do so by the English courts; and

the English enforcement proceedings being commenced within the relevant limitation period.

If an English court gives judgment for the sum payable under a U.S. judgment, the English judgment will be enforceable by methods generally available for this purpose. These methods generally permit the English court discretion to prescribe the manner of enforcement. In addition, in any enforcement proceedings, the judgment debtor may raise any counterclaim that could have been brought if the action had been originally brought in England unless the subject of the counterclaim was in issue and denied in the U.S. proceedings.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

Table of Contents

## ITEM 2. PROPERTIES

As of December 31, 2018, we occupied principal manufacturing facilities and business centers in the following locations:

Country	Location	Operating Segment		Approximate Square Footage (in thousands)	
		Performance Sensing	Sensing Solutions	Owned	Leased
Bulgaria	Botevgrad	X		137	—
Bulgaria	Plovdiv	X		125	—
Bulgaria	Sofia	X		—	108
China	Baoying <sup>(1)</sup>	X	X	296	385
China	Changzhou <sup>(2)</sup>	X	X	252	236
Germany	Berlin	X		—	33
Malaysia	Subang Jaya	X		135	—
Mexico	Aguascalientes	X	X	453	—
Mexico	Tijuana	X	X	—	287
Netherlands	Hengelo	X	X	—	94
United Kingdom	Antrim	X		—	117
United Kingdom	Carrickfergus	X		63	—
United Kingdom	Swindon <sup>(3)</sup>	X		—	34
United States	Attleboro, MA <sup>(4)</sup>	X	X	—	433
United States	Carpinteria, CA <sup>(5)</sup>	X	X	—	50
United States	Thousand Oaks, CA	X	X	—	115
				1,461	1,892

(1) The owned portion of the properties in this location serves the Sensing Solutions segment only.

(2) In June 2018, ownership of a portion of this property that was previously leased was transferred to us.

(3) Our United Kingdom headquarters is located in this facility.

(4) This location includes our United States headquarters. The lease agreement relating to approximately 222 thousand square feet at this location was renegotiated in 2018, lowering our rental payments and extending the term to 2033. Facilities at this location were added as part of our acquisition of GIGAVAC, LLC. Refer to Note 17,

(5) "Acquisitions and Divestitures," of our audited consolidated financial statements and accompanying notes thereto (our "Financial Statements") included elsewhere in this Annual Report on Form 10-K for additional details on this acquisition.

These facilities are primarily devoted to research, development, engineering, manufacturing, and assembly. In addition to these primary facilities, we occupy other manufacturing, warehousing, administrative, and sales facilities that we do not consider to be principal.

On August 31, 2018 we completed the sale of the capital stock of Schrader Bridgeport International, Inc. and August France Holding Company SAS (collectively, the "Valves Business") to Pacific Industrial Co. Ltd. Facilities in Pontarlier, France and Alta Vista, Virginia that were previously considered principal were sold as part of the Valves Business. Refer to Note 17, "Acquisitions and Divestitures," of our Financial Statements for additional details on this divestiture.

We consider our manufacturing facilities sufficient to meet our current operational requirements. An increase in demand for our products may require us to expand our production capacity, which could require us to identify and acquire or lease additional manufacturing facilities. We believe that suitable additional or substitute facilities will be available as required; however, if we are unable to acquire, integrate, and move into production the facilities, equipment, and personnel necessary to meet such an increase in demand, our customer relationships, results of operations, and/or financial condition may suffer materially. Leases covering our currently occupied principal leased

facilities expire at varying dates within the next 18 years. We do not anticipate difficulty in retaining occupancy through lease renewals, month-to-month occupancy, or by replacing the leased facilities with equivalent facilities. A significant portion of our owned properties and equipment is subject to a lien under our senior secured credit facilities. Refer to Note 14, "Debt," of our Financial Statements for additional information on our senior secured credit facilities.

Table of Contents

**ITEM 3. LEGAL PROCEEDINGS**

We are regularly involved in a number of claims and litigation matters in the ordinary course of business. Most of our litigation matters are third-party claims related to patent infringement allegations or for property damage allegedly caused by our products, but some involve allegations of personal injury or wrongful death. From time to time, we also are involved in disagreements with vendors and customers. Information on certain legal proceedings in which we are involved is included in Note 15, "Commitments and Contingencies," of our audited consolidated financial statements and accompanying notes thereto included elsewhere in this Annual Report on Form 10-K. Although it is not feasible to predict the outcome of these matters, based upon our experience and current information known to us, we do not expect the outcome of these matters, either individually or in the aggregate, to have a material adverse effect on our results of operations, financial position, or cash flows.

**ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

Table of Contents

## PART II

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

## Market Information

Our ordinary shares trade on the New York Stock Exchange under the symbol "ST."

## Performance Graph

The following graph compares the total shareholder return of our ordinary shares since December 31, 2013 to the total shareholder return since that date of the Standard & Poor's ("S&P") 500 Stock Index and the S&P 500 Industrial Index. The graph assumes that the value of the investment in our ordinary shares and each index was \$100.00 on December 31, 2013.

## Total Shareholder Return of \$100.00 Investment from December 31, 2013

	As of December 31,					
	2013	2014	2015	2016	2017	2018
Sensata	\$100.00	\$135.18	\$118.80	\$100.46	\$131.83	\$115.66
S&P 500	\$100.00	\$113.68	\$115.24	\$129.02	\$157.17	\$150.27
S&P 500 Industrial	\$100.00	\$109.80	\$106.99	\$127.16	\$153.88	\$133.38

The information in the graph and table above is not "soliciting material," is not deemed "filed" with the United States Securities and Exchange Commission, and is not to be incorporated by reference in any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K (this "Report"), except to the extent that we specifically incorporate such information by reference. The total shareholder return shown on the graph represents past performance and should not be considered an indication of future price performance.

## Stockholders

As of January 15, 2019, we had four holders of record of our ordinary shares, primarily Cede & Co. (which acts as nominee shareholder for the Depository Trust Company).



Table of Contents

Dividends

We have never declared or paid any dividends on our ordinary shares, and we currently do not plan to declare any such dividends in the foreseeable future. Because we are a holding company, our ability to pay cash dividends on our ordinary shares may be limited by restrictions on our ability to obtain sufficient funds through dividends from our subsidiaries, including restrictions under the terms of the agreements governing our indebtedness. In that regard, our indirect, wholly-owned subsidiary, Sensata Technologies B.V. ("STBV"), is limited in its ability to pay dividends or otherwise make distributions to its immediate parent company and, ultimately, to us. Refer to Note 14, "Debt," of our audited consolidated financial statements and accompanying notes thereto included elsewhere in this Report for additional information on our dividend restrictions.

In addition, under Dutch law, STBV and certain of our other subsidiaries that are Dutch private limited liability companies may only pay dividends or make other distributions to the extent that the shareholders' equity of such subsidiary exceeds the reserves required to be maintained by law or under its articles of association.

Under the laws of England and Wales, we are able to declare dividends, make distributions, or repurchase shares only out of distributable reserves on our statutory balance sheet. Distributable reserves are a company's accumulated, realized profits, so far as not previously utilized by distribution or capitalization, less its accumulated, realized losses, so far as not previously written off in a reduction or reorganization of capital duly made. Realized reserves are determined in accordance with generally accepted accounting principles at the time the relevant accounts are prepared. We are not permitted to make a distribution if, at the time, the amount of our net assets is less than the aggregate of our issued and paid-up share capital and undistributable reserves or to the extent that the distribution will reduce our net assets below such amount. Subject to these limitations, the payment of cash dividends in the future, if any, will depend upon such factors as earnings levels, capital requirements, contractual restrictions, our overall financial condition, and any other factors deemed relevant by our shareholders and Board of Directors.

Under current United Kingdom ("U.K.") tax legislation, any future dividends paid by us will not be subject to withholding or deduction on account of U.K. tax, irrespective of the tax residence or the individual circumstances of the recipient shareholder. Individual shareholders may need to review their personal circumstances to establish their exposure to U.K. income tax going forward on any dividend income received from us.

Issuer Purchases of Equity Securities

None.

Table of Contents

## ITEM 6. SELECTED FINANCIAL DATA

We have derived the selected consolidated statement of operations and other financial data for the years ended December 31, 2018, 2017, and 2016 and the selected consolidated balance sheet data as of December 31, 2018 and 2017 from our audited consolidated financial statements and accompanying notes thereto (our "Financial Statements") included elsewhere in this Annual Report on Form 10-K (this "Report"). We have derived the selected consolidated statement of operations and other financial data for the years ended December 31, 2015 and 2014 and the selected consolidated balance sheet data as of December 31, 2016, 2015, and 2014 from audited consolidated financial statements not included in this Report.

You should read the following information in conjunction with our Financial Statements and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," included elsewhere in this Report. Our historical results are not necessarily indicative of the results to be expected in any future period.

	Sensata Technologies Holding plc (Consolidated) <sup>(a)</sup>				
	For the year ended December 31,				
(Amounts in thousands, except per share data)	2018	2017	2016	2015	2014
Statement of operations data: <sup>(b)</sup>					
Net revenue	\$3,521,627	\$3,306,733	\$3,202,288	\$2,974,961	\$2,409,803
Operating costs and expenses:					
Cost of revenue <sup>(c)</sup>	2,266,863	2,138,898	2,084,159	1,976,845	1,567,527
Research and development <sup>(c)</sup>	147,279	130,127	126,656	123,603	82,188
Selling, general and administrative <sup>(c)</sup>	305,558	301,896	293,506	270,773	220,272
Amortization of intangible assets	139,326	161,050	201,498	186,632	146,704
Restructuring and other charges, net	(47,818)	18,975	4,113	21,919	21,893
Total operating costs and expenses	2,811,208	2,750,946	2,709,932	2,579,772	2,038,584
Profit from operations	710,419	555,787	492,356	395,189	371,219
Interest expense, net	(153,679)	(159,761)	(165,818)	(137,626)	(106,104)
Other, net <sup>(c)(d)</sup>	(30,365)	6,415	(5,093)	(51,934)	(11,689)
Income before taxes	526,375	402,441	321,445	205,629	253,426
(Benefit from)/provision for income taxes <sup>(e)</sup>	(72,620)	(5,916)	59,011	(142,067)	(30,323)
Net income	\$598,995	\$408,357	\$262,434	\$347,696	\$283,749
Basic net income per share	\$3.55	\$2.39	\$1.54	\$2.05	\$1.67
Diluted net income per share	\$3.53	\$2.37	\$1.53	\$2.03	\$1.65
Weighted-average ordinary shares outstanding—basic	168,570	171,165	170,709	169,977	170,113
Weighted-average ordinary shares outstanding—diluted	169,859	172,169	171,460	171,513	172,217
Other financial data: <sup>(b)</sup>					
Net cash provided by/(used in):					
Operating activities	\$620,563	\$557,646	\$521,525	\$533,131	\$382,568
Investing activities	\$(237,606)	\$(140,722)	\$(174,778)	\$(1,166,369)	\$(1,430,065)
Financing activities	\$(406,213)	\$(15,263)	\$(337,582)	\$764,172	\$940,930
Additions to property, plant and equipment and capitalized software	\$(159,787)	\$(144,584)	\$(130,217)	\$(177,196)	\$(144,211)

Table of Contents

(Dollars in thousands)	As of December 31,				
	2018	2017	2016	2015	2014
Balance sheet data: <sup>(b)</sup>					
Cash and cash equivalents	\$729,833	\$753,089	\$351,428	\$342,263	\$211,329
Working capital <sup>(f)</sup>	\$1,277,211	\$1,218,796	\$758,189	\$412,748	\$441,258
Total assets	\$6,797,687	\$6,641,525	\$6,240,976	\$6,298,910	\$5,087,507
Total debt, net including capital lease and other financing obligations	\$3,264,941	\$3,270,269	\$3,273,594	\$3,600,991	\$2,812,734
Total shareholders' equity	\$2,608,434	\$2,345,626	\$1,942,007	\$1,668,576	\$1,302,892

(a) On March 28, 2018, the cross-border merger of Sensata Technologies Holding N.V. ("Sensata N.V.") and Sensata Technologies Holding plc ("Sensata plc") was completed, with Sensata plc being the surviving entity (the "Merger"). On the date of the Merger, Sensata plc became the publicly-traded parent of the subsidiary companies that were previously controlled by Sensata N.V., with no changes made to the business being conducted by Sensata N.V. prior to the Merger. Due to the various legal aspects of the Merger, Sensata plc retains the historical data of Sensata N.V., and no recasting or adjustment is required as a result of the Merger.

We acquired Wabash Worldwide Holding Corp. ("Wabash"), Magnum Energy Incorporated ("Magnum"), CoActive US Holdings, Inc. ("DeltaTech Controls"), and August Cayman Company, Inc. ("Schrader") in 2014, certain assets and subsidiaries of Custom Sensors & Technologies Ltd. ("CST") in 2015, and GIGAVAC, LLC ("GIGAVAC") in 2018. Pro forma amounts are not shown. We sold the capital stock of Schrader Bridgeport International, Inc. and August France Holding Company SAS (collectively, the "Valves Business") in 2018. Prior year amounts have not been recast. Refer to Note 17, "Acquisitions and Divestitures," of our Financial Statements for further details on the acquisition of GIGAVAC and the sale of the Valves Business.

For the fiscal years ended December 31, 2017, 2016, 2015, and 2014, cost of revenue, research and development expense, selling, general and administrative expense, and other, net have been recast to reflect our adoption of the guidance in FASB ASU No. 2017-07, Compensation - Retirement Benefits (Topic 715), Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost on January 1, 2018. Refer to Note 6, "Other, Net," and Note 13, "Pension and Other Post-Retirement Benefits," of our Financial Statements for further discussion of this new guidance and the amounts recast for the years ended December 31, 2017 and 2016.

(d) Other, net for the years ended December 31, 2018, 2017, 2016, 2015, and 2014 consisted of the following:

(Dollars in thousands)	For the year ended December 31,				
	2018	2017	2016	2015	2014
(Loss)/gain related to foreign currency exchange rates <sup>(i)</sup>	\$(16,835)	\$2,423	\$(12,471)	\$(6,007)	\$(1,443)
(Loss)/gain on commodity forward contracts	(8,481)	9,989	7,399	(18,468)	(9,017)
Loss on debt financing	(2,350)	(2,670)	—	(25,538)	(1,875)
Net periodic benefit (cost)/credit, excluding service cost <sup>(ii)</sup>	(3,585)	(3,402)	(192)	(1,605)	370
Other	886	75	171	(316)	276
Other, net	\$(30,365)	\$6,415	\$(5,093)	\$(51,934)	\$(11,689)

(i) Includes foreign currency remeasurement (loss)/gain, net and gain/(loss), net on foreign currency forward contracts. Refer to Note 6, "Other, Net," of our Financial Statements for details.

(ii) Refer to footnote (c) above for further discussion.

(e) For the year ended December 31, 2018, the benefit from income taxes includes a net benefit of \$122.1 million related to the realization of United States ("U.S.") deferred tax assets previously offset by a valuation allowance. For the year ended December 31, 2017, the benefit from income taxes includes a net benefit of \$73.7 million related to the enactment of U.S. tax legislation in the fourth quarter of 2017. For the year ended December 31, 2015, the benefit from income taxes includes a net benefit of \$180.0 million, primarily related to the release of a

portion of our U.S. valuation allowance in connection with the acquisition of CST. For the year ended December 31, 2014, the benefit from income taxes includes a net benefit of \$71.1 million related to the release of a portion of our U.S. valuation allowance in connection with certain 2014 acquisitions. Refer to Note 7, "Income Taxes," of our Financial Statements for additional information.

(f) We define working capital as current assets less current liabilities.

Table of Contents

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

The following discussion and analysis is intended to help the reader understand our business, financial condition, results of operations, and liquidity and capital resources. You should read the following discussion in conjunction with Item 1, "Business," Item 6, "Selected Financial Data," and our audited consolidated financial statements and accompanying notes thereto (our "Financial Statements") included elsewhere in this Annual Report on Form 10-K (this "Report").

The statements in this discussion regarding industry outlook, our expectations regarding our future performance, liquidity and capital resources, and other non-historical statements are forward-looking statements. These forward-looking statements are subject to numerous risks and uncertainties including, but not limited to, the risks and uncertainties described in Item 1A, "Risk Factors," included elsewhere in this Report. Our actual results may differ materially from those contained in or implied by any forward-looking statements.

Overview

Sensata Technologies Holding plc ("Sensata plc"), the successor issuer to Sensata Technologies Holding N.V. ("Sensata N.V.") and its wholly-owned subsidiaries, collectively referred to as the "Company," "Sensata," "we," "our," and "us," is a global industrial technology company that develops, manufactures, and sells a wide range of customized sensors and controls that address increasingly complex engineering requirements for specific customer applications and systems such as air conditioning, braking, exhaust, fuel oil, tire, operator controls, and transmission in automotive and heavy vehicle and off-road ("HVOR") systems, and temperature and electrical protection and control in numerous industrial applications, including aircraft, refrigeration, material handling, and telecommunications. The acquisition of GIGAVAC, LLC ("GIGAVAC") expands our product offerings to include high voltage contactors and fuses. We can trace our origins back to entities that have been engaged in the sensors and controls business since 1916.

We generate revenue from the sale of products across all major geographic areas. We serve a diverse mix of customers and end markets. We believe regulatory requirements for safer vehicles, higher fuel efficiency, and lower emissions, such as the National Highway Traffic Safety Administration's Corporate Average Fuel Economy requirements in the U.S., "Euro 6d" requirements in Europe, and "China National 6" requirements in China, as well as customer demand for operator productivity and convenience, drive the need for advancements in powertrain management, efficiency, safety features, and operator controls. These advancements lead to sensor growth rates that exceed underlying demand in many of our key end markets, which we expect will continue to offer us significant growth opportunities.

The technology-driven, highly-customized, and integrated nature of our products requires customers to invest heavily in certification and qualification to ensure proper functioning of the systems in which our products are embedded. We believe the capital commitment and time required for this process significantly increases the switching costs for customers once a particular sensor or control has been designed and installed in a system. As a result, our sensors and controls are rarely substituted during a product lifecycle, which in the case of the automotive market typically lasts five to seven years. We focus on new applications that will help us secure new business, drive long-term growth, and provide an opportunity to define a leading application technology in collaboration with our customers.

Our strategies of leveraging core technology platforms and focusing on high-volume applications enable us to provide our customers with highly-customized products at a relatively low cost, as compared to the costs of the systems in which our products are embedded. We have achieved our current cost position through a continuous process of migration and transformation to best-cost manufacturing locations, global best-cost sourcing, product design improvements, and ongoing productivity-enhancing initiatives.

We organize our business into two segments: Performance Sensing and Sensing Solutions. Performance Sensing designs and manufactures sensors for the automotive and HVOR markets, including low-, medium-, and high-pressure sensors, speed and position sensors, and temperature sensors, and markets them to leading global automotive and HVOR original equipment manufacturers ("OEMs") and their Tier 1 suppliers. Sensing Solutions designs and manufactures various sensors and control products, including bimetal electromechanical controls, thermal and magnetic-hydraulic circuit breakers, solid state relays, power inverters, interconnection products, and temperature, pressure, and position sensors, selling them to a wide range of industrial and commercial manufacturers and suppliers across multiple end markets. The acquisition of GIGAVAC, portions of which will be integrated into each of our

operating segments, expands our product offerings to include high voltage contactors and fuses. We develop products that address increasingly complex engineering requirements. We believe that continued focused investment in research and development ("R&D") activities is critical to our future growth and maintaining our leadership

Table of Contents

position. Our R&D efforts are directly related to timely development of new and enhanced products that are central to our core business strategy. We develop our technologies to meet an evolving set of customer requirements and new product introductions. We conduct such activities in areas that we believe will increase our long-term revenue growth. Our development expense is typically associated with engineering core technology platforms to specific applications and engineering major upgrades that improve the functionality or reduce the cost of existing products.

In August 2018 we completed the sale of the capital stock of Schrader Bridgeport International, Inc. and August France Holding Company SAS (collectively, the "Valves Business") to Pacific Industrial Co. Ltd. ("Pacific"). The Valves Business, which was acquired as part of Sensata's acquisition of the Schrader group of companies in 2014 and had been integrated into Performance Sensing, generated approximately \$117 million in revenue in fiscal year 2017. It manufactures mechanical valves for pressure applications in tires and fluid control and assembles tire hardware aftermarket products with manufacturing locations in the United States (the "U.S.") and Europe. The sale did not include our tire pressure monitoring system ("TPMS") business and the Global TPMS Aftermarket business. Refer to Note 17, "Acquisitions and Divestitures," of our Financial Statements for additional details on this divestiture.

In October 2018 we acquired GIGAVAC, an industry-leading producer of high voltage contactors and fuses that are mission-critical components for electric vehicles and equipment, for \$233.0 million of cash consideration, subject to working capital and other adjustments. The acquisition of GIGAVAC extends our capabilities on battery electric vehicles, with significant potential for additional growth, and will enable us to tap into a broad market opportunity for high-voltage contactors required in mission-critical sensing and electrical protection applications across electrified vehicles and industrial equipment such as cars, delivery trucks, busses, material handling equipment, and charging stations. It will immediately augment our ongoing investments in electrification for many complex and challenging applications in the automotive, battery storage, industrial, and HVOR markets. Refer to Note 17, "Acquisitions and Divestitures," of our Financial Statements for additional details on this acquisition.

Refer to Item 1, "Business," included elsewhere in this Report for additional discussion of our business.

**Selected Segment Information**

We manage Performance Sensing and Sensing Solutions separately and report their results of operations as two segments. Set forth below is selected information for each of these segments for the periods presented. Amounts in the tables below have been calculated based on unrounded numbers. Accordingly, certain amounts may not sum due to the effect of rounding.

The following table presents net revenue by segment:

	For the year ended December 31,								
	2018			2017			2016		
(Dollars in millions)	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent of Total	Amount
		Net Revenue		Net Revenue		Net Revenue		Net Revenue	
Net revenue:									
Performance Sensing	\$2,627.7	74.6 %	\$2,460.6	74.4 %	\$2,385.4	74.5 %			
Sensing Solutions	894.0	25.4	846.1	25.6	816.9	25.5			
Total net revenue	\$3,521.6	100.0 %	\$3,306.7	100.0 %	\$3,202.3	100.0 %			

The following table presents segment profit in U.S. dollars and as a percentage of segment net revenue for the identified periods:

	For the year ended December 31,								
	2018			2017			2016		
(Dollars in millions)	Amount	Percent of Segment	Amount	Percent of Segment	Amount	Percent of Segment	Amount	Percent of Segment	Amount
		Net Revenue		Net Revenue		Net Revenue		Net Revenue	
Segment profit:									
Performance Sensing	\$712.7	27.1 %	\$664.2	27.0 %	\$615.5	25.8 %			
Sensing Solutions	293.0	32.8	277.5	32.8	261.9	32.1			
Total segment profit	\$1,005.7		\$941.6		\$877.4				





Table of Contents

For a reconciliation of total segment profit to consolidated profit from operations, refer to Note 20, "Segment Reporting," of our Financial Statements.

## Selected Geographic Information

We are a global business with significant operations around the world and a diverse revenue mix by geography, customer, and end market. The following table presents, as a percentage of total, the geographic location of property, plant, and equipment ("PP&E"), net as of December 31, 2018 and 2017 and net revenue generated for the years ended December 31, 2018, 2017, and 2016:

	PP&E, net as		Net revenue for the		
	of December		year ended December		
	31,	31,	2018	2017	2016
	2018	2017	2018	2017	2016
Americas	37.2%	39.6%	42.0%	41.3%	42.7%
Asia and rest of world	39.3%	35.5%	28.8%	27.3%	25.3%
Europe	23.5%	24.9%	29.2%	31.4%	32.0%

Refer to Note 20, "Segment Reporting," of our Financial Statements for additional details of our net revenue by selected geographic area for the years ended December 31, 2018, 2017, and 2016 and PP&E, net by selected geographic area as of December 31, 2018 and 2017.

## Net Revenue by End Market

Our net revenue for the years ended December 31, 2018, 2017, and 2016 was derived from the following end markets:

(Percentage of total)	For the year ended		
	December 31,		
	2018	2017	2016
Automotive	60.4%	61.7%	63.1%
HVOR	15.6%	14.3%	12.9%
Industrial	9.6%	9.4%	9.0%
Appliance and heating, ventilation and air conditioning ("HVAC")	5.9%	6.3%	5.9%
Aerospace	4.7%	4.6%	4.7%
Other	3.8%	3.7%	4.4%

We are a significant supplier to multiple OEMs within many of these end markets, thereby reducing customer concentration risk.

## Factors Affecting Our Operating Results

The following discussion describes components of the consolidated statements of operations as well as factors that impact those components. Refer to Note 2, "Significant Accounting Policies," of our Financial Statements, and Critical Accounting Policies and Estimates included elsewhere in this Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion of the accounting policies and estimates made related to these components.

## Net revenue

We generate revenue primarily from the sale of tangible products. Because we derive a significant portion of our revenue from sales in our automotive end market, demand for our products is driven in large part by conditions in the automotive industry. However, outside of the automotive industry, we sell our products to end-users in a wide range of industries, end markets, and geographic regions. As a result, the drivers of demand for these products vary considerably and are influenced by the conditions in these industries, end markets, or geographic regions. Refer to Item 1, "Business," included elsewhere in this Report for more detailed discussion of factors impacting each of these end markets.

Our overall net revenue is impacted by various factors, which we characterize as either "organic" or "inorganic." Organic factors are reflective of our ongoing operations. Inorganic factors either are not reflective of our historical business or are related to situations for which we have little to no control (e.g. changes in foreign currency exchange rates).

Our net revenue may be impacted by the following organic factors:

fluctuations in overall economic activity within the geographic regions in which we operate;

34

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## Table of Contents

underlying growth in one or more of our core end markets, either worldwide or in particular geographies in which we operate;

the number of sensors and/or controls used within existing applications, or the development of new applications requiring sensors and/or controls, due to regulations or other factors;

the "mix" of products sold, including the proportion of new or upgraded products and their pricing relative to existing products;

changes in product sales prices (including quantity discounts, rebates, and cash discounts for prompt payment);

changes in the level of competition faced by our products, including the launch of new products by competitors; and

our ability to successfully develop, launch, and sell new products and applications.

Our net revenue may be impacted by the following inorganic factors:

fluctuations in foreign currency exchange rates; and

acquisitions and divestitures.

While the factors described above may impact net revenue in each of our operating segments, the impact of these factors on our operating segments can differ. For more information about revenue risks relating to our business, refer to Item 1A, "Risk Factors," included elsewhere in this Report.

### Cost of revenue

We manufacture the majority of our products and subcontract only a limited number of products to third parties. As such, our cost of revenue consists principally of the following:

**Production Materials Costs.** We purchase much of the materials used in production on a global best-cost basis, but we are still impacted by global and local market conditions. A portion of our production materials contains certain commodities, resins and rare earth metals, and the cost of these materials may vary with underlying pricing. However, we enter into forward contracts to economically hedge a portion of our exposure to the potential change in prices associated with certain of these commodities. The terms of these contracts fix the price at a future date for various notional amounts associated with these commodities. Gains and losses recognized on these derivatives are recorded in other, net and are not included in cost of revenue (refer to Note 6, "Other, Net").

**Employee Costs.** Employee costs include wages and benefits for employees involved in our manufacturing operations. A significant portion of these costs can fluctuate on an aggregate basis in direct correlation with changes in production volumes. As a percentage of net revenue, these costs may decline as a result of economies of scale associated with higher production volumes, and conversely, may increase with lower production volumes. These costs also will fluctuate based on local market conditions. We rely on contract workers for direct labor in certain geographies. As of December 31, 2018, we had approximately 1,855 direct labor contract workers on a worldwide basis.

**Sustaining Engineering Activity Costs.** These costs relate to modifications of existing products for use by new and existing customers in familiar applications.

**Other.** Our remaining cost of revenue primarily consists of:

gains and losses on certain foreign currency forward contracts that are designated as cash flow hedges;

costs to import raw materials, such as tariffs;

depreciation of fixed assets used in the manufacturing process;

freight costs;

warehousing expenses;

maintenance and repair expenses;

## Table of Contents

operating supplies; and

other general manufacturing expenses, such as expenses for energy consumption and operating lease expense.

Changes in cost of revenue as a percentage of net revenue have historically been impacted by a number of factors, including:

- changes in the price of raw materials, including the impact of changes in costs to import such raw materials, such as tariffs;
- price reductions provided to our customers;
- implementation of cost improvement measures aimed at increasing productivity, including reduction of fixed production costs, refinements in inventory management, design and process driven changes, and the coordination of procurement within each subsidiary and at the business level;
- changes in production volumes – production costs are capitalized in inventory based on normal production volumes, as revenue increases, the fixed portion of these costs does not;
- transfer of production to our lower-cost manufacturing facilities;
- product lifecycles, as we typically incur higher cost of revenue associated with excess manufacturing capacity during the initial stages of product launches and during the phase-out of discontinued products;
- the increase in the carrying value of inventory that is adjusted to fair value as a result of the application of purchase accounting associated with acquisitions;
- changes in depreciation expense, including those arising from the adjustment of PP&E to fair value associated with acquisitions;
- fluctuations in foreign currency exchange rates;
- changes in product mix; and
- acquisitions and divestitures – acquired and divested businesses may generate higher or lower cost of revenue as a percentage of net revenue than our core business.

### Research and development expense

We develop products that address increasingly complex engineering requirements. Our R&D efforts are directly related to timely development of new and enhanced products that are central to our core business strategy. We continuously develop our technologies to meet an evolving set of customer requirements and new product introductions. In addition, we constantly consider new technologies where we may have expertise for potential investment or acquisition.

R&D expense consists of costs related to product design, development, and process engineering. Costs related to modifications of existing products for use by new and existing customers in familiar applications are presented in cost of revenue and are not included in R&D expense. The level of R&D expense in any period is related to the number of products in development, the stage of the development process, the complexity of the underlying technology, the potential scale of the product upon successful commercialization, and the level of our exploratory research.

### Selling, general and administrative expense

SG&A expense consists of all expenditures incurred in connection with the sale and marketing of our products, as well as administrative overhead costs, including:

- salary and benefit costs for sales and marketing personnel and administrative staff, including cash and share-based incentive compensation expense;
- charges related to the use and maintenance of administrative offices, including depreciation expense;
- other administrative costs, including expenses relating to information systems, human resources, and legal and accounting services;

## Table of Contents

other selling and marketing related costs, such as expenses incurred in connection with travel and communications; and

transaction costs associated with acquisitions.

Changes in SG&A expense as a percentage of net revenue have historically been impacted by a number of factors, including:

changes in sales volume, as higher volumes enable us to spread the fixed portion of our selling, marketing, and administrative expense over higher revenue (e.g. expenses relating to our sales and marketing personnel can fluctuate due to prolonged trends in sales volume, while expenses relating to administrative personnel generally do not increase or decrease directly with changes in sales volume);

price reductions provided to our customers;

changes in the mix of products we sell, as some products may require more customer support and sales effort than others;

changes in our customer base, as new customers may require different levels of sales and marketing attention;

new product launches in existing and new markets, as these launches typically involve a more intense sales and marketing activity before they are integrated into customer applications and systems;

fluctuations in foreign currency exchange rates; and

acquisitions and divestitures - acquired and divested businesses may require different levels of SG&A expense as a percentage of net revenue than our core business.

**Depreciation expense**

Depreciation expense includes depreciation of PP&E, which includes assets held under capital lease, and amortization of leasehold improvements. Depreciation expense is included in either cost of revenue or SG&A expense depending on the use of the asset as a manufacturing or administrative asset. Depreciation expense will vary according to the age of existing PP&E and the level of capital expenditures.

**Amortization expense**

We have recognized a significant amount of definite-lived intangible assets. Definite-lived, acquisition-related intangible assets are amortized on an economic-benefit basis according to the useful lives of the assets, or on a straight-line basis if a pattern of economic benefits cannot be reliably determined. The amount of amortization expense related to definite-lived intangible assets depends on the amount and timing of intangible assets acquired and where previously acquired intangible assets are in their estimated life-cycle. In general, the economic benefit of an intangible asset is concentrated towards the beginning of that intangible asset's useful life.

**Restructuring and other charges, net**

Restructuring and other charges, net consists of severance, outplacement, other separation benefits, and facility exit and other costs. These charges may be incurred as part of an announced restructuring plan, or may be individual charges recorded related to acquired businesses or the termination of a limited number of employees that do not represent the initiation of a larger restructuring plan. Restructuring and other charges, net also includes the gain, net of transaction costs, from the sale of businesses.

Amounts recognized in restructuring and other charges, net will vary according to the extent of our restructuring programs and other exit activities as well as the existence and frequency of divested businesses and any gains or losses resulting therefrom.

**Interest expense, net**

As of December 31, 2018 and 2017, we had gross outstanding indebtedness of \$3,303.3 million and \$3,312.5 million, respectively.

Our senior notes accrue interest at a fixed rate. However, the term loan (the "Term Loan") provided by the eighth amendment (the "Eighth Amendment") to the credit agreement dated as of May 12, 2011 (as amended, the "Credit Agreement")

Table of Contents

and the \$420.0 million revolving credit facility (the "Revolving Credit Facility") accrue interest at variable interest rates, which drives some of the variability in interest expense, net. Refer to Item 7A, "Quantitative and Qualitative Disclosures About Market Risk—Interest Rate Risk," included elsewhere in this Report for more information regarding our exposure to potential changes in variable interest rates.

Interest income is netted against interest expense on our consolidated statements of operations. Interest income relates to interest earned on our cash and cash equivalents balances, and will vary according to the balances in, and the interest rates provided by, these bank accounts.

Other, net

Other, net primarily includes gains and losses associated with the remeasurement of non-U.S. dollar denominated monetary assets and liabilities into U.S. dollars, changes in the fair value of derivative financial instruments not designated as cash flow hedges, debt financing transactions, and net periodic benefit cost, excluding service cost.

Amounts recognized in other, net vary according to changes in foreign currency exchange rates, changes in the forward prices for the foreign currencies and commodities that we hedge, the number and magnitude of debt financing transactions, and the change in funded status of our pension and other post-retirement benefit plans.

Refer to Note 6, "Other, Net," of our Financial Statements for details of the components of other, net. Refer to Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," included elsewhere in this Report for more information regarding our exposure to potential changes in foreign currency exchange rates and commodity prices. Refer to Note 14, "Debt," of our Financial Statements for further discussion of our debt financing transactions. Refer to Note 13, "Pension and Other Post-Retirement Benefits," of our Financial Statements for further discussion of our net periodic benefit cost reclassification.

Provision for income taxes

We are subject to income tax in the various jurisdictions in which we operate. The provision for income taxes consists of:

- current tax expense, which relates primarily to our profitable operations in non-U.S. tax jurisdictions and withholding taxes related to interest, royalties, and repatriation of foreign earnings; and
- deferred tax expense (or benefit), which represents adjustments in book-to-tax basis differences primarily related to the step-up in fair value of fixed and intangible assets, including goodwill, acquired in connection with business combination transactions, the utilization of net operating losses, changes in tax rates, and changes in our assessment of the realizability of our deferred tax assets.

We have a low effective cash tax rate due to the amortization of intangible assets and other tax benefits derived from our operating and capital structure, including tax incentives in both the United Kingdom (the "U.K.") and China as well as favorable tax status in Mexico. In addition, our tax structure takes advantage of participation exemption regimes that permit the payment of intercompany dividends without incurring taxable income in those jurisdictions. While the extent of our future tax liability is uncertain, the impact of purchase accounting for past and future acquisitions, changes to debt and equity capitalization of our subsidiaries, and the realignment of the functions performed and risks assumed by our various subsidiaries are among the factors that will determine the future book and taxable income of each respective subsidiary and Sensata as a whole.

Our effective tax rate will generally not equal the U.S. statutory rate due to various factors, the most significant of which are described below. As these factors fluctuate from year to year, our effective tax rate will change. The factors include, but are not limited to, the following:

- establishing or releasing a portion of the valuation allowance related to our gross deferred tax assets;
- we operate in locations outside the U.S., including Bermuda, Bulgaria, China, Malaysia, the Netherlands, South Korea, and the U.K., that historically have had statutory tax rates different than the U.S. statutory rate. This can result in a foreign tax rate differential that may reflect a tax benefit or detriment. This foreign rate differential can change from year to year based upon the jurisdictional mix of earnings and changes in current and future enacted tax rates, tax holidays, and favorable tax regimes available to certain of our foreign subsidiaries;
- changes in tax laws, including the U.S. Tax Cuts and Jobs Act ("Tax Reform" or "the Act"), enacted in 2017;



## Table of Contents

• losses incurred, in certain jurisdictions, which cannot be currently benefited, as it is not more likely than not that the associated deferred tax asset will be realized in the foreseeable future;

• unrealized foreign exchanges gains and losses;

• as income tax audits related to our subsidiaries are closed, either as a result of negotiated settlements, final assessments, or lapse of the applicable statute of limitations related to unrecognized tax benefits, we may recognize a tax expense or benefit, including a benefit from the reversal of interest and penalties; and

• in certain jurisdictions, we record withholding and other taxes on intercompany payments, including dividends.

### Seasonality

Because of the diverse global nature of the markets in which we operate, our revenue is only moderately impacted by seasonality. However, Sensing Solutions experiences some seasonality, specifically in its air conditioning and refrigeration products, which tend to peak in the first two quarters of the year as inventory is built up for spring and summer sales. In addition, Performance Sensing net revenue tends to be weaker in the third quarter of the year as automotive OEMs retool production lines for the coming model year.

### Inflation

We do not believe that inflation has had a material effect on our financial condition or results of operations in recent years.

### Legal Proceedings

We are regularly involved in a number of claims and litigation matters in the ordinary course of business. Most of our litigation matters are third-party claims related to patent infringement allegations or for property damage allegedly caused by our products, but some involve allegations of personal injury or wrongful death. From time to time, we are also involved in disagreements with vendors and customers. Information on certain legal proceedings in which we are involved is included in Note 15, "Commitments and Contingencies," of our Financial Statements. Although it is not feasible to predict the outcome of these matters, based upon our experience and current information known to us, we do not expect the outcome of these matters, either individually or in the aggregate, to have a material adverse effect on our results of operations, financial position, or cash flows.

### Results of Operations

Our discussion and analysis of results of operations are based upon our Financial Statements. These Financial Statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). The preparation of these Financial Statements requires us to make estimates and judgments that affect the amounts reported therein. We base our estimates on historical experience and assumptions believed to be reasonable under the circumstances, and we re-evaluate such estimates on an ongoing basis. Actual results could differ from our estimates under different assumptions or conditions. Our significant accounting policies and estimates are more fully described in Note 2, "Significant Accounting Policies," of our Financial Statements, and Critical Accounting Policies and Estimates included elsewhere in this Management's Discussion and Analysis of Financial Condition and Results of Operations.



Table of Contents

The table below presents our historical results of operations in millions of dollars and as a percentage of net revenue. We have derived these results of operations from our Financial Statements. Amounts and percentages in the table below have been calculated based on unrounded numbers. Accordingly, certain amounts may not sum due to the effect of rounding.

(Dollars in millions)	For the year ended December 31, 2018		2017		2016	
	Amount	Percent of Net Revenue	Amount	Percent of Net Revenue	Amount	Percent of Net Revenue
Net revenue:						
Performance Sensing	\$2,627.7	74.6 %	\$2,460.6	74.4 %	\$2,385.4	74.5 %
Sensing Solutions	894.0	25.4	846.1	25.6	816.9	25.5
Total net revenue	3,521.6	100.0 %	3,306.7	100.0 %	3,202.3	100.0 %
Operating costs and expenses:						
Cost of revenue	2,266.9	64.4	2,138.9	64.7	2,084.2	65.1
Research and development	147.3	4.2	130.1	3.9	126.7	4.0
Selling, general and administrative	305.6	8.7	301.9	9.1	293.5	9.2
Amortization of intangible assets	139.3	4.0	161.1	4.9	201.5	6.3
Restructuring and other charges, net	(47.8 )	(1.4 )	19.0	0.6	4.1	0.1
Total operating costs and expenses	2,811.2	79.8	2,750.9	83.2	2,709.9	84.6
Profit from operations	710.4	20.2	555.8	16.8	492.4	15.4
Interest expense, net	(153.7 )	(4.4 )	(159.8 )	(4.8 )	(165.8 )	(5.2 )
Other, net	(30.4 )	(0.9 )	6.4	0.2	(5.1 )	(0.2 )
Income before taxes	526.4	14.9	402.4	12.2	321.4	10.0
(Benefit from)/provision for income taxes	(72.6 )	(2.1 )	(5.9 )	(0.2 )	59.0	1.8
Net income	\$599.0	17.0 %	\$408.4	12.3 %	\$262.4	8.2 %

## Net revenue - Overall

Net revenue for fiscal year 2018 increased \$214.9 million, or 6.5%, to \$3,521.6 million from \$3,306.7 million for fiscal year 2017. The increase in net revenue was composed of a 6.8% increase in Performance Sensing and a 5.7% increase in Sensing Solutions. Net revenue for fiscal year 2017 increased \$104.4 million, or 3.3%, to \$3,306.7 million from \$3,202.3 million for fiscal year 2016. The increase in net revenue was composed of a 3.2% increase in Performance Sensing and a 3.6% increase in Sensing Solutions.

The following table reconciles reported net revenue growth, a GAAP financial measure, to organic revenue growth, a non-GAAP financial measure, for fiscal years 2018 and 2017. Refer to the section entitled Non-GAAP Financial Measures for further information on our use of this measure.

	Fiscal Year 2018 Compared to Prior Year			Fiscal Year 2017 Compared to Prior Year		
	Total	Performance Sensing	Sensing Solutions	Total	Performance Sensing	Sensing Solutions
Reported net revenue growth	6.5 %	6.8 %	5.7 %	3.3 %	3.2 %	3.6 %
Percent impact of:						
Acquisition and divestiture, net <sup>(1)</sup>	(0.8)	(1.3 )	0.7	—	—	—
Foreign currency remeasurement <sup>(2)</sup>	1.3	1.5	0.8	(0.7)	(0.7 )	(0.5 )
Organic revenue growth	6.0 %	6.6 %	4.2 %	4.0 %	3.9 %	4.1 %

<sup>(1)</sup> Represents the percentage change in net revenue attributed to the effect of acquisitions and divestitures for the 12 months immediately following the respective transaction dates. The percentage amounts presented for fiscal year 2018 relate to the sale of the Valves Business and the acquisition of GIGAVAC, each of which is discussed in Note 17, "Acquisitions and Divestitures," of our Financial Statements.

<sup>(2)</sup>

Represents the percentage change in net revenue between the comparative periods attributed to differences in exchange rates used to remeasure foreign denominated revenue transactions into U.S. dollars, which is the functional currency of the

Table of Contents

Company and each of its subsidiaries. The percentage amounts presented above relate primarily to the Euro to U.S. dollar and U.S. dollar to Chinese Renminbi exchange rates.

Net revenue - Performance Sensing

Performance Sensing net revenue for fiscal year 2018 increased \$167.1 million, or 6.8%, to \$2,627.7 million from \$2,460.6 million for fiscal year 2017. Organic revenue growth of 6.6% in fiscal year 2018 was primarily attributable to content growth in our automotive business, principally in China and North America, as well as a combination of market and content growth in our HVOR business, partially offset by price reductions of 1.9%, primarily related to automotive customers, which are consistent with our expectations for future pricing pressures. Our HVOR business benefited from production growth in the construction, North American on-road truck, and agriculture markets, and we generated content growth from sales to on-road truck customers, particularly in China and Europe, as well as off-road customers in the agriculture industry.

Performance Sensing net revenue for fiscal year 2017 increased \$75.2 million, or 3.2%, to \$2,460.6 million from \$2,385.4 million for fiscal year 2016. Organic revenue growth of 3.9% in fiscal year 2017 was primarily driven by our HVOR business, mainly as a result of the combination of stronger market and content growth in the construction, agriculture, and on-road truck end markets in North America, and content growth in our automotive business, primarily in China, partially offset by price reductions of 1.9%, primarily related to automotive customers.

Net revenue - Sensing Solutions

Sensing Solutions net revenue for fiscal year 2018 increased \$47.8 million, or 5.7%, to \$894.0 million from \$846.1 million for fiscal year 2017. Organic revenue growth of 4.2% in fiscal year 2018 was primarily due to growth in our industrial sensing, aerospace, and semiconductor businesses.

Sensing Solutions net revenue for fiscal year 2017 increased \$29.2 million, or 3.6%, to \$846.1 million from \$816.9 million for fiscal year 2016. Organic revenue growth of 4.1% in fiscal year 2017 was primarily due to market strength across all of our key end markets, particularly in China, as well as content growth in our appliance and HVAC and industrial end markets.

Cost of revenue

Cost of revenue for fiscal years 2018, 2017, and 2016 was \$2,266.9 million (64.4% of net revenue), \$2,138.9 million (64.7% of net revenue), and \$2,084.2 million (65.1% of net revenue), respectively.

Cost of revenue as a percentage of net revenue decreased in fiscal year 2018 primarily due to the favorable impact of foreign currency exchange rates, partially offset by higher trade tariffs.

Cost of revenue as a percentage of net revenue decreased in fiscal year 2017 primarily due to improved operating efficiencies and synergies from the continued integration of acquired businesses, partially offset by the negative impact of price reductions.

Research and development expense

R&D expense for fiscal years 2018, 2017, and 2016 was \$147.3 million, \$130.1 million, and \$126.7 million, respectively.

R&D expense has increased over the last three years due to increased design and development effort to support new design wins and fund development activities to intersect emerging "megatrends" that are shaping our end markets, as well as the unfavorable impact of foreign currency exchange rates, primarily the Euro.

Selling, general and administrative expense

SG&A expense for fiscal years 2018, 2017, and 2016 was \$305.6 million, \$301.9 million, and \$293.5 million, respectively.

SG&A increased in 2018 primarily due to the unfavorable impact of foreign currency exchange rates, higher share-based compensation expense, transaction costs related to the acquisition of GIGAVAC, and higher selling costs, partially offset by lower variable compensation, lower costs related to the cross-border merger between Sensata N.V. and Sensata plc (the "Merger"), lower integration costs, synergies from the integration of acquired businesses, and productivity improvements.

SG&A expense increased in 2017 primarily due to \$6.6 million of expenses incurred in connection with the Merger and higher variable compensation costs, partially offset by lower integration costs.



Table of Contents

## Amortization of intangible assets

Amortization of intangible assets for fiscal years 2018, 2017, and 2016 was \$139.3 million, \$161.1 million, and \$201.5 million, respectively. The decrease in amortization expense is due to the fact that a majority of our intangible assets are amortized using the economic benefit basis, which in effect concentrates amortization expense towards the beginning of that intangible asset's useful life, as well as the impact of certain intangible assets reaching the end of their useful lives.

We expect amortization expense to increase to approximately \$142.2 million in fiscal year 2019, due primarily to additional amortization expense related to the intangible assets associated with the acquisition of GIGAVAC. Refer to Note 11, "Goodwill and Other Intangible Assets, Net," of our Financial Statements for additional information regarding intangible assets and the related amortization.

## Restructuring and other charges, net

Restructuring and other charges, net for fiscal years 2018, 2017, and 2016 consisted of the following (amounts have been calculated based on unrounded numbers, accordingly, certain amounts may not sum due to the effect of rounding):

(Dollars in millions)	For the year ended		
	December 31,		
	2018	2017	2016
Severance costs, net <sup>(1)</sup>	\$7.6	\$11.1	\$0.8
Facility and other exit costs <sup>(2)</sup>	0.9	7.9	3.3
Gain on sale of Valves Business <sup>(3)</sup>	(64.4 )	—	—
Other <sup>(4)</sup>	8.2	—	—
Restructuring and other charges, net	\$(47.8)	\$19.0	\$4.1

Severance costs for the year ended December 31, 2018 were attributable to limited workforce reductions of manufacturing, engineering, and administrative positions as well as the elimination of redundant roles in connection with site consolidations. Severance costs, net recognized during the year ended December 31, 2017

<sup>(1)</sup> included \$8.4 million of charges related to the closure of our facility in Minden, Germany, a site we obtained in connection with the acquisition of certain subsidiaries of Custom Sensors & Technologies Ltd. ("CST"). Severance costs for the year ended December 31, 2016 primarily related to charges recorded in connection with acquired businesses and the termination of a limited number of employees in various locations throughout the world.

Facility and other exit costs for the year ended December 31, 2017 included \$3.2 million of costs related to the closure of our facility in Minden, Germany and the transfer of equipment to alternate operating sites as well as \$3.1 million of costs associated with the consolidation of two other manufacturing sites in Europe. Facility and other exit costs for the year ended December 31, 2016 primarily related to the relocation of manufacturing lines from our facility in the Dominican Republic to a manufacturing facility in Mexico. We completed the cessation of manufacturing in our Dominican Republic facility in the third quarter of 2016.

In fiscal year 2018 we completed the sale of the Valves Business to Pacific. The gain on this sale is included in <sup>(3)</sup> restructuring and other charges, net. Refer to Note 17, "Acquisitions and Divestitures," for further discussion of the sale of the Valves Business.

In the year ended December 31, 2018, we incurred \$5.9 million of incremental direct costs in order to transact the <sup>(4)</sup> sale of the Valves Business and \$2.2 million of deferred compensation incurred in connection with the acquisition of GIGAVAC. Refer to Note 17, "Acquisitions and Divestitures," for further discussion.

## Interest expense, net

Interest expense, net for fiscal years 2018, 2017, and 2016 was \$153.7 million, \$159.8 million, and \$165.8 million, respectively. Interest expense, net has decreased primarily as a result of an increase in interest income due to higher average cash balances in fiscal year 2018, partially offset by an increase in interest expense related to higher variable interest rates.



Table of Contents

## Other, net

Other, net for fiscal years 2018, 2017, and 2016 consisted of the following (amounts have been calculated based on unrounded numbers, accordingly, certain amounts may not sum due to the effect of rounding):

(Dollars in millions)	For the year ended		
	December 31,		
	2018	2017	2016
Currency remeasurement (loss)/gain on net monetary assets <sup>(1)</sup>	\$(18.9)	\$18.0	\$(10.6)
Gain/(loss) on foreign currency forward contracts <sup>(2)</sup>	2.1	(15.6 )	(1.9 )
(Loss)/gain on commodity forward contracts <sup>(2)</sup>	(8.5 )	10.0	7.4
Loss on debt financing	(2.4 )	(2.7 )	—
Net periodic benefit cost, excluding service cost <sup>(3)</sup>	(3.6 )	(3.4 )	(0.2 )
Other	0.9	0.1	0.2
Other, net	\$(30.4)	\$6.4	\$(5.1 )

<sup>(1)</sup> Relates to the remeasurement of non-U.S. dollar denominated monetary assets and liabilities into U.S. dollars.

Relates to changes in the fair value of derivative financial instruments that are not designated as hedges. Refer to Note 19, "Derivative Instruments and Hedging Activities," of our Financial Statements for additional discussion of

<sup>(2)</sup> gains and losses related to our commodity and foreign exchange forward contracts. Refer to Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," included elsewhere in this Report for an analysis of the sensitivity of other, net to changes in foreign currency exchange rates and commodity prices.

On January 1, 2018, we adopted FASB ASU No. 2017-07, which requires the non-service cost components of net

<sup>(3)</sup> periodic benefit cost to be presented apart from the service cost component and outside of profit from operations.

Refer to Note 2, "Significant Accounting Policies," and Note 13, "Pension and Other Post-Retirement Benefits," of our Financial Statements for additional details.

(Benefit from)/provision for income taxes

(Benefit from)/provision for income taxes for fiscal years 2018, 2017, and 2016 was \$(72.6) million, \$(5.9) million, and \$59.0 million, respectively, the components of which are described in more detail in the table below (amounts have been calculated based on unrounded numbers, accordingly, certain amounts may not sum due to the effect of rounding):

(Dollars in millions)	For the year ended		
	December 31,		
	2018	2017	2016
Tax computed at statutory rate of 21% in 2018 and 35% in 2017 and 2016 <sup>(1)</sup>	\$110.5	\$140.9	\$112.5
Change in valuation allowances <sup>(2)</sup>	(123.4 )	(3.4 )	30.6
Foreign tax rate differential <sup>(3)</sup>	(41.2 )	(112.0 )	(86.3 )
Change in tax laws or rates	(22.3 )	3.9	2.5
Research and development incentives <sup>(4)</sup>	(19.5 )	(5.9 )	(11.0 )
Reserve for tax exposure	10.8	38.0	11.2
U.S. Tax Reform impact <sup>(5)</sup>	—	(73.7 )	—
Other <sup>(6)</sup>	12.4	6.3	(0.5 )
(Benefit from)/provision for income taxes	\$(72.6 )	\$(5.9 )	\$59.0

Represents the product of the applicable statutory tax rate and income before taxes, as reported on our consolidated

<sup>(1)</sup> statements of operations. In fiscal year 2018 the statutory rate declined to 21% (i.e., compared to 35% in previous years) due to the effect of Tax Reform.

<sup>(2)</sup> During the years ended December 31, 2018, 2017, and 2016, we released a portion of our valuation allowance and recognized a deferred tax benefit. The remaining valuation allowance as of December 31, 2018 and 2017 was \$157.0 million and \$277.3 million, respectively. The remaining valuation allowance mainly relates to foreign tax credit and capital loss carryforwards and suspended interest deductions. It is more likely than not that these

attributes will not be utilized in the foreseeable future. However, any future release of all or a portion of this valuation allowance resulting from a change in this assessment will impact our future (benefit from)/provision for income taxes.



Table of Contents

(3) We operate in locations outside the U.S., including Bermuda, Bulgaria, China, Malaysia, the Netherlands, South Korea, and the U.K., that historically have had statutory tax rates different than the U.S. statutory rate. This can result in a foreign tax rate differential that may reflect a tax benefit or detriment. This foreign rate differential can change from year to year based upon the jurisdictional mix of earnings and changes in current and future enacted tax rates. Certain of our subsidiaries are currently eligible, or have been eligible, for tax exemptions or holidays in their respective jurisdictions.

(4) Certain income of our U.K. subsidiaries is eligible for lower tax rates under the "patent box" regime, resulting in certain of our intellectual property income being taxed at a rate lower than the U.K. statutory tax rate. Certain R&D expenses are eligible for a bonus deduction under China's R&D super deduction regime. In 2018, we substantially completed an assessment of our ability to claim an R&D credit in the U.S. As a result of this assessment, we recorded a tax benefit of \$10.0 million. Prior to fiscal year 2018, the deferred tax asset related to these R&D credits would have been offset by the valuation allowance.

(5) Relates to the enactment of Tax Reform during the fourth quarter of 2017, which required us to remeasure our U.S. deferred tax assets and liabilities associated with indefinite lived intangible assets, including goodwill, from a rate of 35% to 21%. Absent this deferred tax liability, the U.S. operation was in a net deferred tax asset position that was offset by a full valuation allowance at December 31, 2017.

(6) Refer to Note 7, "Income Taxes," of our Financial Statements for more details regarding other components of our rate reconciliation.

We do not believe that there are any known trends related to the reconciling items noted above that are reasonably likely to result in our liquidity increasing or decreasing in any material way.

Non-GAAP Financial Measures

This section provides additional information regarding certain non-GAAP financial measures, including organic revenue growth and adjusted net income, which are used by our management, Board of Directors, and investors as further discussed below. Organic revenue growth and adjusted net income should be considered as supplemental in nature and are not intended to be considered in isolation or as a substitute for reported net revenue growth or net income, respectively, calculated in accordance with U.S. GAAP. In addition, our measures of organic revenue growth and adjusted net income may not be the same as, or comparable to, similar non-GAAP financial measures presented by other companies.

Organic revenue growth

Organic revenue growth is defined as the reported percentage change in net revenue calculated in accordance with U.S. GAAP, excluding the period-over-period impact of foreign exchange rate differences as well as the net impact of acquired and divested businesses for the first 12 months following the transaction date. Refer to the Net revenue - overall section above for a reconciliation of reported revenue growth to organic revenue growth.

We believe that organic revenue growth provides investors with helpful information with respect to our operating performance, and we use organic revenue growth to evaluate our ongoing operations as well as for internal planning and forecasting purposes. We believe that organic revenue growth provides useful information in evaluating the results of our business because it excludes items that we believe are not indicative of ongoing performance or that we believe impact comparability with the prior-year period.

Adjusted net income

We define adjusted net income as follows: net income, determined in accordance with U.S. GAAP, excluding certain non-GAAP adjustments, including:

Restructuring related and other - includes charges, net related to certain restructuring actions as well as other costs (or income) that we believe are either unique or unusual to the identified reporting period, and that we believe impact comparisons to prior period operating results. Such amounts are excluded from internal financial statements and analyses that management uses in connection with financial planning, and in its review and assessment of our operating and financial performance, including the performance of our segments. Restructuring related and other does not, however, include charges related to the integration of acquired businesses, including such charges that are recognized as restructuring and other charges, net in our consolidated statements of operations.

Financing and other transaction costs – includes losses/(gains) related to debt financing transactions and third-party transaction costs, including for legal, accounting, and other professional services that are directly related to equity transactions, acquisitions, or divestitures.

Table of Contents

Deferred losses/(gains) on other hedges.

Depreciation and amortization expense related to the step-up in fair value of fixed and intangible assets and inventory. Deferred income tax and other tax expense/(benefit) – includes adjustments for book-to-tax basis differences due primarily to the step-up in fair value of fixed and intangible assets and goodwill, the utilization of net operating losses, and adjustments to our U.S. valuation allowance. Other tax expense/(benefit) includes certain adjustments to unrecognized tax positions and withholding tax on repatriation of foreign earnings.

Amortization of debt issuance costs.

Management uses adjusted net income as a measure of operating performance, for planning purposes (including the preparation of our annual operating budget), to allocate resources to enhance the financial performance of our business, to evaluate the effectiveness of our business strategies, and in communications with our Board of Directors and investors concerning our financial performance. We believe investors and securities analysts also use adjusted net income in their evaluation of our performance and the performance of other similar companies. Adjusted net income is not a measure of liquidity. The use of adjusted net income has limitations, and this performance measure should not be considered in isolation from, or as an alternative to, U.S. GAAP measures such as net income.

Our definition of adjusted net income excludes the deferred (benefit from)/provision for income taxes and other tax (benefit)/expense. Our deferred (benefit from)/provision for income taxes includes: adjustments for book-to-tax basis differences due primarily to the step-up in fair value of fixed and intangible assets and goodwill, changes in tax laws, the utilization of net operating losses, and adjustments to our U.S. valuation allowance. Other tax (benefit)/expense includes certain adjustments to unrecognized tax positions. As we treat deferred income taxes as an adjustment to compute adjusted net income, the deferred income tax effect associated with the reconciling items presented below would not change adjusted net income for any period presented. Refer to note (f) to the table below for the theoretical current income tax expense/(benefit) associated with the reconciling items indicated, which relate to jurisdictions where such items would provide tax expense/(benefit).

Many of these adjustments to net income relate to a series of strategic initiatives developed by our management aimed at better positioning us for future revenue growth and an improved cost structure. These initiatives have been modified from time to time to reflect changes in overall market conditions and the competitive environment facing our business. These initiatives include, among other items, acquisitions, divestitures, restructurings of certain operations, and various financing transactions. We describe these adjustments in more detail below.

The following table provides a reconciliation of adjusted net income to net income, the most directly comparable financial measure presented in accordance with U.S. GAAP (amounts have been calculated based on unrounded numbers, accordingly, certain amounts may not sum due to the effect of rounding):

(Dollars in millions)	For the year ended December 31,		
	2018	2017	2016
Net income	\$ 599.0	\$ 408.4	\$ 262.4
Non-GAAP adjustments:			
Restructuring related and other <sup>(a)(f)</sup>	28.0	21.3	15.0
Financing and other transaction costs <sup>(b)</sup>	(40.3 )	9.3	1.5
Loss/(gain) on commodity and other hedges <sup>(c)</sup>	12.5	(7.4 )	(19.3 )
Depreciation and amortization expense related to the step-up in fair value of fixed and intangible assets and inventory <sup>(d)(f)</sup>	141.2	165.0	210.8
Deferred income tax and other tax (benefit)/expense, net <sup>(e)</sup>	(128.3 )	(55.2 )	17.1
Amortization of debt issuance costs	7.3	7.2	7.3
Total adjustments	20.4	140.4	232.4
Adjusted net income	\$ 619.4	\$ 548.7	\$ 494.8

Table of Contents

The following table presents the components of our restructuring related and other non-GAAP adjustment for fiscal (a) years 2018, 2017, and 2016 (amounts have been calculated based on unrounded numbers, accordingly, certain amounts may not sum due to the effect of rounding):

(Dollars in millions)	For the year ended December 31,		
	2018	2017	2016
Severance costs <sup>(i)</sup>	\$ 9.2	\$ 3.0	\$ 0.0
Facility related costs <sup>(ii)</sup>	8.2	14.0	10.9
Other <sup>(iii)</sup>	10.6	4.3	4.0
Total non-GAAP restructuring related and other	\$ 28.0	\$ 21.3	\$ 15.0

i. Represents severance charges recognized and presented in restructuring and other charges, net, other than those charges, net of reversals, associated with the integration of an acquired business.

Consists primarily of costs associated with line moves and the closing or relocation of various facilities throughout the world. Fiscal year 2018 includes \$4.0 million of costs related to the consolidation of two manufacturing sites in Europe and \$2.1 million of costs related to the move of a distribution center in Germany. Fiscal year 2017 includes \$6.0 million of costs related to transitioning certain of our distribution centers within Europe, \$3.7 million of costs related to the consolidation of two manufacturing sites in Europe, and \$3.0 million of costs associated with the closing of our Schrader Brazil manufacturing facility. Fiscal year 2016 includes \$3.7 million of costs associated with the relocation of manufacturing lines from our facility in the Dominican Republic to a manufacturing facility in Mexico, \$1.1 million in non-severance related costs associated with the closing of our Schrader Brazil manufacturing facility, and \$3.8 million of costs associated with other exited product lines.

Consists of amounts that do not fall within one of the other specific categories. Fiscal year 2018 primarily includes \$6.6 million of charges related to certain of our manufacturing facilities in Mexico and \$1.9 million of losses upon settlement of certain preacquisition loss contingencies. The charges related to certain of our manufacturing facilities in Mexico include operating inefficiencies, in part as a result of line moves, and repositioning actions, which include settlement losses related to our pension plans in Mexico.

Includes losses related to debt financing transactions, costs incurred in connection with secondary offering or other equity transactions, costs associated with acquisition activity, and gains, losses, and transaction costs related to the divestiture of businesses. In fiscal year 2018, includes a \$64.4 million gain on the sale of the Valves Business, \$5.9 million of transaction costs, and \$2.3 million of deferred compensation incurred in connection with the acquisition of GIGAVAC, which were recorded in restructuring and other charges, net on our consolidated statements of operations. Costs associated with debt financing transactions, which include losses of \$2.4 million and \$2.7 million in fiscal years 2018 and 2017, respectively, were recognized in other, net on our consolidated statements of operations. Costs associated with equity transactions, which include \$4.1 million and \$6.6 million of costs to complete the Merger in fiscal years 2018 and 2017, respectively, were recognized in SG&A expense on our consolidated statements of operations. Costs associated with acquisition activity, including \$2.5 million of transaction costs related to the acquisition of GIGAVAC in fiscal year 2018, are generally recorded in SG&A expense on our consolidated statements of operations.

(c) Includes deferred losses/(gains), net recognized on derivative instruments that are not designated as hedges.

(d) Represents depreciation and amortization expense related to the step-up in fair value of fixed and intangible assets and inventory related to acquisitions.

(e) Represents deferred income tax and other tax expense/(benefit), including provisions for, and interest expense and penalties related to, certain unrecognized tax benefits (or benefits from their release). Our deferred income tax includes adjustments for measuring book-to-tax basis differences primarily related to the step-up in fair value of fixed and intangible assets and goodwill, utilization of net operating losses and adjustments to our U.S. valuation allowance in connection with certain acquisitions. Other tax expense/(benefit) includes certain adjustments to unrecognized tax positions. Fiscal year 2018 includes a \$122.1 million deferred tax benefit related to the release of a portion of our U.S. valuation allowance as discussed in Note 7, "Income Taxes," of our Financial Statements. Also included in our fiscal year 2018 results is \$10.0 million of current tax expense related to the repatriation of

profits from certain subsidiaries in China to their parent companies in the Netherlands. The decision to repatriate these profits was the result of our goal to reduce our balance sheet exposure, and corresponding earnings volatility, related to the Chinese Renminbi as well as fund our deployment of capital. Fiscal year 2017 includes \$73.7 million of income tax benefits related to the remeasurement of the deferred tax liabilities associated with indefinite-lived intangible assets due to the reduction of the U.S. corporate income tax rate from 35% to 21% as a part of Tax Reform. Fiscal year 2016 includes \$1.9 million of deferred income tax benefits related to the release of a portion of our U.S. valuation allowance in connection with our 2015 acquisition of CST. For this acquisition, deferred

Table of Contents

tax liabilities were established related primarily to the step-up of intangible assets for book purposes. Refer to Note 7, "Income Taxes," of our Financial Statements for more details.

The current income tax (benefit)/expense associated with the reconciling items presented above, which is included in adjusted net income, is shown below for each period presented. The current income tax (benefit)/expense was (f) calculated by applying the relevant jurisdictional tax rate to the reconciling items that relate to jurisdictions where such items would provide current tax (benefit)/expense.

(Dollars in millions)	For the year ended December 31,		
	2018	2017	2016
Restructuring related and other	\$ (1.2 )	\$ (0.5 )	\$ (1.0 )
Depreciation and amortization expense related to the step-up in fair value of fixed and intangible assets and inventory	0.0	0.0	(0.1 )
Total current income tax (benefit)/expense associated with non-GAAP adjustments above	\$ (1.2 )	\$ (0.5 )	\$ (1.1 )

## Liquidity and Capital Resources

The following table presents the total cash and cash equivalents held by Sensata plc and its subsidiaries disaggregated by country of domicile.

(Dollars in millions)	As of	
	December 31, 2018	2017
Cash and cash equivalents:		
U.K.	\$8.8	\$13.7
U.S.	4.6	9.0
Netherlands	482.1	260.9
China	125.2	383.0
Other	109.1	86.5
Cash and cash equivalents	\$729.8	\$753.1

The amount of cash and cash equivalents held in these locations fluctuates throughout the year due to a variety of factors, such as our use of intercompany loans and dividends and the timing of cash receipts and disbursements in the normal course of business. Our earnings are not considered to be permanently reinvested in certain jurisdictions in which they were earned. We record a deferred tax liability on these unremitted earnings to the extent the remittance of such earnings cannot be recovered in a tax free manner.

## Cash Flows

The table below summarizes our primary sources and uses of cash for the years ended December 31, 2018, 2017, and 2016. We have derived these summarized statements of cash flows from our Financial Statements. Amounts in the table below have been calculated based on unrounded numbers. Accordingly, certain amounts may not sum due to the effect of rounding.

(Dollars in millions)	For the year ended December 31,		
	2018	2017	2016
Net cash provided by/(used in):			
Operating activities:			
Net income adjusted for non-cash items	\$ 687.5	\$ 652.5	\$ 615.5
Changes in operating assets and liabilities, net	(66.9 )	(94.8 )	(93.9 )
Operating activities	620.6	557.6	521.5
Investing activities	(237.6 )	(140.7 )	(174.8 )
Financing activities	(406.2 )	(15.3 )	(337.6 )
Net change	\$ (23.3 )	\$ 401.7	\$ 9.2

## Table of Contents

### Operating Activities

The increase in cash provided by operating activities in fiscal year 2018 compared to fiscal year 2017 relates primarily to improved operating profitability and timing of supplier payments and customer receipts.

The increase in cash provided by operating activities in fiscal year 2017 compared to fiscal year 2016 relates primarily to improved operating profitability, partially offset by a build-up of inventory to support anticipated line moves, higher cash paid for interest, and higher cash paid related to severance obligations. The higher cash paid for interest relates to the \$750.0 million aggregate principal amount of 6.25% senior notes due 2026 (the "6.25% Senior Notes"), for which interest payments are due semi-annually on February 15 and August 15 of each year. The payment made on February 15, 2016 did not represent payment for a full six-month period, as the 6.25% Senior Notes were issued on November 27, 2015.

### Investing Activities

Investing activities include additions to property, plant and equipment and capitalized software, the acquisition or sale of a business, and the acquisition or sale of certain debt and equity investments.

In fiscal year 2018, net cash used in investing activities was primarily composed of \$228.3 million of cash used to acquire GIGAVAC (i.e., net of cash received), \$159.8 million of cash used to purchase PP&E and capitalized software, and \$149.8 million of cash provided from the sale of the Valves Business (i.e., net of cash sold). Refer to Note 17, "Acquisitions and Divestitures," for further discussion of the sale of the Valves Business and the acquisition of GIGAVAC.

In fiscal year 2017, net cash used in investing activities was primarily composed of \$144.6 million of cash used to purchase PP&E and capitalized software.

In fiscal year 2016, net cash used in investing activities was primarily composed of \$130.2 million of cash used to purchase PP&E and capitalized software and an investment of \$50.0 million in preferred stock of Quanergy Systems, Inc ("Quanergy"). Refer to Note 18, "Fair Value Measures," for further discussion of this investment.

In fiscal year 2019, we anticipate additions to property, plant and equipment and capitalized software of approximately \$165.0 million to \$185.0 million, which we expect to be funded with cash flows from operations.

### Financing Activities

Net cash used in financing activities in fiscal year 2018 consisted primarily of \$399.4 million in payments to repurchase our ordinary shares related to our \$400.0 million share repurchase program and \$15.7 million in payments on debt.

Net cash used in financing activities in fiscal year 2017 consisted primarily of \$943.6 million in payments on debt, partially offset by \$927.8 million of proceeds from the issuance of debt. These cash flows result from the repricing of the term loan provided pursuant to the sixth amendment (the "Sixth Amendment") of the Credit Agreement, and the resulting issuance of the Term Loan pursuant to the Eighth Amendment. Refer to Debt Instruments below and Note 14, "Debt," of our Financial Statements for further discussion of the terms of these amendments.

Net cash used in financing activities in fiscal year 2016 consisted primarily of \$336.3 million in payments on debt, including \$280.0 million in payments on the Revolving Credit Facility and \$44.9 million in payments on our then outstanding term loan.

Table of Contents

## Indebtedness and Liquidity

The following table details our gross outstanding indebtedness as of December 31, 2018, and the associated interest expense for fiscal year 2018 (amounts have been calculated based on unrounded numbers, accordingly, certain amounts may not sum due to the effect of rounding):

(Dollars in millions)	Balance as of December 31, 2018	Interest Expense, net for the year ended December 31, 2018
Term Loan	\$ 917.8	\$ 34.8
4.875% Senior Notes	500.0	24.4
5.625% Senior Notes	400.0	22.5
5.0% Senior Notes	700.0	35.0
6.25% Senior Notes	750.0	46.9
Capital lease and other financing obligations	35.5	2.9
Total gross outstanding indebtedness	\$ 3,303.3	
Other interest expense, net <sup>(1)</sup>		(12.7 )
Interest expense, net		\$ 153.7

Other interest expense, net includes interest income, amortization of debt issuance costs, and interest costs <sup>(1)</sup> capitalized in accordance with FASB Accounting Standards Codification ("ASC") Subtopic 835-20, Capitalization of Interest.

## Debt Instruments

Summarized information regarding our debt instruments is described below. Refer to Note 14, "Debt," of our Financial Statements for further details of the terms of our Debt Instruments.

## Senior Secured Credit Facilities

In May 2011, we completed a series of transactions designed to refinance our then existing indebtedness. These transactions included the execution of the Credit Agreement, which provided for senior secured credit facilities (the "Senior Secured Credit Facilities") which currently consists of the Term Loan, the Revolving Credit Facility, and \$1.0 billion incremental availability (the "Accordion") under which, subject to certain limitations as defined in the indentures under which the Senior Notes (as defined below) were issued (the "Senior Notes Indentures"), additional secured debt may be issued or the capacity of the Revolving Credit Facility may be increased.

## Term Loan

The Term Loan may, at our option, be maintained from time to time as a Base Rate loan or a Eurodollar Rate loan (each as defined in the Credit Agreement), each with a different determination of interest rates. The principal amount of the Term Loan amortizes in equal quarterly installments in an aggregate annual amount equal to 1.0% of the original principal amount of the term loan provided under the Sixth Amendment, with the balance due at maturity. The applicable margins for the Term Loan as of December 31, 2018 were 0.75% and 1.75% for Base Rate loans and Eurodollar Rate loans, respectively, subject to floors of 1.00% and 0.00% for Base Rate loans and Eurodollar Rate loans, respectively. As of December 31, 2018, we maintained the Term Loan as a Eurodollar Rate loan.

## Revolving Credit Facility

As of December 31, 2018, there was \$416.1 million of availability under the Revolving Credit Facility, net of \$3.9 million of letters of credit. Outstanding letters of credit are issued primarily for the benefit of certain operating activities. As of December 31, 2018, no amounts had been drawn against these outstanding letters of credit.

## Senior Notes

At December 31, 2018, we had various tranches of senior notes outstanding, including \$500.0 million aggregate principal amount of 4.875% senior notes due 2023 (the "4.875% Senior Notes"), \$400.0 million aggregate principal amount of 5.625% senior notes due 2024 (the "5.625% Senior Notes"), \$700.0 million aggregate principal amount of



5.0% senior notes due 2025 (the "5.0% Senior Notes"), and the 6.25% Senior Notes (collectively, with the 4.875% Senior Notes, the 5.625% Senior Notes, and the 5.0% Senior Notes, the "Senior Notes").

## Table of Contents

### 4.875% Senior Notes

In April 2013, we completed the issuance and sale of the 4.875% Senior Notes, which were offered at par, and mature on October 15, 2023. Interest on the 4.875% Senior Notes is payable semi-annually on April 15 and October 15 of each year.

### 5.625% Senior Notes

In October 2014, we completed the issuance and sale of the 5.625% Senior Notes, which were offered at par, and mature on November 1, 2024. Interest on the 5.625% Senior Notes is payable semi-annually on May 1 and November 1 of each year.

### 5.0% Senior Notes

In March 2015, we completed the issuance and sale of the 5.0% Senior Notes, which were offered at par, and mature on October 1, 2025. Interest on the 5.0% Senior Notes is payable semi-annually on April 1 and October 1 of each year.

### 6.25% Senior Notes

In November 2015, we completed the issuance and sale of the 6.25% Senior Notes, which were offered at par, and mature on February 15, 2026. Interest on the 6.25% Senior Notes is payable semi-annually on February 15 and August 15 of each year.

### Capital Resources

Our sources of liquidity include cash on hand, cash flows from operations, and available capacity under the Revolving Credit Facility and the Accordion. We believe, based on our current level of operations as reflected in our results of operations for the year ended December 31, 2018, and taking into consideration the restrictions and covenants discussed below and in Note 14, "Debt," of our Financial Statements, that these sources of liquidity will be sufficient to fund our operations, capital expenditures, ordinary share repurchases, and debt service for at least the next twelve months. However, we cannot make assurances that our business will generate sufficient cash flows from operations or that future borrowings will be available to us in an amount sufficient to enable us to pay or refinance our indebtedness or to fund our other liquidity needs. Further, our highly-leveraged nature may limit our ability to procure additional financing in the future.

The Credit Agreement stipulates certain events and conditions that may require us to use excess cash flow, as defined by the terms of the Credit Agreement, generated by operating, investing, or financing activities, to prepay some or all of the outstanding borrowings under the Senior Secured Credit Facilities. The Credit Agreement also requires mandatory prepayments of the outstanding borrowings under the Senior Secured Credit Facilities upon certain asset dispositions and casualty events, in each case subject to certain reinvestment rights, and the incurrence of certain indebtedness (excluding any permitted indebtedness). These provisions were not triggered during the year ended December 31, 2018.

All obligations under the Senior Secured Credit Facilities are unconditionally guaranteed by certain of our subsidiaries (the "Guarantors"). The collateral for such borrowings under the Senior Secured Credit Facilities consists of substantially all present and future property and assets of Sensata Technologies B.V. ("STBV"), Sensata Technologies Finance Company, LLC, and the Guarantors.

Our ability to raise additional financing, and our borrowing costs, may be impacted by short- and long-term debt ratings assigned by independent rating agencies, which are based, in significant part, on our performance as measured by certain credit metrics such as interest coverage and leverage ratios. As of January 25, 2019, Moody's Investors Service's corporate credit rating for STBV was Ba2 with a stable outlook and Standard & Poor's corporate credit rating for STBV was BB+ with a stable outlook. Any future downgrades to STBV's credit ratings may increase our borrowing costs, but will not reduce availability under the Credit Agreement.

The Credit Agreement and the Senior Notes Indentures contain restrictions and covenants (described in more detail in Note 14, "Debt," of our Financial Statements) that limit the ability of STBV and certain of its subsidiaries to, among other things, incur subsequent indebtedness, sell assets, make capital expenditures, pay dividends, and make other restricted payments. These restrictions and covenants, which are subject to important exceptions and qualifications set forth in the Credit Agreement and Senior Notes Indentures, were taken into consideration in establishing our share repurchase programs, and are evaluated periodically with respect to future potential funding. We do not believe that

these restrictions and covenants will prevent us from funding share repurchases under our share repurchase programs with available cash and cash flows from operations, should we decide to do so. As of December 31, 2018, we believe that we were in compliance with all the covenants and default provisions under the Credit Agreement.

Table of Contents

## Share repurchase program

Upon completion of the Merger, the \$250.0 million share repurchase program previously authorized by the Board of Directors of Sensata N.V. lapsed, and our ability to repurchase shares as a company incorporated in England and Wales became contingent upon the completion of certain court proceedings in the U.K. (which were completed in the second quarter of 2018), approval of our shareholders (which occurred at our May 31, 2018 annual general meeting of shareholders), and authorization by our Board of Directors.

On May 31, 2018, we announced that our Board of Directors had authorized a \$400.0 million share repurchase program. Under this program, we could repurchase ordinary shares at such times and in amounts to be determined by our management, based on market conditions, legal requirements, and other corporate considerations, on the open market or in privately negotiated transactions, provided that such transactions were completed pursuant to an agreement and with a third party approved by our shareholders at the annual general meeting. The authorized amount of our share repurchase program could be modified or terminated by our Board of Directors at any time. During the year ended December 31, 2018, we repurchased approximately 7.6 million ordinary shares, which are now held as treasury shares, at a weighted-average price of \$52.75 per share.

In October 2018, our Board of Directors authorized a new \$250.0 million share repurchase program, subject to the same conditions that applied to the previously authorized \$400.0 million share repurchase program. During the year ended December 31, 2018, we have not repurchased any ordinary shares under this new share repurchase program.

## Contractual Obligations and Commercial Commitments

The table below reflects our contractual obligations as of December 31, 2018. Amounts we pay in future periods may vary from those reflected in the table. Amounts in the table below have been calculated based on unrounded numbers. Accordingly, certain amounts may not sum due to the effect of rounding.

(Dollars in millions)	Total	Payments Due by Period			
		One Year or Less	One to Three Years	Three to Five Years	More than Five Years
Debt obligations principal <sup>(1)</sup>	\$3,267.8	\$9.7	\$908.1	\$500.0	\$1,850.0
Debt obligations interest <sup>(2)</sup>	966.4	171.0	328.1	257.4	209.9
Capital lease obligations principal <sup>(3)</sup>	32.7	2.6	3.6	3.0	23.5
Capital lease obligations interest <sup>(3)</sup>	24.4	2.1	5.0	4.5	12.7
Other financing obligations principal <sup>(4)</sup>	2.8	2.2	0.5	—	—
Other financing obligations interest <sup>(4)</sup>	0.4	0.3	0.1	—	—
Operating lease obligations <sup>(5)</sup>	79.4	16.6	22.0	14.2	26.6
Non-cancelable purchase obligations <sup>(6)</sup>	79.8	24.0	42.7	13.0	0.0
Total contractual obligations <sup>(7)(8)</sup>	\$4,453.7	\$228.5	\$1,310.1	\$792.1	\$2,122.7

(1) Represents the contractually required principal payments, in accordance with the required payment schedule, on our debt obligations in existence as of December 31, 2018.

(2) Represents the contractually required interest payments, in accordance with the required payment schedule, on our debt obligations in existence as of December 31, 2018. Cash flows associated with the next interest payment to be made on our variable rate debt subsequent to December 31, 2018 were calculated using the interest rates in effect as of the latest interest rate reset date prior to December 31, 2018, plus the applicable spread.

(3) Represents the contractually required payments, in accordance with the required payment schedule, under our capital lease obligations in existence as of December 31, 2018. Certain leases were assumed to extend beyond their current terms because it was probable that such an extension would occur.

(4) Represents the contractually required payments, in accordance with the required payment schedule, under our financing obligations in existence as of December 31, 2018. No assumptions were made with respect to renewing these financing arrangements beyond their current terms.

(5) Represents the contractually required payments, in accordance with the required payment schedule, under our operating lease obligations in existence as of December 31, 2018. No assumptions were made with respect to

renewing these leases beyond their current terms.

51

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## Table of Contents

Represents the contractually required payments under our various purchase obligations in existence as of (6) December 31, 2018. No assumptions were made with respect to renewing the purchase obligations at the expiration date of their initial terms, and no amounts were assumed to be prepaid.

(7) Contractual obligations denominated in a foreign currency were calculated utilizing the U.S. dollar to local currency exchange rates in effect as of December 31, 2018.

This table does not include the contractual obligations associated with our defined benefit and other post-retirement benefit plans. As of December 31, 2018, we had recognized a net benefit liability of \$37.1 million, representing the net unfunded benefit obligations of the defined benefit and retiree healthcare plans. Refer to Note 13, "Pension and Other Post-Retirement Benefits," of our Financial Statements for additional information on pension and other (8) post-retirement benefits, including expected benefit payments for the next 10 years. This table also does not include \$11.5 million of unrecognized tax benefits as of December 31, 2018, as we are unable to make reasonably reliable estimates of when cash settlement, if any, will occur with a tax authority, as the timing and the ultimate resolution of the examination is uncertain. Refer to Note 7, "Income Taxes," of our Financial Statements for additional information on our unrecognized tax benefits.

### Critical Accounting Policies and Estimates

As discussed in Note 2, "Significant Accounting Policies," of our Financial Statements, which more fully describes our significant accounting policies, the preparation of consolidated financial statements in accordance with GAAP requires us to exercise our judgment in the process of applying our accounting policies. It also requires that we make estimates and assumptions about future events that affect the amounts reported in the financial statements and accompanying notes. The accounting policies and estimates that we believe are most critical to the portrayal of our financial position and results of operations are listed below. We believe these policies require our most difficult, subjective, and complex judgments in estimating the effect of inherent uncertainties.

### Revenue Recognition

The discussion below details the most significant judgments and estimates we make regarding recognition of revenue in accordance with FASB ASC Topic 606, Revenue from Contracts with Customers. We adopted FASB ASC Topic 606 on January 1, 2018. Periods presented prior to January 1, 2018 are presented under the previous revenue recognition guidance, including FASB ASC Topic 605, Revenue Recognition. The adoption of FASB ASC Topic 606 did not have a material effect on our financial statements or results of operations, and no cumulative catch-up adjustment was recorded.

In accordance with FASB ASC Topic 606, we recognize revenue to depict the transfer of promised goods to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods using a five step model. The most critical judgments and estimates we make in the implementation of this model relate to identifying the contract with the customer and determination of the transaction price associated with the performance obligation(s) in the contract, specifically related to variable consideration.

While many of the agreements with our customers specify certain terms and conditions that apply to any transaction between the parties, many of which are in effect for a defined term, the vast majority of these agreements do not result in contracts (as defined in FASB ASC Topic 606) because they do not create enforceable rights and obligations on the parties. Specifically, (1) the parties are not committed to perform any obligations in accordance with the specified terms and conditions until a customer purchase order ("P.O.") is received and accepted by us and (2) there is a unilateral right of each party to terminate the agreement at any time without compensating the other party. For this reason, the vast majority of our contracts (as defined in FASB ASC Topic 606) are customer P.O.s. If this assessment were to change, it could result in a material change to the amount of net revenue recognized in a period.

The transaction price is the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer. In determining the transaction price related to a contract, we determine whether the amount promised in a contract includes a variable amount (variable consideration). Variable consideration may be specified in the customer P.O., in another agreement that identifies terms and conditions of the transaction, or based on our customary practices. We have identified certain types of variable consideration that may be included in the transaction price related to our contracts, including sales returns (which generally include a right of return for defective or non-conforming product) and trade discounts (including retrospective volume discounts and

early payment incentives). Such variable consideration has not historically been material. However, should our judgments and estimates regarding variable consideration change, it could result in a material change to the amount of net revenue recognized in a period.

## Table of Contents

### Goodwill, Intangible Assets, and Long-Lived Assets

Businesses acquired are recorded at their fair value on the date of acquisition, with the excess of the purchase price over the fair value of identifiable assets acquired and liabilities assumed recognized as goodwill. Assets acquired may include either definite-lived or indefinite-lived intangible assets, or both. In accordance with the requirements of FASB ASC Topic 350, Intangibles—Goodwill and Other, goodwill and intangible assets determined to have an indefinite useful life are not amortized. Instead these assets are evaluated for impairment on an annual basis, and whenever events or business conditions change that could indicate that the asset is impaired.

#### Goodwill

Our judgments regarding the existence of indicators of goodwill impairment are based on several factors, including the performance of the end markets served by our customers, as well as the actual financial performance of our reporting units and their respective financial forecasts over the long-term. We evaluate goodwill and indefinite-lived intangible assets for impairment in the fourth quarter of each fiscal year, unless events occur which trigger the need for an earlier impairment review.

#### Identification of reporting units

We have identified six reporting units: Performance Sensing, Electrical Protection, Industrial Sensing, Aerospace, Power Management, and Interconnection. These reporting units have been identified based on the definitions and guidance provided in FASB ASC Topic 350. Identification of reporting units includes an analysis of the components that comprise each of our operating segments, which considers, among other things, the manner in which we operate our business and the availability of discrete financial information. Components of an operating segment are aggregated to form one reporting unit if the components have similar economic characteristics. We periodically review these reporting units to ensure that they continue to reflect the manner in which the business is operated.

#### Assignment of assets, liabilities, and goodwill to reporting units

Some assets and liabilities relate to the operations of multiple reporting units. We allocate these assets and liabilities to the reporting units based on methods that we believe are reasonable and supportable. We apply that allocation method on a consistent basis from year to year. We view some assets and liabilities, such as cash and cash equivalents, property, plant and equipment associated with our corporate offices, and debt, as being corporate in nature.

Accordingly, we do not assign these assets and liabilities to our reporting units.

In the event we reorganize our business, we reassign the assets (including goodwill) and liabilities among the affected reporting units using a reasonable and supportable methodology. As businesses are acquired, we assign assets acquired (including goodwill) and liabilities assumed to a new or existing reporting unit as of the date of the acquisition. In the event a disposal group meets the definition of a business, goodwill is allocated to the disposal group based on the relative fair value of the disposal group to the related reporting unit.

#### Evaluation of goodwill for impairment

We have the option to first assess qualitative factors to determine whether a quantitative analysis must be performed. The objective of a qualitative analysis is to determine whether it is more likely than not that the fair value of a reporting unit is less than its net book value.

If we elect not to use this option, or if we determine that it is more likely than not that the fair value of a reporting unit is less than its net book value, then we perform the first step of the quantitative analysis prescribed by FASB ASC Topic 350. In this step we compare the estimated fair values of our reporting units to their respective net book values, including goodwill, to determine whether there is an indicator of potential impairment. If the net book value of a reporting unit exceeds its estimated fair value, we conduct a second step in which we calculate the implied fair value of goodwill. If the carrying value of the reporting unit's goodwill exceeds its calculated implied fair value, an impairment loss is recognized in an amount equal to that excess. The implied fair value of goodwill is determined in the same manner as the amount of goodwill recognized in a business combination. That is, the fair value of the reporting unit is allocated to all of its identifiable assets and liabilities (including any unrecognized intangible assets) as if the reporting unit had been acquired in a business combination at the date of assessment, and the fair value of the reporting unit was the purchase price paid to acquire the reporting unit. The excess of the fair value of the reporting unit over the sum of the fair values of each of its identifiable assets and liabilities is the implied fair value of goodwill.





## Table of Contents

We evaluated the goodwill of each reporting unit for impairment as of October 1, 2018. All reporting units except Performance Sensing were evaluated using the quantitative method. In connection with the sale of the Valves Business, as required by FASB ASC Topic 350, we evaluated the goodwill of the retained portion of the Performance Sensing reporting unit for impairment using the quantitative method. To test this reporting unit as of October 1, 2018 we used the qualitative method of assessing goodwill; in performing this assessment, we considered the change in forecasted cash flows and net assets attributed to the reporting unit between the assessment performed in connection with the sale of the Valves Business and as of the October 1, 2018 assessment date, noting no significant changes. Therefore, we determined that it was not more likely than not that the fair value of the Performance Sensing reporting unit was less than its net book value.

We estimated the fair values of the Electrical Protection, Industrial Sensing, Aerospace, Power Management, and Interconnection reporting units using the discounted cash flow method. For this method, we prepared detailed annual projections of future cash flows for each reporting unit for the subsequent five fiscal years (the "Discrete Projection Period"). We estimated the value of the cash flows beyond the fifth fiscal year (the "Terminal Year"), by applying a multiple to the projected Terminal Year net earnings before interest, taxes, depreciation, and amortization ("EBITDA"). The cash flows from the Discrete Projection Period and the Terminal Year were discounted at an estimated WACC appropriate for each reporting unit. The estimated WACC was derived, in part, from comparable companies appropriate to each reporting unit. We believe that our procedures for estimating discounted future cash flows, including the Terminal Year valuation, were reasonable and consistent with accepted valuation practices. The preparation of forecasts of revenue growth and profitability for use in the long-range forecasts, the selection of the discount rates, and the estimation of the multiples used in valuing the Terminal Year involve significant judgments. Changes to these assumptions could affect the estimated fair value of one or more of our reporting units and could result in a goodwill impairment charge in a future period.

Types of events that could result in a goodwill impairment.

As noted above, the assumptions used in the quantitative calculation of fair value of our reporting units, including the long-range forecasts, the selection of the discount rates, and the estimation of the multiples or long-term growth rates used in valuing the Terminal Year involve significant judgments. Changes to these assumptions could affect the estimated fair values of our reporting units calculated in prior years and could result in a goodwill impairment charge in a future period. We believe that certain factors, such as a future recession, any material adverse conditions in the automotive industry and other industries in which we operate, and other factors identified in Item 1A, "Risk Factors," included elsewhere in this Report could require us to revise our long-term projections and could reduce the multiples used to determine Terminal Year value. Such revisions could result in a goodwill impairment charge in the future.

However, we do not consider any of our reporting units to be at risk of failing Step 1 of the goodwill impairment test. Evaluation of other intangible assets for impairment

Indefinite-lived intangible assets. Similar to goodwill, we perform an annual impairment review of our indefinite-lived intangible assets in the fourth quarter of each fiscal year, unless events occur that trigger the need for an earlier impairment review. We have the option to first assess qualitative factors in determining whether it is more likely than not that an indefinite-lived intangible asset is impaired. If we elect not to use this option, or we determine that it is more likely than not that the asset is impaired, we perform a quantitative impairment review in which we estimate the fair value of the indefinite-lived intangible asset and compare that amount to its carrying value.

In performing the quantitative impairment review, we estimate the fair value by using the relief-from-royalty method, in which we make assumptions about future conditions impacting the fair value of our indefinite-lived intangible assets, including projected growth rates, cost of capital, effective tax rates, and royalty rates. Impairment, if any, is based on the excess of the carrying value over the fair value of these assets.

We evaluated our indefinite-lived intangible assets for impairment as of October 1, 2018 (using the quantitative method) and determined that the estimated fair values of these assets exceeded their carrying values at that date. Should certain assumptions used in the development of the fair values of our indefinite-lived intangible assets change, we may be required to recognize an impairment charge in the future.

Definite-lived intangible assets. Reviews are regularly performed to determine whether facts or circumstances exist that indicate that the carrying values of our definite-lived intangible assets to be held and used are impaired. If we

determine that such facts or circumstances exist, we estimate the recoverability of these assets by comparing the projected undiscounted net cash flows associated with these assets to their respective carrying values. If the sum of the projected undiscounted net cash

## Table of Contents

flows falls below the carrying value of an asset, the impairment charge is measured as the excess of the carrying value over the fair value of that asset. We determine fair value by using the appropriate income approach valuation methodology depending on the nature of the intangible asset.

### Evaluation of long-lived assets for impairment

We periodically re-evaluate the carrying values and estimated useful lives of long-lived assets whenever events or changes in circumstances indicate that the carrying values of these assets may not be recoverable. We use estimates of undiscounted cash flows from long-lived assets to determine whether the carrying values of such assets are recoverable over the assets' remaining useful lives. These estimates include assumptions about our future performance and the performance of the end markets we serve. If an asset is determined to be impaired, the impairment is the amount by which its carrying value exceeds its fair value. These evaluations are performed at a level where discrete cash flows may be attributed to either an individual asset or a group of assets.

### Income Taxes

As part of the process of preparing our financial statements, we are required to estimate our provision for income taxes in each of the jurisdictions in which we operate. This involves estimating our actual current tax exposure, including assessing the risks associated with tax audits, together with assessing temporary differences resulting from the different treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. Management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities, and any valuation allowance recorded against our deferred tax assets.

Our most difficult and subjective judgments and estimates relate to the assessment of the need for a valuation allowance against our deferred tax assets. In measuring our deferred tax assets, we consider all available evidence, both positive and negative, to determine whether, based on the weight of that evidence, a valuation allowance is needed for all or some portion of the deferred tax assets. Significant judgment is required in considering the relative impact of the negative and positive evidence, and weight given to each category of evidence is commensurate with the extent to which it can be objectively verified. The more negative evidence that exists, the more positive evidence is necessary, and the more difficult it is to support a conclusion that a valuation allowance is not needed. Additionally, we utilize the "more likely than not" criteria established in FASB ASC Topic 740 to determine whether the future tax benefit from the deferred tax assets should be recognized.

We recognize deferred tax assets to the extent that we believe these assets are more likely than not to be realized. In making such a determination, we consider all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations in various jurisdictions. Because our assessment of future taxable income is based on estimated projected results, in the event that actual results differ from these estimates, or we adjust our estimates in the future, we may need to adjust our valuation allowance assessment, which could materially impact our consolidated financial position and results of operations.

### Pension and Other Post-Retirement Benefits

We sponsor various pension and other post-retirement benefit plans covering our current and former employees in several countries.

The funded status of pension and other post-retirement benefit plans is measured as the difference between the fair value of plan assets and the benefit obligation at the measurement date. Changes in the funded status of a pension or other post-retirement benefit plan are recognized in the year in which they occur by adjusting the recognized (net) liability or asset with an offsetting adjustment to either net income or other comprehensive income.

Our most difficult and subjective judgments and estimates relate to the valuation of our benefit obligations. Benefit obligations represent the actuarial present value of all benefits attributed by the pension formula as of the measurement date to employee service rendered before that date, and can be categorized as projected benefit obligations or accumulated benefit obligations. The value of projected benefit obligations take into consideration various actuarial assumptions including future compensation levels, the time value of money, and the probability of payment (by means of assumptions for events such as death, disability, withdrawal, or retirement) between the measurement date and the expected date of payment. Accumulated benefit obligations differ from projected benefit obligations only in that they include no assumptions about future compensation levels.

The most significant assumptions used to determine a plan's funded status and net periodic benefit cost relate to discount rate, expected return on plan assets, and rate of increase in healthcare costs. These assumptions are reviewed annually. Refer to

55

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## Table of Contents

Note 13, "Pension and Other Post-Retirement Benefit Plans," of our Financial Statements for details on the values determined for each of these assumptions in the last three fiscal years.

The discount rate reflects the current rate at which the pension and other post-retirement liabilities could be effectively settled, considering the timing of expected payments for plan participants. It is used to discount the estimated future obligations of the plans to the present value of the liability reflected in the financial statements. In estimating this rate in countries that have a market of high-quality fixed-income investments, we consider rates of return on these investments included in various bond indices, adjusted to eliminate the effects of call provisions and differences in the timing and amounts of cash outflows related to the bonds. In other countries where a market of high-quality fixed-income investments does not exist, we estimate the discount rate using government bond yields or long-term inflation rates.

The expected return on plan assets reflects the average rate of earnings expected on the funds invested to provide for the benefits included in the projected benefit obligation. To determine the expected return on plan assets, we consider the historical returns earned by similarly invested assets, the rates of return expected on plan assets in the future, and our investment strategy and asset mix with respect to the plans' funds.

The rate of increase of healthcare costs directly impacts the estimate of our future obligations in connection with our post-retirement medical benefits. Our estimate of healthcare cost trends is based on historical increases in healthcare costs under similarly designed plans, the level of increase in healthcare costs expected in the future, and the design features of the underlying plan.

Other assumptions used include employee demographic factors such as compensation rate increases, retirement patterns, employee turnover rates, and mortality rates. Our review of demographic assumptions includes analyzing historical patterns and/or referencing industry standard tables, combined with our expectations around future compensation and staffing strategies. The difference between these assumptions and our actual experience results in the recognition of an actuarial gain or loss.

Future changes to assumptions, or differences between actual and expected outcomes, can significantly affect our future net periodic pension cost, projected benefit obligations, and accumulated other comprehensive loss.

### Share-Based Compensation

FASB ASC Topic 718, Compensation—Stock Compensation, requires that a company measure at fair value any new or modified share-based compensation arrangements with employees, such as stock options and restricted stock units, and recognize as compensation expense that fair value over the requisite service period.

We estimate the fair value of options on the date of grant using the Black-Scholes-Merton option-pricing model. Key assumptions used in this model are (1) the fair value of the underlying ordinary shares, (2) the time period for which we expect the options will be outstanding (the expected term), (3) the expected volatility of our stock price, (4) the risk-free interest rate, and (5) the expected dividend yield. Expected term and expected volatility are the judgments that we believe are the most critical and subjective in estimating fair value (and related share-based compensation expense) of our option awards.

The expected term is determined based upon our own historical average term of exercised and outstanding options. We consider our own historical volatility, as well as the historical and implied volatilities of publicly-traded companies within our industry, in estimating expected volatility for options. Implied volatility provides a forward-looking indication and may offer insight into expected industry volatility.

Other assumptions used include risk free interest rate and expected dividend yield. The risk free interest rate is based on the yield for a U.S. Treasury security having a maturity similar to the expected term of the related option grant. This assumption is dependent on the assumed expected term. The dividend yield of 0% is based on our history of having never declared or paid any dividends on our ordinary shares, and our current intention of not declaring any such dividends in the foreseeable future.

Certain of our restricted securities include performance conditions that require us to estimate the probable outcome of the performance condition. This assessment is based on management's judgment using internally developed forecasts and is assessed at each reporting period. Compensation cost is recorded if it is probable that the performance condition will be achieved.

Under the fair value recognition provisions of FASB ASC Topic 718, we recognize share-based compensation net of estimated forfeitures and, therefore, only recognize compensation cost for those awards expected to vest over the requisite service period. The forfeiture rate is based on our estimate of forfeitures by plan participants after consideration of historical forfeiture rates. Compensation expense recognized for each award ultimately reflects the number of units that actually vest.

Table of Contents

Material changes to any of these assumptions may have a significant effect on our valuation of options, and, ultimately, the share-based compensation expense recorded in the consolidated statements of operations.

**Off-Balance Sheet Arrangements**

From time to time, we execute contracts that require us to indemnify the other parties to the contracts. These indemnification obligations generally arise in two contexts. First, in connection with certain transactions, such as the sale of a business or the issuance of debt or equity securities, the agreement typically contains standard provisions requiring us to indemnify the purchaser against breaches by us of representations and warranties contained in the agreement. These indemnities are generally subject to time and liability limitations. Second, we enter into agreements in the ordinary course of business, such as customer contracts, that might contain indemnification provisions relating to product quality, intellectual property infringement, governmental regulations and employment related matters, and other typical indemnities. In certain cases, indemnification obligations arise by law.

We believe that our indemnification obligations are consistent with other companies in the markets in which we compete. Performance under any of these indemnification obligations would generally be triggered by a breach of the terms of the contract or by a third-party claim. Historically, we have experienced only immaterial and irregular losses associated with these indemnifications. Consequently, any future liabilities brought about by these indemnifications cannot reasonably be estimated or accrued.

Refer to Note 15, "Commitments and Contingencies," of our Financial Statements for further discussion of off-balance sheet arrangements.

**Recent Accounting Pronouncements**

Recently issued accounting standards adopted in the current period:

Refer to Recently issued accounting standards adopted in the current period in Note 2, "Significant Accounting Policies," of our Financial Statements for discussion of recently issued accounting standards adopted in the current period. None of these standards had a material impact on our consolidated financial position or results of operations, or are reasonably likely to have a material effect on our future consolidated financial position or results of operations.

Recently issued accounting standards to be adopted in a future period:

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842), which establishes new accounting and disclosure requirements for leases. We will adopt FASB ASU No. 2016-02 on January 1, 2019, which will result in the recognition of a lease liability and right-of-use asset for certain operating leases that are currently not recognized on our consolidated balance sheets, which we expect to be recorded using an incremental borrowing rate. At December 31, 2018, we were contractually obligated to make future payments of \$79.4 million under our operating lease obligations in existence as of that date, primarily related to long-term facility leases. We do not expect there to be a material impact on our results of operations.

Refer to Recently issued accounting standards to be adopted in a future period in Note 2, "Significant Accounting Policies," of our Financial Statements for further discussion of certain accounting standards to be adopted in a future period, including FASB ASU No. 2016-02. Other than FASB ASU No. 2016-02, recently issued accounting standards to be adopted in a future period are not expected to have a material impact on our consolidated financial position or results of operations.



Table of Contents

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

We are exposed to changes in foreign currency exchange rates because we transact in a variety of foreign currencies. We are also exposed to changes in the prices of certain commodities (primarily metals) that we use in production. Changes in these foreign currency exchange rates and commodity prices may have an impact on future cash flows and earnings. We monitor our exposure to these risks, and may employ derivative financial instruments to limit the volatility to earnings and cash flows generated by these exposures. We employ derivative contracts that may or may not be designated for hedge accounting treatment under Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 815, Derivatives and Hedging, which can result in volatility to earnings depending upon fluctuations in the underlying markets.

By using derivative instruments, we are subject to credit and market risk. The fair market values of these derivative instruments are based upon valuation models whose inputs are derived using market observable inputs, including foreign currency exchange and commodity spot and forward rates, and reflect the asset and liability positions as of the end of each reporting period. When the fair value of a derivative contract is positive, the counterparty is liable to us, thus creating a receivable risk for us. We are exposed to counterparty credit (or repayment) risk in the event of non-performance by counterparties to our derivative agreements. We attempt to minimize this risk by entering into transactions with major financial institutions of investment grade credit rating.

**Interest Rate Risk**

Excluding capital lease and other financing obligations, our gross debt as of December 31, 2018 and 2017 was \$3,267.8 million and \$3,277.8 million, respectively. A portion of this indebtedness relates to the term loan (the "Term Loan") provided pursuant to the eighth amendment to the credit agreement dated as of May 12, 2011 (as amended, the "Credit Agreement"). The Term Loan accrues interest at a variable rate calculated on the basis of a three hundred and sixty day year and actual days elapsed (which results in more interest, as applicable, being paid than if computed on the basis of a three hundred and sixty-five day year). The variable rate is currently based on LIBOR, subject to a floor and spread, in accordance with the terms of the Credit Agreement.

Refer to Note 14, "Debt," of our audited consolidated financial statements and accompanying notes thereto (our "Financial Statements") included elsewhere in this Annual Report on Form 10-K (this "Report") for details regarding our debt instruments.

**Sensitivity Analysis**

As of December 31, 2018, we had an outstanding balance on the Term Loan (excluding discount and deferred financing costs) of \$917.8 million. The applicable interest rate associated with the Term Loan at December 31, 2018 was 4.21%. An increase of 100 basis points in this rate would result in additional interest expense of \$9.3 million in fiscal year 2019. The next 100 basis point increase in this rate would result in incremental interest expense of \$9.3 million in fiscal year 2019.

As of December 31, 2017, we had an outstanding balance on the Term Loan (excluding discount and deferred financing costs) of \$927.8 million. The applicable interest rate associated with the Term Loan at December 31, 2017 was 3.21%. An increase of 100 basis points in this rate would have resulted in additional interest expense of \$9.4 million in fiscal year 2018. The next 100 basis point increase in this rate would have resulted in incremental interest expense of \$9.4 million in fiscal year 2018.

**Foreign Currency Risk**

Consistent with our risk management objective and strategy to reduce exposure to variability in cash flows and variability in earnings, and for non-trading purposes, we enter into foreign currency exchange rate derivatives that qualify as cash flow hedges, and that are intended to offset the effect of exchange rate fluctuations on forecasted sales and certain manufacturing costs. We also enter into foreign currency forward contracts that are not designated for hedge accounting purposes. Refer to Note 19, "Derivative Instruments and Hedging Activities," of our Financial Statements for details of the foreign currency forward contracts outstanding as of December 31, 2018.

Table of Contents

## Sensitivity Analysis

The tables below present our foreign currency forward contracts as of December 31, 2018 and 2017 and the estimated impact to future pre-tax earnings as a result of a 10% strengthening/weakening in the foreign currency exchange rate:

(Dollars in millions)	Net Asset/(Liability) Balance as of December 31, 2018	(Decrease)/Increase to Future Pre-tax Earnings Due to:	
		10% Strengthening of the Value of the Foreign Currency Relative to the U.S. Dollar	10% Weakening of the Value of the Foreign Currency Relative to the U.S. Dollar
Euro	\$ 14.5	\$ (45.1 )	\$ 45.1
Chinese Renminbi	\$ (0.3 )	\$ (4.1 )	\$ 4.1
Korean Won	\$ 0.3	\$ (2.8 )	\$ 2.8
Malaysian Ringgit	\$ 0.1	\$ 0.6	\$ (0.6 )
Mexican Peso	\$ 0.7	\$ 14.2	\$ (14.2 )
British Pound Sterling	\$ (2.6 )	\$ 6.2	\$ (6.2 )

(Dollars in millions)	Net (Liability)/Asset Balance as of December 31, 2017	(Decrease)/Increase to Future Pre-tax Earnings Due to:	
		10% Strengthening of the Value of the Foreign Currency Relative to the U.S. Dollar	10% Weakening of the Value of the Foreign Currency Relative to the U.S. Dollar
Euro	\$ (30.6 )	\$ (61.5 )	\$ 61.5
Chinese Renminbi	\$ (3.6 )	\$ (24.4 )	\$ 24.4
Korean Won	\$ (2.3 )	\$ (3.9 )	\$ 3.9
Malaysian Ringgit	\$ 0.2	\$ 0.5	\$ (0.5 )
Mexican Peso	\$ (2.6 )	\$ 13.4	\$ (13.4 )
British Pound Sterling	\$ 2.0	\$ 4.8	\$ (4.8 )
Japanese Yen	\$ 0.0	\$ 0.2	\$ (0.2 )

## Commodity Risk

We are exposed to the potential change in prices associated with certain commodities used in the manufacturing of our products. We offset a portion of this exposure by entering into forward contracts that fix the price at a future date for various notional amounts associated with these commodities. These forward contracts are not designated as accounting hedges. Refer to Note 19, "Derivative Instruments and Hedging Activities," of our Financial Statements for details of the commodity forward contracts outstanding as of December 31, 2018.

Table of Contents

## Sensitivity Analysis

The tables below present our commodity forward contracts as of December 31, 2018 and 2017 and the estimated impact to pre-tax earnings associated with a 10% increase/(decrease) in the related forward price for each commodity:

(Dollars in millions, except per unit amounts)	Net (Liability)/Asset Balance as of December 31, 2018	Average Forward Price Per Unit as of December 31, 2018	Increase/(Decrease) to Pre-tax Earnings Due to	
			10% Increase in the Forward Price	10% Decrease in the Forward Price
Silver	\$ (0.8 )	\$ 15.72	\$ 1.7	\$ (1.7 )
Gold	\$ (0.0 )	\$ 1,303.51	\$ 1.3	\$ (1.3 )
Nickel	\$ (0.2 )	\$ 4.93	\$ 0.1	\$ (0.1 )
Aluminum	\$ (0.3 )	\$ 0.86	\$ 0.2	\$ (0.2 )
Copper	\$ (1.3 )	\$ 2.71	\$ 0.8	\$ (0.8 )
Platinum	\$ (0.9 )	\$ 805.38	\$ 0.7	\$ (0.7 )
Palladium	\$ 0.2	\$ 1,175.96	\$ 0.1	\$ (0.1 )

(Dollars in millions, except per unit amounts)	Net (Liability)/Asset Balance as of December 31, 2017	Average Forward Price Per Unit as of December 31, 2017	Increase/(Decrease) to Pre-tax Earnings Due to	
			10% Increase in the Forward Price	10% Decrease in the Forward Price
Silver	\$ (0.6 )	\$ 17.20	\$ 1.9	\$ (1.9 )
Gold	\$ 0.4	\$ 1,322.24	\$ 1.6	\$ (1.6 )
Nickel	\$ 0.3	\$ 5.83	\$ 0.2	\$ (0.2 )
Aluminum	\$ 0.9	\$ 1.04	\$ 0.6	\$ (0.6 )
Copper	\$ 4.4	\$ 3.30	\$ 2.4	\$ (2.4 )
Platinum	\$ (0.3 )	\$ 943.94	\$ 0.8	\$ (0.8 )
Palladium	\$ 0.4	\$ 1,022.19	\$ 0.2	\$ (0.2 )

Table of Contents

ITEM 8. FINANCIAL STATEMENTS AND  
SUPPLEMENTARY DATA

1. Financial Statements

The following audited consolidated financial statements of Sensata Technologies Holding plc are included in this Annual Report on Form 10-K:

Report of Independent Registered Public Accounting Firm 62

Consolidated Balance Sheets 63

Consolidated Statements of Operations 64

Consolidated Statements of Comprehensive Income 65

Consolidated Statements of Cash Flows 66

Consolidated Statements of Changes in Shareholders' Equity 67

Notes to Consolidated Financial Statements 68

2. Financial Statement Schedules

The following schedules are included elsewhere in this Annual Report on Form 10-K:

Schedule I — Condensed Financial Information of the Registrant

Schedule II — Valuation and Qualifying Accounts

Schedules other than those listed above have been omitted since the required information is not present, or not present in amounts sufficient to require submission of the schedule, or because the information required is included in the audited consolidated financial statements or the notes thereto.

Table of Contents

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of  
Sensata Technologies Holding plc

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sensata Technologies Holding plc (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, cash flows, and changes in shareholders' equity for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedules listed in the Index at Item 15(a) (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 6, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ ERNST & YOUNG LLP

We have served as the Company's auditor since 2005

Boston, Massachusetts

February 6, 2019

Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

## Consolidated Balance Sheets

(Amounts in thousands, except per share amounts)

	As of December 31,	
	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	\$729,833	\$753,089
Accounts receivable, net of allowances of \$13,762 and \$12,947 as of December 31, 2018 and 2017, respectively	581,769	556,541
Inventories	492,319	446,129
Prepaid expenses and other current assets	113,234	92,532
Total current assets	1,917,155	1,848,291
Property, plant and equipment, net	787,178	750,049
Goodwill	3,081,302	3,005,464
Other intangible assets, net	897,191	920,124
Deferred income tax assets	27,971	33,003
Other assets	86,890	84,594
Total assets	\$6,797,687	\$6,641,525
Liabilities and shareholders' equity		
Current liabilities:		
Current portion of long-term debt, capital lease and other financing obligations	\$14,561	\$15,720
Accounts payable	379,824	322,671
Income taxes payable	27,429	31,544
Accrued expenses and other current liabilities	218,130	259,560
Total current liabilities	639,944	629,495
Deferred income tax liabilities	225,694	338,228
Pension and other post-retirement benefit obligations	33,958	40,055
Capital lease and other financing obligations, less current portion	30,618	28,739
Long-term debt, net	3,219,762	3,225,810
Other long-term liabilities	39,277	33,572
Total liabilities	4,189,253	4,295,899
Commitments and contingencies (Note 15)		
Shareholders' equity:		
Ordinary shares, €0.01 nominal value per share, 177,069 and 400,000 shares authorized and 171,719 and 178,437 shares issued as of December 31, 2018 and 2017, respectively	2,203	2,289
Treasury shares, at cost, 7,571 and 7,076 shares as of December 31, 2018 and 2017, respectively	(399,417 )	(288,478 )
Additional paid-in capital	1,691,190	1,663,367
Retained earnings	1,340,636	1,031,612
Accumulated other comprehensive loss	(26,178 )	(63,164 )
Total shareholders' equity	2,608,434	2,345,626
Total liabilities and shareholders' equity	\$6,797,687	\$6,641,525

The accompanying notes are an integral part of these financial statements.

Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

## Consolidated Statements of Operations

(Dollars in thousands, except per share amounts)

	For the year ended December 31,		
	2018	2017	2016
Net revenue	\$3,521,627	\$3,306,733	\$3,202,288
Operating costs and expenses:			
Cost of revenue	2,266,863	2,138,898	2,084,159
Research and development	147,279	130,127	126,656
Selling, general and administrative	305,558	301,896	293,506
Amortization of intangible assets	139,326	161,050	201,498
Restructuring and other charges, net	(47,818 )	18,975	4,113
Total operating costs and expenses	2,811,208	2,750,946	2,709,932
Profit from operations	710,419	555,787	492,356
Interest expense, net	(153,679 )	(159,761 )	(165,818 )
Other, net	(30,365 )	6,415	(5,093 )
Income before taxes	526,375	402,441	321,445
(Benefit from)/provision for income taxes	(72,620 )	(5,916 )	59,011
Net income	\$598,995	\$408,357	\$262,434
Basic net income per share	\$3.55	\$2.39	\$1.54
Diluted net income per share	\$3.53	\$2.37	\$1.53

The accompanying notes are an integral part of these financial statements.

Table of Contents

SENSATA TECHNOLOGIES HOLDING PLC  
 Consolidated Statements of Comprehensive Income  
 (Dollars in thousands)

	For the year ended December 31,		
	2018	2017	2016
Net income	\$598,995	\$408,357	\$262,434
Other comprehensive income/(loss), net of tax:			
Cash flow hedges	37,363	(28,202 )	(3,829 )
Defined benefit and retiree healthcare plans	(377 )	(895 )	(4,248 )
Other comprehensive income/(loss)	36,986	(29,097 )	(8,077 )
Comprehensive income	\$635,981	\$379,260	\$254,357

The accompanying notes are an integral part of these financial statements.



Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

## Consolidated Statements of Cash Flows

(Dollars in thousands)

	For the year ended December 31,		
	2018	2017	2016
Cash flows from operating activities:			
Net income	\$598,995	\$408,357	\$262,434
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	106,014	109,321	106,903
Amortization of debt issuance costs	7,317	7,241	7,334
Gain on sale of business	(64,423 )	—	—
Share-based compensation	23,825	19,819	17,425
Loss on debt financing	2,350	2,670	—
Amortization of intangible assets	139,326	161,050	201,498
Deferred income taxes	(144,068 )	(56,757 )	8,344
Unrealized loss on hedges and other	18,176	781	11,517
Changes in operating assets and liabilities, net of the effects of acquisitions and divestitures:			
Accounts receivable, net	(34,877 )	(56,330 )	(33,013 )
Inventories	(55,445 )	(57,119 )	(37,500 )
Prepaid expenses and other current assets	(11,891 )	(12,412 )	6,956
Accounts payable and accrued expenses	48,371	23,841	(21,432 )
Income taxes payable	(353 )	7,655	(1,938 )
Other	(12,754 )	(471 )	(7,003 )
Net cash provided by operating activities	620,563	557,646	521,525
Cash flows from investing activities:			
Acquisitions, net of cash received	(228,307 )	—	4,688
Additions to property, plant and equipment and capitalized software	(159,787 )	(144,584 )	(130,217 )
Investment in equity securities	—	—	(50,000 )
Proceeds from sale of business, net of cash sold	149,777	—	—
Other	711	3,862	751
Net cash used in investing activities	(237,606 )	(140,722 )	(174,778 )
Cash flows from financing activities:			
Proceeds from exercise of stock options and issuance of ordinary shares	6,093	7,450	3,944
Payment of employee restricted stock tax withholdings	(3,674 )	(2,910 )	(4,752 )
Proceeds from issuance of debt	—	927,794	—
Payments on debt	(15,653 )	(943,554 )	(336,256 )
Payments to repurchase ordinary shares	(399,417 )	—	—
Payments of debt and equity issuance costs	(9,931 )	(4,043 )	(518 )
Other	16,369	—	—
Net cash used in financing activities	(406,213 )	(15,263 )	(337,582 )
Net change in cash and cash equivalents	(23,256 )	401,661	9,165
Cash and cash equivalents, beginning of year	753,089	351,428	342,263
Cash and cash equivalents, end of year	\$729,833	\$753,089	\$351,428
Supplemental cash flow items:			
Cash paid for interest	\$163,478	\$164,370	\$155,925
Cash paid for income taxes	\$72,924	\$48,482	\$43,152

The accompanying notes are an integral part of these financial statements.



Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

## Consolidated Statements of Changes in Shareholders' Equity

(Amounts in thousands)

	Ordinary Shares		Treasury Shares		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Shareholders' Equity
	Number	Amount	Number	Amount				
Balance as of December 31, 2015	178,437	\$2,289	(8,038)	\$(324,994)	\$1,626,024	\$391,247	\$(25,990)	\$1,668,576
Surrender of shares for tax withholding	—	—	(62)	(2,295)	—	—	—	(2,295)
Stock options exercised	—	—	358	13,698	—	(9,754)	—	3,944
Vesting of restricted securities	—	—	185	7,086	—	(7,086)	—	—
Share-based compensation	—	—	—	—	17,425	—	—	17,425
Net income	—	—	—	—	—	262,434	—	262,434
Other comprehensive loss	—	—	—	—	—	—	(8,077)	(8,077)
Balance as of December 31, 2016	178,437	2,289	(7,557)	(306,505)	1,643,449	636,841	(34,067)	1,942,007
Surrender of shares for tax withholding	—	—	(67)	(2,910)	—	—	—	(2,910)
Stock options exercised	—	—	326	12,465	99	(5,114)	—	7,450
Vesting of restricted securities	—	—	222	8,472	—	(8,472)	—	—
Share-based compensation	—	—	—	—	19,819	—	—	19,819
Net income	—	—	—	—	—	408,357	—	408,357
Other comprehensive loss	—	—	—	—	—	—	(29,097)	(29,097)
Balance as of December 31, 2017	178,437	2,289	(7,076)	(288,478)	1,663,367	1,031,612	(63,164)	2,345,626
Surrender of shares for tax withholding	—	—	(71)	(3,674)	—	—	—	(3,674)
Stock options exercised	114	1	58	2,250	3,998	(156)	—	6,093
Vesting of restricted securities	257	3	—	—	—	(3)	—	—
Retirement of treasury shares due to Merger	(7,018)	(89)	7,018	286,228	—	(286,139)	—	—
Repurchase of ordinary shares	—	—	(7,571)	(399,417)	—	—	—	(399,417)
Other retirements of treasury shares	(71)	(1)	71	3,674	—	(3,673)	—	—
Share-based compensation	—	—	—	—	23,825	—	—	23,825
Net income	—	—	—	—	—	598,995	—	598,995
Other comprehensive income	—	—	—	—	—	—	36,986	36,986

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Balance as of December 31, 2018	171,719	\$2,203	(7,571)	\$(399,417)	\$1,691,190	\$1,340,636	\$ (26,178 )	\$2,608,434
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The accompanying notes are an integral part of these financial statements.

67

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Table of Contents

SENSATA TECHNOLOGIES HOLDING PLC

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Amounts in thousands, except per share amounts, or unless otherwise noted)

1. Business Description and Basis of Presentation

Description of Business

The accompanying consolidated financial statements reflect the financial position, results of operations, comprehensive income, cash flows, and changes in shareholders' equity of Sensata Technologies Holding plc ("Sensata plc"), the successor issuer to Sensata Technologies Holding N.V. ("Sensata N.V."), and its wholly-owned subsidiaries, collectively referred to as the "Company," "Sensata," "we," "our," or "us."

On September 28, 2017, the Board of Directors of Sensata N.V. unanimously approved a plan to change our location of incorporation from the Netherlands to the United Kingdom (the "U.K."). To effect this change, on February 16, 2018 the shareholders of Sensata N.V. approved a cross-border merger between Sensata N.V. and Sensata plc, a newly formed, public limited company incorporated under the laws of England and Wales, with Sensata plc being the surviving entity (the "Merger").

We received approval of the Merger by the U.K. High Court of Justice, and the Merger was completed, on March 28, 2018. As a result thereof, Sensata plc became the publicly-traded parent of the subsidiary companies that were previously controlled by Sensata N.V., with no changes made to the business being conducted by us prior to the Merger. Due to the fact that the Merger was a business combination between entities under common control, the assets and liabilities exchanged were accounted for at their carrying values.

Sensata, a global industrial technology company, develops, manufactures, and sells a wide range of customized sensors and controls that address increasingly complex engineering requirements for specific customer applications and systems such as air conditioning, braking, exhaust, fuel oil, tire, operator controls, and transmission in automotive and heavy vehicle and off-road ("HVOR") systems, and temperature and electrical protection and control in numerous industrial applications, including aircraft, refrigeration, material handling, telecommunications, and heating, ventilation, and air conditioning ("HVAC") systems. Our sensors are devices that translate a physical phenomenon, such as pressure, temperature, or position, into electronic signals that microprocessors or computer-based control systems can act upon. Our controls are devices embedded within systems to protect them from excessive heat or current.

We conduct our operations through subsidiary companies that operate business and product development centers primarily in Belgium, Bulgaria, China, Germany, Japan, the Netherlands, South Korea, the U.K., and the United States (the "U.S."); and manufacturing operations primarily in Bulgaria, China, Germany, Malaysia, Mexico, the U.K., and the U.S. We organize our business into two segments, Performance Sensing and Sensing Solutions.

Refer to Note 20, "Segment Reporting," for a general description of each of our segments.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). The accompanying consolidated financial statements present separately our financial position, results of operations, comprehensive income, cash flows, and changes in shareholders' equity. All intercompany balances and transactions have been eliminated. All U.S. dollar and share amounts presented, except per share amounts, are stated in thousands, unless otherwise indicated. Certain reclassifications have been made to prior periods to conform to current period presentation.

2. Significant Accounting Policies

Use of Estimates

The preparation of consolidated financial statements in accordance with U.S. GAAP requires us to exercise our judgment in the process of applying our accounting policies. It also requires that we make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingencies at the date of the financial statements and the reported amounts of net revenue and expense during the reporting periods.



## Table of Contents

Estimates are used when accounting for certain items such as allowances for doubtful accounts and sales returns, depreciation and amortization, inventory obsolescence, asset impairments (including goodwill and other intangible assets), contingencies, the value of share-based compensation, the determination of accrued expenses, certain asset valuations including deferred tax asset valuations, the useful lives of plant and equipment, post-retirement obligations, and business combinations. The accounting estimates used in the preparation of the consolidated financial statements will change as new events occur, as more experience is acquired, as additional information is obtained, and as the operating environment changes. Actual results could differ from those estimates.

### Revenue Recognition

On January 1, 2018, we adopted FASB ASC Topic 606, Revenue from Contracts with Customers. This standard replaced previous revenue recognition rules with a comprehensive revenue measurement and recognition standard and expanded disclosure requirements. Upon adoption, we applied the pertinent transition provisions to contracts that were not completed as of January 1, 2018 using the modified retrospective method. Accordingly, periods presented prior to January 1, 2018 are presented under the previous revenue recognition guidance (i.e., FASB ASC Topic 605, Revenue Recognition).

We recognize revenue to depict the transfer of promised goods to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods. In order to achieve this, we use the five step model outlined in FASB ASC Topic 606. Specifically, we (1) identify the contract with the customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when (or as) we satisfy a performance obligation. The vast majority of our contracts (as defined in FASB ASC Topic 606) are customer purchase orders ("P.O.s"), which explicitly require that we transfer a specified quantity of products to our customers, for which performance is generally satisfied in a short amount of time. We do not consider there to be a significant financing component of our contracts, as our terms generally provide for payment in a short time (that is, less than a year) after shipment to the customer.

Our performance obligations are satisfied when control of the product is transferred to the customer (at a point in time), which is generally when the product is shipped from our warehouse or, in limited instances, when it is received by the customer, depending on the specific terms of the arrangement. Many of our products are designed and engineered to meet customer specifications. These activities, and the testing of our products to determine compliance with those specifications, occur prior to any revenue being recognized. Products are then manufactured and sold to customers. However, in certain cases, pre-production activities are a performance obligation in a customer P.O., and revenue is recognized when the performance obligation is satisfied. Customer arrangements do not involve post-installation or post-sale testing and acceptance.

In determining the transaction price related to a contract, we determine whether the amount promised in a contract includes a variable amount (variable consideration). Variable consideration may be specified in the customer P.O., in another agreement that identifies terms and conditions of the transaction, or based on our customary practices. We have identified certain types of variable consideration that are included in the transaction price related to our contracts, including sales returns (which generally include a right of return for defective or non-conforming product) and trade discounts (including retrospective volume discounts and early payment incentives). Such variable consideration has not historically been material in relation to our net revenue and have been within our estimates.

The transaction price excludes value-added tax and similar taxes. Amounts billed to our customers for shipping and handling are recognized as revenue, and the related costs that we incur are presented in cost of revenue.

We do not provide separately priced warranties to our customers. Our standard terms of sale provide our customers with a warranty against faulty workmanship and the use of defective materials, which is not considered a distinct performance obligation in accordance with FASB ASC Topic 606.

Refer to Note 3, "Revenue Recognition," for additional information on our net revenue recognized in the consolidated statements of operations.

### Share-Based Compensation

FASB ASC Topic 718, Compensation—Stock Compensation, requires that a company measure at fair value any new or modified share-based compensation arrangements with employees, such as stock options and restricted securities, and

recognize as compensation expense that fair value over the requisite service period. Share-based compensation cost is generally recognized as a component of selling, general and administrative ("SG&A") expense, which is consistent with where the related employee costs are presented, however, such cost, or a portion thereof, may be capitalized provided certain criteria are met.



## Table of Contents

Share-based awards may be subject to either cliff vesting (i.e., the entire award vests on a particular date) or graded vesting (i.e., portions of the award vest at different points in time). In accordance with FASB ASC Topic 718, compensation cost associated with share-based awards subject to cliff vesting must be recognized on a straight-line basis. However, for awards subject to graded vesting, companies have the option to recognize compensation cost on either a straight-line or accelerated basis. We have elected to recognize compensation costs for these awards using the straight-line method.

We estimate the fair value of options on the grant date using the Black-Scholes-Merton option-pricing model. Key inputs and assumptions used in this model are as follows:

• The fair value of the underlying ordinary shares. This is determined as the closing price of our ordinary shares on the New York Stock Exchange (the "NYSE") on the grant date.

• The expected term. This is determined based upon our own historical average term of exercised and outstanding options.

Expected volatility. We consider our own historical volatility, as well as the historical and implied volatilities of publicly-traded companies within our industry, in estimating expected volatility for options. Implied volatility provides a forward-looking indication and may offer insight into expected industry volatility.

• Risk-free interest rate. The risk-free interest rate is based on the yield for a U.S. Treasury security having a maturity similar to the expected term of the related option grant.

Expected dividend yield. The dividend yield of 0% is based on our history of having never declared or paid any dividends on our ordinary shares, and our current intention of not declaring any such dividends in the foreseeable future. See Item 5, "Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities," included elsewhere in this Report for further discussion of limitations on our ability to pay dividends.

Restricted securities are valued using the closing price of our ordinary shares on the NYSE on the grant date. Certain of our restricted securities include performance conditions that require us to estimate the probable outcome of the performance condition. Compensation cost is recorded if it is probable that the performance condition will be achieved.

Under the fair value recognition provisions of FASB ASC Topic 718, we recognize share-based compensation net of estimated forfeitures. Accordingly, we only recognize compensation cost for those awards expected to vest over the requisite service period. Compensation expense recognized for each award ultimately reflects the number of units that actually vest.

Refer to Note 4, "Share-Based Payment Plans," for additional information on share-based compensation.

### Financial Instruments

Our financial instruments include derivative instruments, debt instruments, equity investments, and trade accounts receivable.

Derivative financial instruments: We account for our derivative financial instruments in accordance with FASB ASC Topic 820, Fair Value Measurements and Disclosures and FASB ASC Topic 815, Derivatives and Hedging. In accordance with FASB ASC Topic 815, we recognize all derivatives on the balance sheet at fair value. The fair value of our derivative financial instruments is determined using widely accepted valuation techniques, including discounted cash flow analysis on the expected cash flows of each instrument. These analyses utilize observable market-based inputs, including foreign currency exchange rates and commodity forward curves, and reflect the contractual terms of these instruments, including the period to maturity.

Derivative instruments that are designated and qualify as hedges of the exposure to changes in the fair value of an asset, liability, or commitment, and that are attributable to a particular risk, such as interest rate risk, are considered fair value hedges. Derivative instruments that are designated and qualify as hedges of the exposure to variability in expected future cash flows are considered cash flow hedges. Derivative instruments may also be designated as hedges of the foreign currency exposure of a net investment in a foreign operation. Currently, our derivative instruments that are designated as accounting hedges are all cash flow hedges. We also hold derivative instruments that are not designated as accounting hedges.

The accounting for changes in the fair value of our cash flow hedges depends on whether we have elected to designate the derivative as a hedging instrument for accounting purposes and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. In accordance with FASB ASC Topic 815, the effective portion of changes in the fair value of cash flow hedges is recognized in accumulated other comprehensive loss and is subsequently reclassified into earnings

70

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Table of Contents

in the period in which the hedged forecasted transaction affects earnings. The ineffective portion of changes in the fair value of cash flow hedges is immediately recognized in earnings. Changes in the fair value of derivative instruments that are not designated as accounting hedges are recognized immediately in other, net.

We present the cash flows arising from our derivative financial instruments in a manner consistent with the presentation of cash flows that relate to the underlying hedged items.

We incorporate credit valuation adjustments to appropriately reflect both our own non-performance risk and the respective counterparty's non-performance risk in the fair value measurements. In adjusting the fair value of our derivative contracts for the effect of non-performance risk, we have considered the impact of netting and any applicable credit enhancements, such as collateral postings, thresholds, mutual puts, and guarantees. We do not offset the fair value amounts recognized for derivative instruments against fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral.

We maintain derivative instruments with major financial institutions of investment grade credit rating and monitor the amount of credit exposure to any one issuer. We believe there are no significant concentrations of risk associated with our derivative instruments.

Refer to Note 19, "Derivative Instruments and Hedging Activities," for further discussion of our derivative instruments.

Debt Instruments: A premium or discount on a debt instrument is recognized on the balance sheet as an adjustment to the carrying amount of the debt liability. In general, amounts paid to creditors are considered a reduction in the proceeds received from the issuance of the debt and are accounted for as a component of the premium or discount on the issuance, not as an issuance cost.

Direct and incremental costs associated with the issuance of debt instruments such as legal fees, printing costs, and underwriters' fees, among others, paid to parties other than creditors, are also reported and presented as a reduction of debt on the consolidated balance sheets.

Debt issuance costs and premiums or discounts are amortized over the term of the respective financing arrangement using the effective interest method. Amortization of these amounts is included as a component of interest expense, net in the consolidated statements of operations.

In accounting for debt refinancing transactions, we apply the provisions of FASB ASC Subtopic 470-50, Modifications and Extinguishments. Our evaluation of the accounting under FASB ASC Subtopic 470-50 is done on a creditor by creditor basis in order to determine if the terms of the debt are substantially different and, as a result, whether to apply modification or extinguishment accounting. In the event that an individual holder of existing debt did not invest in new debt, we apply extinguishment accounting. Borrowings associated with individual holders of new debt that are not holders of existing debt are accounted for as new issuances.

Refer to Note 14, "Debt," for further details of our debt instruments and transactions.

Equity Investments: On January 1, 2018, we adopted FASB Accounting Standards Update ("ASU") No. 2016-01, Financial Instruments - Overall (Subtopic 825-10), Recognition and Measurement of Financial Assets and Financial Liabilities. In accordance with this guidance, we measure equity investments (other than those accounted for under the equity method, those that result in consolidation of the investee, and certain other investments) either at fair value, with changes to fair value recognized in net income, or in certain instances, by use of a measurement alternative. Under the measurement alternative, such investments are measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer.

Refer to Note 18, "Fair Value Measures," for further discussion of our measurement of financial instruments.

Trade accounts receivable: Trade accounts receivable are recognized at invoiced amounts and do not bear interest.

Trade accounts receivable are reduced by an allowance for losses on receivables, as described elsewhere in this Note 2. Concentrations of risk with respect to trade accounts receivable are generally limited due to the large number of customers in various industries and their dispersion across several geographic areas. Although we do not foresee that credit risk associated with these receivables will deviate from historical experience, repayment is dependent upon the financial stability of these individual customers. Our largest customer accounted for approximately 8% of our net revenue for the year ended December 31, 2018.



## Table of Contents

### Allowance for Losses on Receivables

The allowance for losses on receivables is used to present accounts receivable, net at an amount that represents our estimate of the related transaction price recognized as revenue in accordance with FASB ASC Topic 606. The allowance represents an estimate of probable but unconfirmed losses in the receivable portfolio. We estimate the allowance on the basis of specifically identified receivables that are evaluated individually for impairment and a statistical analysis of the remaining receivables determined by reference to past default experience. Customers are generally not required to provide collateral for purchases. The allowance for losses on receivables also includes an allowance for sales returns (variable consideration).

Management judgments are used to determine when to charge off uncollectible trade accounts receivable. We base these judgments on the age of the receivable, credit quality of the customer, current economic conditions, and other factors that may affect a customer's ability and intent to pay.

Losses on receivables have not historically been significant.

### Goodwill and Other Intangible Assets

Businesses acquired are recorded at their fair value on the date of acquisition, with the excess of the purchase price over the fair value of identifiable assets acquired and liabilities assumed recognized as goodwill. Intangible assets acquired may include either definite-lived or indefinite-lived intangible assets, or both.

In accordance with the requirements of FASB ASC Topic 350, Intangibles—Goodwill and Other, goodwill and intangible assets determined to have an indefinite useful life are not amortized. Instead these assets are evaluated for impairment on an annual basis, and whenever events or business conditions change that could indicate that the asset is impaired. We evaluate goodwill and indefinite-lived intangible assets for impairment in the fourth quarter of each fiscal year, unless events occur which trigger the need for an earlier impairment review.

Goodwill: We have identified six reporting units: Performance Sensing, Electrical Protection, Industrial Sensing, Aerospace, Power Management, and Interconnection. These reporting units have been identified based on the definitions and guidance provided in FASB ASC Topic 350. We periodically review these reporting units to ensure that they continue to reflect the manner in which the business is operated.

Certain assets and liabilities relate to the operations of multiple reporting units. We allocate these assets and liabilities to the related reporting units based on methods that we believe are reasonable and supportable, and we apply that allocation method on a consistent basis from year to year. Other assets and liabilities, such as cash and cash equivalents, property, plant and equipment associated with our corporate offices, and debt, we view as being corporate in nature. Accordingly, we do not assign these assets and liabilities to our reporting units.

In the event we reorganize our business, we reassign the assets and liabilities among the affected reporting units using a reasonable and supportable methodology. As businesses are acquired, we assign assets acquired and liabilities assumed to a new or existing reporting unit as of the date of the acquisition. Goodwill generated by the acquisition of GIGAVAC, LLC ("GIGAVAC") in October 2018 has been allocated between our Performance Sensing and Industrial Sensing reporting units as of December 31, 2018, subject to changes prior to the end of the measurement period. Refer to Note 11, "Goodwill and Other Intangible Assets, Net," and Note 17, "Acquisitions and Divestitures," for additional information regarding the acquisition of GIGAVAC.

In the event a disposal group meets the definition of a business, goodwill is allocated to the disposal group based on the relative fair value of the disposal group to the retained portion of the related reporting unit.

We have the option to first assess qualitative factors to determine whether a quantitative analysis must be performed. The objective of a qualitative analysis is to determine whether it is more likely than not that the fair value of a reporting unit is less than its net book value.

If we elect not to use this option, or if we determine that it is more likely than not that the fair value of a reporting unit is less than its net book value, then we perform the first step of the quantitative analysis prescribed by FASB ASC Topic 350. In this step we compare the estimated fair values of our reporting units to their respective net book values, including goodwill, to determine whether there is an indicator of potential impairment. If the net book value of a reporting unit exceeds its estimated fair value, we conduct a second step in which we calculate the implied fair value of goodwill. If the carrying value of the reporting unit's goodwill exceeds its calculated implied fair value, an impairment loss is recognized in an amount equal to that excess. The implied fair value of goodwill is determined in

the same manner as the amount of goodwill recognized in a business combination. That is, the fair value of the reporting unit is allocated to all of its identifiable assets and liabilities as if

72

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## Table of Contents

the reporting unit had been acquired in a business combination at the date of assessment, and the fair value of the reporting unit was the purchase price paid to acquire the reporting unit. The excess of the fair value of the reporting unit over the sum of the fair values of each of its identifiable assets and liabilities is the implied fair value of goodwill. The fair value measurements of our reporting units are categorized in level 3 of the fair value hierarchy.

**Indefinite-lived intangible assets:** Similar to goodwill, we perform an annual impairment review of our indefinite-lived intangible assets in the fourth quarter of each fiscal year, unless events occur that trigger the need for an earlier impairment review. We have the option to first assess qualitative factors in determining whether it is more likely than not that an indefinite-lived intangible asset is impaired. If we elect not to use this option, or we determine that it is more likely than not that the asset is impaired, we perform a quantitative impairment review that requires us to estimate the fair value of the indefinite-lived intangible asset and compare that amount to its carrying value. We estimate the fair value by using the relief-from-royalty method, which requires us to make assumptions about future conditions impacting the value of the indefinite-lived intangible assets, including projected growth rates, cost of capital, effective tax rates, and royalty rates. Impairment, if any, is based on the excess of the carrying value over the fair value of these assets.

**Definite-lived intangible assets:** Definite-lived, acquisition-related intangible assets are amortized on an economic-benefit basis according to the useful lives of the assets, or on a straight-line basis if a pattern of economic benefits cannot be reliably determined. Capitalized software and capitalized software licenses are presented on the consolidated balance sheets as intangible assets. Capitalized software licenses are amortized on a straight-line basis over the lesser of the term of the license or the estimated useful life of the software. Capitalized software is amortized on a straight-line basis over its estimated useful life.

Reviews are regularly performed to determine whether facts or circumstances exist that indicate that the carrying values of our definite-lived intangible assets are impaired. If we determine that such facts or circumstances exist, we estimate the recoverability of these assets by comparing the projected undiscounted net cash flows associated with these assets to their respective carrying values. If the sum of the projected undiscounted net cash flows is less than the carrying value of an asset, the impairment charge is measured as the excess of the carrying value over the fair value of that asset. We determine fair value by using the appropriate income approach valuation methodology, depending on the nature of the intangible asset.

Refer to Note 11, "Goodwill and Other Intangible Assets, Net," for further details of our goodwill and other intangible assets.

### Income Taxes

We estimate our provision for income taxes in each of the jurisdictions in which we operate. The provision for income taxes includes both our current and deferred tax exposure. Our deferred tax exposure is measured using the asset and liability method, under which deferred income taxes are recorded to reflect the future tax consequences of differences between the tax bases of assets and liabilities and their financial reporting amounts at each balance sheet date, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to reverse or settle. The effect on deferred tax assets and liabilities of a change in statutory tax rates is recognized in the consolidated statements of operations as an adjustment to income tax expense in the period that includes the enactment date.

In measuring our deferred tax assets, we consider all available evidence, both positive and negative, to determine whether, based on the weight of that evidence, a valuation allowance is needed for all or some portion of the deferred tax assets. If it is determined that it is more likely than not that future tax benefits associated with a deferred tax asset will not be realized, a valuation allowance is provided. As a result, we maintain valuation allowances against the deferred tax assets in jurisdictions that have incurred losses in recent periods and in which it is more likely than not that such deferred tax assets will not be utilized in the foreseeable future.

The U.S. Tax Reform Act includes two new U.S. tax base erosion provisions, the global intangible low-taxed income ("GILTI") provisions and the base-erosion and anti-abuse tax ("BEAT") provisions. The GILTI provisions require our U.S. operations to include in our U.S. income tax return, earnings of subsidiaries held by our U.S. group to the extent that these subsidiaries have earnings in excess of an allowable return on their tangible assets. We have elected to account for GILTI in the period in which it is incurred, and therefore have not adjusted our deferred tax assets for any

future impacts this provision may have. The Act subjects a U.S. taxpayer to pay a BEAT if it is greater than the taxpayer's regular tax liability. The BEAT provision eliminates the deduction of certain payments made to foreign affiliates (referred to as base erosion payments) but applies a lower tax rate on the resulting BEAT income. The FASB Staff Q&A, Topic 740, No. 4, Accounting for the Base Erosion Anti-Abuse Tax, states that the incremental effect of BEAT should be recognized in the year the BEAT is incurred as a period expense only, and an entity would not need to evaluate the effect of potentially paying the BEAT in future years on the realization of deferred tax assets recognized under the regular tax system, because the realization of the deferred tax asset



## Table of Contents

would reduce its regular tax liability, even when an incremental BEAT liability would be owed in that period. We have followed this guidance in our current tax calculation and evaluation of the realizability of our deferred tax assets. In accordance with FASB ASC Topic 740, Income Taxes, penalties and interest related to unrecognized tax benefits may be classified as either income taxes or another expense line item in the consolidated statements of operations. We classify interest and penalties related to unrecognized tax benefits within the (benefit from)/provision for income taxes line of the consolidated statements of operations.

Refer to Note 7, "Income Taxes," for further details on our income taxes.

### Pension and Other Post-Retirement Benefits

We sponsor various pension and other post-retirement benefit plans covering our current and former employees in several countries.

The funded status of pension and other post-retirement benefit plans, recognized on our consolidated balance sheets as an asset, current liability, or long-term liability, is measured as the difference between the fair value of plan assets and the benefit obligation at the measurement date. In general, the measurement date coincides with our fiscal year end, however, certain significant events, such as (1) plan amendments, (2) business combinations, (3) settlements or curtailments, or (4) plan mergers, may trigger the need for an interim measurement of both the plan assets and benefit obligations.

Benefit obligations represent the actuarial present value of all benefits attributed by the pension formula as of the measurement date to employee service rendered before that date. The value of benefit obligations takes into consideration various financial assumptions, including assumed discount rate and the rate of increase in healthcare costs, and demographic assumptions, including compensation rate increases, retirement patterns, employee turnover rates, and mortality rates. We review these assumptions annually.

Our review of demographic assumptions includes analyzing historical patterns and/or referencing industry standard tables, combined with our expectations around future compensation and staffing strategies. The difference between these assumptions and our actual experience results in the recognition of an actuarial gain or loss. Actuarial gains and losses are recorded directly to other comprehensive income or loss. If the total net actuarial gain or loss included in accumulated other comprehensive loss exceeds a threshold of 10% of the greater of the projected benefit obligation or the market related value of plan assets, it is subject to amortization and recorded as a component of net periodic pension cost over the average remaining service lives of the employees participating in the pension or post-retirement benefit plan.

The discount rate reflects the current rate at which the pension and other post-retirement liabilities could be effectively settled, considering the timing of expected payments for plan participants. It is used to discount the estimated future obligations of the plans to the present value of the liability reflected in the financial statements. In estimating this rate in countries that have a market of high-quality, fixed-income investments, we consider rates of return on these investments included in various bond indices, adjusted to eliminate the effects of call provisions and differences in the timing and amounts of cash outflows related to the bonds. In other countries where a market of high-quality, fixed-income investments does not exist, we estimate the discount rate using government bond yields or long-term inflation rates.

The expected return on plan assets reflects the average rate of earnings expected on the funds invested to provide for the benefits included in the projected benefit obligation. To determine the expected return on plan assets, we use the fair value of plan assets and consider the historical returns earned by similarly invested assets, the rates of return expected on plan assets in the future, and our investment strategy and asset mix with respect to the plans' funds.

Changes to benefit obligations may also be initiated by a settlement or curtailment. A settlement of a defined benefit obligation is an irrevocable transaction that relieves us (or the plan) of primary responsibility for the defined benefit obligation and eliminates significant risks related to the obligation and the assets used to effect the settlement. The settlement of all or more than a minor portion of the pension obligation constitutes an event that requires recognition of all or part of the net actuarial gains (or) losses deferred in accumulated other comprehensive loss. Our policy is to apply settlement accounting to the extent our year-to date settlements for a given plan exceed the sum of our forecasted full year service cost and interest cost for that particular plan.

A curtailment is an event that significantly reduces the expected years of service of active employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future service. The curtailment accounting provisions are applied on a plan-by-plan basis. The total gain or loss resulting from a curtailment is the sum of two distinct elements: (1) prior service cost write-off (see discussion in "amortization of net prior service cost/credit" above) and (2) curtailment gain or loss. Our policy is that a curtailment event represents one for which we expect a 10% (or greater) reduction

## Table of Contents

in future years of service or an elimination of the accrual of defined benefits for some or all of the future services of 10% (or greater) of the plan's participants.

Contributions made to pension and other post-retirement benefit plans are presented as cash used in operations within our consolidated statements of cash flows.

On January 1, 2018, we adopted FASB ASU No. 2017-07, Compensation - Retirement Benefits (Topic 715), Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. FASB ASU No. 2017-07 requires that entities must present the service cost components of net periodic benefit cost in the same financial statement line item(s) as other compensation costs arising from services rendered by the related employees during the period, whereas the non-service components of net periodic benefit cost must be presented separately from the financial statement line item(s) that include service cost and outside of operating income. In accordance with this guidance, we present the service cost component of net periodic benefit cost in the cost of revenue, research and development ("R&D"), and SG&A expense line items, and we present the non-service components of net periodic benefit cost in other, net. Prior periods have been recast to reflect this implementation.

Refer to Note 13, "Pension and Other Post-Retirement Benefits," for further information on our pension and other post-retirement benefit plans.

### Inventories

Inventories are stated at the lower of cost or estimated net realizable value. The cost of raw materials, work-in-process, and finished goods is determined based on a first-in, first-out basis and includes material, labor, and applicable manufacturing overhead. We conduct quarterly inventory reviews for salability and obsolescence, and inventory considered unlikely to be sold is adjusted to net realizable value.

Refer to Note 9, "Inventories," for details of our inventory balances.

### Property, Plant and Equipment and Other Capitalized Costs

PP&E is stated at cost, and in the case of plant and equipment, is depreciated on a straight-line basis over its estimated economic useful life. The depreciable lives of plant and equipment are as follows:

Buildings and improvements 2 – 40 years

Machinery and equipment 2 – 15 years

Leasehold improvements are amortized using the straight-line method over the shorter of the remaining lease term or the estimated economic useful lives of the improvements. Amortization of leasehold improvements is included in depreciation expense.

Assets held under capital leases are recorded at the lower of the present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Depreciation expense associated with capital leases is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease, unless ownership is transferred by the end of the lease or there is a bargain purchase option, in which case the asset is depreciated, normally on a straight-line basis, over the useful life that would be assigned if the asset were owned.

Expenditures for maintenance and repairs are charged to expense as incurred, whereas major improvements that increase asset values and extend useful lives are capitalized.

Refer to Note 10, "Property, Plant and Equipment," for details of our PP&E balances.

### Foreign Currency

We derive a significant portion of our net revenue from markets outside of the U.S. For financial reporting purposes, the functional currency of all of our subsidiaries is the U.S. dollar because of the significant influence of the U.S. dollar on our operations. In certain instances, we enter into transactions that are denominated in a currency other than the U.S. dollar. At the date that such transaction is recognized, each asset, liability, revenue, expense, gain, or loss arising from the transaction is measured and recorded in U.S. dollars using the exchange rate in effect at that date. At each balance sheet date, recorded monetary balances denominated in a currency other than U.S. dollar are adjusted to U.S. dollars using the exchange rate at the balance sheet date, with gains or losses recognized in other, net in the consolidated statements of operations.



## Table of Contents

### Cash and Cash Equivalents

Cash comprises cash on hand. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash, are subject to an insignificant risk of change in value, and have original maturities of three months or less.

Recently issued accounting standards adopted in the current period:

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), which modifies how all entities recognize revenue, and consolidates into one FASB ASC Topic (that is FASB ASC Topic 606) the guidance found in FASB ASC Topic 605 and various other revenue accounting standards for specialized transactions and industries. Refer to the Revenue Recognition section of the significant accounting policies discussed elsewhere in this Note 2 for further discussion of this guidance. We adopted FASB ASC Topic 606 on January 1, 2018 using the modified retrospective transition method. Refer to Note 3, "Revenue Recognition," for additional details on this implementation.

In January 2016, the FASB issued ASU No. 2016-01, which addresses certain aspects of the recognition, measurement, presentation, and disclosure of financial instruments. Refer to the Financial Instruments section of the significant accounting policies discussed elsewhere in this Note 2 for further discussion of this guidance. We adopted FASB ASU No. 2016-01 on January 1, 2018, which resulted in no impact on our consolidated financial position or results of operations. Refer to Note 18, "Fair Value Measures," for further discussion of the application of the measurement alternative to our \$50.0 million equity investment in Series B Preferred Stock of Quanergy, Inc ("Quanergy").

In March 2017, the FASB issued ASU No. 2017-07, which requires a change in the presentation of net periodic benefit cost on the consolidated statements of operations. Refer to the Pension and Other Post-Retirement Benefit Plans section of the significant accounting policies discussed elsewhere in this Note 2 for further discussion of this guidance. We adopted this guidance on January 1, 2018 and, as a result, we present the service cost component of net periodic benefit cost in the cost of revenue, R&D, and SG&A expense line items, and we present the non-service components of net periodic benefit cost in other, net. Refer to Note 6, "Other, Net," for the total other components of net periodic benefit cost. All prior period amounts have been recast in our consolidated statements of operations to reflect the revised presentation, with the adjustments presented in Note 13, "Pension and Other Post-Retirement Benefits."

Other recently issued accounting standards adopted in the current period did not have a material impact on our consolidated financial position or results of operations.

Recently issued accounting standards to be adopted in a future period:

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842), which establishes new accounting and disclosure requirements for leases. FASB ASU No. 2016-02 requires lessees to classify most leases as either finance or operating leases and to initially recognize a lease liability and right-of-use asset. Entities may elect to account for certain short-term leases (with a term of one year or less) using a method similar to the current operating lease model. The statements of operations will include, for finance leases, separate recognition of interest on the lease liability and amortization of the right-of-use asset and for operating leases, a single lease cost, calculated so that the cost of the lease is allocated over the lease term on a straight-line basis. FASB ASU No. 2016-02 is effective for annual reporting periods beginning after December 15, 2018, including interim periods therein, with early adoption permitted.

We have developed an implementation plan to adopt this new guidance, which included an assessment of the impact of the new guidance on our financial position and results of operation. Through our implementation efforts, we have decided that we will elect to apply the package of practical expedients, and we will not elect to apply the hindsight practical expedient. In July 2018, the FASB issued ASU No. 2018-11, Leases (Topic 842), Targeted Improvements, which creates an optional transition expedient that allows an entity to apply the transition provisions of the new standard, including its disclosure requirements, at its adoption date instead of at the beginning of the earliest comparative period presented as originally required by FASB ASU No. 2016-02. We adopted FASB ASU No. 2016-02 on January 1, 2019 using this transition expedient.

We have determined that adoption of this standard will result in the recognition of a lease liability and right-of-use asset for certain operating leases that are currently not recognized on our consolidated balance sheets, which we

expect to be recorded using an incremental borrowing rate, however the amount recorded will not be material in relation to our consolidated balance sheets. At December 31, 2018, we are contractually obligated to make future payments of \$79.4 million under our operating lease obligations in existence as of that date, primarily related to long-term facility leases.

In August 2017, the FASB issued ASU No. 2017-12, Derivatives and Hedging (Topic 815), which changes both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results, in order to

Table of Contents

better align an entity's risk management activities and financial reporting for hedging relationships. The amendments expand and refine hedge accounting for both nonfinancial and financial risk components and align the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. FASB ASU No. 2017-12 is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those annual reporting periods, with early adoption permitted. We will adopt FASB ASU No. 2017-12 on January 1, 2019, which will not have a material impact on our consolidated financial position or results of operations.

Other recently issued accounting standards to be adopted in future periods are not expected to have a material impact on our consolidated financial position or results of operations.

### 3. Revenue Recognition

We adopted FASB ASC Topic 606 on January 1, 2018, and we applied the pertinent transition provisions to contracts that were not completed as of January 1, 2018 using the modified retrospective method. Accordingly, periods presented prior to January 1, 2018 are presented under the previous revenue recognition guidance, including FASB ASC Topic 605. Refer to Note 2, "Significant Accounting Policies," for detailed discussion of the accounting policies related to revenue recognition.

Because (1) the vast majority of our revenue is derived from the sale of tangible products for which we recognize revenue at a point in time and (2) the contracts that relate to these product shipments are purchase orders that have firm purchase commitments (generally over a short period of time), the adoption of FASB ASC Topic 606 did not have a material effect on our financial statements or results of operations, and no cumulative catch-up adjustment was required.

We are electing to apply certain practical expedients that allow for more limited disclosures than those that would otherwise be required by FASB ASC Topic 606, including (1) the disclosure of transaction price allocated to the remaining unsatisfied performance obligations at the end of the period and (2) an explanation of when we expect to recognize the related revenue.

We believe that our end markets are the categories that best depict how the nature, amount, timing, and uncertainty of revenue and cash flows are affected by economic factors. The following table presents net revenue disaggregated by segment and end market for the years ended December 31, 2018, 2017, and 2016:

	Performance Sensing			Sensing Solutions			Total		
	For the year ended December 31,			For the year ended December 31,			For the year ended December 31,		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Net revenue:									
Automotive	\$2,076,834	\$1,989,152	\$1,973,264	\$49,961	\$50,463	\$47,972	\$2,126,795	\$2,039,615	\$2,021,236
HVOR	550,817	471,448	412,116	—	—	—	550,817	471,448	412,116
Industrial	—	—	—	336,617	312,137	289,045	336,617	312,137	289,045
Appliance and HVAC	—	—	—	208,482	209,958	187,815	208,482	209,958	187,815
Aerospace	—	—	—	164,294	150,782	151,802	164,294	150,782	151,802
Other	—	—	—	134,622	122,793	140,274	134,622	122,793	140,274
Net revenue	\$2,627,651	\$2,460,600	\$2,385,380	\$893,976	\$846,133	\$816,908	\$3,521,627	\$3,306,733	\$3,202,288

In addition, refer to Note 20, "Segment Reporting," for a presentation of net revenue disaggregated by product category and geographic region.

#### Performance Obligations

Our net revenue and related cost of revenue are primarily the result of promises to transfer products to our customers. Revenue is recognized when control of the product is transferred to the customer, which is generally when the product is shipped from our warehouse or, in limited instances, when it is received by the customer, depending on the specific terms of the arrangement. Payment for products is generally due a short time (that is, less than a year) after shipment to the customer.

Sales to customers generally include a right of return for defective or non-conforming product. Sales returns have not historically been significant in relation to our net revenue and have been within our estimates. Product sales are recorded net of variable consideration, such as sales returns and trade discounts (including volume and early payment incentives), as well as value-added tax and similar taxes. Amounts billed to our customers for shipping and handling are recorded in net revenue. Shipping and handling costs are included in cost of revenue.



Table of Contents

Warranties

Our standard terms of sale provide our customers with a warranty against faulty workmanship and the use of defective materials, which, depending on the product, generally exists for a period of twelve to eighteen months after the date we ship the product to our customer or for a period of twelve months after the date the customer resells our product, whichever comes first. Our liability associated with this warranty is, at our option, to repair the product, replace the product, or provide the customer with a credit. We do not offer separately priced extended warranty or product maintenance contracts.

We also sell products to customers under negotiated agreements or where we have accepted the customer's terms of purchase. In these instances, we may provide additional warranties for longer durations, consistent with differing end market practices, and where our liability is not limited. In addition, many sales take place in situations where commercial or civil codes, or other laws, would imply various warranties and restrict limitations on liability.

Contract Assets and Liabilities

Our contract assets consist of accounts receivable. Contract liabilities, whereby we receive payment from customers related to our promise to satisfy performance obligations in the future, are not material.

4. Share-Based Payment Plans

In connection with the Merger we adopted the Sensata Technologies Holding plc First Amended and Restated 2010 Equity Incentive Plan (the "2010 Equity Incentive Plan"). The purpose of the 2010 Equity Incentive Plan is to promote long-term growth and profitability by providing our present and future eligible directors, officers, and employees with incentives to contribute to, and participate in, our success. There are 10.0 million ordinary shares authorized for grants of awards under the 2010 Equity Incentive Plan, of which 3.3 million were available as of December 31, 2018. Refer to Note 2, "Significant Accounting Policies," for detailed discussion of the accounting policies related to share-based compensation.

Share-Based Compensation Awards

We grant option, restricted stock unit ("RSU"), and performance restricted stock unit ("PRSU") awards under the 2010 Equity Incentive Plan. For option and RSU awards vesting is typically subject only to continued employment and the passage of time. For PRSU awards vesting is also subject to continued employment and the passage of time, however the number of awarded units that ultimately vest also depends on the attainment of certain predefined performance criteria. Throughout this Annual Report on Form 10-K RSU and PRSU awards are often referred to collectively as "restricted securities."

Table of Contents

## Options

A summary of stock option activity for the years ended December 31, 2018, 2017, and 2016 is presented in the table below (amounts have been calculated based on unrounded shares):

	Number of Options (thousands)	Weighted-Average Exercise Price Per Option	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Balance as of December 31, 2015	3,361	\$ 32.89	6.2	\$ 47,967
Granted <sup>(1)</sup>	654	\$ 37.89		
Forfeited or expired	(111 )	\$ 43.95		
Exercised	(358 )	\$ 11.05		\$ 9,501
Balance as of December 31, 2016	3,546	\$ 35.67	6.3	\$ 19,844
Granted	387	\$ 43.67		
Forfeited or expired	(1 )	\$ 32.03		
Exercised	(326 )	\$ 22.86		\$ 7,175
Balance as of December 31, 2017	3,606	\$ 37.69	6.0	\$ 50,130
Granted	307	\$ 51.83		
Forfeited or expired	(39 )	\$ 45.59		
Exercised	(172 )	\$ 35.31		\$ 3,143
Balance as of December 31, 2018	3,702	\$ 38.89	5.3	\$ 27,846
Options vested and exercisable as of December 31, 2018	2,625	\$ 36.75	4.2	\$ 24,224
Vested and expected to vest as of December 31, 2018	3,556	\$ 38.65	5.2	\$ 27,407

<sup>(1)</sup> Includes 257 performance-based options.

A summary of the status of our unvested options as of December 31, 2018, and of the changes during the year then ended, is presented in the table below (amounts have been calculated based on unrounded shares):

	Number of Options (thousands)	Weighted-Average Grant-Date Fair Value
Balance as of December 31, 2017	1,184	\$ 13.72
Granted during the year	307	\$ 15.70
Vested during the year	(383 )	\$ 14.49
Forfeited or expired during the year	(31 )	\$ 14.26
Balance as of December 31, 2018	1,077	\$ 13.98

The fair value of stock options that vested during the years ended December 31, 2018, 2017, and 2016 was \$5.5 million, \$5.6 million, and \$7.1 million, respectively.

Option awards granted to employees under the 2010 Equity Incentive Plan generally vest 25% per year over four years from the grant date.

We recognize compensation expense for options on a straight-line basis over the requisite service period, which is generally the same as the vesting period. The options expire ten years from the date of grant. Except as otherwise provided in specific option award agreements, if a participant ceases to be employed by us, options not yet vested expire and are forfeited at the termination date, and options that are fully vested expire 60 days after termination of the participant's employment for any reason other than termination for cause (in which case the options expire on the participant's termination date) or due to death or disability (in which case the options expire six months after the participant's termination date).



Table of Contents

The weighted-average grant-date fair value per option granted during the years ended December 31, 2018, 2017, and 2016 was \$15.70, \$14.50, and \$12.08, respectively. The fair value of options was estimated on the date of grant using the Black-Scholes-Merton option-pricing model. The weighted-average key assumptions used in estimating the grant-date fair value of options for the years ended December 31, 2018, 2017, and 2016 are as follows:

	For the year ended					
	December 31,		2018		2017	
	2018	2017	2016	2018	2017	2016
Expected dividend yield	0.00	% 0.00	% 0.00	% 0.00	%	%
Expected volatility	25.00	% 30.00	% 30.00	% 30.00	%	%
Risk-free interest rate	2.62	% 2.08	% 1.48	%	%	%
Expected term (years)	6.0	6.0	6.0			
Fair value per share of underlying ordinary shares	\$51.83	\$43.67	\$37.89			

**Restricted Securities**

We grant RSU awards that cliff vest between one and three years from the grant date, and we grant PRSU awards that cliff vest three years after the grant date. For PRSU awards, the number of units that ultimately vest depends on the extent to which certain performance criteria are met, as described in the table below.

A summary of restricted securities granted in the years ended December 31, 2018, 2017, and 2016 is presented below:

(Awards in thousands)	RSU Awards Granted	Weighted-Average Grant-Date Fair Value	Percentage Range of Units That May Vest <sup>(1)</sup>					
			0.0% to 150.0%		0.0% to 172.5%		0.0% to 200.0%	
			PRSU Awards Granted	Weighted-Average Grant-Date Fair Value	PRSU Awards Granted	Weighted-Average Grant-Date Fair Value	PRSU Awards Granted	Weighted-Average Grant-Date Fair Value
2018	218	\$ 51.05	63	\$ 51.83	118	\$ 51.83	—	\$ —
2017	182	\$ 43.24	—	\$ —	183	\$ 43.67	53	\$ 43.33
2016	319	\$ 38.33	—	\$ —	180	\$ 38.96	—	\$ —

<sup>(1)</sup> Represents the percentage range of PRSU award units granted that may vest according to the terms of the awards. The amounts presented within this table do not reflect our current assessment of the probable outcome of vesting based on the achievement or expected achievement of performance conditions.

Compensation cost for the year ended December 31, 2018 reflects our estimate of the probable outcome of the performance conditions associated with the PRSU awards granted in fiscal years 2018, 2017, and 2016.

Table of Contents

A summary of activity related to outstanding restricted securities for fiscal years 2018, 2017, and 2016 is presented in the table below (amounts have been calculated based on unrounded shares):

	Restricted Securities (thousands)	Weighted-Average Grant-Date Fair Value
Balance as of December 31, 2015	654	\$ 45.87
Granted	499	\$ 38.56
Forfeited	(48 )	\$ 47.01
Vested	(185 )	\$ 33.41
Balance as of December 31, 2016	920	\$ 44.35
Granted	418	\$ 43.44
Forfeited	(35 )	\$ 43.94
Vested	(222 )	\$ 42.24
Balance as of December 31, 2017	1,081	\$ 44.43
Granted	399	\$ 51.40
Forfeited	(121 )	\$ 48.28
Vested	(240 )	\$ 53.01
Balance as of December 31, 2018	1,119	\$ 44.66

Aggregate intrinsic value information for restricted securities as of December 31, 2018, 2017, and 2016 is presented below:

	As of December 31,		
	2018	2017	2016
Outstanding	\$50,161	\$55,271	\$35,845
Expected to vest	\$44,203	\$42,106	\$26,937

The weighted-average remaining periods over which the restrictions will lapse as of December 31, 2018, 2017, and 2016 are as follows:

	As of December 31,		
(Amounts in years)	2018	2017	2016
Outstanding	1.2	1.3	1.5
Expected to vest	1.2	1.4	1.5

The expected to vest restricted securities are calculated based on the application of a forfeiture rate assumption to all outstanding restricted securities as well as our assessment of the probability of meeting the required performance conditions that pertain to the PRSU awards.

**Share-Based Compensation Expense**

The table below presents non-cash compensation expense related to our equity awards, which is recorded within SG&A expense in the consolidated statements of operations, during the identified periods:

	For the year ended December 31,		
	2018	2017	2016
Options	\$5,739	\$6,046	\$7,094
Restricted securities	18,086	13,773	10,331
Total share-based compensation expense	\$23,825	\$19,819	\$17,425

In 2018, we recognized a \$3.0 million income tax benefit associated with share-based compensation expense. We recognized no such tax benefit in either fiscal year 2017 or 2016.

Table of Contents

The table below presents unrecognized compensation expense at December 31, 2018 for each class of award, and the remaining expected term for this expense to be recognized:

	Unrecognized Compensation Expense	Expected Recognition (years)
Options	\$ 9,329	2.1
Restricted securities	23,168	1.6
Total unrecognized compensation expense	\$ 32,497	

## 5. Restructuring and Other Charges, Net

Restructuring and other charges, net for the years ended December 31, 2018, 2017, and 2016 were as follows:

	For the year ended		
	December 31, 2018	2017	2016
Severance costs, net <sup>(1)</sup>	\$7,566	\$11,125	\$813
Facility and other exit costs <sup>(2)</sup>	877	7,850	3,300
Gain on sale of Valves Business <sup>(3)</sup>	(64,423 )	—	—
Other <sup>(4)</sup>	8,162	—	—
Restructuring and other charges, net	\$(47,818)	\$18,975	\$4,113

Severance costs for the year ended December 31, 2018 were primarily related to limited workforce reductions of manufacturing, engineering, and administrative positions as well as the elimination of certain positions related to site consolidations. Severance costs, net recognized during the year ended December 31, 2017 included \$8.4

<sup>(1)</sup> million of charges related to the closure of our facility in Minden, Germany, a site we obtained in connection with the acquisition of certain subsidiaries of Custom Sensors & Technologies Ltd. ("CST"). Severance costs for the year ended December 31, 2016 primarily related to charges recorded in connection with acquired businesses and the termination of a limited number of employees in various locations throughout the world.

Facility and other exit costs for the year ended December 31, 2017 included \$3.2 million of costs related to the closure of our facility in Minden, Germany and the transfer of equipment to alternate operating sites as well as \$3.1 <sup>(2)</sup> million of costs associated with the consolidation of two other manufacturing sites in Europe. Facility and other exit costs for the year ended December 31, 2016 primarily related to the relocation of manufacturing lines from our facility in the Dominican Republic to a manufacturing facility in Mexico.

In fiscal year 2018 we completed the sale of the the capital stock of Schrader Bridgeport International, Inc. and August France Holding Company SAS (collectively, the "Valves Business"). The gain on this sale is included in <sup>(3)</sup> restructuring and other charges, net. Refer to Note 17, "Acquisitions and Divestitures," for further discussion of the sale of the Valves Business.

In the year ended December 31, 2018, we incurred \$5.9 million of incremental direct costs in order to transact the <sup>(4)</sup> sale of the Valves Business and \$2.2 million of deferred compensation incurred in connection with the acquisition of GIGAVAC. Refer to Note 17, "Acquisitions and Divestitures," for further discussion.

Changes to our severance liability during the years ended December 31, 2018 and 2017 were as follows:

	Severance
Balance as of December 31, 2016	\$ 17,350
Charges, net of reversals	11,125
Payments	(22,511 )
Foreign currency remeasurement	1,619
Balance as of December 31, 2017	7,583
Charges, net of reversals	7,566
Payments	(8,341 )
Foreign currency remeasurement	(217 )
Balance as of December 31, 2018	\$ 6,591



Table of Contents

The following table outlines the current and long-term components of our severance liability recognized in the consolidated balance sheets as of December 31, 2018 and 2017.

	As of	
	December 31,	
	2018	2017
Accrued expenses and other current liabilities	\$6,591	\$4,184
Other long-term liabilities	—	3,399
Total severance liability	\$6,591	\$7,583

## 6. Other, Net

Other, net consisted of the following for the years ended December 31, 2018, 2017, and 2016:

	For the year ended		
	December 31,		
	2018	2017	2016
Currency remeasurement (loss)/gain on net monetary assets <sup>(1)</sup>	\$(18,905)	\$18,041	\$(10,621)
Gain/(loss) on foreign currency forward contracts <sup>(2)</sup>	2,070	(15,618)	(1,850)
(Loss)/gain on commodity forward contracts <sup>(2)</sup>	(8,481)	9,989	7,399
Loss on debt financing <sup>(3)</sup>	(2,350)	(2,670)	—
Net periodic benefit cost, excluding service cost <sup>(4)</sup>	(3,585)	(3,402)	(192)
Other	886	75	171
Other, net	\$(30,365)	\$6,415	\$(5,093)

(1) Relates to the remeasurement of non-U.S. dollar denominated net monetary assets and liabilities into U.S. dollars. Refer to the Foreign Currency section of Note 2, "Significant Accounting Policies," for discussion.

(2) Relates to changes in the fair value of derivative financial instruments not designated as cash flow hedges. Refer to Note 19, "Derivative Instruments and Hedging Activities," for a more detailed discussion.

(3) Refer to Note 14, "Debt," for a more detailed discussion of our debt financing transactions.

(4) On January 1, 2018, we adopted FASB ASU No. 2017-07, which requires the non-service cost components to be presented apart from the service cost component and outside of profit from operations. Refer to the Pension and Other Post-Retirement Benefits section of Note 2, "Significant Accounting Policies," and Note 13, "Pension and Other Post-Retirement Benefits," for additional details.

## 7. Income Taxes

Effective April 27, 2006 (inception), and concurrent with the completion of the acquisition of the Sensors & Controls business ("S&C") of Texas Instruments Incorporated ("TI") (the "2006 Acquisition"), we commenced filing tax returns in the Netherlands as a stand-alone entity. On March 28, 2018, the Company reincorporated its headquarters in the U.K. Several of our Dutch resident subsidiaries continue to be taxable entities in the Netherlands and file tax returns under Dutch fiscal unity (i.e., consolidation). Prior to April 30, 2008, we filed one consolidated tax return in the U.S. On April 30, 2008, our U.S. subsidiaries executed a separation and distribution agreement that divided our U.S. businesses, resulting in two separate U.S. consolidated federal income tax returns. On January 1, 2016, our U.S. subsidiaries resumed filing one consolidated tax return. Our remaining subsidiaries will file income tax returns in the countries in which they are incorporated and/or operate, including Belgium, Bulgaria, China, France, Germany, Japan, Malaysia, Mexico, the Netherlands, South Korea, and the U.K. The 2006 Acquisition purchase accounting and the related debt and equity capitalization of the various subsidiaries of the consolidated company, and the realignment of the functions performed and risks assumed by the various subsidiaries, are of significant consequence to the determination of future book and taxable income of the respective subsidiaries and Sensata as a whole.

Refer to Note 2, "Significant Accounting Policies," for detailed discussion of the accounting policies related to income taxes.

## Effects of the Tax Cuts and Jobs Act

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 ("Tax Reform" or "the Act") was signed into law. The Act reduced the U.S. federal corporate tax rate from 35% to 21%, required companies to pay a one-time transition tax on



earnings of certain foreign subsidiaries that were previously tax deferred, and created new taxes on certain foreign sourced earnings. Given the significance of the legislation, the U.S. Securities and Exchange Commission staff issued Staff Accounting Bulletin

Table of Contents

No. 118 ("SAB 118"). In fiscal year 2017 and the first nine months of 2018, we recorded provisional amounts for certain enactment-date effects of the Act by applying the guidance in SAB 118 because we had not yet completed our enactment-date accounting for these effects.

In fiscal years 2018 and 2017 we recorded tax expense related to the enactment-date effects of the Act that included recording the one-time transition tax liability related to undistributed earnings of certain foreign subsidiaries which were not previously taxed, and adjusting deferred tax assets and liabilities. We applied the guidance in SAB 118 when accounting for the enactment-date effects of the Act in 2017 and throughout 2018. At December 31, 2017, we had not completed our accounting for all of the enactment-date income tax effects of the Act under FASB ASC Topic 740 for the following aspects: impact on assessment on the measurement of deferred tax assets and liabilities, including the potential impact of the tax on global intangible low-taxed income, and the one-time transition tax. As of December 31, 2018, we have completed our accounting for all of the enactment-date income tax effects of the Act. As further discussed below, during fiscal year 2018 we did not record an adjustment to the provisional amounts recorded as of December 31, 2017.

Deferred tax assets and liabilities

In the year ended December 31, 2017, we remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%, by recording a tax benefit of \$73.7 million, which was principally associated with indefinite lived intangible assets. Absent this deferred tax liability, we would have been in a net deferred tax asset position that was offset by a valuation allowance at December 31, 2017. Upon further analysis of certain aspects of the Act and refinement of our calculations during the year ended December 31, 2018, we determined that no further adjustment was necessary.

One-time transition tax

The one-time transition tax is based on our total post-1986 earnings and profits (E&P) of subsidiaries held by our U.S. companies that we previously deferred from U.S. income taxes. Due to tax attributes available, which had a full valuation allowance, to offset the anticipated transition tax, we provisionally did not record an income tax expense related to this tax at December 31, 2017.

Upon further analyses of the Act and Notices and regulations issued and proposed by the U.S. Department of the Treasury and the Internal Revenue Service, we finalized our calculations of the transition tax liability during 2018. The transition tax was fully offset by tax losses incurred in 2017, resulting in no additional tax liability.

Global intangible low-taxed income (GILTI)

The Act subjects a U.S. shareholder to tax on global intangible low-taxed income (GILTI) earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740, No. 5, Accounting for Global Intangible Low-Taxed Income, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or to provide for the tax expense related to GILTI in the year the tax is incurred as a period expense only. We have elected to account for GILTI in the year the tax is incurred.

Income before taxes

Income/(loss) before taxes for the years ended December 31, 2018, 2017, and 2016 was categorized by jurisdiction as follows:

	U.S.	Non-U.S.	Total
2018	\$68,027	\$458,348	\$526,375
2017	\$(11,425)	\$413,866	\$402,441
2016	\$(43,842)	\$365,287	\$321,445

Table of Contents

(Benefit from)/provision for income taxes

(Benefit from)/provision for income taxes for the years ended December 31, 2018, 2017, and 2016 was categorized by jurisdiction as follows:

	U.S. Federal	Non-U.S.	U.S. State	Total
2018				
Current	\$ 5,700	\$ 64,666	\$ 1,082	\$ 71,448
Deferred	(109,663 )	(18,770 )	(15,635 )	(144,068 )
Total	\$ (103,963 )	\$ 45,896	\$ (14,553)	\$ (72,620)
2017				
Current	\$—	\$ 50,601	\$ 240	\$ 50,841
Deferred	(56,956 )	(1,104 )	1,303	(56,757 )
Total	\$ (56,956 )	\$ 49,497	\$ 1,543	\$ (5,916 )
2016				
Current	\$ 464	\$ 49,977	\$ 226	\$ 50,667
Deferred	10,036	2,010	(3,702 )	8,344
Total	\$ 10,500	\$ 51,987	\$ (3,476 )	\$ 59,011

Effective tax rate reconciliation

The principal reconciling items from income tax computed at the U.S. statutory tax rate for the years ended December 31, 2018, 2017, and 2016 were as follows:

	For the year ended December 31,		
	2018	2017	2016
Tax computed at statutory rate of 21% in 2018 and 35% in 2017 and 2016	\$ 110,539	\$ 140,854	\$ 112,506
Change in valuation allowances	(123,426 )	(3,368 )	30,565
Foreign tax rate differential	(41,200 )	(111,990 )	(86,339 )
Change in tax laws or rates	(22,264 )	3,912	2,542
Research and development incentives	(19,475 )	(5,922 )	(10,961 )
U.S. state taxes, net of federal benefit	(11,499 )	1,087	(2,166 )
Unrealized foreign exchange losses, net	11,346	830	3,829
Reserve for tax exposure	10,775	38,013	11,227
Withholding taxes not creditable	8,734	3,896	6,014
U.S. Tax Reform impact	—	(73,668 )	—
Other	3,850	440	(8,206 )
(Benefit from)/provision for income taxes	\$ (72,620 )	\$ (5,916 )	\$ 59,011

Change in valuation allowances

During the years ended December 31, 2018, 2017, and 2016 we released a portion of our valuation allowance, recognizing a deferred tax benefit. Refer to the discussion below related to the release of the valuation allowance.

U.S. Tax Reform Impact

As a result of Tax Reform, the U.S. statutory tax rate was lowered from 35% to 21%, effective on January 1, 2018. We were required to remeasure our U.S. deferred tax assets and liabilities to the new tax rate. For the year ended December 31, 2017 we recorded \$73.7 million of income tax benefit for the remeasurement of the deferred tax liabilities associated with indefinite-lived intangible assets that will reverse at the new 21% rate. Absent this deferred tax liability, the U.S. operation was in a net deferred tax asset position that was offset by a full valuation allowance at December 31, 2017. We reduced our net deferred tax assets excluding the indefinite-lived intangible assets and the corresponding valuation allowance by \$120.0 million.

Table of Contents

Foreign tax rate differential

We operate in locations outside the U.S., including Bermuda, Bulgaria, China, Malaysia, the Netherlands, South Korea, and the U.K., that historically have had statutory tax rates different than the U.S. statutory rate. This can result in a foreign tax rate differential that may reflect a tax benefit or detriment. This foreign rate differential can change from year to year based upon the jurisdictional mix of earnings and changes in current and future enacted tax rates. Certain of our subsidiaries are currently eligible, or have been eligible, for tax exemptions or holidays in their respective jurisdictions. From 2016 through 2018, a subsidiary in Changzhou, China was eligible for a reduced tax rate of 15%. The impact on current tax expense of the tax holidays and exemptions is included in the foreign tax rate differential line in the reconciliation of the statutory rate to effective rate. The remeasurement of the deferred tax assets and liabilities is included in the change in tax laws or rates line.

Research and development incentives

Certain income of our U.K. subsidiaries is eligible for lower tax rates under the "patent box" regime, resulting in certain of our intellectual property income being taxed at a rate lower than the U.K. statutory tax rate. Certain R&D expenses are eligible for a bonus deduction under China's R&D super deduction regime. In 2018, we substantially completed an assessment of our ability to claim an R&D credit in the U.S. As a result of this assessment, we recorded a tax benefit of \$10.0 million. Annually, we expect our R&D credit to result in a net benefit of approximately \$2.5 million per year. Prior to fiscal year 2018, the deferred tax asset related to these R&D credits would have been offset by the valuation allowance.

Withholding taxes not creditable

Withholding taxes may apply to intercompany interest, royalty, management fees, and certain payments to third parties. Such taxes are expensed if they cannot be credited against the recipient's tax liability in its country of residence. Additional consideration also has been given to the withholding taxes associated with the remittance of presently unremitted earnings and the recipient's ability to obtain a tax credit for such taxes. Earnings are not considered to be indefinitely reinvested in the jurisdictions in which they were earned. In certain jurisdictions we record withholding and other taxes on intercompany payments including dividends.

Table of Contents

## Deferred income tax assets and liabilities

The primary components of deferred income tax assets and liabilities as of December 31, 2018 and 2017 were as follows:

	As of December 31,	
	2018	2017
Deferred tax assets:		
Inventories and related reserves	\$14,171	\$17,287
Prepaid and accrued expenses	71,004	25,920
Property, plant and equipment	14,571	13,396
Intangible assets	27,122	22,050
Unrealized exchange loss	4,255	12,265
Net operating loss, interest expense, and other carryforwards	296,255	349,244
Pension liability and other	8,701	8,880
Share-based compensation	11,332	12,195
Other	10,151	7,028
Total deferred tax assets	457,562	468,265
Valuation allowance	(157,043 )	(277,315 )
Net deferred tax asset	300,519	190,950
Deferred tax liabilities:		
Property, plant and equipment	(15,795 )	(23,222 )
Intangible assets and goodwill	(440,348 )	(428,028 )
Unrealized exchange gain	(6,912 )	(6,031 )
Tax on undistributed earnings of subsidiaries	(35,187 )	(38,894 )
Total deferred tax liabilities	(498,242 )	(496,175 )
Net deferred tax liability	\$(197,723)	\$(305,225)
Valuation allowance and net operating loss carryforwards		

In measuring our deferred tax assets, we consider all available evidence, both positive and negative, to determine whether, based on the weight of that evidence, a valuation allowance is needed for all or some portion of the deferred tax assets. Significant judgment is required in considering the relative impact of the negative and positive evidence, and weight given to each category of evidence is commensurate with the extent to which it can be objectively verified. The more negative evidence that exists, the more positive evidence is necessary, and the more difficult it is to support a conclusion that a valuation allowance is not needed. Additionally, we utilize the "more likely than not" criteria established in FASB ASC Topic 740 to determine whether the future tax benefit from the deferred tax assets should be recognized. As a result, we have established valuation allowances on the deferred tax assets in jurisdictions that have incurred net operating losses and in which it is more likely than not that such losses will not be utilized in the foreseeable future.

As of each reporting date, we consider new evidence, both positive and negative, that could impact our view with regard to future realization of deferred tax assets. In the fourth quarter of 2018, based on reversals of existing taxable differences, projections of future taxable income, and taxable income in the current year, we have determined that sufficient positive evidence exists as of December 31, 2018, to conclude that it is more likely than not the additional deferred taxes of \$122.1 million are realizable, and therefore, reduced the valuation allowance accordingly.

One of the provisions of the Tax Act limits the deduction for net interest expense incurred by U.S. corporations to 30% of adjusted taxable income. As a result of this provision, we have determined that certain of our interest carryforwards may be subject to limitation, and as result, determined that it was appropriate to retain the valuation allowance on a significant portion of these carryforwards.

For tax purposes, certain goodwill and indefinite-lived intangible assets are generally amortizable over 6 to 20 years. For book purposes, goodwill and indefinite-lived intangible assets are not amortized, but are tested for impairment annually. The tax amortization of goodwill and indefinite-lived intangible assets will result in a taxable temporary difference, which will not



Table of Contents

reverse unless the related book goodwill or intangible asset is impaired or written off. This liability may not be used to support deductible temporary differences, such as net operating loss carryforwards, which may expire within a definite period.

The total valuation allowance for the years ended December 31, 2018 and 2017 decreased \$120.3 million and \$22.4 million, respectively. Subsequently reported tax benefits relating to the valuation allowance for deferred tax assets as of December 31, 2018 will be allocated to income tax benefit recognized in the consolidated statements of operations. As of December 31, 2018, we have U.S. federal net operating loss carryforwards of \$416.0 million and suspended interest expense carryforwards of \$460.2 million. U.S. federal net operating loss carryforwards will expire from 2027 to 2037, state net operating loss carryforwards will expire from 2019 to 2037, and the interest carryovers have an unlimited life. It is more likely than not that these net operating losses will not be utilized in the foreseeable future. We also have non-U.S. net operating loss carryforwards of \$238.0 million, which will begin to expire in 2019.

## Unrecognized tax benefits

A reconciliation of the amount of unrecognized tax benefits is as follows:

Balance as of December 31, 2015	\$38,057
Increases related to prior year tax positions	6,390
Increases related to current year tax positions	8,462
Decreases related to lapse of applicable statute of limitations	(256 )
Decreases related to settlements with tax authorities	(6,755 )
Balance as of December 31, 2016	45,898
Increases related to prior year tax positions	7,968
Increases related to current year tax positions	14,585
Decreases related to lapse of applicable statute of limitations	(1,356 )
Decreases related to settlements with tax authorities	(7,211 )
Balance as of December 31, 2017	59,884
Increases related to prior year tax positions	14,609
Increases related to current year tax positions	15,676
Increases related to business combination	1,000
Decreases related to prior year tax positions	(1,144 )
Decreases related to foreign currency exchange rate fluctuations	(416 )
Balance as of December 31, 2018	\$89,609

We record interest and penalties related to unrecognized tax benefits in the consolidated statements of operations and the consolidated balance sheets. The table that follows presents the (income)/expense related to such interest and penalties recognized in the consolidated statements of operations during the years ended December 31, 2018, 2017, and 2016, and the amount of interest and penalties recorded on the consolidated balance sheets as of December 31, 2018 and 2017:

	Statements of Operations			Balance Sheets	
	For the year ended December 31,			As of December 31,	
(Dollars in millions)	2018	2017	2016	2018	2017
Interest	\$(0.2)	\$0.2	\$0.1	\$0.4	\$0.7
Penalties	\$(0.2)	\$(0.1)	\$0.1	\$0.4	\$0.5

The liability for unrecognized tax benefits generally relates to the allocation of taxable income to the various jurisdictions where we are subject to tax. At December 31, 2018, we anticipate that the liability for unrecognized tax benefits could decrease by up to \$0.5 million within the next twelve months due to the expiration of certain statutes of limitation or the settlement of examinations or issues with tax authorities. The amount of unrecognized tax benefits as of December 31, 2018 and 2017 that if recognized, would impact our effective tax rate are \$11.5 million and \$5.4 million, respectively.





Table of Contents

Our major tax jurisdictions include Belgium, Bulgaria, China, France, Germany, Japan, Malaysia, Mexico, the Netherlands, South Korea, the U.K., and the U.S. These jurisdictions generally remain open to examination by the relevant tax authority for the tax years 2006 through 2018.

**Indemnifications**

We have various indemnification provisions in place with parties including TI, Honeywell, William Blair, Tomkins Limited, and Custom Sensors & Technologies Ltd. These provisions provide for the reimbursement of future tax liabilities paid by us that relate to the pre-acquisition periods of the acquired businesses including S&C, First Technology Automotive and Special Products, Airpax Holdings, Inc., August Cayman Company, Inc. ("Schrader"), CST, and GIGAVAC.

**8. Net Income per Share**

Basic and diluted net income per share are calculated by dividing net income by the number of basic and diluted weighted-average ordinary shares outstanding during the period. For the years ended December 31, 2018, 2017, and 2016, the weighted-average ordinary shares outstanding used to calculate basic and diluted net income per share were as follows:

(Shares in thousands)	For the year ended		
	December 31,		
	2018	2017	2016
Basic weighted-average ordinary shares outstanding	168,570	171,165	170,709
Dilutive effect of stock options	822	616	489
Dilutive effect of unvested restricted securities	467	388	262
Diluted weighted-average ordinary shares outstanding	169,859	172,169	171,460

Net income and net income per share are presented in the consolidated statements of operations.

Certain potential ordinary shares were excluded from our calculation of diluted weighted-average ordinary shares outstanding because either they would have had an anti-dilutive effect on net income per share or they related to equity awards that were contingently issuable for which the contingency had not been satisfied. Refer to Note 4, "Share-Based Payment Plans," for further discussion of our equity awards. These potential ordinary shares are as follows:

(Shares in thousands)	For the year		
	ended December		
	31,		
	2018	2017	2016
Anti-dilutive shares excluded	930	1,410	1,401
Contingently issuable shares excluded	687	871	606

**9. Inventories**

The components of inventories as of December 31, 2018 and 2017 were as follows:

	As of December 31,	
	2018	2017
Finished goods	\$ 187,095	\$ 195,089
Work-in-process	104,405	92,678
Raw materials	200,819	158,362
Inventories	\$ 492,319	\$ 446,129

Refer to Note 2, "Significant Accounting Policies," for a discussion of our accounting policies related to inventories.

Table of Contents

## 10. Property, Plant and Equipment, Net

PP&E, net as of December 31, 2018 and 2017 consisted of the following:

	As of December 31,	
	2018	2017
Land	\$22,021	\$23,077
Buildings and improvements	259,182	250,475
Machinery and equipment	1,220,285	1,132,461
Total PP&E	1,501,488	1,406,013
Accumulated depreciation	(714,310 )	(655,964 )
PP&E, net	\$787,178	\$750,049

Depreciation expense for PP&E, including amortization of leasehold improvements and depreciation of assets under capital leases, totaled \$106.0 million, \$109.3 million, and \$106.9 million for the years ended December 31, 2018, 2017, and 2016, respectively.

PP&E, net as of December 31, 2018 and 2017 included the following assets under capital leases:

	As of December 31,	
	2018	2017
Assets under capital leases in PP&E	\$49,714	\$45,249
Accumulated depreciation	(22,508 )	(20,631 )
Assets under capital leases in PP&E, net	\$27,206	\$24,618

Refer to Note 2, "Significant Accounting Policies," for a discussion of our accounting policies related to PP&E, net.

## 11. Goodwill and Other Intangible Assets, Net

The following table outlines the changes in goodwill by segment for the year ended December 31, 2018. There were no acquisitions or other changes to goodwill during the year ended December 31, 2017.

	Performance Sensing			Sensing Solutions			Total		
	Gross Goodwill	Accumulated Impairment	Net Goodwill	Gross Goodwill	Accumulated Impairment	Net Goodwill	Gross Goodwill	Accumulated Impairment	Net Goodwill
Balance as of December 31, 2016 and 2017	\$2,148,135	\$ —	\$2,148,135	\$875,795	\$(18,466 )	\$857,329	\$3,023,930	\$(18,466 )	\$3,005,464
Divestiture of Valves Business	(38,800 )	—	(38,800 )	—	—	—	(38,800 )	—	(38,800 )
Acquisition of GIGAVAC	46,298	—	46,298	68,340	—	68,340	114,638	—	114,638
Balance as of December 31, 2018	\$2,155,633	\$ —	\$2,155,633	\$944,135	\$(18,466 )	\$925,669	\$3,099,768	\$(18,466 )	\$3,081,302

Goodwill attributed to the acquisition of GIGAVAC reflects our allocation of purchase price to the estimated fair value of certain assets acquired and liabilities assumed. Preliminary goodwill attributed to the acquisition of GIGAVAC has been assigned to our segments in the above table based on a methodology using anticipated future earnings of the components of business. The allocation is preliminary and is subject to change prior to the end of the measurement period. Goodwill attributed to the sale of the Valves Business is based on the relative fair value of the Valves Business to the Performance Sensing reporting unit. Refer to Note 17, "Acquisitions and Divestitures," for further discussion of the acquisition of GIGAVAC and the sale of the Valves Business.

In connection with the sale of the Valves Business, as required by FASB ASC Topic 350, we evaluated the goodwill of the retained portion of the Performance Sensing reporting unit for impairment using the quantitative method and

determined that it was not impaired. In addition, we evaluated our goodwill for impairment as of October 1, 2018 using a combination of the qualitative and quantitative methods. Refer to Note 2, "Significant Accounting Policies," for discussion of these methods. Based on these analyses, we have determined that, for the Performance Sensing reporting unit, which was subject to the qualitative method, it was more likely than not that its fair value was greater than its carrying value at that date, and the Electrical

Table of Contents

Protection, Industrial Sensing, Aerospace, Power Management, and Interconnection reporting units, which were subject to the quantitative method, that their fair values exceeded their carrying values at that date.

We evaluated our other indefinite-lived intangible assets for impairment as of October 1, 2018, using the quantitative method, and we determined that the fair value of each indefinite-lived intangible asset exceeded its respective carrying value on that date.

The following table outlines the components of definite-lived intangible assets as of December 31, 2018 and 2017:

	Weighted-Average Life (years)	As of December 31,			Net Carrying Value	2017			
		2018 Gross Carrying Amount	Accumulated Amortization	Accumulated Impairment		2017 Gross Carrying Amount	Accumulated Amortization	Accumulated Impairment	Net Carrying Value
Completed technologies	14	\$759,008	\$(475,295)	\$(2,430)	\$281,283	\$727,968	\$(418,987)	\$(2,430)	\$306,551
Customer relationships	11	1,825,698	(1,352,189)	(12,144)	461,365	1,771,198	(1,287,581)	(12,144)	471,473
Non-compete agreements	8	23,400	(23,400)	—	—	23,400	(23,400)	—	—
Tradenames	21	66,154	(13,468)	—	52,686	50,754	(11,094)	—	39,660
Capitalized software and other <sup>(1)</sup>	7	65,896	(32,509)	—	33,387	59,909	(25,939)	—	33,970
<b>Total</b>	<b>12</b>	<b>\$2,740,156</b>	<b>\$(1,896,861)</b>	<b>\$(14,574)</b>	<b>\$828,721</b>	<b>\$2,633,229</b>	<b>\$(1,767,001)</b>	<b>\$(14,574)</b>	<b>\$851,654</b>

<sup>(1)</sup> During the years ended December 31, 2018 and 2017, we wrote-off approximately \$0.2 million and \$1.1 million, respectively, of fully-amortized capitalized software that was not in use.

Refer to Note 17, "Acquisitions and Divestitures," for details of definite-lived intangible assets recognized as a result of the acquisition of GIGAVAC.

The following table outlines amortization of intangible assets for the years ended December 31, 2018, 2017, and 2016:

	For the year ended December 31,		
	2018	2017	2016
Acquisition-related definite-lived intangible assets	\$132,235	\$153,729	\$194,208
Capitalized software	7,091	7,321	7,290
Amortization of intangible assets	\$139,326	\$161,050	\$201,498

The table below presents estimated amortization of intangible assets for each of the next five years:

For the year ended December 31,

2019	\$142,198
2020	\$127,046
2021	\$110,203
2022	\$95,029
2023	\$81,055

In addition to the above, we own the Klixon<sup>®</sup> and Airpax<sup>®</sup> tradenames, which are indefinite-lived intangible assets, as they have each been in continuous use for over 65 years, and we have no plans to discontinue using them. We have recorded \$59.1 million and \$9.4 million, respectively, on the consolidated balance sheets related to these tradenames.

Table of Contents

## 12. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities as of December 31, 2018 and 2017 consisted of the following:

	As of December 31,	
	2018	2017
Accrued compensation and benefits	\$68,936	\$89,816
Accrued interest	40,550	36,919
Foreign currency and commodity forward contracts	7,710	35,094
Accrued severance	6,591	4,184
Current portion of pension and post-retirement benefit obligations	3,176	3,342
Other accrued expenses and current liabilities	91,167	90,205
Accrued expenses and other current liabilities	\$218,130	\$259,560

## 13. Pension and Other Post-Retirement Benefits

We provide various pension and other post-retirement plans for current and former employees, including defined benefit, defined contribution, and retiree healthcare benefit plans. Refer to Note 2, "Significant Accounting Policies," for a detailed discussion of the accounting policies related to our pension and other post-retirement benefit plans.

## U.S. Benefit Plans

The principal retirement plans in the U.S. include a qualified defined benefit pension plan and a defined contribution plan. In addition, we provide post-retirement medical coverage and non-qualified benefits to certain employees.

## Defined Benefit Pension Plans

The benefits under the qualified defined benefit pension plan are determined using a formula based upon years of service and the highest five consecutive years of compensation.

TI closed the qualified defined benefit pension plan to participants hired after November 1997. In addition, participants eligible to retire under the TI plan as of April 26, 2006 were given the option of continuing to participate in the qualified defined benefit pension plan or retiring under the qualified defined benefit pension plan and thereafter participating in an enhanced defined contribution plan.

We intend to contribute amounts to the qualified defined benefit pension plan in order to meet the minimum funding requirements of federal laws and regulations, plus such additional amounts as we deem appropriate. During the year ended December 31, 2018, we contributed \$4.0 million to the qualified defined benefit plan. We do not expect to contribute to the qualified defined benefit pension plan in fiscal year 2019.

We also sponsor a non-qualified defined benefit pension plan, which is closed to new participants and is unfunded. Effective January 31, 2012, we froze the defined benefit pension plans and eliminated future benefit accruals.

## Defined Contribution Plans

As of 2018, we have one defined contribution plan for U.S. employees, which provides for an employer matching contribution of up to 4% of the employee's annual eligible earnings. The aggregate expense related to the defined contribution plan was \$5.7 million, \$5.9 million, and \$5.8 million for the years ended December 31, 2018, 2017, and 2016, respectively.

## Retiree Healthcare Benefit Plan

We offer access to group medical coverage during retirement to some of our U.S. employees. We make contributions toward the cost of those retiree medical benefits for certain retirees. The contribution rates are based upon varying factors, the most important of which are an employee's date of hire, date of retirement, years of service, and eligibility for Medicare benefits. The balance of the cost is borne by the participants in the plan. For the year ended December 31, 2018, we did not, and do not expect to, receive any amount of Medicare Part D Federal subsidy. Our projected benefit obligation as of December 31, 2018 and 2017 did not include an assumption for a Federal subsidy.

Table of Contents

In the fourth quarter of 2013, we amended the retiree healthcare benefit plan to eliminate supplemental medical coverage offered to Medicare eligible retirees, effective January 1, 2014. As a result of the amendment, we recognized a gain of \$7.2 million that was recorded in other comprehensive income/(loss) in the fourth quarter of 2013, which is being amortized as a component of net periodic benefit cost over a period of approximately 5 years from the date of recognition, which represents the remaining average service period to the full eligibility dates of the active plan participants.

**Non-U.S. Benefit Plans**

Retirement coverage for non-U.S. employees is provided through separate defined benefit and defined contribution plans. Retirement benefits are generally based on an employee's years of service and compensation. Funding requirements are determined on an individual country and plan basis and are subject to local country practices and market circumstances. We do not expect to contribute to the non-U.S. defined benefit plans during 2019.

**Impact on Financial Statements**

The components of net periodic benefit cost/(credit) associated with our defined benefit and retiree healthcare plans for the years ended December 31, 2018, 2017, and 2016 were as follows:

	For the year ended December 31,											
	2018		2017				2016					
	U.S. Plans		Non-U.S. Plans		U.S. Plans		Non-U.S. Plans		U.S. Plans		Non-U.S. Plans	
	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit
Service cost	\$—	\$ 50	\$ 3,122	\$—	\$ 74	\$ 2,582	\$—	\$ 83	\$ 2,716			
Interest cost	1,473	272	1,310	1,604	325	1,053	1,461	364	1,179			
Expected return on plan assets	(1,710 )	—	(929 )	(2,151 )	—	(905 )	(2,684 )	—	(952 )			
Amortization of net loss	1,080	5	407	1,149	54	287	707	143	488			
Amortization of net prior service (credit)/cost	—	(1,728 )	6	—	(1,335 )	(4 )	—	(1,335 )	(20 )			
Loss on settlement	1,047	—	1,461	3,225	—	100	1,293	—	34			
Loss/(gain) on curtailment	—	—	891	—	—	—	—	—	(486 )			
Net periodic benefit cost/(credit)	\$ 1,890	\$ (1,401 )	\$ 6,268	\$ 3,827	\$ (882 )	\$ 3,113	\$ 777	\$ (745 )	\$ 2,959			

On January 1, 2018 we adopted the guidance in FASB ASU No. 2017-07, which requires that entities present the non-service components of net periodic benefit cost separately from the financial statement line item(s) that include service cost, outside of operating income. As a result of this adoption, the components of net periodic benefit cost, excluding service cost, were reclassified in our consolidated statements of operations from various operating cost and expense line items to other, net for the years ended December 31, 2017 and 2016.

Table of Contents

The table below presents the effects of this adjustment.

	For the year ended December 31,					
	2017			2016		
	As Reported	Adjustment	As Adjusted	As Reported	Adjustment	As Adjusted
Net revenue	\$3,306,733	\$ —	\$3,306,733	\$3,202,288	\$ —	\$3,202,288
Operating costs and expenses:						
Cost of revenue	2,141,308	(2,410 )	2,138,898	2,084,261	(102 )	2,084,159
Research and development	130,204	(77 )	130,127	126,665	(9 )	126,656
Selling, general and administrative	302,811	(915 )	301,896	293,587	(81 )	293,506
Amortization of intangible assets	161,050	—	161,050	201,498	—	201,498
Restructuring and other charges, net	18,975	—	18,975	4,113	—	4,113
Total operating costs and expenses	2,754,348	(3,402 )	2,750,946	2,710,124	(192 )	2,709,932
Profit from operations	552,385	3,402	555,787	492,164	192	492,356
Interest expense, net	(159,761 )	—	(159,761 )	(165,818 )	—	(165,818 )
Other, net	9,817	(3,402 )	6,415	(4,901 )	(192 )	(5,093 )
Income before taxes	\$402,441	\$ —	\$402,441	\$321,445	\$ —	\$321,445

The following table outlines the rollforward of the benefit obligation and plan assets for the defined benefit and retiree healthcare benefit plans for the years ended December 31, 2018 and 2017:

	For the year ended December 31,					
	2018			2017		
	U.S. Plans		Non-U.S. Plans	U.S. Plans		Non-U.S. Plans
	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit
Change in benefit obligation:						
Beginning balance	\$48,615	\$ 9,692	\$67,413	\$57,679	\$ 10,296	\$59,056
Service cost	—	50	3,122	—	74	2,582
Interest cost	1,473	272	1,310	1,604	325	1,053
Plan participants' contributions	—	475	60	—	519	120
Plan amendment	—	(3,243 )	—	—	—	(6 )
Actuarial (gain)/loss	(519 )	(124 )	2,777	2,936	(197 )	2,692
Curtailments	—	—	931	—	—	—
Benefits paid	(4,400 )	(1,105 )	(6,262 )	(13,604 )	(1,325 )	(2,572 )
Divestiture	—	—	(3,310 )	—	—	—
Foreign currency remeasurement	—	—	(350 )	—	—	4,488
Ending balance	\$45,169	\$ 6,017	\$65,691	\$48,615	\$ 9,692	\$67,413
Change in plan assets:						
Beginning balance	\$41,101	\$ —	\$41,222	\$52,042	\$ —	\$37,361
Actual return on plan assets	(811 )	—	(1,308 )	2,319	—	1,241
Employer contributions	3,985	630	5,992	344	1,325	2,586
Plan participants' contributions	—	475	60	—	—	120
Benefits paid	(4,400 )	(1,105 )	(6,262 )	(13,604 )	(1,325 )	(2,572 )
Foreign currency remeasurement	—	—	164	—	—	2,486
Ending balance	\$39,875	\$ —	\$39,868	\$41,101	\$ —	\$41,222
Funded status at end of year	\$(5,294 )	\$(6,017 )	\$(25,823 )	\$(7,514 )	\$(9,692 )	\$(26,191 )
Accumulated benefit obligation at end of year	\$45,169	NA	\$59,948	\$48,615	NA	\$60,588

Table of Contents

The following table outlines the funded status amounts recognized in the consolidated balance sheets as of December 31, 2018 and 2017:

	As of December 31, 2018		2017			
	U.S. Plans		Non-U.S. Plans	U.S. Plans		Non-U.S. Plans
	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit
Noncurrent assets	\$—	\$—	\$—	\$—	\$—	\$—
Current liabilities	(595 )	(1,116 )	(1,465 )	(638 )	(1,210 )	(1,494 )
Noncurrent liabilities	(4,699 )	(4,901 )	(24,358 )	(6,876 )	(8,482 )	(24,697 )
Funded status	\$(5,294)	\$(6,017 )	\$(25,823)	\$(7,514)	\$(9,692 )	\$(26,191)

Balances recognized within accumulated other comprehensive loss that have not been recognized as components of net periodic benefit cost, net of tax, as of December 31, 2018, 2017, and 2016 are as follows:

	As of December 31, 2018		2017				2016		
	U.S. Plans		Non-U.S. Plans	U.S. Plans		Non-U.S. Plans	U.S. Plans		Non-U.S. Plans
	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit
Net prior service credit	\$—	\$(692 )	\$(10 )	\$—	\$ 823	\$(220 )	\$—	\$(512 )	\$(218 )
Net loss	\$20,759	\$ 880	\$ 14,425	\$20,884	\$ 1,009	\$ 12,489	\$22,490	\$ 1,260	\$ 11,070

We expect to amortize a loss of \$0.5 million from accumulated other comprehensive loss to net periodic benefit cost during 2019.

Information for plans with an accumulated benefit obligation in excess of plan assets as of December 31, 2018 and 2017 is as follows:

	As of December 31, 2018		2017	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
	Projected benefit obligation	\$45,169	\$ 65,691	\$48,615
Accumulated benefit obligation	\$45,169	\$ 59,948	\$48,615	\$ 26,609
Plan assets	\$39,875	\$ 39,868	\$41,101	\$ 5,759

Information for plans with a projected benefit obligation in excess of plan assets as of December 31, 2018 and 2017 is as follows:

	As of December 31, 2018		2017	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
	Projected benefit obligation	\$51,186	\$ 65,691	\$58,307
Plan assets	\$39,875	\$ 39,868	\$41,101	\$ 36,990



Table of Contents

Other changes in plan assets and benefit obligations, net of tax, recognized in other comprehensive income/(loss) for the years ended December 31, 2018, 2017, and 2016 are as follows:

	For the year ended December 31,								
	2018		2017		2016				
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans			
	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit	Defined Benefit	Retiree Healthcare	Defined Benefit
Net loss/(gain)	\$2,002	\$(124 )	\$3,669	\$2,768	\$(197 )	\$1,618	\$5,368	\$(984 )	\$2,505
Amortization of net loss	(1,080 )	(5 )	(298 )	(1,149 )	(54 )	(130 )	(707 )	(143 )	(436 )
Amortization of net prior service credit/(cost)	—	1,728	(4 )	—	1,335	3	—	1,335	15
Divestiture	—	—	(228 )	—	—	—	—	—	—
Plan amendment	—	(3,243 )	—	—	—	(5 )	—	—	(73 )
Settlement effect	(1,047 )	—	(1,023 )	(3,225 )	—	(69 )	(1,293 )	—	(67 )
Curtailement effect	—	—	30	—	—	—	—	—	(1,272 )
Total in other comprehensive (income)/loss	\$(125 )	\$(1,644 )	\$2,146	\$(1,606)	\$1,084	\$1,417	\$3,368	\$208	\$672

## Assumptions and Investment Policies

Weighted-average assumptions used to calculate the projected benefit obligations of our defined benefit and retiree healthcare benefit plans as of December 31, 2018 and 2017 are as follows:

	As of December 31,			
	2018		2017	
	Defined Benefit	Retiree Healthcare	Defined Benefit	Retiree Healthcare
U.S. assumed discount rate	3.79%	3.90 %	3.00%	3.10 %
Non-U.S. assumed discount rate	2.17%	NA	2.07%	NA
Non-U.S. average long-term pay progression	2.66%	NA	2.66%	NA

Weighted-average assumptions used to calculate the net periodic benefit cost of our defined benefit and retiree healthcare benefit plans for the years ended December 31, 2018, 2017, and 2016 are as follows:

	For the year ended December 31,					
	2018		2017		2016	
	Defined Benefit	Retiree Healthcare	Defined Benefit	Retiree Healthcare	Defined Benefit	Retiree Healthcare
U.S. assumed discount rate	3.45%	3.10 %	3.20%	3.30 %	3.10%	3.50 %
Non-U.S. assumed discount rate	5.87%	NA	3.90%	NA	3.83%	NA
U.S. average long-term rate of return on plan assets	4.57%	NA	4.50%	NA	5.00%	NA
Non-U.S. average long-term rate of return on plan assets	2.26%	NA	2.29%	NA	2.60%	NA
Non-U.S. average long-term pay progression	4.82%	NA	3.75%	NA	3.78%	NA

Table of Contents

Assumed healthcare cost trend rates for the U.S. retiree healthcare benefit plan as of December 31, 2018, 2017, and 2016 are as follows:

	As of December 31,		
	2018	2017	2016
Assumed healthcare trend rate for next year:			
Attributed to less than age 65	6.60 %	6.90 %	7.10 %
Attributed to age 65 or greater	7.10 %	7.50 %	7.80 %
Ultimate trend rate	4.50 %	4.50 %	4.50 %
Year in which ultimate trend rate is reached:			
Attributed to less than age 65	2038	2038	2038
Attributed to age 65 or greater	2038	2038	2038

Assumed healthcare trend rates could have a significant effect on the amounts reported for retiree healthcare plans. A one percentage point change in the assumed healthcare trend rates for the year ended December 31, 2018 would have the following effect:

	One Percentage Point:	
	Increase	Decrease
Effect on total service and interest cost components	\$6	\$(5)
Effect on post-retirement benefit obligations	\$200	\$(248)

The table below outlines the benefits expected to be paid to participants in each of the following years, taking into consideration expected future service, as appropriate. The majority of the payments will be paid from plan assets and not company assets.

For the year ended December 31,	Expected Benefit Payments		
	U.S. Defined Benefit	U.S. Retiree Healthcare	Non-U.S. Defined Benefit
2019	\$6,466	\$ 1,116	\$ 2,959
2020	\$5,826	\$ 738	\$ 3,232
2021	\$5,313	\$ 696	\$ 3,228
2022	\$4,128	\$ 634	\$ 3,829
2023	\$3,677	\$ 523	\$ 3,528
2024 - 2027	\$10,498	\$ 1,905	\$ 21,700

**Plan Assets**

We hold assets for our defined benefit plans in the U.S., Japan, the Netherlands, and Belgium. Information about the assets for each of these plans is detailed below. Refer to Note 18, "Fair Value Measures," for descriptions of the levels of the fair value hierarchy in accordance with FASB ASC Topic 820.

**U.S. Plan Assets**

Our target asset allocation for the U.S. defined benefit plan is 83% fixed income and 17% equity securities. To arrive at the targeted asset allocation, we and our investment adviser reviewed market opportunities using historical data, as well as the actuarial valuation for the plan, to ensure that the levels of acceptable return and risk are well-defined and monitored.

Table of Contents

The following table presents information about the plan's target and actual asset allocation, as of December 31, 2018:

	Target Allocation		Actual Allocation as of December 31, 2018	
U.S. large cap equity	7	%	7	%
U.S. small / mid cap equity	2	%	2	%
Globally managed volatility fund	3	%	3	%
International (non-U.S.) equity	4	%	4	%
Fixed income (U.S. investment and non-investment grade)	68	%	67	%
High-yield fixed income	2	%	2	%
International (non-U.S.) fixed income	1	%	1	%
Money market funds	13	%	13	%

The portfolio is monitored for automatic rebalancing on a monthly basis.

The following table presents information about the plan assets measured at fair value as of December 31, 2018 and 2017:

	As of December 31, 2018				2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
U.S. large cap equity	\$2,960	\$ —	\$ —	\$2,960	\$3,288	\$ —	\$ —	\$3,288
U.S. small / mid cap equity	833	—	—	833	942	—	—	942
Global managed volatility fund	1,214	—	—	1,214	1,288	—	—	1,288
International (non-U.S.) equity	1,493	—	—	1,493	1,788	—	—	1,788
Total equity mutual funds	6,500	—	—	6,500	7,306	—	—	7,306
Fixed income (U.S. investment grade)	26,884	—	—	26,884	27,507	—	—	27,507
High-yield fixed income	792	—	—	792	821	—	—	821
International (non-U.S.) fixed income	402	—	—	402	398	—	—	398
Total fixed income mutual funds	28,078	—	—	28,078	28,726	—	—	28,726
Money market funds	5,297	—	—	5,297	5,069	—	—	5,069
Total plan assets	\$39,875	\$ —	\$ —	\$39,875	\$41,101	\$ —	\$ —	\$41,101

Investments in mutual funds are based on the publicly-quoted final net asset values on the last business day of the year.

Permitted asset classes include U.S. and non-U.S. equity, U.S. and non-U.S. fixed income, cash, and cash equivalents. Fixed income includes both investment grade and non-investment grade. Permitted investment vehicles include mutual funds, individual securities, derivatives, and long-duration fixed income securities. While investments in individual securities, derivatives, long-duration fixed income securities, cash, and cash equivalents are permitted, the plan did not hold these types of investments as of December 31, 2018 or 2017.

Prohibited investments include direct investments in real estate, commodities, unregistered securities, uncovered options, currency exchange contracts, and natural resources (such as timber, oil, and gas).

Japan Plan Assets

The target asset allocation of the Japan defined benefit plan is 50% equity securities and 50% fixed income securities, cash, and cash equivalents, with allowance for a 40% deviation in either direction. We, along with the trustee of the plan's assets, minimize investment risk by thoroughly assessing potential investments based on indicators of historical returns and current credit ratings. Additionally, investments are diversified by type and geography.

Table of Contents

The following table presents information about the plan's target asset allocation, as well as the actual allocation, as of December 31, 2018:

	Target Allocation	Actual Allocation as of December 31, 2018
Equity securities	10%-90%	25 %
Fixed income securities, cash, and cash equivalents	10%-90%	75 %

The following table presents information about the plan assets measured at fair value as of December 31, 2018 and 2017:

	As of December 31, 2018				2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
U.S. equity	\$2,212	\$—	\$—	—\$2,212	\$2,461	\$—	\$—	—\$2,461
International (non-U.S.) equity	5,158	—	—	5,158	6,567	—	—	6,567
Total equity securities	7,370	—	—	7,370	9,028	—	—	9,028
U.S. fixed income	3,076	269	—	3,345	2,968	268	—	3,236
International (non-U.S.) fixed income	8,811	—	—	8,811	11,046	—	—	11,046
Total fixed income securities	11,887	269	—	12,156	14,014	268	—	14,282
Cash and cash equivalents	10,339	—	—	10,339	7,921	—	—	7,921
Total plan assets	\$29,596	\$269	\$—	—\$29,865	\$30,963	\$268	\$—	—\$31,231

The fair values of equity and fixed income securities are based on publicly-quoted closing stock and bond values on the last business day of the year.

Permitted asset classes include equity securities that are traded on the official stock exchange(s) of the respective countries, fixed income securities with certain credit ratings, cash, and cash equivalents.

The Netherlands Plan Assets

The assets of the Netherlands defined benefit plan are insurance policies. The contributions we make to the plan are used to purchase insurance policies that provide for specific benefit payments to plan participants. The benefit formula is determined independently by us. Upon retirement of an individual plan participant, the insurance contracts purchased are converted to provide specific benefits for the participant. The contributions paid by us are commingled with contributions paid to the insurance provider by other employers for investment purposes and to reduce plan administration costs. However, this defined benefit plan is not considered a multi-employer plan.

The following table presents information about the plan assets measured at fair value as of December 31, 2018 and 2017:

	As of December 31, 2018				2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Insurance policies	\$—	\$—	—\$8,897	\$8,897	\$—	\$—	—\$9,059	\$9,059
Total plan assets	\$—	\$—	—\$8,897	\$8,897	\$—	\$—	—\$9,059	\$9,059

The following table presents a rollforward of the Level 3 assets in our Netherlands' defined plan for the years ended December 31, 2018 and 2017:

Balance as of December 31, 2016	Insurance Policies	\$ 8,014
Actual return on plan assets still held at reporting date	(597 )	
Purchases, sales, settlements, and exchange rate changes	1,642	

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Balance as of December 31, 2017	9,059
Actual return on plan assets still held at reporting date	177
Purchases, sales, settlements, and exchange rate changes	(339 )
Balance as of December 31, 2018	\$ 8,897

99

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Table of Contents

The fair values of the insurance contracts are measured based on the future benefit payments that would be made by the insurance company to vested plan participants if we were to switch to another insurance company without actually surrendering our policy. In this case, the insurance company would guarantee to pay the vested benefits at retirement accrued under the plan based on current salaries and service to date (i.e., with no allowance for future salary increases or pension increases). The cash flows of the future benefit payments are discounted using the same discount rate that is applied to value the related defined benefit plan liability.

**Belgium Plan Assets**

The assets of the Belgium defined benefit plan are insurance policies. As of December 31, 2018 and 2017 the fair values of these assets were \$1.1 million and \$0.9 million, respectively. These fair value measurements are categorized in level 3 of the fair value hierarchy.

**14. Debt**

Long-term debt, net and capital lease and other financing obligations as of December 31, 2018 and 2017 consisted of the following:

	As of December 31,		
	Maturity Date	2018	2017
Term Loan	October 14, 2021	\$917,794	\$927,794
4.875% Senior Notes	October 15, 2023	500,000	500,000
5.625% Senior Notes	November 1, 2024	400,000	400,000
5.0% Senior Notes	October 1, 2025	700,000	700,000
6.25% Senior Notes	February 15, 2026	750,000	750,000
Less: discount		(15,169 )	(14,424 )
Less: deferred financing costs		(23,159 )	(27,758 )
Less: current portion		(9,704 )	(9,802 )
Long-term debt, net		\$3,219,762	\$3,225,810
Capital lease and other financing obligations		\$35,475	\$34,657
Less: current portion		(4,857 )	(5,918 )
Capital lease and other financing obligations, less current portion		\$30,618	\$28,739
Senior Secured Credit Facilities			

In May 2011, we completed a series of transactions designed to refinance our then existing indebtedness. These transactions included the execution of a credit agreement (as amended, the "Credit Agreement"), which provided for senior secured credit facilities (the "Senior Secured Credit Facilities") consisting of a term loan facility, a revolving credit facility, and incremental availability under which additional secured credit facilities could be issued under certain circumstances.

Currently outstanding under the Senior Secured Credit Facilities are a term loan facility (the "Term Loan"), a \$420.0 million revolving credit facility (the "Revolving Credit Facility"), and \$1.0 billion incremental availability (the "Accordion") under which, subject to certain limitations as defined in the indentures (the "Senior Notes Indentures") under which the Senior Notes (as defined below) were issued, additional secured debt may be issued or the capacity of the Revolving Credit Facility may be increased.

All obligations under the Senior Secured Credit Facilities are unconditionally guaranteed by certain of our subsidiaries (the "Guarantors") and collateralized by substantially all present and future property and assets of Sensata Technologies B.V. ("STBV"), Sensata Technologies Finance Company, LLC, and the Guarantors.

The Credit Agreement stipulates certain events and conditions that may require us to use excess cash flow, as defined in the Credit Agreement, generated by operating, investing, or financing activities, to prepay some or all of the outstanding borrowings under the Senior Secured Credit Facilities. The Credit Agreement also requires mandatory prepayments of the outstanding borrowings under the Senior Secured Credit Facilities upon certain asset dispositions and casualty events, in each case subject to certain reinvestment rights, and the incurrence of certain indebtedness (excluding any permitted indebtedness). These provisions were not triggered during the year ended December 31, 2018.



Table of Contents

## Term Loan

On November 7, 2017, we entered into the eighth amendment of the Credit Agreement, which resulted in a "Repricing Transaction" as that term is defined in the Credit Agreement. As a result, the Term Loan replaced the term loan provided under the sixth amendment of the Credit Agreement (the "Sixth Amendment"). Pursuant to the Eighth Amendment, changes from the previously issued term loan included the following: (i) the applicable interest rate margins were reduced as discussed below; (ii) the senior secured net leverage ratio threshold that triggers the excess cash flow mandatory prepayment requirement was increased; (iii) the Accordion was re-set to \$1.0 billion as of the effective date of the Eighth Amendment; (iv) various baskets, permissions and other provisions under certain of the affirmative and negative covenants were increased or otherwise amended for our benefit; and (v) certain other changes were made to the Credit Agreement that are not considered material. The Term Loan retains all other provisions of the Sixth Amendment, including original principal amount and maturity, amongst others.

In accordance with the Credit Agreement, the Term Loan may, at our option, be maintained from time to time as a Base Rate loan or a Eurodollar Rate loan (each as defined in the Credit Agreement), with each representing a different determination of interest rates. The principal amount of the Term Loan amortizes in equal quarterly installments in an aggregate annual amount equal to 1.0% of the original principal amount of the term loan provided under the Sixth Amendment, with the balance due at maturity. The applicable margins for the Term Loan as of December 31, 2018 were 0.75% and 1.75% for Base Rate loans and Eurodollar Rate loans, respectively, (a decrease from 1.25% and 2.25%, respectively, pursuant to the Sixth Amendment) subject to floors of 1.00% and 0.00% for Base Rate loans and Eurodollar Rate loans, respectively (a decrease from 1.75% and 0.75%, respectively, pursuant to the Sixth Amendment). As of December 31, 2018, we maintained the Term Loan as a Eurodollar Rate loan.

## Revolving Credit Facility

At our option, the Revolving Credit Facility may be maintained from time to time as a Base Rate loan or a Eurodollar Rate loan, each with a different determination of interest rates. Interest rates and fees on the Revolving Credit Facility are as follows (each depending on the achievement of certain senior secured net leverage ratios) (i) the index rate spread for Eurodollar Rate loans is 1.75% or 1.50%; (ii) the index rate spread for Base Rate loans is 0.75% or 0.50%; and (iii) the letter of credit fees are 1.625% or 1.375%.

We are required to pay to our revolving credit lenders, on a quarterly basis, a commitment fee on the unused portion of the Revolving Credit Facility. The commitment fee is subject to a pricing grid based on our leverage ratio. The spreads on the commitment fee currently range from 0.25% to 0.375%.

As of December 31, 2018, there was \$416.1 million of availability under the Revolving Credit Facility, net of \$3.9 million in letters of credit. Outstanding letters of credit are issued primarily for the benefit of certain operating activities. As of December 31, 2018, no amounts had been drawn against these outstanding letters of credit.

Availability under the Revolving Credit Facility may be borrowed, repaid, and re-borrowed to fund our working capital needs and for other general corporate purposes.

## Senior Notes

At December 31, 2018 we had various tranches of senior notes outstanding, including \$500.0 million aggregate principal amount of 4.875% senior notes due 2023 (the "4.875% Senior Notes"), \$400.0 million aggregate principal amount of 5.625% senior notes due 2024 (the "5.625% Senior Notes"), \$700.0 million aggregate principal amount of 5.0% senior notes due 2025 (the "5.0% Senior Notes"), and \$750.0 million aggregate principal amount of 6.25% senior notes due 2026 (the "6.25% Senior Notes" and together with each tranche of senior notes outstanding, the "Senior Notes").

With the exception of the 6.25% Senior Notes, we may redeem the Senior Notes at any time, in whole or in part, at a redemption price equal to 100% of the principal amount of the Senior Notes redeemed plus accrued and unpaid interest, if any, to the date of redemption, plus the Applicable Premium (also known as the "make-whole premium") set forth in the Senior Notes Indentures. Upon the occurrence of certain change in control events, we will be required to make an offer to purchase the Senior Notes then outstanding at a purchase price equal to 101% of their principal amount, plus accrued and unpaid interest, if any, to the date of repurchase. In addition, if certain changes in the law of any relevant taxing jurisdiction become effective that would impose withholding taxes or other deductions on the payments of the Senior Notes or the guarantees, we may redeem the Senior Notes in whole, but not in part, at any



time, at a redemption price of 100% of the principal amount, plus accrued and unpaid interest, if any, and additional amounts, if any, to the date of redemption.

The Senior Notes Indentures provide for events of default that include, among others, nonpayment of principal or interest when due, breach of covenants or other provisions in the Senior Notes Indentures, defaults in payment of certain other

101

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Table of Contents

indebtedness, certain events of bankruptcy or insolvency, failure to pay certain judgments, and the cessation of the full force and effect of the guarantees of significant subsidiaries. Generally, if an event of default occurs, the trustee or the holders of at least 25% in principal amount of the then outstanding Senior Notes may declare the principal of, and accrued but unpaid interest on, all of the Senior Notes to be due and payable immediately. All provisions regarding remedies in an event of default are subject to the Senior Notes Indentures.

Our obligations under the 4.875% Senior Notes, the 5.625% Senior Notes, and the 5.0% Senior Notes are guaranteed by all of STBV's existing and future wholly-owned subsidiaries that guarantee our obligations under the Senior Secured Credit Facilities. The 4.875% Senior Notes, the 5.625% Senior Notes, and the 5.0% Senior Notes and the related guarantees are the senior unsecured obligations of STBV and the Guarantors, respectively and rank equally in right of payment to all existing and future senior unsecured indebtedness of STBV or the Guarantors.

Our obligations under the 6.25% Senior Notes are guaranteed by STBV and all of STBV's existing and future wholly-owned subsidiaries (other than Sensata Technologies UK Financing Co. plc ("STUK")) that guarantee our obligations under the Senior Secured Credit Facilities. The 6.25% Senior Notes and the related guarantees are the senior unsecured obligations of STUK and the Guarantors, respectively. The 6.25% Senior Notes and the guarantees rank equally in right of payment to all existing and future senior unsecured indebtedness of STUK, STBV, or the Guarantors.

**4.875% Senior Notes**

In April 2013 we completed the issuance and sale of the 4.875% Senior Notes, which were issued under an indenture dated April 17, 2013 among STBV, as issuer, The Bank of New York Mellon, as trustee, and the Guarantors. The 4.875% Senior Notes were offered at par. Interest on the 4.875% Senior Notes is payable semi-annually on April 15 and October 15 of each year.

**5.625% Senior Notes**

In October 2014 we completed the issuance and sale of the 5.625% Senior Notes, which were issued under an indenture dated October 14, 2014, among STBV, as issuer, The Bank of New York Mellon, as trustee, and the Guarantors. The 5.625% Senior Notes were offered at par. Interest on the 5.625% Senior Notes is payable semi-annually on May 1 and November 1 of each year.

**5.0% Senior Notes**

In March 2015 we completed the issuance and sale of the 5.0% Senior Notes, which were issued under an indenture dated March 26, 2015, among STBV, as issuer, The Bank of New York Mellon, as trustee, and the Guarantors. The 5.0% Senior Notes were offered at par. Interest on the 5.0% Senior Notes is payable semi-annually on April 1 and October 1 of each year.

**6.25% Senior Notes**

In November 2015, we completed the issuance and sale of the 6.25% Senior Notes, which were issued under an indenture dated November 27, 2015 (the "6.25% Senior Notes Indenture") among STUK, as issuer, The Bank of New York Mellon, as trustee, and the Guarantors. The 6.25% Senior Notes were offered at par. Interest on the 6.25% Senior Notes is payable semi-annually on February 15 and August 15 of each year.

We may redeem the 6.25% Senior Notes, in whole or in part, at any time prior to February 15, 2021, at a redemption price equal to 100% of the principal amount of the 6.25% Senior Notes redeemed plus accrued and unpaid interest to the date of redemption, if any, plus the Applicable Premium set forth in the 6.25% Senior Notes Indenture. Thereafter, we may redeem the 6.25% Senior Notes, in whole or in part, at the following prices (plus accrued and unpaid interest to the date of redemption, if any):

Period beginning February 15, Price

2021	103.125%
2022	102.083%
2023	101.042%
2024 and thereafter	100.000%

## Table of Contents

### Restrictions and Covenants

As of December 31, 2018, all of the subsidiaries of STBV were subject to certain restrictive covenants. Under certain circumstances, STBV will be permitted to designate a subsidiary as "unrestricted," in which case the restrictive covenants will not apply to that subsidiary. STBV has not designated any subsidiaries as unrestricted. The net assets of STBV subject to these restrictions totaled \$2,932.2 million at December 31, 2018.

### Credit Agreement

The Credit Agreement contains non-financial covenants (subject to important exceptions and qualifications set forth in the Credit Agreement) that limit our ability to:

- incur indebtedness or liens, prepay subordinated debt, or amend the terms of our subordinated debt;
- make loans and investments (including acquisitions), make capital expenditures, or sell assets;
- change our business or accounting policies, merge, consolidate, dissolve or liquidate, or amend the terms of our organizational documents;
- enter into affiliate transactions;
- pay dividends and make other restricted payments; or
- enter into certain burdensome contractual obligations.

In addition, under the Credit Agreement, STBV and its subsidiaries are required to maintain a senior secured net leverage ratio not to exceed 5.0:1.0 under the following circumstances:

- at the conclusion of certain periods when outstanding loans and letters of credit that are not cash collateralized for the full face amount thereof exceed 10% of the commitments under the Revolving Credit Facility; and
- on a pro forma basis, in connection with any new borrowings (including any letter of credit issuances) under the Revolving Credit Facility as of the time of such borrowings.

### Senior Notes Indentures

The Senior Notes Indentures contain restrictive covenants (subject to important exceptions and qualifications set forth in the Senior Notes Indentures) that limit the ability of STBV and its subsidiaries to, among other things:

- incur additional indebtedness or liens, prepay subordinated indebtedness, or guarantee indebtedness;
- make certain investments or certain other restricted payments or sell certain kinds of assets;
- effect mergers or consolidations;
- enter into certain types of transactions with affiliates;
- pay dividends or make other distributions in respect of STBV's and its subsidiaries' capital stock;
- create restrictions on STBV's subsidiaries' ability to make payments to STBV;
- issue preferred stock;
- redeem or repurchase STBV's capital stock, our capital stock, or the capital stock of any other direct or indirect parent company of STBV; or
- designate unrestricted subsidiaries.

Certain of these covenants will be suspended if the Senior Notes are assigned an investment grade rating by Standard & Poor's Rating Services or Moody's Investors Service, Inc. and provided no default has occurred and is continuing at such time. The suspended covenants will be reinstated if the Senior Notes are no longer assigned an investment grade rating by either rating agency and an event of default has occurred and is continuing at such time. As of December 31, 2018, none of the Senior Notes were assigned an investment grade rating by either rating agency.

### Restrictions on Payment of Dividends

The Guarantors are generally not restricted in their ability to pay dividends or otherwise distribute funds to STBV, except for restrictions imposed under applicable corporate law.

STBV, however, is limited in its ability to pay dividends or otherwise make distributions to its immediate parent company and, ultimately, to Sensata plc, under the Credit Agreement and the Senior Notes Indentures. Specifically, the Credit Agreement

## Table of Contents

prohibits STBV from paying dividends or making distributions to its parent companies except for purposes that include, but are not limited to, the following:

customary and reasonable operating expenses, legal and accounting fees and expenses, and overhead of such parent companies incurred in the ordinary course of business, provided that such amounts, in the aggregate, do not exceed \$20.0 million in any fiscal year;

dividends and other distributions in an aggregate amount not to exceed \$100.0 million plus certain amounts, including the retained portion of excess cash flow, but only insofar as no default or event of default exists and the senior secured net leverage ratio is less than 2.0:1.0 calculated on a pro forma basis;

dividends and other distributions in an aggregate amount not to exceed \$50.0 million in any calendar year (subject to increase upon the achievement of certain ratios); and

dividends and other distributions in an aggregate amount not to exceed \$150.0 million, so long as no default or event of default exists.

The Senior Notes Indentures generally provide that STBV can pay dividends and make other distributions to its parent companies upon the achievement of certain conditions and in an amount as determined in accordance with the Senior Notes Indentures.

### Compliance with Financial and Non-Financial Covenants

We were in compliance with all of the financial and non-financial covenants and default provisions associated with our indebtedness as of December 31, 2018 and for the fiscal year then ended.

### Accounting for Debt Financing Transactions

Refer to Note 2, "Significant Accounting Policies," for discussion of our accounting policies regarding debt financing transactions.

In connection with the Merger, we paid \$5.8 million of creditor fees and related third-party costs in order to obtain consents to the transaction from our existing lenders. As a result, and based on application of the provisions in FASB ASC Subtopic 470-50, we recognized a \$3.5 million adjustment to the carrying value of long-term debt, net and a \$2.4 million loss in other, net.

During the year ended December 31, 2017, as a result and based on application of the provisions of ASC Subtopic 470-50, Modifications and Extinguishments, we recognized a \$0.2 million adjustment to the carrying value of long-term debt, net and a \$2.7 million loss in other, net.

### Leases

We occupy leased facilities with initial terms ranging up to 20 years. The lease agreements frequently include options to renew for additional periods or to purchase the leased assets and generally require that we pay taxes, insurance, and maintenance costs. Depending on the specific terms of the leases, our obligations are in two forms: capital leases and operating leases. Rent expense for the years ended December 31, 2018, 2017, and 2016 was \$21.0 million, \$19.7 million, and \$18.1 million, respectively.

We have material capital leases for facilities in Baoying, China and Attleboro, Massachusetts. As of December 31, 2018 and 2017, the combined capital lease obligation outstanding for these facilities was \$30.4 million and \$26.2 million, respectively. The increase in the capital lease obligation relates to a renegotiation of the terms of our lease in Attleboro.

### Other Financing Obligations

In 2013, we entered into an agreement with one of our suppliers, Measurement Specialties, Inc., under which we acquired the rights to certain intellectual property in exchange for fixed royalty payments, payable quarterly through the fourth quarter of 2019. As of December 31, 2018 and 2017, we had recognized a liability related to this agreement of \$1.8 million and \$3.5 million, respectively.

### Debt Maturities

The aggregate principal amount of each tranche of our Senior Notes is due in full at its maturity date. The Term Loan must be repaid in full on or prior to its final maturity date. Loans made pursuant to the Revolving Credit Facility must be repaid



Table of Contents

in full at its maturity date and can be repaid prior to then at par. All letters of credit issued thereunder will terminate at the final maturity of the Revolving Credit Facility unless cash collateralized prior to such time.

The following table presents the remaining mandatory principal repayments of long-term debt, excluding capital lease payments, other financing obligations, and discretionary repurchases of debt, in each of the years ended December 31, 2019 through 2023 and thereafter.

For the year ended December 31,	Aggregate Maturities
2019	\$9,704
2020	9,901
2021	898,189
2022	—
2023	500,000
Thereafter	1,850,000
Total long-term debt principal payments	\$3,267,794

## 15. Commitments and Contingencies

Future minimum payments for capital leases, other financing obligations, and non-cancelable operating leases in effect as of December 31, 2018 are as follows:

For the year ending December 31,	Future Minimum Payments			Total
	Capital Leases	Other Financing Obligations	Operating Leases	
2019	\$4,672	\$ 2,541	\$ 16,621	\$23,834
2020	4,540	459	12,319	17,318
2021	4,062	178	9,688	13,928
2022	3,712	—	7,707	11,419
2023	3,771	—	6,471	10,242
2024 and thereafter	36,327	—	26,580	62,907
Net minimum rentals	57,084	3,178	79,386	139,648
Less: interest portion	(24,395 )	(392 )	—	(24,787 )
Present value of future minimum rentals	\$32,689	\$ 2,786	\$ 79,386	\$114,861

Non-cancelable purchase agreements exist with various suppliers, primarily for services such as information technology support. The terms of these agreements are fixed and determinable. As of December 31, 2018, we had the following purchase commitments:

For the year ending December 31,	Purchase Commitments
2019	\$ 23,983
2020	24,202
2021	18,525
2022	8,065
2023	4,952
2024 and thereafter	39
Total purchase commitments	\$ 79,766

## Collaborative Arrangements

On March 4, 2016, we entered into a strategic partnership agreement (the "SPA") with Quanergy to jointly develop, manufacture, and sell solid state Light Detection and Ranging ("LiDAR") sensors. Under the terms of the SPA, we are exclusive partners with Quanergy for component level solid state LiDAR sensors in the transportation end market.



## Table of Contents

We are accounting for the SPA under the provisions of FASB ASC Topic 808, Collaborative Arrangements, under which the accounting for certain transactions is determined using principal versus agent considerations. Using the guidance in FASB ASC Topic 606, we have determined that we are the principal with respect to the SPA. During the years ended December 31, 2018, 2017, and 2016, there were no material amounts recorded to earnings related to the SPA.

### Off-Balance Sheet Commitments

From time to time, we execute contracts that require us to indemnify the other parties to the contracts. These indemnification obligations generally arise in two contexts. First, in connection with certain transactions, such as the sale of a business or the issuance of debt or equity securities, the agreement typically contains standard provisions requiring us to indemnify the purchaser against breaches by us of representations and warranties contained in the agreement. These indemnities are generally subject to time and liability limitations. Second, we enter into agreements in the ordinary course of business, such as customer contracts, that might contain indemnification provisions relating to product quality, intellectual property infringement, governmental regulations and employment related matters, and other typical indemnities. In certain cases, indemnification obligations arise by law.

We believe that our indemnification obligations are consistent with other companies in the markets in which we compete. Performance under any of these indemnification obligations would generally be triggered by a breach of the terms of the contract or by a third-party claim. Historically, we have experienced only immaterial and irregular losses associated with these indemnifications. Consequently, any future liabilities brought about by these indemnifications cannot reasonably be estimated or accrued.

### Indemnifications Provided As Part of Contracts and Agreements

We are party to the following types of agreements pursuant to which we may be obligated to indemnify a third party with respect to certain matters.

**Officers and Directors:** Our articles of association provide for indemnification of directors and officers by us to the fullest extent permitted by applicable law, as it now exists or may hereinafter be amended (but, in the case of an amendment, only to the extent such amendment permits broader indemnification rights than permitted prior thereto), against any and all liabilities, including all expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit, or proceeding, provided he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful or outside of his or her mandate. The articles do not provide a limit to the maximum future payments, if any, under the indemnification. No indemnification is provided for in respect of any claim, issue, or matter as to which such person has been adjudged to be liable for gross negligence or willful misconduct in the performance of his or her duty on our behalf.

In addition, we have a liability insurance policy that insures directors and officers against the cost of defense, settlement, or payment of claims and judgments under some circumstances. Certain indemnification payments may not be covered under our directors' and officers' insurance coverage.

**Initial Purchasers of Senior Notes:** Pursuant to the terms of the purchase agreements entered into in connection with our private placement senior note offerings, we are obligated to indemnify the initial purchasers of the Senior Notes against certain liabilities caused by any untrue statement or alleged untrue statement of a material fact in various documents relied upon by such initial purchasers, or to contribute to payments the initial purchasers may be required to make in respect thereof. The purchase agreements do not provide a limit to the maximum future payments, if any, under these indemnifications.

**Intellectual Property and Product Liability Indemnification:** We routinely sell products with a limited intellectual property and product liability indemnification included in the terms of sale. Historically, we have had only immaterial and irregular losses associated with these indemnifications. Consequently, any future liabilities resulting from these indemnifications cannot reasonably be estimated or accrued.

### Product Warranty Liabilities

Refer to Note 3, "Revenue Recognition," for a description of warranties we provide to customers.



In the event a warranty claim based on defective materials exists, we may be able to recover some of the cost of the claim from the vendor from whom the materials were purchased. Our ability to recover some of the costs will depend on the terms

106

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## Table of Contents

and conditions to which we agreed when the materials were purchased. When a warranty claim is made, the only collateral available to us is the return of the inventory from the customer making the warranty claim. Historically, when customers make a warranty claim, we either replace the product or provide the customer with a credit. We generally do not rework the returned product.

Our policy is to accrue for warranty claims when a loss is both probable and estimable. This is accomplished by accruing for estimated returns and estimated costs to replace the product at the time the related revenue is recognized. Liabilities for warranty claims have historically not been material. In some instances, customers may make claims for costs they incurred or other damages related to a claim.

### Environmental Remediation Liabilities

Our operations and facilities are subject to U.S. and non-U.S. laws and regulations governing the protection of the environment and our employees, including those governing air emissions, water discharges, the management and disposal of hazardous substances and wastes, and the cleanup of contaminated sites. We could incur substantial costs, including cleanup costs, fines, civil or criminal sanctions, or third-party property damage or personal injury claims, in the event of violations or liabilities under these laws and regulations, or non-compliance with the environmental permits required at our facilities. Potentially significant expenditures could be required in order to comply with environmental laws that may be adopted or imposed in the future. We are, however, not aware of any threatened or pending material environmental investigations, lawsuits, or claims involving us or our operations.

### Legal Proceedings and Claims

We are regularly involved in a number of claims and litigation matters in the ordinary course of business. Most of our litigation matters are third-party claims related to patent infringement allegations or for property damage allegedly caused by our products, but some involve allegations of personal injury or wrongful death. Although it is not feasible to predict the outcome of these matters, based upon our experience and current information known to us, we do not expect the outcome of these matters, either individually or in the aggregate, to have a material adverse effect on our results of operations, financial position, or cash flows.

We account for litigation and claims losses in accordance with FASB ASC Topic 450, Contingencies. Under FASB ASC Topic 450, loss contingency provisions are recorded for probable and estimable losses at our best estimate of a loss or, when a best estimate cannot be made, at our estimate of the minimum loss. These estimates are often developed prior to knowing the amount of the ultimate loss, require the application of considerable judgment, and are refined each accounting period as additional information becomes known. Accordingly, we are often initially unable to develop a best estimate of loss and therefore the minimum amount, which could be an immaterial amount, is recorded. As information becomes known, either the minimum loss amount is increased, or a best estimate can be made, generally resulting in additional loss provisions. A best estimate amount may be changed to a lower amount when events result in an expectation of a more favorable outcome than previously expected.

### Pending Litigation and Claims:

We are a defendant in a lawsuit, Wasica Finance GmbH et al v. Schrader International Inc. et al, Case No. 13-1353-CPS, U.S.D.C., Delaware, in which the claimant alleges infringement of their patent (US 5,602,524) in connection with our tire pressure monitoring system products. The patent in question has expired, and as a result, the claimant only seeks damages for past infringement with interest and costs. Should the claimant prevail, these amounts could be material. We have denied liability and have been defending the litigation, which is in discovery. The court held a claims construction hearing on December 3, 2018 and is expected to issue a ruling in February 2019. Trial is currently expected in February 2020. We do not believe a loss related to this matter is probable. As of December 31, 2018, we have not recorded an accrual related to this matter.

We are a defendant in a lawsuit, Metal Seal Precision, Ltd. v. Sensata Technologies Inc., Case No. 2017-0518-BCSI, MA Superior Court (Suffolk County), in which the claimant ("Metal Seal"), a supplier of metal parts used in the manufacture of our products, alleges breach of contract, misrepresentation, and unfair trade practices under Massachusetts general laws. The dispute arises out of a long-term supply agreement under which Metal Seal alleges certain minimum purchase requirements were not met, resulting in lost profits and loss of future revenues. If the claimant prevails additionally under the unfair trade practices claims, it could obtain additional treble damages and attorney's fees. Plaintiff's damage expert claims that Metal Seal has losses ranging up to \$51.0 million. We are

defending the lawsuit, which is currently scheduled for trial on March 11, 2019 through March 19, 2019. We do not believe a loss related to this matter is probable. As of December 31, 2018, we have not recorded an accrual related to this matter.

107

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Table of Contents

16. Shareholders' Equity

Prior to the Merger, Sensata N.V.'s articles of association authorized it to issue up to 400.0 million ordinary shares. However, entities incorporated under the laws of England and Wales are limited in the number of shares they can issue to those shares that have been authorized for "allotment" by their shareholders. In connection with the Merger, our Board of Directors asked shareholders to approve an allotment of ordinary shares equal to the total ordinary shares then issued and outstanding plus the maximum number of ordinary shares that could be reasonably expected to be issued under our equity plans within the next year, which resulted in an allotment of 177.1 million ordinary shares.

Treasury Shares

Ordinary shares repurchased by us are recognized, measured at cost, and presented as treasury shares on our consolidated balance sheets, resulting in a reduction of shareholders' equity.

In connection with the Merger, all then outstanding treasury shares were canceled in accordance with U.K. law. Accordingly, we (1) derecognized the total purchase price of these treasury shares, (2) recognized a reduction to ordinary shares at an amount equal to the total par value of such shares, and (3) recognized a reduction to retained earnings at an amount equal to the excess of the total repurchase price over the total par value of the then outstanding treasury shares, or \$286.1 million.

Also, upon completion of the Merger, the \$250.0 million share repurchase program previously authorized by the Board of Directors of Sensata N.V. lapsed, and our ability to repurchase shares as a company incorporated in England and Wales became contingent upon the completion of certain court proceedings in the U.K. (which were completed in the second quarter of 2018), approval of our shareholders (which occurred at our May 31, 2018 annual general meeting of shareholders), and authorization by our Board of Directors.

On May 31, 2018, we announced that our Board of Directors had authorized a \$400.0 million share repurchase program. Under this program, we may repurchase ordinary shares at such times and in amounts to be determined by our management, based on market conditions, legal requirements, and other corporate considerations, on the open market or in privately negotiated transactions, provided that such transactions were completed pursuant to an agreement and with a third party approved by our shareholders at the annual general meeting. The authorized amount of our share repurchase program could be modified or terminated by our Board of Directors at any time. We repurchased 7,571 ordinary shares under this program during the year ended December 31, 2018, for a total purchase price of approximately \$399.4 million, which are now held as treasury shares.

In October 2018, our Board of Directors authorized a new \$250.0 million share repurchase program, subject to the same conditions that applied to the previously authorized \$400.0 million share repurchase program. We did not make any repurchases under this program during fiscal year 2018.

As a result of certain aspects of U.K. law, we discontinued the practice of reissuing treasury shares as part of our share-based compensation programs upon completion of the Merger. The number of treasury shares reissued prior to completion of the Merger was not material.

Table of Contents

## Accumulated Other Comprehensive Loss

The components of accumulated other comprehensive loss were as follows:

	Cash Flow Hedges	Defined Benefit and Retiree Healthcare Plans	Accumulated Other Comprehensive Loss	
Balance as of December 31, 2015	\$3,852	\$(29,842 )	\$( 25,990 )	)
Pre-tax current period change	(5,106 )	(4,934 )	(10,040 )	)
Tax effect	1,277	686	1,963	)
Balance as of December 31, 2016	23	(34,090 )	(34,067 )	)
Pre-tax current period change	(37,603)	(1,445 )	(39,048 )	)
Tax effect	9,401	550	9,951	)
Balance as of December 31, 2017	(28,179)	(34,985 )	(63,164 )	)
Pre-tax current period change	49,817	(1,183 )	48,634	)
Tax effect	(12,454)	806	(11,648 )	)
Balance as of December 31, 2018	\$9,184	\$(35,362 )	\$( 26,178 )	)

The details of the components of other comprehensive income/(loss), net of tax, for the years ended December 31, 2018, 2017, and 2016 are as follows:

	For the year ended December 31, 2018			2017			2016		
	Cash Flow Hedges	Defined Benefit and Retiree Healthcare Plans	Total	Cash Flow Hedges	Defined Benefit and Retiree Healthcare Plans	Total	Cash Flow Hedges	Defined Benefit and Retiree Healthcare Plans	Total
Other comprehensive income/(loss) before reclassifications	\$26,859	\$(2,120 )	\$24,739	\$(39,387)	\$(4,184 )	\$(43,571)	\$(6,356)	\$(6,816 )	\$(13,172)
Amounts reclassified from accumulated other comprehensive loss	10,504	1,743	12,247	11,185	3,289	14,474	2,527	2,568	5,095
Other comprehensive income/(loss)	\$37,363	\$(377 )	\$36,986	\$(28,202)	\$(895 )	\$(29,097)	\$(3,829)	\$(4,248 )	\$(8,077 )

Table of Contents

The details of the amounts reclassified from accumulated other comprehensive loss for the years ended December 31, 2018, 2017, and 2016 are as follows:

	Amount of Loss/(Gain) Reclassified from Accumulated Other Comprehensive Loss For the year ended December 31,			Affected Line in Consolidated Statements of Operations
	2018	2017	2016	
Derivative instruments designated and qualifying as cash flow hedges:				
Foreign currency forward contracts	\$18,072	\$916	\$(17,720)	Net revenue <sup>(1)</sup>
Foreign currency forward contracts	(5,442 )	13,997	21,089	Cost of revenue <sup>(1)</sup>
Foreign currency forward contracts	1,376	—	—	Other, net <sup>(1)</sup>
Total, before taxes	14,006	14,913	3,369	Income before taxes
Income tax effect	(3,502 )	(3,728 )	(842 )	(Benefit from)/provision for income taxes
Total, net of taxes	\$10,504	\$11,185	\$2,527	Net income
Defined benefit and retiree healthcare plans	\$1,993	\$3,476	\$2,975	Other, net <sup>(2)</sup>
Defined benefit and retiree healthcare plans	228	—	—	Restructuring and other charges, net <sup>(3)</sup>
Total, before taxes	2,221	3,476	2,975	Income before taxes
Income tax effect	(478 )	(187 )	(407 )	(Benefit from)/provision for income taxes
Total, net of taxes	\$1,743	\$3,289	\$2,568	Net income

<sup>(1)</sup> See Note 19, "Derivative Instruments and Hedging Activities," for details on amounts to be reclassified in the future from accumulated other comprehensive loss.

<sup>(2)</sup> See Note 13, "Pension and Other Post-Retirement Benefits," for details of net periodic benefit cost.

Amount represents an equity component of the Valves Business. Refer to Note 5, "Restructuring and Other

<sup>(3)</sup> Charges, Net," and Note 17, "Acquisitions and Divestitures," for information related to the sale of the Valves Business.

#### 17. Acquisitions and Divestitures

##### GIGAVAC merger

On September 24, 2018, we entered into an agreement and plan of merger with GIGAVAC, whereby GIGAVAC would merge with one of our wholly-owned subsidiaries, thereby becoming a wholly-owned subsidiary of Sensata. On October 31, 2018, we completed the acquisition of GIGAVAC for \$233.0 million of cash consideration, subject to working capital and other adjustments, approximately \$12.0 million of which related to certain compensation arrangements with certain GIGAVAC employees and shareholders.

Based in Carpinteria, California, GIGAVAC has more than 270 employees and is a leading provider of solutions that enable electrification in demanding environments within the automotive, battery storage, industrial, and HVOR end markets. We acquired GIGAVAC to increase our content and capabilities for electrification, including products such as cars, delivery trucks, buses, material handling equipment, and charging stations. Portions of GIGAVAC will be integrated into each of our operating segments.

Table of Contents

The following table summarizes the preliminary allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed:

Net working capital, excluding cash	\$ 16,980
Property, plant and equipment	4,384
Goodwill	114,638
Other intangible assets	122,742
Other assets	63
Deferred income tax liabilities	(27,000 )
Other long-term liabilities	(1,000 )
Fair value of net assets acquired, excluding cash and cash equivalents	230,807
Cash and cash equivalents	359
Fair value of net assets acquired	\$231,166

The allocation of purchase price related to the GIGAVAC Merger is preliminary, and is based on management's judgments after evaluating several factors, including preliminary valuation assessments of tangible and intangible assets. The final allocation of the purchase price to the assets acquired will be completed when the final valuations are completed. The preliminary goodwill recognized as a result of this acquisition was approximately \$114.6 million, which represents future economic benefits expected to arise from synergies from combining operations and the extension of existing customer relationships. The amount of goodwill recorded that is expected to be deductible for tax purposes is not material.

In connection with the allocation of purchase price to the assets acquired and liabilities assumed, we identified certain definite-lived intangible assets. The following table presents the acquired intangible assets, their estimated fair values, and weighted average lives:

	Acquisition	
	Date Fair Value	Weighted-Average Lives (years)
Acquired definite-lived intangible assets:		
Customer relationships	\$ 74,500	10
Completed technologies	31,040	13
Tradenames	15,400	15
Other	1,802	6
Total definite-lived intangible assets acquired	\$ 122,742	12

The definite-lived intangible assets were valued using the income approach. We used the relief-from-royalty method to value completed technologies and tradenames, and we used the multi-period excess earnings method to value customer relationships. These valuation methods incorporate assumptions including expected discounted future cash flows resulting from either the future estimated after-tax royalty payments avoided as a result of owning the completed technologies or the future earnings related to existing customer relationships.

#### Valves Business Divestiture

On August 31, 2018 we completed the sale of the Valves Business to Pacific Industrial Co. Ltd. (together with its affiliates, "Pacific"). Contemporaneous with the closing of the sale, Sensata and Pacific entered into a long-term supply agreement, which imposes an obligation on us to purchase minimum quantities of product from Pacific over a period of nearly five years.

In exchange for selling the Valves Business and entering into the long-term supply agreement, we received cash consideration from Pacific of approximately \$165.5 million, net of \$11.8 million of cash and cash equivalents sold. We recognized a (pre-tax) gain on sale of \$64.4 million, which is presented in restructuring and other charges, net. In addition, we recognized \$5.9 million of costs to sell the Valves Business, which are also presented in restructuring and other charges, net. Refer to Note 5, "Restructuring and Other Charges, Net," for additional information.

We determined that the terms of the long-term supply agreement entered into concurrent with the sale of the Valves Business were not at market. Accordingly, we recognized a liability of \$16.4 million, measured at fair value, which represented the fair value of the off-market component of the supply agreement.





Table of Contents

The Valves Business, which we acquired in 2014 as part of our acquisition of Schrader, manufactures mechanical valves for pressure applications in tires and fluid controls and assembles tire hardware aftermarket products. The Valves Business has manufacturing locations in the U.S. and Europe.

The Valves Business was included in our Performance Sensing segment (and reporting unit). We allocated goodwill to the Valves Business based on its fair value relative to the fair value of the retained Performance Sensing reporting unit.

**18. Fair Value Measures**

Our assets and liabilities recorded at fair value have been categorized based upon a fair value hierarchy in accordance with FASB ASC Topic 820. The levels of the fair value hierarchy are described below:

Level 1 inputs utilize quoted prices (unadjusted) in active markets for identical assets and liabilities that we have the ability to access at the measurement date.

Level 2 inputs utilize inputs, other than quoted prices included in Level 1, that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets and liabilities in active markets, quoted prices in markets that are not active, and inputs other than quoted prices that are observable for the asset or liability, such as interest rates and yield curves that are observable at commonly quoted intervals.

Level 3 inputs are unobservable inputs for the asset or liability, allowing for situations where there is little, if any, market activity for the asset or liability.

**Measured on a Recurring Basis**

The fair values of our assets and liabilities measured at fair value on a recurring basis as of as of December 31, 2018 and 2017 are as shown in the below table. All fair value measures presented are categorized in Level 2 of the fair value hierarchy.

	As of December	
	31,	
	2018	2017
Assets measured at fair value:		
Foreign currency forward contracts	\$17,871	\$3,955
Commodity forward contracts	831	6,458
Total assets measured at fair value	\$18,702	\$10,413
Liabilities measured at fair value:		
Foreign currency forward contracts	\$5,165	\$40,969
Commodity forward contracts	4,137	1,104
Total liabilities measured at fair value	\$9,302	\$42,073

Refer to Note 2, "Significant Accounting Policies," for a discussion of the methods used to estimate the fair value of our financial instruments, and refer Note 19, "Derivative Instruments and Hedging Activities," for further discussion of the inputs used to determine these fair value measurements and the nature of the risks that these derivative instruments are intended to mitigate.

Although we have determined that the majority of the inputs used to value our derivative instruments fall within Level 2 of the fair value hierarchy, the credit valuation adjustments associated with our derivatives utilize Level 3 inputs, such as estimates of current credit spreads, to appropriately reflect both our own non-performance risk and the respective counterparties' non-performance risk in the fair value measurement. As of December 31, 2018 and 2017, we have assessed the significance of the impact of the credit valuation adjustments on the overall valuation of our derivative positions and have determined that the credit valuation adjustments are not significant to the overall valuation of our derivatives. As a result, we have determined that our derivatives in their entirety are classified in Level 2 in the fair value hierarchy.

**Measured on a Nonrecurring Basis**

In connection with the sale of the Valves Business, as required by FASB ASC Topic 350, we evaluated the goodwill of the retained portion of the Performance Sensing reporting unit for impairment and determined that it was not impaired. In addition, we evaluated our goodwill for impairment as of October 1, 2018 using a combination of qualitative and quantitative methods. Refer to Note 2, "Significant Accounting Policies," for further discussion of this

process. Based on these analyses, we determined that their fair values exceeded their carrying values at that date.

112

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Table of Contents

As of October 1, 2018, we evaluated our other indefinite-lived intangible assets for impairment (using the quantitative method) and determined that the fair values of those assets exceeded their carrying values on that date. The fair values of our other indefinite-lived intangible assets are considered Level 3 fair value measurements.

As of December 31, 2018, no events or changes in circumstances occurred that would have triggered the need for an additional impairment review of goodwill or other indefinite-lived intangible assets.

On January 1, 2018, we adopted FASB ASU No. 2016-01, which requires measurement of certain equity instruments at fair value, with changes to fair value recognized in net income, or in certain instances, by use of a measurement alternative. Refer to Note 2, "Significant Accounting Policies," for detailed discussion of this guidance. As of December 31, 2018, our only equity investment is the Series B Preferred Stock of Quanergy, for which we elected to use the measurement alternative. There was no change to the \$50.0 million carrying value of this investment as a result of application of the measurement alternative.

**Financial Instruments Not Measured at Fair Value**

The following table presents the carrying values and fair values of financial instruments not measured at fair value in the consolidated balance sheets as of December 31, 2018 and 2017. All fair value measures presented are categorized within Level 2 of the fair value hierarchy.

	As of December 31,			
	2018		2017	
	Carrying Value <sup>(1)</sup>	Fair Value	Carrying Value <sup>(1)</sup>	Fair Value
Term Loan	\$917,794	\$904,027	\$927,794	\$930,114
4.875% Senior Notes	\$500,000	\$491,875	\$500,000	\$521,875
5.625% Senior Notes	\$400,000	\$400,500	\$400,000	\$439,000
5.0% Senior Notes	\$700,000	\$660,625	\$700,000	\$741,125
6.25% Senior Notes	\$750,000	\$751,875	\$750,000	\$813,750

<sup>(1)</sup> Excluding any related debt discounts and deferred financing costs.

The fair values of the Term Loan and the Senior Notes are determined primarily using observable prices in markets where these instruments are generally not traded on a daily basis. Cash and cash equivalents, accounts receivable, and accounts payable are carried at cost, which approximates fair value because of their short-term nature.

**19. Derivative Instruments and Hedging Activities**

We utilize derivative instruments that are designated and qualify as hedges of the exposure to variability in expected future cash flows. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on these hedging instruments with the earnings effect of the hedged forecasted transactions. We may enter into other derivative contracts that are intended to economically hedge certain risks, even though we elect not to apply hedge accounting under FASB ASC Topic 815. Derivative financial instruments not designated as hedges are used to manage our exposure to certain risks, not for trading or speculative purposes. Refer to Note 2, "Significant Accounting Policies," for detailed discussion of the valuation techniques and accounting policies related to derivative instruments and hedging activities.

The effective portion of changes in the fair value of derivatives designated and qualifying as cash flow hedges is recorded in accumulated other comprehensive loss and is subsequently reclassified into earnings in the period in which the hedged forecasted transaction affects earnings. The ineffective portion of such derivatives' change in fair value is immediately recognized in earnings. Changes in the fair value of contracts that are not designated as accounting hedges are recognized immediately in other, net. Refer to Note 16, "Shareholders' Equity," and elsewhere in this Note 19, for more details on the reclassification of amounts from accumulated other comprehensive loss into earnings.

**Hedges of Foreign Currency Risk**

We are exposed to fluctuations in various foreign currencies against our functional currency, the U.S. dollar (the "USD"). We enter into forward contracts for certain of these foreign currencies to manage this exposure. We currently have outstanding foreign currency forward contracts that qualify as cash flow hedges intended to offset the effect of

exchange rate fluctuations on forecasted sales and certain manufacturing costs. We also have outstanding foreign currency forward contracts that are intended to preserve the economic value of foreign currency denominated monetary assets and liabilities, which are not designated for hedge accounting treatment in accordance with FASB ASC Topic 815.

113

---

Table of Contents

For each of the years ended December 31, 2018, 2017, and 2016, amounts excluded from the assessment of effectiveness and the ineffective portion of the changes in the fair value of our foreign currency forward agreements that are designated as cash flow hedges were not material. As of December 31, 2018, we estimate that \$11.4 million in net gains will be reclassified from accumulated other comprehensive loss to earnings during the twelve month period ending December 31, 2019.

As of December 31, 2018, we had the following outstanding foreign currency forward contracts:

Notional (in millions)	Effective Date	Maturity Date	Index	Weighted-Average Strike Rate	Hedge Designation <sup>(1)</sup>
44.0 EUR	December 27, 2018	January 31, 2019	Euro to U.S. Dollar Exchange Rate	1.14 USD	None
341.5 EUR	Various from February 2017 to December 2018	Various from January 2019 to November 2020	Euro to U.S. Dollar Exchange Rate	1.22 USD	Cash flow hedge
285.0 CNY	December 26, 2018	January 31, 2019	U.S. Dollar to Chinese Renminbi Exchange Rate	6.91 CNY	None
31,275.0 KRW	Various from February 2017 to December 2018	Various from January 2019 to November 2020	U.S. Dollar to Korean Won Exchange Rate	1,093.49 KRW	Cash flow hedge
26.8 MYR	December 26, 2018	January 31, 2019	U.S. Dollar to Malaysian Ringgit Exchange Rate	4.18 MYR	None
195.0 MXN	December 27, 2018	January 31, 2019	U.S. Dollar to Mexican Peso Exchange Rate	19.86 MXN	None
2,713.2 MXN	Various from February 2017 to December 2018	Various from January 2019 to November 2020	U.S. Dollar to Mexican Peso Exchange Rate	20.72 MXN	Cash flow hedge
48.5 GBP	Various from February 2017 to December 2018	Various from January 2019 to November 2020	British Pound Sterling to U.S. Dollar Exchange Rate	1.34 USD	Cash flow hedge

<sup>(1)</sup> Derivative financial instruments not designated as hedges are used to manage our exposure to currency exchange rate risk. They are intended to preserve the economic value and not for trading or speculative purposes.

**Hedges of Commodity Risk**

We enter into commodity forward contracts in order to limit our exposure to variability in raw material costs that is caused by movements in the price of underlying metals. The terms of these forward contracts fix the price at a future date for various notional amounts associated with these commodities. These instruments are not designated for hedge accounting treatment in accordance with FASB ASC Topic 815.

As of December 31, 2018, we had the following outstanding commodity forward contracts, none of which were designated as derivatives in qualifying hedging relationships:

	Notional	Remaining Contracted Periods	Weighted-Average Strike Price Per Unit
Silver	1,093,907 troy oz.	January 2019 - November 2020	\$ 16.42
Gold	9,859 troy oz.	January 2019 - November 2020	\$ 1,307.90
Nickel	287,681 pounds	January 2019 - November 2020	\$ 5.75
Aluminum	2,350,172 pounds	January 2019 - November 2020	\$ 0.97
Copper	2,904,061 pounds	January 2019 - November 2020	\$ 3.17

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Platinum	9,095 troy oz.	January 2019 - November 2020	\$ 912.29
Palladium	1,001 troy oz.	January 2019 - November 2020	\$ 966.21

114

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Table of Contents

## Financial Instrument Presentation

The following table presents the fair values of our derivative financial instruments and their classification in the consolidated balance sheets as of December 31, 2018 and 2017:

	Asset Derivatives		Liability Derivatives			
	Balance Sheet Location	As of December 31, 2018	As of December 31, 2017	Balance Sheet Location	As of December 31, 2018	As of December 31, 2017
Derivatives designated as hedging instruments:						
Foreign currency forward contracts	Prepaid expenses and other current assets	\$14,608	\$3,576	Accrued expenses and other current liabilities	\$3,615	\$32,806
Foreign currency forward contracts	Other assets	3,168	373	Other long-term liabilities	1,134	6,881
Total		\$17,776	\$3,949		\$4,749	\$39,687
Derivatives not designated as hedging instruments:						
Commodity forward contracts	Prepaid expenses and other current assets	\$524	\$5,403	Accrued expenses and other current liabilities	\$3,679	\$1,006
Commodity forward contracts	Other assets	307	1,055	Other long-term liabilities	458	98
Foreign currency forward contracts	Prepaid expenses and other current assets	95	6	Accrued expenses and other current liabilities	416	1,282
Total		\$926	\$6,464		\$4,553	\$2,386

These fair value measurements are all categorized within Level 2 of the fair value hierarchy. Refer to Note 18, "Fair Value Measures," for further discussion regarding the categorization of these fair value measurements within the fair value hierarchy.

The following tables present the effect of our derivative financial instruments on the consolidated statements of operations and the consolidated statements of comprehensive income for the years ended December 31, 2018 and 2017:

	Amount of Deferred Gain/(Loss) Recognized in Other Comprehensive Income/(Loss) For the year ended December 31,		Location of Net (Loss)/Gain Reclassified from Accumulated Other Comprehensive Loss into Net Income	Amount of Net (Loss)/Gain Reclassified from Accumulated Other Comprehensive Loss into Net Income For the year ended December 31,	
	2018	2017		2018	2017
Derivatives designated as hedging instruments					
Foreign currency forward contracts	\$30,752	\$(68,071)	Net revenue	\$(18,072)	\$(916)
Foreign currency forward contracts	\$5,059	\$15,555	Cost of revenue	\$5,442	\$(13,997)
Foreign currency forward contracts	\$—	\$—	Other, net	\$(1,376)	\$—
Derivatives not designated as hedging instruments					
	Amount of (Loss)/Gain Recognized in Net Income For the year ended December 31,		Location of Gain/(Loss)		
	2018	2017			
Commodity forward contracts	\$(8,481)	\$9,989	Other, net		
Foreign currency forward contracts	\$3,446	\$(15,618)	Other, net		

Credit risk related contingent features

We have agreements with certain of our derivative counterparties that contain a provision whereby if we default on our indebtedness, and where repayment of the indebtedness has been accelerated by the lender, then we could also be declared in default on our derivative obligations.

As of December 31, 2018, the termination value of outstanding derivatives in a liability position, excluding any adjustment for non-performance risk, was \$9.4 million. As of December 31, 2018, we have not posted any cash collateral related to these agreements. If we breach any of the default provisions on any of our indebtedness as described above, we could be required to settle our obligations under the derivative agreements at their termination values.

20. Segment Reporting

We organize our business into two reportable segments, Performance Sensing and Sensing Solutions, each of which is also an operating segment. Our operating segments are businesses that we manage as components of an enterprise, for which

115

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Table of Contents

separate financial information is evaluated regularly by our chief operating decision maker in deciding how to allocate resources and assess performance.

An operating segment's performance is primarily evaluated based on Segment profit, which excludes amortization of intangible assets, restructuring and other charges, net, and certain corporate costs/credits not associated with the operations of the segment, including share-based compensation expense and a portion of depreciation expense associated with assets recorded in connection with acquisitions. In addition, an operating segment's performance excludes results from discontinued operations, if any. Corporate and other costs excluded from an operating segment's performance are separately stated below and also include costs that are related to functional areas such as finance, information technology, legal, and human resources. We believe that Segment profit, as defined above, is an appropriate measure for evaluating the operating performance of our segments. However, this measure should be considered in addition to, and not as a substitute for, or superior to, profit from operations or other measures of financial performance prepared in accordance with U.S. GAAP. The accounting policies of each of our reportable segments are materially consistent with those described in Note 2, "Significant Accounting Policies."

Performance Sensing is a developer and manufacturer of pressure sensors, speed and position sensors, and temperature sensors used in subsystems of automobiles (e.g., powertrain, air conditioning, tire pressure monitoring, and ride stabilization) and HVOR. These products help improve operating performance, for example, by making an automobile's heating and air conditioning systems work more efficiently, thereby improving gas mileage. These products are also used in systems that address environmental or safety concerns, for example, by reducing vehicle emissions or improving the stability control of the vehicle.

Sensing Solutions is a developer and manufacturer of various control products used in industrial, aerospace, military, commercial, medical device, and residential end markets, and sensor products used in aerospace and industrial applications such as HVAC systems and military and commercial aircraft. These products include motor and compressor protectors, motor starters, temperature sensors and switches/thermostats, pressure sensors and switches, electronic HVAC sensors and controls, charge controllers, solid state relays, linear and rotary position sensors, circuit breakers, and semiconductor burn-in test sockets. These products help prevent damage from overheating and fires in a wide variety of applications, including commercial HVAC systems, refrigerators, aircraft, lighting, and other industrial applications, and help optimize performance by using sensors that provide feedback to control systems. Sensing Solutions also designs and manufactures direct current to alternating current power inverters, which enable the operation of electronic equipment when grid power is not available.

The following table presents net revenue and Segment profit for the reported segments and other operating results not allocated to the reported segments for the years ended December 31, 2018, 2017, and 2016:

	For the year ended December 31,		
	2018	2017	2016
Net revenue:			
Performance Sensing	\$2,627,651	\$2,460,600	\$2,385,380
Sensing Solutions	893,976	846,133	816,908
Total net revenue	\$3,521,627	\$3,306,733	\$3,202,288
Segment profit (as defined above):			
Performance Sensing	\$712,682	\$664,186	\$615,526
Sensing Solutions	293,009	277,450	261,914
Total segment profit	1,005,691	941,636	877,440
Corporate and other	(203,764 )	(205,824 )	(179,473 )
Amortization of intangible assets	(139,326 )	(161,050 )	(201,498 )
Restructuring and other charges, net	47,818	(18,975 )	(4,113 )
Profit from operations	710,419	555,787	492,356
Interest expense, net	(153,679 )	(159,761 )	(165,818 )
Other, net	(30,365 )	6,415	(5,093 )
Income before taxes	\$526,375	\$402,441	\$321,445

No customer exceeded 10% of our net revenue in any of the periods presented.

Prior to fiscal year 2018, we presented four significant product categories in Performance Sensing (pressure sensors, speed and position sensors, temperature sensors, and pressure switches), and five significant product categories in Sensing

116

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Table of Contents

Solutions (bimetal electromechanical controls, industrial and aerospace sensors, power conversion and control, thermal and magnetic-hydraulic circuit breakers, and interconnection). Beginning in fiscal year 2018, we are categorizing our products more broadly, as sensors, controls, or other, to better reflect how we view our products. The following table presents net revenue by product category for the years ended December 31, 2018, 2017, and 2016 (prior periods have been recast to reflect current period presentation):

	Performance Sensing	Sensing Solutions	For the year ended December 31,		
			2018	2017	2016
Net revenue:					
Sensors	X	X	\$2,755,280	\$2,542,863	\$2,455,476
Controls	X	X	508,745	497,853	486,207
Other	X	X	257,602	266,017	260,605
Net revenue			\$3,521,627	\$3,306,733	\$3,202,288

The following table presents depreciation and amortization expense for our reportable segments for the years ended December 31, 2018, 2017 and 2016:

	For the year ended December 31,		
	2018	2017	2016
Depreciation and amortization:			
Performance Sensing	\$72,067	\$68,910	\$68,837
Sensing Solutions	16,798	17,179	14,095
Corporate and other <sup>(1)</sup>	156,475	184,282	225,469
Total depreciation and amortization	\$245,340	\$270,371	\$308,401

Included within Corporate and other is depreciation and amortization expense associated with the fair value step-up recognized in prior acquisitions and accelerated depreciation recorded in connection with restructuring actions. We do not allocate the additional depreciation and amortization expense associated with the step-up in the fair value of the PP&E and intangible assets associated with these acquisitions or accelerated depreciation related to restructuring actions to our segments. This treatment is consistent with the financial information reviewed by our chief operating decision maker.

The following table presents total assets for our reportable segments as of December 31, 2018 and 2017:

	As of December 31,	
	2018	2017
Assets:		
Performance Sensing	\$1,490,310	\$1,396,565
Sensing Solutions	468,131	424,237
Corporate and other <sup>(1)</sup>	4,839,246	4,820,723
Total assets	\$6,797,687	\$6,641,525

Included within Corporate and other as of December 31, 2018 and 2017 is \$3,081.3 million and \$3,005.5 million, respectively, of goodwill, as well as \$897.2 million and \$920.1 million, respectively, of other intangible assets, net, <sup>(1)</sup> \$729.8 million and \$753.1 million, respectively, of cash and cash equivalents, and \$36.5 million and \$36.1 million, respectively, of PP&E, net. This treatment is consistent with the financial information reviewed by our chief operating decision maker.

Table of Contents

The following table presents additions to property, plant and equipment and capitalized software for our reportable segments for the years ended December 31, 2018, 2017, and 2016:

	For the year ended December 31,		
	2018	2017	2016
Additions to property, plant and equipment and capitalized software:			
Performance Sensing	\$ 130,234	\$ 106,520	\$ 99,299
Sensing Solutions	12,492	13,980	11,947
Corporate and other	17,061	24,084	18,971
Total additions to property, plant and equipment and capitalized software	\$ 159,787	\$ 144,584	\$ 130,217

## Geographic Area Information

The following tables present net revenue by geographic area and by significant country for the years ended December 31, 2018, 2017, and 2016. In these tables, net revenue is aggregated based on an internal methodology that considers both the location of our subsidiaries and the primary location of each subsidiary's customers.

	For the year ended December 31,		
	2018	2017	2016
Net revenue:			
Americas	\$ 1,480,567	\$ 1,367,113	\$ 1,367,860
Asia and rest of world	1,012,526	903,118	810,094
Europe	1,028,534	1,036,502	1,024,334
Net revenue	\$ 3,521,627	\$ 3,306,733	\$ 3,202,288

	For the year ended December 31,		
	2018	2017	2016
Net revenue:			
United States	\$ 1,360,590	\$ 1,276,304	\$ 1,322,206
Netherlands	585,036	571,735	550,937
China	560,938	478,713	412,460
Korea	188,114	184,101	182,464
United Kingdom	163,963	174,376	171,206
All other	662,986	621,504	563,015
Net revenue	\$ 3,521,627	\$ 3,306,733	\$ 3,202,288

Table of Contents

The following tables present PP&E, net, by geographic area and by significant country as of December 31, 2018 and 2017. In these tables, PP&E, net is aggregated based on the location of our subsidiaries.

	As of December 31,	
	2018	2017
PP&E, net:		
Americas	\$292,625	\$296,863
Asia	309,542	266,524
Europe	185,011	186,662
PP&E, net	\$787,178	\$750,049
	As of December 31,	
	2018	2017
PP&E, net:		
United States	\$83,664	\$95,603
China	239,315	211,566
Mexico	204,552	196,813
Bulgaria	119,477	97,562
United Kingdom	51,404	63,310
Malaysia	65,688	50,783
All other	23,078	34,412
PP&E, net	\$787,178	\$750,049

## 21. Unaudited Quarterly Data

A summary of the unaudited quarterly results of operations for the years ended December 31, 2018 and 2017 is as follows:

	For the three months ended			
	December 31,	September 30,	June 30,	March 31,
	2018	2018	2018	2018
Net revenue	\$847,922	\$ 873,552	\$913,860	\$886,293
Gross profit	\$304,359	\$ 315,218	\$331,351	\$303,836
Net income	\$254,099	\$ 149,118	\$105,288	\$90,490
Basic net income per share	\$1.55	\$ 0.89	\$0.61	\$0.53
Diluted net income per share	\$1.54	\$ 0.88	\$0.61	\$0.52
	For the three months ended			
	December 31,	September 30,	June 30,	March 31,
	2017	2017	2017	2017
Net revenue	\$840,534	\$ 819,054	\$839,874	\$807,271
Gross profit <sup>(1)</sup>	\$301,799	\$ 291,815	\$299,369	\$274,852
Net income	\$169,129	\$ 88,035	\$79,457	\$71,736
Basic net income per share <sup>(2)</sup>	\$0.99	\$ 0.51	\$0.46	\$0.42
Diluted net income per share	\$0.98	\$ 0.51	\$0.46	\$0.42

On January 1, 2018, we adopted FASB ASU No. 2017-07, which requires the service cost component of net periodic benefit cost to be presented separately on the consolidated statements of operations from the other

<sup>(1)</sup> components of net periodic benefit cost. Accordingly, a portion of cost of revenue (a component of Gross profit) has been recast to other, net for each quarter in the year ended December 31, 2017. Refer to Note 13, "Pension and Other Post-Retirement Benefits," for additional details.

<sup>(2)</sup> The sum of basic net income per share for the four quarters does not equal the full year basic net income per share due to rounding.



Table of Contents

## Acquisitions and Divestitures

On August 31, 2018 we completed the sale of the Valves Business. As a result, in the third quarter of 2018, we recognized a (pre-tax) gain of \$64.4 million and costs of \$5.9 million in restructuring and other charges, net in our consolidated statement of operations. Refer to Note 17, "Acquisitions and Divestitures," for further discussion of the sale of the Valves Business. Our consolidated results presented above only include the results of this business before August 31, 2018.

On October 31, 2018 we completed the acquisition of GIGAVAC. Refer to Note 17, "Acquisitions and Divestitures," for further discussion of this merger. Net revenue of GIGAVAC included in our consolidated statement of operations in the fourth quarter of 2018 was \$12.6 million. In the fourth quarter of 2018, we recorded related transaction costs of \$2.5 million, which are included in SG&A expense in our consolidated statements of operations.

## Income taxes

In the fourth quarter of 2018, we recorded an income tax benefit of \$122.1 million related to the realization of U.S. deferred tax assets previously offset by a valuation allowance. In the fourth quarter of 2017, we recorded an income tax benefit of \$73.7 million to remeasure deferred tax liabilities associated with indefinite-lived intangible assets that are deemed to reverse as a result of changes in applicable U.S. tax law set forth in the Act. Refer to Note 7, "Income Taxes," for further discussion of tax related matters.

## Commodity forward contracts

Gains and losses related to our commodity forward contracts, which are not designated for hedge accounting treatment in accordance with FASB ASC Topic 815, are recorded in other, net in the consolidated statements of operations. Refer to Note 19, "Derivative Instruments and Hedging Activities," for further discussion of our commodity forward contracts, and Note 6, "Other, Net," for a detail of other, net for the years ended December 31, 2018 and 2017. The below table presents gains/(losses) recognized related to these contracts in the periods presented:

	For the three months ended			
	December 31,	September 30,	June 30,	March 31,
2018	\$373	\$(4,233)	\$(1,426)	\$(3,195)
2017	\$3,550	\$2,956	\$(1,957)	\$5,440

## Restructuring and other charges

The below table presents charges/(gains) recorded to restructuring and other charges, net in the periods presented:

	For the three months ended			
	December 31,	September 30,	June 30,	March 31,
2018	\$870	\$(52,698)	\$244	\$3,766
2017	\$207	\$1,329	\$6,389	\$11,050

The amount presented as restructuring and other charges, net in the third quarter of 2018 relates in large part to the gain on sale of the Valves Business, net of transaction costs. Refer to Note 5, "Restructuring and Other Charges, Net," for further discussion of our restructuring charges.

## Charges related to the Merger

On March 28, 2018, we completed the Merger. Refer for Note 1, "Business Description and Basis of Presentation," for further discussion of the Merger. The table below presents expenses recorded related to the Merger in the periods presented:

	For the three months ended			
	December 31,	September 30,	June 30,	March 31,
2018	\$—	\$—	\$1,766	\$2,352
2017	\$2,059	\$3,518	\$1,020	\$—

Table of ContentsSCHEDULE I—CONDENSED FINANCIAL INFORMATION OF THE REGISTRANT  
SENSATA TECHNOLOGIES HOLDING PLC

(Parent Company Only)

Balance Sheets

(Dollars in thousands)

	As of December 31,	
	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	\$1,089	\$2,150
Intercompany receivables from subsidiaries	—	94,094
Prepaid expenses and other current assets	528	643
Total current assets	1,617	96,887
Investment in subsidiaries	2,932,218	2,258,559
Total assets	\$2,933,835	\$2,355,446
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable	\$58	\$608
Intercompany payables to subsidiaries	323,561	7,465
Accrued expenses and other current liabilities	1,782	1,219
Total current liabilities	325,401	9,292
Pension obligations	—	528
Total liabilities	325,401	9,820
Total shareholders' equity	2,608,434	2,345,626
Total liabilities and shareholders' equity	\$2,933,835	\$2,355,446

The accompanying notes are an integral part of these condensed financial statements.



Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

(Parent Company Only)

Statements of Operations

(Dollars in thousands)

	For the year ended December 31,		
	2018	2017	2016
Net revenue	\$—	\$—	\$—
Operating costs and expenses:			
Selling, general and administrative	10,153	6,894	104
Total operating costs and expenses	10,153	6,894	104
Loss from operations	(10,153 )	(6,894 )	(104 )
Intercompany interest (expense)/income, net	(4,709 )	8	72
Other, net	474	(169 )	107
(Loss)/income before income taxes and equity in net income of subsidiaries	(14,388 )	(7,055 )	75
Equity in net income of subsidiaries	613,383	415,412	262,359
Provision for income taxes	—	—	—
Net income	\$598,995	\$408,357	\$262,434

The accompanying notes are an integral part of these condensed financial statements.

Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

(Parent Company Only)

## Statements of Comprehensive Income

(Dollars in thousands)

	For the year ended December		
	31,		
	2018	2017	2016
Net income	\$598,995	\$408,357	\$262,434
Other comprehensive income/(loss), net of tax:			
Defined benefit plan	535	77	515
Subsidiaries' other comprehensive income/(loss)	36,451	(29,174 )	(8,592 )
Other comprehensive income/(loss)	36,986	(29,097 )	(8,077 )
Comprehensive income	\$635,981	\$379,260	\$254,357

The accompanying notes are an integral part of these condensed financial statements.

123

Table of Contents

## SENSATA TECHNOLOGIES HOLDING PLC

(Parent Company Only)

Statements of Cash Flows

(Dollars in thousands)

	For the year ended December		
	31,		
	2018	2017	2016
Net cash used in operating activities	\$(14,253)	\$(9,109)	\$(4,756)
Cash flows from investing activities:			
Return of capital from subsidiaries	—	5,000	6,000
Net cash provided by investing activities	—	5,000	6,000
Cash flows from financing activities:			
Proceeds from exercise of stock options and issuance of ordinary shares	6,093	7,450	3,944
Proceeds from intercompany borrowings	410,190	—	—
Payments to repurchase ordinary shares	(399,417)	—	—
Payment of employee restricted stock tax withholdings	(3,674 )	(2,910 )	(4,752 )
Net cash provided by/(used in) financing activities	13,192	4,540	(808 )
Net change in cash and cash equivalents	(1,061 )	431	436
Cash and cash equivalents, beginning of year	2,150	1,719	1,283
Cash and cash equivalents, end of year	\$1,089	\$2,150	\$1,719

The accompanying notes are an integral part of these condensed financial statements.

Table of Contents

1. Basis of Presentation and Description of Business

Sensata Technologies Holding plc (Parent Company)—Schedule I—Condensed Financial Information of Sensata Technologies Holding plc ("Sensata plc"), included in this Annual Report on Form 10-K, provides all parent company information that is required to be presented in accordance with the United States ("U.S.") Securities and Exchange Commission ("SEC") rules and regulations for financial statement schedules. The accompanying condensed financial statements have been prepared in accordance with the reduced disclosure requirements permitted by the SEC. Sensata plc and subsidiaries' audited consolidated financial statements are included elsewhere in this Annual Report on Form 10-K (this "Report").

On September 28, 2017, the Board of Directors of Sensata Technologies Holding N.V. ("Sensata N.V.") unanimously approved a plan to change our location of incorporation from the Netherlands to the United Kingdom (the "U.K."). To effect this change, on February 16, 2018 the shareholders of Sensata N.V. approved a cross-border merger between Sensata N.V. and Sensata plc, a newly formed, public limited company incorporated under the laws of England and Wales, with Sensata plc being the surviving entity (the "Merger").

We received approval of the Merger by the U.K. High Court of Justice, and the Merger was completed, on March 28, 2018. As a result thereof, Sensata plc became the publicly-traded parent of the subsidiary companies that were previously controlled by Sensata N.V., with no changes made to the business being conducted by us prior to the Merger. Due to the fact that the Merger was a business combination between entities under common control, the assets and liabilities exchanged were accounted for at their carrying values.

Sensata plc conducts limited separate operations and acts primarily as a holding company. Sensata plc has no direct outstanding debt obligations. However, Sensata Technologies B.V, an indirect, wholly-owned subsidiary of Sensata plc, is limited in its ability to pay dividends or otherwise make other distributions to its immediate parent company and, ultimately, to Sensata plc, under its senior secured credit facilities and the indentures governing its senior notes. For a discussion of the debt obligations of the subsidiaries of Sensata plc, see Note 14, "Debt," of Sensata plc and subsidiaries' audited consolidated financial statements included elsewhere in this Report.

All U.S. dollar amounts presented except per share amounts are stated in thousands, unless otherwise indicated.

2. Commitments and Contingencies

For a discussion of the commitments and contingencies of the subsidiaries of Sensata plc, see Note 15, "Commitments and Contingencies," of Sensata plc and subsidiaries' audited consolidated financial statements and accompanying notes thereto included elsewhere in this Report.

Table of Contents

## SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS

(Dollars in thousands)

	Balance at the Beginning of the Period	Additions Charged, Net of Reversals, to Expenses/Against Revenue	Deductions	Balance at the End of the Period
For the year ended December 31, 2018				
Accounts receivable allowances	\$ 12,947	\$ 2,194	\$ (1,379 )	\$ 13,762
For the year ended December 31, 2017				
Accounts receivable allowances	\$ 11,811	\$ 2,205	\$ (1,069 )	\$ 12,947
For the year ended December 31, 2016				
Accounts receivable allowances	\$ 9,535	\$ 3,072	\$ (796 )	\$ 11,811

126

Table of Contents

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

The required certifications of our Chief Executive Officer and Chief Financial Officer are included as Exhibits 31.1 and 31.2 to this Annual Report on Form 10-K. The disclosures set forth in this Item 9A contain information concerning the evaluation of our disclosure controls and procedures, management's report on internal control over financial reporting, and changes in internal control over financial reporting referred to in these certifications. These certifications should be read in conjunction with this Item 9A for a more complete understanding of the matters covered by the certifications.

Evaluation of Disclosure Controls and Procedures

With the participation of our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2018. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the U.S. Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2018, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

On October 31, 2018, we completed a merger with GIGAVAC, LLC ("GIGAVAC"). As permitted by the U.S. Securities and Exchange Commission, we excluded GIGAVAC from our assessment of the effectiveness of internal control over financial reporting as of December 31, 2018, since it was not practical for management to conduct an assessment of internal control over financial reporting for this entity between the merger date and the date of management's assessment. Excluded from our assessment of the effectiveness of internal control over financial reporting as of December 31, 2018 were total assets and net revenues of approximately 0.4% and 0.4%, respectively, of our consolidated total assets and net revenues as of and for the year ended December 31, 2018.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fourth quarter of the year ended December 31, 2018 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Table of Contents

Management's Report on Internal Control over Financial Reporting

Management of Sensata Technologies Holding plc (the "Company") is responsible for establishing and maintaining adequate internal control over financial reporting as is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). The Company's internal control system was designed to provide reasonable assurance to the Company's management, Board of Directors, and shareholders regarding the preparation and fair presentation of the Company's published financial statements in accordance with generally accepted accounting principles. The Company's internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of management of the Company; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

There are inherent limitations to the effectiveness of any system of internal control over financial reporting.

Accordingly, even an effective system of internal control over financial reporting can only provide reasonable assurance with respect to financial statement preparation and presentation in accordance with accounting principles generally accepted in the United States of America. Our internal controls over financial reporting are subject to various inherent limitations, including cost limitations, judgments used in decision making, assumptions about the likelihood of future events, the soundness of our systems, the possibility of human error, and the risk of fraud.

Moreover, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may be inadequate because of changes in conditions and the risk that the degree of compliance with policies or procedures may deteriorate over time.

On October 31, 2018, we completed a merger with GIGAVAC, LLC ("GIGAVAC"). As permitted by the U.S. Securities and Exchange Commission, we excluded GIGAVAC from our assessment of the effectiveness of internal control over financial reporting as of December 31, 2018, since it was not practical for management to conduct an assessment of internal control over financial reporting for this entity between the merger date and the date of management's assessment. Excluded from our assessment of the effectiveness of internal control over financial reporting as of December 31, 2018 were total assets and net revenues of approximately 0.4% and 0.4%, respectively, of our consolidated total assets and net revenues as of and for the year ended December 31, 2018.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In making its assessment of internal control over financial reporting, management used the criteria issued by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission in May 2013.

Based on the results of this assessment, management, including our Chief Executive Officer and Chief Financial Officer, has concluded that, as of December 31, 2018, the Company's internal control over financial reporting was effective.

The Company's independent registered public accounting firm, Ernst & Young LLP, has also issued an audit report on the Company's internal control over financial reporting, which is included elsewhere in this Annual Report on Form 10-K.

Swindon, United Kingdom

February 6, 2019

## Table of Contents

### Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Sensata Technologies Holding plc

#### Opinion on Internal Control over Financial Reporting

We have audited Sensata Technologies Holding plc's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Sensata Technologies Holding plc (the Company) maintained, in all material aspects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

As indicated in the accompanying Management's Report on Internal Control over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of GIGAVAC, LLC, which is included in the 2018 consolidated financial statements of the Company and constituted 0.4% and 0.4%, respectively, of consolidated total assets and net revenues as of December 31, 2018 and for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of GIGAVAC, LLC.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, cash flows and changes in shareholders' equity for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedules listed in the Index at Item 15(a) (collectively referred to as the "financial statements"), and our report dated February 6, 2019 expressed an unqualified opinion thereon.

#### Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

#### Definition and Limitations of Internal Control Over Financial Reporting

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

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



/s/ ERNST & YOUNG LLP

Boston, Massachusetts

February 6, 2019

129

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Table of Contents

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

The information required by this Item 10 is incorporated herein by reference from the Definitive Proxy Statement of Sensata Technologies Holding plc (the "Company"), to be filed with the Securities and Exchange Commission within 120 days of the Company's fiscal year ended December 31, 2018.

ITEM 11. EXECUTIVE  
COMPENSATION

The information required by this Item 11 is incorporated herein by reference from the Company's Definitive Proxy Statement, to be filed with the Securities and Exchange Commission within 120 days of the Company's fiscal year ended December 31, 2018.

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

The information required by this Item 12 is incorporated herein by reference from the Company's Definitive Proxy Statement, to be filed with the Securities and Exchange Commission within 120 days of the Company's fiscal year ended December 31, 2018.

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

The information required by this Item 13 is incorporated herein by reference from the Company's Definitive Proxy Statement, to be filed with the Securities and Exchange Commission within 120 days of the Company's fiscal year ended December 31, 2018.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item 14 is incorporated herein by reference from the Company's Definitive Proxy Statement, to be filed with the Securities and Exchange Commission within 120 days of the Company's fiscal year ended December 31, 2018.

Table of Contents

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)

1. Financial Statements — See "Financial Statements" under Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K.

2. Financial Statement Schedules — See "Financial Statement Schedules" under Item 8, "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K.

3. Exhibits

EXHIBIT INDEX

2.1 Common Draft Terms of the Cross-Border Legal Merger by and among Sensata Technologies Holding N.V. and Sensata Technologies Holding plc dated October 26, 2017 (incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K filed on November 1, 2017).

2.2 Merger Proposal by the boards of directors of Sensata Technologies Holding N.V. and Sensata Technologies Holding plc (incorporated by reference to Annex A to the registration statement on Form S-4/A (Commission File No. 333-220735) filed by Sensata Technologies Holding plc on December 22, 2017).

3.1 Articles of Association of Sensata Technologies Holding plc (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed on March 28, 2018.)

4.1 Indenture, dated as of April 17, 2013, among Sensata Technologies B.V., the Guarantors, and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K (Commission File No. 001-34652) filed on April 18, 2013).

4.2 Form of 4.875% Senior Note due 2023 (incorporated by reference to Exhibit 4.2 of the Registrant's Current Report on Form 8-K (Commission File No. 001-34652) filed on April 18, 2013) (included as Exhibit A to Exhibit 4.1 thereof).

4.3 Indenture, dated as of October 14, 2014, among Sensata Technologies B.V., the Guarantors, and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on October 17, 2014).

4.4 Form of 5.625% Senior Note due 2024 (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on October 17, 2014) (included as Exhibit A thereto).

4.5 Indenture, dated as of March 26, 2015, among Sensata Technologies B.V., the Guarantors, and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on April 1, 2015).

4.6 Form of 5.0% Senior Notes due 2025 (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on April 1, 2015) (included as Exhibit A thereto).

4.7 Indenture, dated as of November 27, 2015, among Sensata Technologies UK Financing Co. plc, the Guarantors, and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on December 2, 2015).

4.8 Form of 6.25% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on December 2, 2015) (included as Exhibit A thereto).

4.9 Sixth Supplemental Indenture dated as of October 10, 2017, amending the indenture dated as of April 17, 2013 pursuant to which the 4.875% Senior Notes were issued, among Sensata Technologies B.V., the guarantors party thereto and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed on October 13, 2017).

4.10 Fifth Supplemental Indenture dated as of October 10, 2017, amending the indenture dated as of October 14, 2014 pursuant to which the 5.625% Senior Notes were issued, among Sensata Technologies B.V., the guarantors party thereto and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.2 of the Registrant's Current Report on Form 8-K filed on October 13, 2017).

4.11 Sixth Supplemental Indenture dated as of October 10, 2017, amending the indenture dated as of March 26, 2015 pursuant to which the 5.000% Senior Notes were issued, among Sensata Technologies B.V., the guarantors party thereto and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.3 of the Registrant's Current Report on Form 8-K filed on October 13, 2017).

Table of Contents

- 4.12 Third Supplemental Indenture dated as of October 10, 2017, amending the indenture dated as of November 27, 2015 pursuant to which the 6.250% Senior Notes were issued, among Sensata Technologies UK Financing Co. plc, the guarantors party thereto and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.4 of the Registrant's Current Report on Form 8-K filed on October 13, 2017).
- 10.1 Cross-License Agreement, dated April 27, 2006, among Texas Instruments Incorporated, Sensata Technologies B.V. and Potazia Holding B.V. (incorporated by reference to Exhibit 10.10 of the Registration Statement on Form S-4 of Sensata Technologies B.V. filed on December 29, 2006).
- 10.2 Form of Indemnification Agreement, entered among Sensata Technologies Holding N.V. (formerly known as Sensata Technologies Holding B.V.) and certain of its executive officers and directors listed on a schedule attached thereto (incorporated by reference to Exhibit 10.51 of Amendment No. 2 of the Registrant's Registration Statement on Form S-1 filed on January 22, 2010).†
- 10.3 Amended and Restated Employment Agreement, dated March 22, 2011, between Sensata Technologies, Inc. and Jeffrey Cote (incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q filed on April 22, 2011, Commission File Number 001-34652).†‡
- 10.4 Credit Agreement, dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company, LLC, Sensata Technologies Intermediate Holding B.V., Morgan Stanley Senior Funding, Inc., as administrative agent, the initial l/c issuer and initial swing line lender named therein, and the other lenders party thereto (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).
- 10.5 Domestic Guaranty, dated as of May 12, 2011, made by each of Sensata Technologies Finance Company, LLC, Sensata Technologies, Inc., Sensata Technologies Massachusetts, Inc. and each of the Additional Guarantors from time to time made a party thereto in favor of the Secured Parties (as defined therein) (incorporated by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).
- 10.6 Guaranty, dated as of May 12, 2011, made by Sensata Technologies B.V. in favor of the Secured Parties (as defined therein) (incorporated by reference to Exhibit 10.3 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).
- 10.7 Foreign Guaranty, dated as of May 12, 2011, made by each of Sensata Technologies Holding Company US B.V., Sensata Technologies Holland, B.V., Sensata Technologies Holding Company Mexico, B.V., Sensata Technologies de México, S. de R.L. de C.V., Sensata Technologies Japan Limited, Sensata Technologies Malaysia Sdn. Bhd. and each of the Additional Guarantors from time to time made a party thereto in favor of the Secured Parties (as defined therein) (incorporated by reference to Exhibit 10.4 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).
- 10.8 Patent Security Agreement, dated as of May 12, 2011, made by each of Sensata Technologies Finance Company, LLC, Sensata Technologies, Inc. and Sensata Technologies Massachusetts, Inc. to Morgan Stanley Senior Funding, Inc., as collateral agent (incorporated by reference to Exhibit 10.5 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).
- 10.9 Trademark Security Agreement, dated as of May 12, 2011, made by each of Sensata Technologies Finance Company, LLC, Sensata Technologies, Inc. and Sensata Technologies Massachusetts, Inc. to Morgan Stanley Senior Funding, Inc., as collateral agent (incorporated by reference to Exhibit 10.6 of the Registrant's Current

Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).

10.10 Domestic Pledge Agreement, dated as of May 12, 2011, made by each of Sensata Technologies B.V. and Sensata Technologies Holding Company US B.V. to Morgan Stanley Senior Funding, Inc., as collateral agent (incorporated by reference to Exhibit 10.7 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).

10.11 Domestic Security Agreement, dated as of May 12, 2011, made by each of Sensata Technologies Finance Company, LLC, Sensata Technologies, Inc. and Sensata Technologies Massachusetts, Inc. to Morgan Stanley Senior Funding, Inc., as collateral agent (incorporated by reference to Exhibit 10.8 of the Registrant's Current Report on Form 8-K filed on May 17, 2011, Commission File Number 001-34652).

10.12 Amendment to Award Agreement between Sensata Technologies Holding N.V. and Jeffrey Cote dated January 23, 2012 (incorporated by reference to Exhibit 10.39 of the Registrant's Annual Report on Form 10-K filed on February 10, 2012, Commission File No. 001-34652).†

10.13 Form of Director Options Agreement (incorporated by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q filed on July 27, 2012, Commission File No. 001-34652).

132

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Table of Contents

- 10.14 Amendment No. 1 to Credit Agreement dated as of December 6, 2012, to the Credit Agreement dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, Morgan Stanley Senior Funding, Inc., and Barclays Bank PLC (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on December 10, 2012, Commission File No. 001-34652).
- 10.15 Separation Agreement, dated December 10, 2012, between Sensata Technologies, Inc. and Thomas Wroe (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on December 10, 2012, Commission File No. 001-34652).†
- 10.16 Amendment to Equity Award Agreements, dated December 10, 2012, between Sensata Technologies Holding N.V. and Thomas Wroe (incorporated by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on December 10, 2012, Commission File No. 001-34652).†
- 10.17 Second Amended and Restated Employment Agreement, dated January 1, 2013, between Sensata Technologies, Inc. and Martha Sullivan (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on January 4, 2013, Commission File No. 001-34652).†‡
- 10.18 Employment Agreement, dated January 1, 2013, between Sensata Technologies, Inc. and Steven Beringhause (incorporated by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on January 4, 2013, Commission File No. 001-34652).†‡
- 10.19 Intellectual Property License Agreement, dated March 14, 2013, between Sensata Technologies, Inc. and Measurement Specialties, Inc. (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on March 20, 2013).
- 10.20 Share Repurchase Agreement, dated as of November 29, 2013, between Sensata Technologies Holding N.V. and Sensata Investment Company S.C.A. (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on December 2, 2013)
- 10.21 Amendment No. 2 to Credit Agreement dated as of December 11, 2013, to the Credit Agreement dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, and Morgan Stanley Senior Funding, Inc. (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on December 11, 2013).
- 10.22 Employment Agreement, entered into on February 4, 2014 between Sensata Technologies, Inc. and Paul S. Vasington (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on February 4, 2014).†‡
- 10.23 Share Repurchase Agreement, dated as of May 19, 2014, between Sensata Technologies Holding N.V. and Sensata Investment Company S.C.A. (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on May 20, 2014).
- 10.24 Stock Purchase Agreement, dated as of July 3, 2014, by and among Sensata Technologies Minnesota, Inc., CoActive Holdings, LLC, and CoActive US Holdings, Inc. (incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K filed on July 7, 2014).
- 10.25

Share Purchase Agreement, dated as of August 15, 2014, by and among Sensata Technologies B.V., Sensata Technologies Holding N.V., and Schrader International, Inc. (incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K filed on August 18, 2014).

- 10.26 Amendment No. 3 to Credit Agreement dated as of October 14, 2014, to the Credit Agreement dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, Barclays Bank PLC and the other lenders party thereto, and Morgan Stanley Senior Funding, Inc. (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on October 17, 2014).

- 10.27 Amendment No. 4 to Credit Agreement, dated as of November 4, 2014, to the Credit Agreement, dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company, LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, Morgan Stanley Senior Funding, Inc. and the other lenders party thereto (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on November 10, 2014).

- 10.28 Amendment No. 5 to Credit Agreement, dated as of March 26, 2015, to the Credit Agreement dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company, LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, Morgan Stanley Senior Funding, Inc. and the other lenders party thereto (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on April 1, 2015).



Table of Contents

- 10.29 Amendment No. 6 to Credit Agreement dated as of May 11, 2015, to the Credit Agreement dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company, LLC, Sensata Technologies Intermediate Holding B.V., Morgan Stanley Senior Funding, Inc. and Barclays Bank PLC as joint lead arrangers and bookrunners, Morgan Stanley Senior Funding, Inc. as administrative agent on behalf of the lenders party to the Credit Agreement, and the lenders party thereto (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on May 14, 2015).
- 10.30 Stock and Asset Purchase Agreement, dated as of July 30, 2015, by and among Sensata Technologies Holding N.V., Custom Sensors & Technologies Ltd., Crouzet Automatismes S.A.S. and Custom Sensors & Technologies (Huizhou) Limited (incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K filed on August 5, 2015).
- 10.31 Amendment No. 7 to Credit Agreement, dated as of September 29, 2015, to the Credit Agreement, dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company, LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, Morgan Stanley Senior Funding, Inc. and the other lenders party thereto (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on October 2, 2015).
- 10.32 Employment Agreement, dated February 26, 2016, between Sensata Technologies, Inc. and Allisha Elliott (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on March 3, 2016).†
- 10.33 Form of modified Award Agreement for Performance Restricted Stock Units (incorporated by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q filed on April 26, 2016).†
- 10.34 Form of modified Award Agreement for Restricted Stock Units (incorporated by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10-Q filed on April 26, 2016).†
- 10.35 Amendment No. 8 to Credit Agreement, dated as of November 7, 2017, to the Credit Agreement, dated as of May 12, 2011, by and among Sensata Technologies B.V., Sensata Technologies Finance Company, LLC, Sensata Technologies Intermediate Holding B.V., the subsidiary guarantors party thereto, Morgan Stanley Senior Funding, Inc. and the other lenders party thereto. (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed on November 14, 2017)
- 10.36 Sensata Technologies Holding plc Second Amended and Restated 2006 Management Option Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on March 28, 2018.)
- 10.37 Sensata Technologies Holding plc First Amended and Restated 2010 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on March 28, 2018.)
- 10.38 Employment Agreement, dated January 26, 2017, between Sensata Technologies Germany GmbH and Paul Chawla (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed on April 24, 2018.)†
- 10.39 Amendment to Employment Agreement, dated January 13, 2018, between Sensata Technologies Germany GmbH and Paul Chawla (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed on April 24, 2018.)†
- 10.40

Employment Agreement, dated August 28, 2018, between Sensata Technologies, Inc. and Paul Chawla (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 30, 2018.)†

- 21.1 Subsidiaries of Sensata Technologies Holding plc\*
- 23.1 Consent of Ernst & Young LLP.\*
- 31.1 Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.\*
- 31.2 Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.\*
- 32.1 Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. \*

Table of Contents

101 The following materials from Sensata's Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL (eXtensible Business Reporting Language); (i) Consolidated Statements of Operations for the years ended December 31, 2018, 2017, and 2016, (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017, and 2016, (iii) Consolidated Balance Sheets at December 31, 2018 and 2017, (iv) Consolidated Statements of Changes in Shareholders' Equity for the years ended December 31, 2018, 2017, and 2016, (v) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017, and 2016, (vi) the Notes to Consolidated Financial Statements, (vii) Schedule I — Condensed Financial Information of the Registrant and (viii) Schedule II — Valuation and Qualifying Accounts.

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\* Filed herewith.

† Indicates management contract or compensatory plan, contract or arrangement.

‡ There have been non-material modifications to this contract since inception

135

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Table of Contents

## SIGNATURES

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

SENSATA TECHNOLOGIES  
HOLDING PLC

/s/ MARTHA SULLIVAN

By: Martha Sullivan  
Its: Chief Executive Officer  
Date: February 6, 2019

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

SIGNATURE	TITLE	DATE
/S/ MARTHA SULLIVAN Martha Sullivan	Chief Executive Officer and Director (Principal Executive Officer)	February 6, 2019
/S/ PAUL VASINGTON Paul Vasington	Executive Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 6, 2019
/S/ PAUL EDGERLEY Paul Edgerley	Chairman of the Board of Directors	February 6, 2019
/S/ JAMES HEPPELMANN James Heppelmann	Director	February 6, 2019
/S/ CHARLES PEFFER Charles Peffer	Director	February 6, 2019
/S/ KIRK POND Kirk Pond	Director	February 6, 2019
/S/ CONSTANCE SKIDMORE Constance Skidmore	Director	February 6, 2019
/S/ ANDREW TEICH Andrew Teich	Director	February 6, 2019
/S/ THOMAS WROE Thomas Wroe	Director	February 6, 2019

/S/ STEPHEN ZIDE

Director

February 6,  
2019

Stephen Zide

/S/ MARTHA  
SULLIVAN

Authorized Representative in the United States

February 6,  
2019

Martha Sullivan

136