BORGWARNER INC
Form 10-K
February 08, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington D.C. 20549
Form 10-K
ANNUAL REPORT

(Mark One)
þ Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 2017
OR
o Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from to

Commission File Number: 1-12162
BorgWarner Inc.
(Exact name of registrant as specified in its charter)

Delaware	13-3404508
State or other jurisdiction of Incorporation or organization	(I.R.S. Employer Identification No.)

3850 Hamlin Road,
Auburn Hills, Michigan 48326
(Address of principal executive offices) (Zip Code)
Registrant's telephone number, including area code: (248) 754-9200
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.01 per share	New York Stock Exchange

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

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes þ No o
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes o No þ
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes þ No o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes þ No o

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

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

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

Emerging growth company o

(Do not check if a smaller reporting 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. o

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

The aggregate market value of the voting common stock of the registrant held by stockholders (not including voting common stock held by directors and executive officers of the registrant) on June 30, 2017 (the last business day of the most recently completed second fiscal quarter) was approximately $8.9 billion.

As of February 2, 2018, the registrant had 210,550,106 shares of voting common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the following documents are incorporated herein by reference into the Part of the Form 10-K indicated.

Document	Part of Form 10-K into which incorporated
Portions of the BorgWarner Inc. Proxy Statement for the 2018 Annual Meeting of Stockholders	Part III

BORGWARNER INC.
FORM 10-K
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CAUTIONARY STATEMENTS FOR FORWARD-LOOKING INFORMATION

Statements contained in this Form 10-K (including Management's Discussion and Analysis of Financial Condition and Results of Operations) may contain forward-looking statements as contemplated by the 1995 Private Securities Litigation Reform Act (the “Act”) that are based on management's current outlook, expectations, estimates and projections. Words such as "anticipates," "believes," "continues," "could," "designed," "effect," "estimates," "evaluates," "expects," "forecasts," "goal," "initiative," "intends," "outlook," "plans," "potential," "project," "pursue," "seek," "should," "target," "when," "would," and variations of such words and similar expressions are intended to identify such forward-looking statements. All statements, other than statements of historical fact contained or incorporated by reference in this Form 10-K, that we expect or anticipate will or may occur in the future regarding our financial position, business strategy and measures to implement that strategy, including changes to operations, competitive strengths, goals, expansion and growth of our business and operations, plans, references to future success and other such matters, are forward-looking statements. Accounting estimates, such as those described under the heading "Critical Accounting Policies" in Item 7 of this Annual Report on Form 10-K, are inherently forward-looking. These statements are based on assumptions and analyses made by us in light of our experience and our perception of historical trends, current conditions and expected future developments, as well as other factors we believe are appropriate in the circumstances. Forward-looking statements are not guarantees of performance and the Company's actual results may differ materially from those expressed, projected or implied in or by the forward-looking statements.

You should not place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. Forward-looking statements are subject to risks and uncertainties, many of which are difficult to predict and generally beyond our control. Such risks and uncertainties include: fluctuations in domestic or foreign vehicle production; the continued use by original equipment manufacturers of outside suppliers, the ability to achieve anticipated benefits from, and to successfully integrate, acquisitions; fluctuations in demand for vehicles containing our products; changes in general economic conditions; and the other risks noted under Item 1A, “Risk Factors,” and in other reports that we file with the Securities and Exchange Commission. We do not undertake any obligation to update or announce publicly any updates to or revision to any of the forward-looking statements in this Form 10-K to reflect any change in our expectations or any change in events, conditions, circumstances, or assumptions underlying the statements.

This section and the discussions contained in Item 1A, "Risk Factors," and in Item 7, subheading "Critical Accounting Policies" in this report, are intended to provide meaningful cautionary statements for purposes of the safe harbor provisions of the Act. This should not be construed as a complete list of all of the economic, competitive, governmental, technological and other factors that could adversely affect our expected consolidated financial position, results of operations or liquidity. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial also may impair our business, operations, liquidity, financial condition and prospects.

Use of Non-GAAP Financial Measures

In addition to results presented in accordance with accounting principles generally accepted in the United States of America (“GAAP”), this report includes non-GAAP financial measures. The Company believes these non-GAAP financial measures provide additional information that is useful to investors in understanding the underlying performance and trends of the Company. Readers should be aware that non-GAAP financial measures have inherent limitations and should be cautious with respect to the use of such measures. To compensate for these limitations, we use non-GAAP measures as comparative tools, together with GAAP measures, to assist in the evaluation of our operating performance or financial condition. We ensure that these measures are calculated using the appropriate GAAP components in their entirety and that they are computed in a manner intended to facilitate consistent period-to-period comparisons. The

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Company's method of calculating these non-GAAP measures may differ from methods used by other companies. These non-GAAP measures should not be considered in isolation or as a substitute for those financial measures prepared in accordance with GAAP. Where non-GAAP financial measures are used, the most directly comparable GAAP financial measure, as well as the reconciliation to the most directly comparable GAAP financial measure, can be found in this report.

PART I

ITEM 1. BUSINESS

BorgWarner Inc. and Consolidated Subsidiaries (the “Company”) is a Delaware corporation incorporated in 1987. We are a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. Our products help improve vehicle performance, propulsion efficiency, stability and air quality. These products are manufactured and sold worldwide, primarily to original equipment manufacturers (“OEMs”) of light vehicles (passenger cars, sport-utility vehicles ("SUVs"), vans and light trucks). The Company's products are also sold to other OEMs of commercial vehicles (medium-duty trucks, heavy-duty trucks and buses) and off-highway vehicles (agricultural and construction machinery and marine applications). We also manufacture and sell our products to certain Tier One vehicle systems suppliers and into the aftermarket for light, commercial and off-highway vehicles. The Company operates manufacturing facilities serving customers in Europe, the Americas and Asia and is an original equipment supplier to every major automotive OEM in the world.

Financial Information About Reporting Segments

Refer to Note 20, “Reporting Segments and Related Information,” to the Consolidated Financial Statements in Item 8 of this report for financial information about the Company's reporting segments.

Narrative Description of Reporting Segments

The Company reports its results under two reporting segments: Engine and Drivetrain. Net sales by reporting segment for the years ended December 31, 2017, 2016 and 2015 are as follows:

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Engine	$6,061.5	$5,590.1	$5,500.0
Drivetrain	3,790.3	3,523.7	2,556.7
Inter-segment eliminations	(52.5)	(42.8)	(33.5)
Net sales	$9,799.3	$9,071.0	$8,023.2

The sales information presented above excludes the sales by the Company's unconsolidated joint ventures (see sub-heading “Joint Ventures”). Such unconsolidated sales totaled approximately $844 million, $737 million, and $650 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Engine

The Engine Segment develops and manufactures products to improve fuel economy, reduce emissions and enhance performance. Increasingly stringent regulations of, and consumer demand for, better fuel economy and emissions performance are driving demand for the Engine Segment's products in combustion, hybrid and electric propulsion systems. The Engine Segment's technologies include: turbochargers, eBoosters, timing systems, emissions systems, thermal systems, and gasoline ignition technology.

Turbochargers provide several benefits including increased power for a given engine size, improved fuel economy and reduced emissions. The Engine Segment has benefited from the growth in turbocharger demand around the world for both combustion and hybrid propulsion systems. The Engine Segment provides turbochargers for light, commercial and off-highway applications for combustion and hybrid vehicles in the Americas, Europe and Asia. The Engine Segment also designs and manufactures turbocharger actuators using integrated electronics to precisely control turbocharger speed and pressure ratio.

Sales of turbochargers for light vehicles represented approximately 28%, 28% and 31% of total net sales for the years ended December 31, 2017, 2016 and 2015, respectively. The Engine Segment currently supplies turbochargers to many OEMs including BMW, Daimler, Fiat Chrysler Automobiles ("FCA"), Ford, General Motors, Great Wall, Hyundai, Renault, Volkswagen and Volvo. The Engine Segment also supplies turbochargers to several commercial vehicle and off-highway OEMs including Caterpillar, Daimler, Deutz, John Deere, MAN, Navistar and Weichai.

The Engine Segment's timing systems enable precise control of air and exhaust flow through the engine, improving fuel economy and emissions. The Engine Segment's timing systems products include timing chain, variable cam timing (“VCT”), crankshaft and camshaft sprockets, tensioners, guides and snubbers, HY-VO® front-wheel drive (“FWD”) transmission chain, four-wheel drive (“4WD”) chain for light vehicles and hybrid power transmission chain. The Engine Segment is a leading manufacturer of timing systems to OEMs around the world.

The Engine Segment's engine timing technology includes VCT with mid position lock, which allows a greater range of camshaft positioning thereby enabling greater control over airflow and the opportunity to improve fuel economy, reduce emissions and improve engine performance compared with conventional VCT systems.

The Engine Segment's emissions systems products improve emissions performance and fuel economy. Products include electric air pumps and exhaust gas recirculation ("EGR") modules, EGR coolers, EGR valves, glow plugs and instant starting systems for combustion and hybrid vehicles.

On February 28, 2014, the Company acquired 100% of the equity interests in Gustav Wahler GmbH u. Co. KG and its general partner ("Wahler"). Wahler was a producer of EGR valves, EGR tubes and thermostats, and had operations in Germany, Brazil, the U.S., and China.

In the third quarter of 2017, the Company started exploring strategic options for the non-core emission product lines. In the fourth quarter of 2017, the Company, among other actions, has launched an active program to locate a buyer for the non-core pipes and thermostat product lines and initiated all other actions required to complete the plan to sell the non-core product lines. The Company determined that the assets and liabilities of the pipes and thermostat product lines met the held for sale criteria as of December 31, 2017. Refer to Note 19, “Assets and Liabilities Held for Sale,” to the Consolidated Financial Statements in Item 8 of this report for financial information about the Company's reporting segments.

The Engine Segment's thermal systems products are designed to optimize temperatures in propulsion systems and vehicle cabins. Products include viscous fan drives that sense and respond to multiple cooling requirements, polymer fans and coolant pumps.

Drivetrain

The Drivetrain Segment develops and manufactures products to improve fuel economy, reduce emissions and enhance performance in combustion, hybrid and electric vehicles. The Drivetrain Segment’s technologies include: rotating electrical components, power electronics, clutching systems, control modules and all-wheel drive systems. The core design features of its rotating electrical components portfolio are meeting the demands of increasing vehicle electrification, improved fuel efficiency, reduced weight, and lowered electrical and mechanical noise. The Drivetrain Segment's mechanical products include friction, mechanical and controls products for automatic transmissions and torque management products for AWD vehicles, and its rotating electrical components include starter motors, alternators and electric motors for hybrid and electric vehicles.

Friction and mechanical products for automatic transmissions include dual clutch modules, friction clutch modules, friction and separator plates, transmission bands, torque converter clutches, one-way clutches

and torsional vibration dampers. Controls products for automatic transmissions feature electro-hydraulic solenoids for standard and high pressure hydraulic systems, transmission solenoid modules and dual clutch control modules. The Company's 50%-owned joint venture in Japan, NSK-Warner KK ("NSK-Warner"), is a leading producer of friction plates and one-way clutches in Japan and China.

The Drivetrain Segment has led the globalization of today's dual clutch transmission ("DCT") technology for over 10 years. BorgWarner's award-winning DualTronic® technology enables a conventional, manual gearbox to function as a fully automatic transmission by eliminating the interruption in power flow that occurs when shifting a single clutch manual transmission. The result is a smooth shifting automatic transmission with the fuel efficiency and driving experience of a manual gearbox.

The Drivetrain Segment established its industry-leading position in 2003 with the production launch of its DualTronic® innovations with VW/Audi, followed by program launches with Ford and BMW. In 2007, the Drivetrain Segment launched its first dual-clutch technology application in a Japanese transmission with Nissan. In 2008, the Company entered into a joint venture agreement with China Automobile Development United Investment Company, a company owned by 12 leading Chinese automakers, to produce various DCT modules for the Chinese market. The Company owns 66% of the joint venture. In 2013, the Drivetrain Segment launched its first DCT application in a Chinese transmission with SAIC. The Drivetrain Segment is working on several other DCT programs with OEMs around the world.

The Drivetrain Segment's torque management products include rear-wheel drive (“RWD”)-AWD transfer case systems, FWD-AWD coupling systems and cross-axle coupling systems. The Drivetrain Segment's focus is on developing electronically controlled torque management devices and systems that will benefit fuel economy and vehicle dynamics.

Transfer cases are installed on RWD based light trucks, SUVs, cross-over utility vehicles, and passenger cars. A transfer case attaches to the transmission and distributes torque to the front and rear axles improving vehicle traction and stability in dynamic driving conditions. There are many variants of the Drivetrain Segment's transfer case technology in the market today, including Torque On-Demand (TOD®), chain-driven, gear-driven, Pre-Emptive, Part-Time, 1-speed and 2-speed transfer cases. The Drivetrain Segment's transfer cases are featured on Ford and Dodge Ram light-duty and heavy-duty trucks.

The Drivetrain Segment is involved in the AWD market for FWD based vehicles with couplings that use electronically-controlled clutches to distribute power to the rear wheels as traction is required. The Drivetrain Segment's latest coupling innovation, the Centrifugal Electro-Hydraulic (“CEH”) Actuator, used to engage the clutches in the coupling, produces outstanding vehicle stability and traction while promoting better fuel economy with reduced weight. The CEH Actuator is found in the AWD couplings featured in several current FWD-AWD vehicles.

In 2015, the Company acquired Remy International, Inc. (“Remy”), a global market leader in the design, manufacture, remanufacture and distribution of rotating electrical components for light and commercial vehicles, OEMs and the aftermarket. Principal products include starter motors, alternators and electric motors. The Company’s starter motors and alternators are used in gasoline, diesel, natural gas and alternative fuel engines for light vehicle, commercial vehicle, and off-highway applications. The product technology continues to evolve to meet the demands of increasing vehicle electrical loads, improved fuel efficiency, reduced weight and lowered electrical and mechanical noise. The Company’s electric motors are used in both light and commercial vehicles including off-highway applications. These include both pure electric applications as well as hybrid applications, where the electric motors are combined with traditional gasoline or diesel propulsion systems.

The Company sells new starters, alternators and hybrid electric motors to OEMs globally for factory installation on new vehicles, and remanufactured and new starters and alternators to heavy duty aftermarket customers outside of

Europe and to OEMs for original equipment service. As a leading remanufacturer,

BorgWarner obtains used starters and alternators, commonly referred to as cores, then disassembles, cleans, combines them with new subcomponents and reassembles them into saleable, finished products, which are tested to meet OEM requirements.

In 2016, the Company sold the Remy light vehicle aftermarket business, which sells remanufactured and new starters, alternators and multi-line products to aftermarket customers, mainly retailers in North America, and warehouse distributors in North America, South America and Europe. The sale of this business allows the Company to focus on the rapidly developing original equipment manufacturer electrification trend in propulsion systems.

In 2017, the Company acquired Sevcon, Inc. ("Sevcon"), a global player in electrification technologies, serving customers in the U.S., U.K., France, Germany, Italy, China and the Asia Pacific region. Principal products include motor controllers, battery chargers, and uninterrupted power source systems for electric and hybrid vehicles, industrial, medical and telecom applications. Sevcon complements BorgWarner’s power electronics capabilities utilized to provide electrified propulsion solutions.

Joint Ventures

As of December 31, 2017, the Company had seven joint ventures in which it had a less-than-100% ownership interest. Results from the five joint ventures in which the Company is the majority owner are consolidated as part of the Company's results. Results from the two joint ventures in which the Company's effective ownership interest is 50% or less, were reported by the Company using the equity method of accounting.

In 2016, the Company sold its 60% ownership interest in Divgi-Warner Private Limited to the joint venture partner. This former joint venture was formed in 1995 to develop and manufacture transfer cases and synchronizer rings in India. As a result of the sale, the Company received cash proceeds of approximately $5.4 million, net of capital gains tax and cash divested, which is classified as an investing activity within the Condensed Consolidated Statement of Cash Flows.

Management of the unconsolidated joint ventures is shared with the Company's respective joint venture partners. Certain information concerning the Company's joint ventures is set forth below:

Joint venture	Products	Year organized	Percentage owned by the Company		Location of operation	Joint venture partner	Fiscal 2017 net sales (millions of dollars) (a)
Unconsolidated:							
NSK-Warner	Transmission components	1964	50	%	Japan/China	NSK Ltd.	$ 669.6
Turbo Energy Private Limited (b)	Turbochargers	1987	32.6	%	India	Sundaram Finance Limited; Brakes India Limited	$ 173.9
Consolidated:							
BorgWarner Transmission Systems Korea Ltd. (c)	Transmission components	1987	60	%	Korea	NSK-Warner	$ 272.9
Borg-Warner Shenglong (Ningbo) Co. Ltd.	Fans and fan drives	1999	70	%	China	Ningbo Shenglong Automotive Powertrain Systems Co., Ltd.	$ 52.5
BorgWarner TorqTransfer Systems Beijing Co. Ltd.	Transfer cases	2000	80	%	China	Beijing Automotive Components Stock Co. Ltd.	$ 151.3
SeohanWarner Turbo Systems Ltd.	Turbochargers	2003	71	%	Korea	Korea Flange Company	$ 260.1
BorgWarner United Transmission Systems Co. Ltd.	Transmission components	2009	66	%	China	China Automobile Development United Investment Co., Ltd.	$ 184.5

(a) All sales figures are for the year ended December 31, 2017, except NSK-Warner and Turbo Energy Private Limited. NSK-Warner's sales are reported for the 12 months ended November 30, 2017. Turbo Energy Private Limited's sales are reported for the 12 months ended September 30, 2017.

(b) The Company made purchases from Turbo Energy Private Limited totaling $31.9 million, $28.9 million and $36.5 million for the years ended December 31, 2017, 2016 and 2015, respectively.

(c) BorgWarner Inc. owns 50% of NSK-Warner, which has a 40% interest in BorgWarner Transmission Systems Korea Ltd. This gives the Company an additional indirect effective ownership percentage of 20%, resulting in a total effective ownership interest of 80%.

Financial Information About Geographic Areas

During the year ended December 31, 2017, approximately 77% of the Company's consolidated net sales were outside the United States ("U.S."), attributing sales to the location of production rather than the location of the customer.

Refer to Note 20, "Reporting Segments and Related Information," to the Consolidated Financial Statements in Item 8 of this report for financial information about geographic areas.

Product Lines and Customers

During the year ended December 31, 2017, approximately 82% of the Company's net sales were for light-vehicle applications; approximately 10% were for commercial vehicle applications; approximately 4% were for off-highway vehicle applications; and approximately 4% were to distributors of aftermarket replacement parts.

The Company’s worldwide net sales to the following customers (including their subsidiaries) were approximately as follows:

	Year Ended December 31,		
Customer	2017	2016	2015
Ford	15%	15%	15%
Volkswagen	13%	13%	15%

No other single customer accounted for more than 10% of our consolidated net sales in any of the years presented.

The Company's automotive products are generally sold directly to OEMs, substantially pursuant to negotiated annual contracts, long-term supply agreements or terms and conditions as may be modified by the parties. Deliveries are subject to periodic authorizations based upon OEM production schedules. The Company typically ships its products directly from its plants to the OEMs.

Sales and Marketing

Each of the Company's businesses within its two reporting segments has its own sales function. Account executives for each of our businesses are assigned to serve specific customers for one or more businesses' products. Our account executives spend the majority of their time in direct contact with customers' purchasing and engineering employees and are responsible for servicing existing business and for identifying and obtaining new business. Because of their close relationship with customers, account executives are able to identify and meet customers' needs based upon their knowledge of our products' design and manufacturing capabilities. Upon securing a new order, account executives participate in product launch team activities and serve as a key interface with customers. In addition, sales and marketing employees of our Engine and Drivetrain reporting segments often work together to explore cross-development opportunities where appropriate.

Seasonality

Our operations are directly related to the automotive industry. Consequently, we may experience seasonal fluctuations to the extent automotive vehicle production slows, such as in the summer months when many customer plants typically close for model year changeovers or vacations. Historically, model changeovers or vacations have generally resulted in lower sales volume in the third quarter.

Research and Development

The Company conducts advanced Engine and Drivetrain research at the reporting segment level. This advanced engineering function seeks to leverage know-how and expertise across product lines to create new Engine and Drivetrain systems and modules that can be commercialized. This function manages a venture capital fund that was created by the Company as seed money for new innovation and collaboration across businesses.

In addition, each of the Company's businesses within its two reporting segments has its own research and development (“R&D”) organization, including engineers and technicians, engaged in R&D activities at facilities worldwide. The Company also operates testing facilities such as prototype, measurement and calibration, life cycle testing and dynamometer laboratories.

By working closely with the OEMs and anticipating their future product needs, the Company's R&D personnel conceive, design, develop and manufacture new proprietary automotive components and systems. R&D personnel also work to improve current products and production processes. The Company believes its commitment to R&D will allow it to continue to obtain new orders from its OEM customers.

The Company's net R&D expenditures are included in selling, general and administrative expenses of the Consolidated Statements of Operations. Customer reimbursements are netted against gross R&D expenditures as they are considered a recovery of cost. Customer reimbursements for prototypes are recorded net of prototype costs based on customer contracts, typically either when the prototype is shipped or when it is accepted by the customer. Customer reimbursements for engineering services are recorded when performance obligations are satisfied in accordance with the contract and accepted by the customer. Financial risks and rewards transfer upon shipment, acceptance of a prototype component by the customer or upon completion of the performance obligation as stated in the respective customer agreement.

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Gross R&D expenditures	$473.1	$417.8	$386.2
Customer reimbursements	(65.6)	(74.6)	(78.8)
Net R&D expenditures	$407.5	$343.2	$307.4

Net R&D expenditures as a percentage of net sales were 4.2%, 3.8% and 3.8% for the years ended December 31, 2017, 2016 and 2015, respectively. The Company has contracts with several customers at the Company's various R&D locations. No such contract exceeded 5% of net R&D expenditures in any of the years presented.

Intellectual Property

The Company has approximately 6,425 active domestic and foreign patents and patent applications pending or under preparation, and receives royalties from licensing patent rights to others. While it considers its patents on the whole to be important, the Company does not consider any single patent, any group of related patents or any single license essential to its operations in the aggregate or to the operations of any of the Company's business groups individually. The expiration of the patents individually and in the aggregate is not expected to have a material effect on the Company's financial position or future operating results. The Company owns numerous trademarks, some of which are valuable, but none of which are essential to its business in the aggregate.

The Company owns the “BorgWarner” and “Borg-Warner Automotive” trade names and trademarks, and variations thereof, which are material to the Company's business.

Competition

The Company's reporting segments compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. Many of these competitors are larger and have greater resources than the Company. Technological innovation, application engineering development, quality, price, delivery and program launch support are the primary elements of competition.

The Company's major competitors by product type follow:

Product Type: Engine	Names of Competitors	
Turbochargers:	Cummins Turbo Technology	IHI
	Honeywell	Mitsubishi Heavy Industries (MHI)
	Bosch Mahle Turbo Systems	Continental
Emissions systems:	Mahle	T.RAD
	Denso	Pierburg
	Bosch	NGK
	Eldor	Eberspaecher
Timing devices and chains:	Denso	Schaeffler Group
	Iwis	Tsubaki Group
Thermal systems:	Horton	Usui
	Mahle	Xuelong

Product Type: Drivetrain	Names of Competitors	
Torque transfer:	GKN Driveline	JTEKT
	Magna Powertrain	
Rotating electrical machines:	Denso	Valeo
	Bosch	Continental
Transmission systems:	Bosch	FCC
	Dynax	Schaeffler Group
	Valeo	Denso

In addition, a number of the Company's major OEM customers manufacture, for their own use and for others, products that compete with the Company's products. Other current OEM customers could elect to manufacture products to meet their own requirements or to compete with the Company. There is no assurance that the Company's business will not be adversely affected by increased competition in the markets in which it operates.

For many of its products, the Company's competitors include suppliers in parts of the world that enjoy economic advantages such as lower labor costs, lower health care costs, lower tax rates and, in some cases, export subsidies and/or raw materials subsidies. Also, see Item 1A, "Risk Factors."

Workforce

As of December 31, 2017, the Company had a salaried and hourly workforce of approximately 29,000 (as compared with approximately 27,000 at December 31, 2016), of which approximately 6,300 were in the U.S. Approximately 15% of the Company's U.S. workforce is unionized. The workforces at certain international facilities are also unionized. The Company believes the present relations with our workforce to be satisfactory.

We have a domestic collective bargaining agreement for one facility in New York, which expires in September 2020.

Raw Materials

The Company uses a variety of raw materials in the production of its automotive products including aluminum, copper, nickel, plastic resins, steel and certain alloy elements. Manufacturing operations for each of the Company's operating segments are dependent upon natural gas, fuel oil and electricity.

The Company uses a variety of tactics in order to limit the impact of supply shortages and inflationary pressures. The Company's global procurement organization works to accelerate cost reductions, purchases from lower cost regions, rationalize the supply base, mitigate risk and collaborate on its buying activities. In addition, the Company uses long-term contracts, cost sharing arrangements, design changes, customer buy programs and limited financial instruments to help control costs. The Company intends to use similar measures in 2018 and beyond. Refer to Note 10, “Financial Instruments,” of the Consolidated Financial Statements in Item 8 of this report for information related to the Company's hedging activities.

For 2018, the Company believes that its supplies of raw materials are adequate and available from multiple sources to support its manufacturing requirements.

Available Information

Through its Internet website (www.borgwarner.com), the Company makes available, free of charge, its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, all amendments to those reports, and other filings with the Securities and Exchange Commission, as soon as reasonably practicable after they are filed or furnished. The Company also makes the following documents available on its Internet website: the Audit Committee Charter; the Compensation Committee Charter; the Corporate Governance Committee Charter; the Company's Corporate Governance Guidelines; the Company's Code of Ethical Conduct; and the Company's Code of Ethics for CEO and Senior Financial Officers. You may also obtain a copy of any of the foregoing documents, free of charge, if you submit a written request to Investor Relations, 3850 Hamlin Road, Auburn Hills, Michigan 48326. The public may read and copy materials filed by the Company with the SEC at the SEC’s Public Reference Room at 100 F Street, NE, Washington, DC, 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. 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 http://www.sec.gov.

Executive Officers of the Company

Set forth below are the names, ages, positions and certain other information concerning the executive officers of the Company as of February 8, 2018.

Name	Age	Position with the Company
James R. Verrier	55	President and Chief Executive Officer
Ronald T. Hundzinski	59	Executive Vice President and Chief Financial Officer
Frederic B. Lissalde	50	Executive Vice President and Chief Operating Officer
Tonit M. Calaway	49	Executive Vice President and Chief Human Resources Officer
Brady D. Ericson	46	Executive Vice President and Chief Strategy Officer
John J. Gasparovic	60	Executive Vice President, Chief Legal Officer and Secretary
Stefan Demmerle	53	Vice President
Joseph F. Fadool	51	Vice President
Martin Fischer	47	Vice President
Anthony D. Hensel	59	Vice President and Controller
Robin Kendrick	53	Vice President
Thomas J. McGill	51	Vice President and Treasurer
Joel Wiegert	44	Vice President

Mr. Verrier has been President, Chief Executive Officer and a member of BorgWarner's Board of Directors since January 1, 2013.

Mr. Hundzinski has been Executive Vice President and Chief Financial Officer of the Company since March 2012.

Mr. Lissalde has been Executive Vice President and Chief Operating Officer of the Company since January 2018. He was Vice President of the Company and President and General Manager of BorgWarner Turbo Systems LLC from May 2013 to December 2017. From May 2011 until May 2013, he was Vice President of the Company and President and General Manager of BorgWarner Turbo Systems Passenger Car Products.

Ms. Calaway has been Executive Vice President and Chief Human Resource Officer of the Company since August 2016. She was Vice President of Human Resources of Harley-Davidson Inc. and President of The Harley-Davidson Foundation from February 2010 to July 2016.

Mr. Ericson has been Executive Vice President and Chief Strategy Officer of the Company since January 2017. He was Vice President of the Company and President and General Manager of BorgWarner Emissions Systems LLC from March 2014 until December 2016, during which time BorgWarner BERU Systems GmbH was combined with BorgWarner Emissions Systems Inc. He was Vice President of the Company and President and General Manager of BorgWarner BERU Systems GmbH and Emissions Systems Inc. from September 2011 until March 2014.

Mr. Gasparovic has been Executive Vice President, Chief Legal Officer and Secretary of the Company since January 2007.

Dr. Demmerle has been Vice President of the Company and President and General Manager of BorgWarner PDS (USA) Inc. (formerly known as BorgWarner TorqTransfer Systems Inc.) since September 2012 and President and General Manager of BorgWarner PDS (Indiana) Inc. (formerly known as Remy International, Inc.) since December 2015.

Mr. Fadool has been Vice President of the Company and President and General Manager of BorgWarner Emissions Systems LLC and BorgWarner Thermal Systems Inc. since January 2017. He was Vice President of the Company and President and General Manager of BorgWarner Ithaca LLC (d/b/a BorgWarner Morse Systems) from July 2015 until December 2016. From May 2012 to July 2015, he was the Vice President of the Company and President and General Manager of BorgWarner Morse TEC Inc.

Dr. Fischer has been Vice President of the Company and President and General Manager of BorgWarner Transmission Systems LLC since January 2018. From July 2015 until December 2017, he was Vice President and General Manager of BorgWarner Turbo Systems LLC Europe and South America. From January 2014 until June 2015, he was Vice President and General Manager of BorgWarner Turbo Systems LLC Europe. From October 2009 until December 2013, Mr. Fischer was a member of the Executive Board of the electronics division of Hella KGaA Hueck & Co., in addition to his roles of President of the Hella Corporate Center USA, Inc. and the CEO of Hella‘s electronics business in the Americas.

Mr. Hensel has been Vice President and Controller of the Company since December 2016. From May 2009 through November 2016, he was Vice President of Internal Audit of the Company.
Mr. Kendrick has been Vice President of the Company and President and General Manager of BorgWarner Turbo Systems LLC since January 2018. He was Vice President of the Company and President and General Manager of BorgWarner Transmissions Systems LLC from September 2011 to December 2017.

Mr. McGill has been Vice President and Treasurer of the Company since May 2012.

Mr. Wiegert has been Vice President of the Company and President and General Manager of BorgWarner Ithaca LLC (d/b/a BorgWarner Morse Systems) since January 2017. He was President and General Manager of BorgWarner Thermal Systems Inc. from September 2016 until December 2016. From July 2015 to August 2016, he was Vice President and General Manager, Americas, Aftermarket and Global Integration Leader for BorgWarner PDS (USA) Inc. From January 2012 to July 2015, he was Vice President and General Manager, Asia and Americas for BorgWarner Turbo Systems Inc.

Item 1A. Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be considered. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impact our business operations. If any of the following risks occur, our business including its financial performance, financial condition, operating results and cash flows could be adversely affected.

Risks related to our industry

Conditions in the automotive industry may adversely affect our business.

Our financial performance depends on conditions in the global automotive industry. Automotive and truck production and sales are cyclical and sensitive to general economic conditions and other factors including interest rates, consumer credit, and consumer spending and preferences. Economic declines that result in significant reduction in automotive or truck production would have an adverse effect on our sales to OEMs.

We face strong competition.

We compete worldwide with a number of other manufacturers and distributors that produce and sell products similar to ours. Price, quality, delivery, technological innovation, engineering development and program launch support are the primary elements of competition. Our competitors include vertically integrated units of our major OEM customers, as well as a large number of independent domestic and international suppliers. A number of our competitors are larger than us and some competitors have greater financial and other resources than we do. Although OEMs have indicated that they will continue to rely on outside suppliers, a number of our major OEM customers manufacture products for their own uses that directly compete with our products. These OEMs could elect to manufacture such products for their own uses in place of the products we currently supply. The competitive environment has changed dramatically over the past few years as our traditional U.S. OEM customers, faced with intense international competition, have expanded their worldwide sourcing of components. As a result, we have experienced competition from suppliers in other parts of the world that enjoy economic advantages, such as lower labor costs, lower health care costs, lower tax rates and, in some cases, export or raw materials subsidies. Increased competition could adversely affect our business.

Risks related to our business

We are under substantial pressure from OEMs to reduce the prices of our products.

There is substantial and continuing pressure on OEMs to reduce costs, including costs of products we supply. Annual price reductions to OEM customers are a permanent component of our business. To maintain our profit margins, we seek price reductions from our suppliers, improved production processes to increase manufacturing efficiency, updated product designs to reduce costs and we develop new products, the benefits of which support stable or increased prices. Our ability to pass through increased raw material costs to our OEM customers is limited, with cost recovery often less than 100% and often on a delayed basis. Inability to reduce costs in an amount equal to annual price reductions, increases in raw material costs, and increases in employee wages and benefits could have an adverse effect on our business.

We continue to face volatile costs of commodities used in the production of our products.

The Company uses a variety of commodities (including aluminum, copper, nickel, plastic resins, steel, other raw materials and energy) and materials purchased in various forms such as castings, powder metal, forgings, stampings and bar stock. Increasing commodity costs will have an impact on our results. We have sought to alleviate the impact of increasing costs by including a material pass-through provision in our customer contracts wherever possible and by selectively hedging certain commodity exposures. Customers frequently challenge these contractual provisions and rarely pay the full cost of any material increases. The discontinuation or lessening of our ability to pass-through or hedge increasing commodity costs could adversely affect our business.

From time to time, commodity prices may also fall rapidly. When this happens, suppliers may withdraw capacity from the market until prices improve which may cause periodic supply interruptions. The same may be true of our transportation carriers and energy providers. If these supply interruptions occur, it could adversely affect our business.

We use important intellectual property in our business. If we are unable to protect our intellectual property or if a third party makes assertions against us or our customers relating to intellectual property rights, our business could be adversely affected.

We own important intellectual property, including patents, trademarks, copyrights and trade secrets, and are involved in numerous licensing arrangements. Our intellectual property plays an important role in maintaining our competitive position in a number of the markets that we serve. Our competitors may develop

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technologies that are similar or superior to our proprietary technologies or design around the patents we own or license. Further, as we expand our operations in jurisdictions where the enforcement of intellectual property rights is less robust, the risk of others duplicating our proprietary technologies increases, despite efforts we undertake to protect them. Developments or assertions by or against us relating to intellectual property rights, and any inability to protect or enforce these rights, could adversely affect our business and our competitive position.

We are subject to business continuity risks associated with increasing centralization of our information technology (IT) systems.

To improve efficiency and reduce costs, we have regionally centralized the information systems that support our business processes such as invoicing, payroll and general management operations. If the centralized systems are disrupted or disabled, key business processes could be interrupted, which could adversely affect our business.

A failure of our information technology infrastructure could adversely impact our business and operations.

We rely on the capacity, reliability and security of our IT systems and infrastructure. IT systems are vulnerable to disruptions, including those resulting from natural disasters, cyber-attacks or failures in third-party-provided services. Disruptions and attacks on our IT systems pose a risk to the security of our systems and our ability to protect our networks and the confidentiality, availability and integrity of our third-party data. As a result, such attacks or disruptions could potentially lead to the inappropriate disclosure of confidential information, including our intellectual property, improper use of our systems and networks, manipulation and destruction of data, production downtimes and both internal and external supply shortages. This could cause significant damage to our reputation, affect our relationships with our customers and suppliers, lead to claims against the Company and ultimately adversely affect our business.

Our business success depends on attracting and retaining qualified personnel.

Our ability to sustain and grow our business requires us to hire, retain and develop a highly skilled and diverse management team and workforce worldwide. Any unplanned turnover or inability to attract and retain key employees in numbers sufficient for our needs could adversely affect our business.

Part of our workforce is unionized which could subject us to work stoppages.

As of December 31, 2017, approximately 15% of our U.S. workforce was unionized. We have a domestic collective bargaining agreement for one facility in New York, which expires in September 2020. The workforce at certain of our international facilities is also unionized. A prolonged dispute with our employees could have an adverse effect on our business.

Changes in interest rates and asset returns could increase our pension funding obligations and reduce our profitability.

We have unfunded obligations under certain of our defined benefit pension and other postretirement benefit plans. The valuation of our future payment obligations under the plans and the related plan assets are subject to significant adverse changes if the credit and capital markets cause interest rates and projected rates of return to decline. Such declines could also require us to make significant additional contributions to our pension plans in the future. Additionally, a material deterioration in the funded status of the plans could significantly increase our pension expenses and reduce profitability in the future.

We also sponsor post-employment medical benefit plans in the U.S. that are unfunded. If medical costs continue to increase or actuarial assumptions are modified, this could have an adverse effect on our business.

We are subject to extensive environmental regulations.

Our operations are subject to laws governing, among other things, emissions to air, discharges to waters and the generation, handling, storage, transportation, treatment and disposal of waste and other materials. The operation of automotive parts manufacturing plants entails risks in these areas, and we cannot assure that we will not incur material costs or liabilities as a result. Through various acquisitions over the years, we have acquired a number of manufacturing facilities, and we cannot assure that we will not incur material costs and liabilities relating to activities that predate our ownership. In addition, potentially significant expenditures could be required in order to comply with evolving interpretations of existing environmental, health and safety laws and regulations or any new such laws and regulations that may be adopted in the future. Costs associated with failure to comply with such laws and regulations could have an adverse effect on our business.

We have liabilities related to environmental, product warranties, litigation and other claims.

We and certain of our current and former direct and indirect corporate predecessors, subsidiaries and divisions have been identified by the United States Environmental Protection Agency and certain state environmental agencies and private parties as potentially responsible parties at various hazardous waste disposal sites under the Comprehensive Environmental Response, Compensation and Liability Act and equivalent state laws.

We provide product warranties to our customers for some of our products. Under these product warranties, we may be required to bear costs and expenses for the repair or replacement of these products. We cannot assure that costs and expenses associated with these product warranties will not be material, or that those costs will not exceed any amounts accrued for such product warranties in our financial statements.

We are currently, and may in the future become, subject to legal proceedings and commercial or contractual disputes. These claims typically arise in the normal course of business and may include, but not be limited to, commercial or contractual disputes with our customers and suppliers, intellectual property matters, personal injury, product liability, environmental and employment claims. There is a possibility that such claims may have an adverse impact on our business that is greater than we anticipate. While the Company maintains insurance for certain risks, the amount of insurance may not be adequate to cover all insured claims and liabilities. The incurring of significant liabilities for which there is no, or insufficient, insurance coverage could adversely affect our business.

We have faced, and in the future expect to face, substantial numbers of asbestos-related claims. The cost of resolving those claims is inherently uncertain and could have a material adverse effect on our results of operations, financial position, and cash flows.

We have in the past been named in a significant number of lawsuits each year alleging injury related to exposure to asbestos in certain of our historical products. We no longer manufacture, distribute, or sell products that contain asbestos. We vigorously defend against asbestos-related claims, and we have historically been successful in getting the majority of such claims dismissed without payment. Notwithstanding these factors, asbestos-related claims may be asserted against us in the future, and the number of those claims may be substantial. We have estimated the indemnity and defense costs relating to the asbestos-related claims that have been asserted against us but not yet resolved, as well as those asbestos-related claims that we estimate may be asserted against us in the future. Our estimate of future asbestos-related claims that may be asserted against us is based on assumptions as to the likely rates of occurrence of asbestos-related disease in the U.S. population in the future and the number of asbestos-related claims asserted as a result. Furthermore, our estimates are based on a number of assumptions derived from our historical experience in resolving asbestos-related claims, including:

- the number and type of future asbestos-related claims that will be asserted against us;
- the number of future asbestos-related claims asserted against us that will result in a payment by us;
- the average payment necessary to resolve such claims; and
- the costs of defending such claims.

If our actual experience, as noted above, in receiving and resolving asbestos-related claims in the future differs significantly from these assumptions, then our expenditures to resolve such claims may be significantly higher or lower than the estimates contained in our financial statements, and, if higher, could have an adverse impact on our results of operations, financial position, or cash flows that is greater than we have estimated. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Other Matters - Contingencies - Asbestos-Related Liability”.

While we have certain insurance coverage available respecting asbestos-related claims asserted against us, substantially all of that insurance coverage is the subject of pending litigation. The insurance that is at issue in the litigation is subject to various uncertainties, including: the assertion of defenses or the development of facts of which we are not presently aware, changes in the case law, and future financial viability of remaining insurers. This insurance coverage is additionally subject to claims from other co-insured parties. We currently project that our remaining insurance coverage for current and future asbestos-related claims will cover only a portion of the amounts that we estimate we ultimately may pay to resolve such claims. The resolution of the insurance coverage litigation, and the number and amount of claims on our insurance from co-insured parties, may increase or decrease the amount of insurance coverage available to us for asbestos-related claims from the estimates contained in our financial statements.

Compliance with and changes in laws could be costly and could affect operating results. In addition, government disruptions could negatively impact our ability to conduct our business.

We have operations in multiple countries that can be impacted by expected and unexpected changes in the legal and business environments in which we operate. Compliance related issues in certain countries associated with laws such as the Foreign Corrupt Practices Act and other anti-corruption laws could also adversely affect our business.

Changes that could impact the legal environment include new legislation, new regulations, new policies, investigations and legal proceedings and new interpretations of existing legal rules and regulations, in particular, changes in import and export control laws or exchange control laws, additional restrictions on doing business in countries subject to sanctions, and changes in laws in countries where we operate or

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intend to operate. In addition, government disruptions, such as government shutdowns, may delay or halt the granting and renewal of permits, licenses and other items required by us and our customers to conduct our business.

Changes in tax laws or tax rates taken by taxing authorities and tax audits could adversely affect our business.

Changes in tax laws or tax rates, the resolution of tax assessments or audits by various tax authorities, and the inability to fully utilize our tax loss carryforwards and tax credits could adversely affect our operating results. In addition, we may periodically restructure our legal entity organization.

If taxing authorities were to disagree with our tax positions in connection with any such restructurings, our effective tax rate could be materially affected. Our tax filings for various periods are subject to audit by the tax authorities in most jurisdictions where we conduct business. We have received tax assessments from various taxing authorities and are currently at varying stages of appeals and/or litigation regarding these matters. These audits may result in assessment of additional taxes that are resolved with the authorities or through the courts. We believe these assessments may occasionally be based on erroneous and even arbitrary interpretations of local tax law. Resolution of any tax matters involves uncertainties and there are no assurances that the outcomes will be favorable.

The Tax Cuts and Jobs Act (the “Act”) that was signed into law in December 2017 constitutes a major change to the US tax system. The estimated impact of the law is based on management’s current interpretations of the Act and related assumptions. Our final tax liability may be materially different from current estimates based on regulatory developments and our further analysis of the impacts of the Act. In future periods, our effective tax rate could be subject to additional uncertainty as a result of regulatory developments related to the Act. Furthermore, changes in the earnings mix or applicable foreign tax laws may result in significant fluctuations in our effective tax rates.

Because we are a U.S. holding company, one significant source of funds is distributions from our non-U.S. subsidiaries. Certain countries in which we operate have adopted or could institute currency exchange controls that limit or prohibit our local subsidiaries' ability to convert local currency into U.S. dollars or to make payments outside the country. This could subject us to the risks of local currency devaluation and business disruption.

Our growth strategy may prove unsuccessful.

We have a stated goal of increasing sales and operating income at a rate greater than global vehicle production by increasing content per vehicle with innovative new components and through select acquisitions.

We may not meet our goal because of any of the following, or other factors: (a) the failure to develop new products that will be purchased by our customers; (b) technology changes rendering our products obsolete; and (c) a reversal of the trend of supplying systems (which allows us to increase content per vehicle) instead of components.

We expect to continue to pursue business ventures, acquisitions, and strategic alliances that leverage our technology capabilities, enhance our customer base, geographic representation, and scale to complement our current businesses and we regularly evaluate potential growth opportunities, some of which could be material. While we believe that such transactions are an integral part of our long-term strategy, there are risks and uncertainties related to these activities. Assessing a potential growth opportunity involves extensive due diligence. However, the amount of information we can obtain about a potential growth opportunity may be limited, and we can give no assurance that past or future business ventures, acquisitions, and strategic alliances will positively affect our financial performance or will perform as planned. We may

not be able to successfully assimilate or integrate companies that we have acquired or acquire in the future, including their personnel, financial systems, distribution, operations and general operating procedures. The integration of companies that we have acquired or acquire in the future may be more difficult, time consuming or costly than expected. Revenues following the acquisition of a company may be lower than expected, customer loss and business disruption (including, without limitation, difficulties in maintaining relationships with employees, customers, or suppliers) may be greater than expected and the retention of key employees at the acquired company may not be achieved. We may also encounter challenges in achieving appropriate internal control over financial reporting in connection with the integration of an acquired company. If we fail to assimilate or integrate acquired companies successfully, our business, reputation and operating results could be adversely affected. Likewise, our failure to integrate and manage acquired companies successfully may lead to future impairment of any associated goodwill and intangible asset balances. Failure to execute our growth strategy could adversely affect our business.

We are subject to risks related to our international operations.

We have manufacturing and technical facilities in many regions including Europe, Asia, and the Americas. For 2017, approximately 77% of our consolidated net sales were outside the U.S. Consequently, our results could be affected by changes in trade, monetary and fiscal policies, trade restrictions or prohibitions, import or other charges or taxes, fluctuations in foreign currency exchange rates, limitations on the repatriation of funds, changing economic conditions, unreliable intellectual property protection and legal systems, insufficient infrastructures, social unrest, political instability and disputes, and international terrorism. Compliance with multiple and potentially conflicting laws and regulations of various countries is challenging, burdensome and expensive.

The financial statements of foreign subsidiaries are translated to U.S. dollars using the period-end exchange rate for assets and liabilities and an average exchange rate for each period for revenues, expenses and capital expenditures. The local currency is the functional currency for substantially all of the Company's foreign subsidiaries. Significant foreign currency fluctuations and the associated translation of those foreign currencies could adversely affect our business. Additionally, significant changes in currency exchange rates, particularly the Euro, Korean Won and Chinese Renminbi, could cause fluctuations in the reported results of our businesses' operations that could negatively affect our results of operations.

Our business in China is subject to aggressive competition and is sensitive to economic, political and market conditions.

Maintaining a strong position in the Chinese market is a key component of our global growth strategy. The automotive supply market in China is highly competitive, with competition from many of the largest global manufacturers and numerous smaller domestic manufacturers. As the Chinese market evolves, we anticipate that market participants will act aggressively to increase or maintain their market share. Increased competition may result in price reductions, reduced margins and our inability to gain or hold market share. In addition, our business in China is sensitive to economic, political and market conditions that drive sales volume in China. If we are unable to maintain our position in the Chinese market or if vehicle sales in China decrease, our business and financial results could be adversely affected.

A downgrade in the ratings of our debt could restrict our ability to access the debt capital markets.

Changes in the ratings that rating agencies assign to our debt may ultimately impact our access to the debt capital markets and the costs we incur to borrow funds. If ratings for our debt fall below investment grade, our access to the debt capital markets could become restricted and our cost of borrowing or the interest rate for any subsequently issued debt would likely increase.

Our revolving credit agreement includes an increase in interest rates if the ratings for our debt are downgraded. The interest costs on our revolving credit agreement are based on a rating grid agreed to in

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our credit agreement. Further, an increase in the level of our indebtedness and related interest costs may increase our vulnerability to adverse general economic and industry conditions and may affect our ability to obtain additional financing.

We could incur additional restructuring charges as we continue to execute actions in an effort to improve future profitability, competitiveness and to optimize our product portfolio and may not achieve the anticipated savings and benefits from these actions.

We have and may continue to initiate restructuring actions designed to improve future profitability, competitiveness, enhance treasury management flexibility, optimize our product portfolio or create an optimal legal entity structure. We may not realize anticipated savings or benefits from past or future actions in full or in part or within the time periods we expect. We are also subject to the risks of labor unrest, negative publicity and business disruption in connection with our actions. Failure to realize anticipated savings or benefits from our actions could have an adverse effect on our business.

Risks related to our customers

We rely on sales to major customers.

We rely on sales to OEMs around the world of varying credit quality and manufacturing demands. Supply to several of these customers requires significant investment by the Company. We base our growth projections, in part, on commitments made by our customers. These commitments generally renew yearly during a program life cycle. If actual production orders from our customers do not approximate such commitments due to a variety of factors including non-renewal of purchase orders, a customer's financial hardship or other unforeseen reasons, it could adversely affect our business.

Some of our sales are concentrated. Our worldwide sales in 2017 to Ford and Volkswagen constituted approximately 15% and 13% of our 2017 consolidated net sales, respectively.

We are sensitive to the effects of our major customers’ labor relations.

All three of our primary North American customers, Ford, Fiat Chrysler Automobiles and General Motors, have major union contracts with the United Automobile, Aerospace and Agricultural Implement Workers of America. Because of domestic OEMs' dependence on a single union, we are affected by labor difficulties and work stoppages at OEMs' facilities. Similarly, a majority of our global customers' operations outside of North America are also represented by various unions. Any extended work stoppage at one or more of our customers could have an adverse effect on our business.

Risks related to our suppliers

We could be adversely affected by supply shortages of components from our suppliers.

In an effort to manage and reduce the cost of purchased goods and services, we have been rationalizing our supply base. As a result, we are dependent on fewer sources of supply for certain components used in the manufacture of our products. The Company selects suppliers based on total value (including total landed price, quality, delivery, and technology), taking into consideration their production capacities and financial condition. We expect that they will deliver to our stated written expectations.

However, there can be no assurance that capacity limitations, labor unrest, weather emergencies, commercial disputes, government actions, riots, wars, sabotage, cyber attacks, non-conforming parts, acts of terrorism, “Acts of God," or

other problems experienced by our suppliers will not result in occasional shortages or delays in their supply of components to us. If we were to experience a significant or prolonged shortage of critical components from any of our suppliers and could not procure the components from other

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sources, we would be unable to meet the production schedules for some of our key products and could miss customer delivery expectations. This could adversely affect our customer relations and business.

Suppliers' economic distress could result in the disruption of our operations and could adversely affect our business.

Rapidly changing industry conditions such as volatile production volumes; credit tightness; changes in foreign currencies; raw material, commodity, transportation, and energy price escalation; drastic changes in consumer preferences; and other factors could adversely affect our supply chain, and sometimes with little advance notice. These conditions could also result in increased commercial disputes and supply interruption risks. In certain instances, it would be difficult and expensive for us to change suppliers that are critical to our business. On occasion, we must provide financial support to distressed suppliers or take other measures to protect our supply lines. We cannot predict with certainty the potential adverse effects these costs might have on our business.

We are subject to possible insolvency of outsourced service providers.

The Company relies on third party service providers for administration of legal claims, health care benefits, pension benefits, stockholder and bondholder registration and other services. These service providers contribute to the efficient conduct of the Company's business. Insolvency of one or more of these service providers could adversely affect our business.

We are subject to possible insolvency of financial counterparties.

The Company engages in numerous financial transactions and contracts including insurance policies, letters of credit, credit line agreements, financial derivatives, and investment management agreements involving various counterparties. The Company is subject to the risk that one or more of these counterparties may become insolvent and therefore be unable to meet its obligations under such contracts.

Other risks

A variety of other factors could adversely affect our business.

Any of the following could materially and adversely affect our business: the loss of or changes in supply contracts or sourcing strategies of our major customers or suppliers; start-up expenses associated with new vehicle programs or delays or cancellation of such programs; utilization of our manufacturing facilities, which can be dependent on a single product line or customer; inability to recover engineering and tooling costs; market and financial consequences of recalls that may be required on products we supplied; delays or difficulties in new product development; the possible introduction of similar or superior technologies by others; global excess capacity and vehicle platform proliferation; and the impact of fire, flood or other natural disasters.

Item 1B. Unresolved Staff Comments

The Company has received comment letters from the Staff of the SEC's Division of Corporation Finance on May 11, June 23, August 23 and November 29, 2017 as part of its review of the Company's Form 10-K for the year ended December 31, 2016. The Company responded to all of the letters - most recently on January 25, 2018. As of the date of this Form 10-K, the Staff has not confirmed to the Company that its review process is complete. The Company intends to continue working with the Staff in the event the Staff has any further comments.
The Staff's comments related to the Company's accounting for the $703.6 million asbestos related charge recorded in the December 31, 2016 Consolidated Financial Statements, as well as asbestos related insurance assets. These two matters are disclosed in Note 14, Contingencies in the 2017 and 2016 Notes

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to Financial Statements. The Staff's comments are focused on whether all or a portion of the amounts recognized in the 2016 consolidated statement of operations should have been recognized in earlier periods.

The Company believes that its accounting for asbestos related matters is appropriate and in accordance with generally accepted accounting principles and it has addressed the Staff's comments in full; however, it is possible that the Staff will have additional comments. If all or a portion of the asbestos related charge were to be reflected in periods prior to 2016, the impact would be a reduction in net earnings in periods prior to the year ended December 31, 2016 and a corresponding increase in earnings for the year ending December 31, 2016. There would be no impact to the December 31, 2016 Consolidated Balance Sheet or net cash provided by operating activities in the Consolidated Statements of Cash Flows for the three years ending December 31, 2016.

Item 2. Properties

As of December 31, 2017, the Company had 66 manufacturing, assembly, and technical locations worldwide. In addition to its 16 U.S. locations, the Company had ten locations in China; eight locations in Germany, seven locations in South Korea; four locations in each of India and Mexico; three locations in each of Brazil and Japan; two locations in each of Italy and the United Kingdom; and one location in each of France, Hungary, Ireland, Poland, Portugal, Spain, and Sweden. Individual locations may design or manufacture for both operating segments. The Company also has several sales offices, warehouses and technical centers. The Company's worldwide headquarters are located in a leased facility in Auburn Hills, Michigan. In general, the Company believes its facilities to be suitable and adequate to meet its current and reasonably anticipated needs.

The following is additional information concerning principal manufacturing, assembly, and technical facilities operated by the Company, its subsidiaries, and affiliates.

ENGINE[(a)]

Americas	Europe	Asia
Asheville, North Carolina	Arcore, Italy	Aoyama, Japan
Auburn Hills, Michigan (d)	Bradford, England (UK)	Chennai, India (b)
Cadillac, Michigan	Kirchheimbolanden, Germany	Chungju-City, South Korea
Dixon, Illinois	Ludwigsburg, Germany	Jiangsu, China (b)
El Salto Jalisco, Mexico	Lugo, Italy (b)	Kakkalur, India
Fletcher, North Carolina	Markdorf, Germany	Manesar, India
Itatiba, Brazil	Muggendorf, Germany	Nabari City, Japan
Ithaca, New York	Oberboihingen, Germany	Ningbo, China (b) (e)
Marshall, Michigan	Oroszlany, Hungary (d)	Pune, India
Piracicaba, Brazil	Rzeszow, Poland (d)	Pyongtaek, South Korea (b) (c)
Ramos, Mexico	Tralee, Ireland	
	Viana de Castelo, Portugal	
	Vigo, Spain	

DRIVETRAIN[(a)]

Americas	Europe	Asia
Anderson, Indiana (b)	Arnstadt, Germany	Beijing, China (b)
Bellwood, Illinois	Heidelberg, Germany	Dae-Gu, South Korea (b)
Brusque, Brazil (b)	Ketsch, Germany	Dalian, China (b)
Frankfort, Illinois	Landskrona, Sweden (b)	Eumsung, South Korea
Irapuato, Mexico	Tulle, France	Fukuroi City, Japan
Laredo, Texas (b)	Wrexham, Wales (UK)	Jingzhou City, China (b)
Livonia, Michigan		Changnyeong, South Korea
Melrose Park, Illinois (b)		Ochang, South Korea (b)
Pendleton, Indiana (b)		Shanghai, China (b)
San Luis Potosi, Mexico (b)		Tianjin, China (b)
Seneca, South Carolina		Wuhan, China (b)
Water Valley, Mississippi		

(a) The table excludes joint ventures owned less than 50% and administrative offices.
(b) Indicates leased land rights or a leased facility.
(c) City has 2 locations: a wholly owned subsidiary and a joint venture.
(d) Location serves both segments.
(e) City has 3 locations: 2 wholly owned subsidiaries and a joint venture

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Item 3. Legal Proceedings

The Company is subject to a number of claims and judicial and administrative proceedings (some of which involve substantial amounts) arising out of the Company’s business or relating to matters for which the Company may have a contractual indemnity obligation. See Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for a discussion of environmental, product liability and other litigation, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

The Company's common stock is listed for trading on the New York Stock Exchange under the symbol BWA. As of February 2, 2018, there were 1,658 holders of record of Common Stock.

On July 24, 2013 the Company announced the reinstatement of its quarterly dividend. Cash dividends declared and paid per share, adjusted for the stock split in December 2013, were as follows:

	2017	2016	2015	2014	2013
Dividend amount	$0.59	$0.53	$0.52	$0.51	$0.25

While the Company currently expects that comparable quarterly cash dividends will continue to be paid in the future, the dividend policy is subject to review and change at the discretion of the Board of Directors.
High and low prices (as reported on the New York Stock Exchange composite tape) for the Company's common stock for each quarter in 2016 and 2017 were:

Quarter Ended	High	Low
March 31, 2016	$42.25	$28.23
June 30, 2016	$39.93	$27.69
September 30, 2016	$36.12	$28.52
December 31, 2016	$41.86	$33.64
March 31, 2017	$43.95	$39.50
June 30, 2017	$44.36	$37.99
September 30, 2017	$51.23	$43.00
December 31, 2017	$55.68	$50.92

The line graph below compares the cumulative total shareholder return on our Common Stock with the cumulative total return of companies on the Standard & Poor's (S&P's) 500 Stock Index, and companies within Standard Industrial Code (“SIC”) 3714 - Motor Vehicle Parts.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among BorgWarner Inc., the S&P 500 Index, and SIC 374 Motor Vehicle Parts

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*$100 invested on 12/31/2012 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

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BWA and S&P 500 data are from Capital IQ; SIC Code Index data is from Research Data Group

	December 31,					
	2012	2013	2014	2015	2016	2017
BorgWarner Inc.(1)	$100.00	$156.91	$155.56	$123.64	$114.58	$150.33
S&P 500(2)	100.00	132.39	150.51	152.59	170.84	208.14
SIC Code Index(3)	100.00	148.42	168.08	171.80	196.44	261.64

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(1)BorgWarner Inc.
(2)S&P 500 — Standard & Poor’s 500 Total Return Index
(3)Standard Industrial Code (“SIC”) 3714-Motor Vehicle Parts

Purchase of Equity Securities

In February 2015, the Company's Board of Directors authorized the purchase of up to $1.0 billion of the Company's common stock over three years. The Company's Board of Directors has authorized the purchase of up to 79.6 million shares of the Company's common stock in the aggregate. As of December 31, 2017, the Company had repurchased 69.7 million shares in the aggregate under the Common Stock Repurchase Program. All shares purchased under this authorization have been and will continue to be repurchased in the open market at prevailing prices and at times and in amounts to be determined by management as market conditions and the Company's capital position warrant. The Company may use Rule 10b5-1 and 10b-18 plans to facilitate share repurchases. Repurchased shares will be deemed common stock held in treasury and may subsequently be reissued for general corporate purposes.

Employee transactions include restricted shares withheld to offset statutory minimum tax withholding that occurs upon vesting of restricted shares. The BorgWarner Inc. Amended and Restated 2004 Stock Incentive Plan and the BorgWarner Inc. 2014 Stock Incentive Plan provide that the withholding obligations be settled by the Company retaining stock that is part of the Award. Withheld shares will be deemed common stock held in treasury and may subsequently be reissued for general corporate purposes.

The following table provides information about the Company's purchases of its equity securities that are registered pursuant to Section 12 of the Exchange Act during the quarter ended December 31, 2017:
Issuer Purchases of Equity Securities

Period	Total number of shares purchased	Average price per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares that may yet be purchased under the plans or programs
Month Ended October 31, 2017				
Common Stock Repurchase Program	—	$ —	—	9,857,280
Employee transactions	256	$ 50.76	—	
Month Ended November 30, 2017				
Common Stock Repurchase Program	—	$ —	—	9,857,280
Employee transactions	—	$ —	—	
Month Ended December 31, 2017				
Common Stock Repurchase Program	—	$ —	—	9,857,280
Employee transactions	—	$ —	—	

Equity Compensation Plan Information

As of December 31, 2017, the number of shares of restricted common stock outstanding under our equity compensation plans, the weighted average exercise price of outstanding restricted common stock and the number of securities remaining available for issuance were as follows:

	Number of securities to be issued upon exercise of outstanding	Weighted average exercise price of outstanding options,	Number of securities remaining available for future issuance

Plan category	options, restricted common stock, warrants and rights (a)	restricted common stock, warrants and rights (b)	under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	1,592,574	$ 38.86	4,903,395
Equity compensation plans not approved by security holders	—	$ —	—
Total	1,592,574	$ —	4,903,395

Item 6. Selected Financial Data

	Year Ended December 31,				
(in millions, except share and per share data)	2017	2016	2015	2014	2013
Operating results					
Net sales	$9,799.3	$9,071.0	$8,023.2	$8,305.1	$7,436.6
Operating income (a)	$1,077.1	$225.9	$939.7	$963.7	$855.2
Net earnings attributable to BorgWarner Inc. (a)	$439.9	$118.5	$609.7	$655.8	$624.3
Earnings per share — basic	$2.09	$0.55	$2.72	$2.89	$2.73
Earnings per share — diluted	$2.08	$0.55	$2.70	$2.86	$2.70
Net R&D expenditures	$407.5	$343.2	$307.4	$336.2	$303.2
Capital expenditures, including tooling outlays	$560.0	$500.6	$577.3	$563.0	$417.8
Depreciation and amortization	$407.8	$391.4	$320.2	$330.4	$299.4
Number of employees	29,000	27,000	30,000	22,000	19,700
Financial position					
Cash	$545.3	$443.7	$577.7	$797.8	$939.5
Total assets	$9,787.6	$8,834.7	$8,825.7	$7,225.2	$6,913.7
Total debt	$2,188.3	$2,219.5	$2,550.3	$1,337.2	$1,219.3
Common share information					
Cash dividend declared and paid per share	$0.59	$0.53	$0.52	$0.51	$0.25
Market prices of the Company's common stock					
High	$55.68	$42.25	$63.01	$67.38	$56.45
Low	$37.99	$27.69	$38.89	$50.24	$35.22
Weighted average shares outstanding (thousands)					
Basic	210,429	214,374	224,414	227,150	228,600
Diluted	211,548	215,325	225,648	228,924	231,337

(a) Refer to Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," for discussion of non-comparable items impacting the years ended December 31, 2017, 2016 and 2015.

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

INTRODUCTION

BorgWarner Inc. and Consolidated Subsidiaries (the “Company”) is a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. Our products help improve vehicle performance, propulsion efficiency, stability and air quality. These products are manufactured and sold worldwide, primarily to original equipment manufacturers (“OEMs”) of light vehicles (passenger cars, sport-utility vehicles ("SUVs"), vans and light trucks). The Company's products are also sold to other OEMs of commercial vehicles (medium-duty trucks, heavy-duty trucks and buses) and off-highway vehicles (agricultural and construction machinery and marine applications). We also manufacture and sell our products to certain Tier One vehicle systems suppliers and into the aftermarket for light, commercial and off-highway vehicles. The Company operates manufacturing facilities serving customers in Europe, the Americas and Asia and is an original equipment supplier to every major automotive OEM in the world.

The Company's products fall into two reporting segments: Engine and Drivetrain. The Engine segment's products include turbochargers, timing devices and chains, emissions systems and thermal systems. The Drivetrain segment's products include transmission components and systems, AWD torque transfer systems and rotating electrical devices.

RESULTS OF OPERATIONS

A summary of our operating results for the years ended December 31, 2017, 2016 and 2015 is as follows:

	Year Ended December 31,		
(millions of dollars, except per share data)	2017	2016	2015
Net sales	$9,799.3	$9,071.0	$8,023.2
Cost of sales	7,679.2	7,137.9	6,320.1
Gross profit	2,120.1	1,933.1	1,703.1
Selling, general and administrative expenses	898.5	817.5	662.0
Other expense, net	144.5	889.7	101.4
Operating income	1,077.1	225.9	939.7
Equity in affiliates’ earnings, net of tax	(51.2)	(42.9)	(40.0)
Interest income	(5.8)	(6.3)	(7.5)
Interest expense and finance charges	70.5	84.6	60.4
Earnings before income taxes and noncontrolling interest	1,063.6	190.5	926.8
Provision for income taxes	580.3	30.3	280.4
Net earnings	483.3	160.2	646.4
Net earnings attributable to the noncontrolling interest, net of tax	43.4	41.7	36.7
Net earnings attributable to BorgWarner Inc.	$439.9	$118.5	$609.7
Earnings per share — diluted	$2.08	$0.55	$2.70

Non-comparable items impacting the Company's earnings per diluted share and net earnings

The Company's earnings per diluted share were $2.08, $0.55 and $2.70 for the years ended December 31, 2017, 2016 and 2015, respectively. The non-comparable items presented below are calculated after tax using the corresponding effective tax rate and the weighted average number of diluted shares for each of the years then ended. The Company believes the following table is useful in highlighting non-comparable items that impacted its earnings per diluted share:

	Year Ended December 31,		
Non-comparable items:	2017	2016	2015
Asset impairment and loss on divestiture	$(0.25)	$(0.48)	$—
Restructuring expense	(0.23)	(0.10)	(0.27)
Merger and acquisition expense	(0.05)	(0.11)	(0.08)
Asbestos-related charge	—	(2.05)	—
Intangible asset impairment	—	(0.04)	—
Contract expiration gain	—	0.02	—
Pension settlement loss	—	—	(0.07)
Gain on previously held equity interest	—	—	0.05
Tax reform adjustments	(1.29)	—	—
Tax adjustments	0.02	0.04	0.04
Total impact of non-comparable items per share — diluted	$(1.80)	$(2.72)	$(0.33)

A summary of non-comparable items impacting the Company’s net earnings for the years ended December 31, 2017, 2016 and 2015 is as follows:

Year ended December 31, 2017:

- In the third quarter of 2017, the Company started exploring strategic options for the non-core emission product lines. In the fourth quarter of 2017, the Company launched an active program to locate a buyer for the non-core pipes and thermostat product lines and initiated all other actions required to complete the plan to sell the non-core product lines. The Company determined that the assets and liabilities of the pipes and thermostat product lines met the held for sale criteria as of December 31, 2017. As a result, the Company recorded an asset impairment expense of $71.0 million in the fourth quarter of 2017 to adjust the net book value of this business to fair value less costs to sell. Refer to Note 19, "Assets and Liabilities Held for Sale," to the Consolidated Financial Statements in Item 8 of this report for more information.
- The Company recorded restructuring expense of $58.5 million related to Engine and Drivetrain segment actions designed to improve future profitability and competitiveness, including $48.2 million primarily related to professional fees and negotiated commercial costs associated with emissions business divestiture and manufacturing footprint rationalization activities. The Company will continue its plan to improve the future profitability and competitiveness of its remaining European emissions business and these actions may result in the recognition of additional restructuring charges that could be material. The Company also recorded restructuring expense of $6.8 million primarily related to contractually required severance associated with Sevcon executive officers and other employee termination benefits. Refer to Note 15, "Restructuring," to the Consolidated Financial Statements in Item 8 of this report for more information.
- During the year ended December 31, 2017, the Company recorded $10.0 million of merger and acquisition expense primarily related to the acquisition of Sevcon, Inc. ("Sevcon") completed on September 27, 2017. Refer to Note 18, "Recent Transactions," to the Consolidated Financial Statements in Item 8 of this report for more information.

- The Company recorded reduction of income tax expenses of $10.1 million, $1.0 million, $18.2 million and $3.8 million related to restructuring expense, merger and acquisition expense, asset impairment expense and other one-time tax adjustments, respectively, discussed in the Other Expense, Net footnote. Additionally, the Company recorded a tax expense of $273.5 million for the change in the tax law related to tax effects of the Act.

Year ended December 31, 2016:

- In the fourth quarter of 2016, the Company determined that its best estimate of the aggregate liability both for asbestos-related claims asserted but not yet resolved and potential asbestos-related claims not yet asserted, including an estimate for defense costs, is $879.3 million as of December 31, 2016. The Company recorded a charge of $703.6 million before tax ($440.6 million after tax) in Other Expense, representing the difference in the total liability from what was previously accrued, consulting fees, less available insurance coverage. Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information.
- In October 2016, the Company sold the Remy light vehicle aftermarket business associated with the 2015 Remy International, Inc. ("Remy") acquisition and recorded a loss on divestiture of $127.1 million. Refer to Note 18, "Recent Transactions," to the Consolidated Financial Statements in Item 8 of this report for more information.
- The Company recorded $23.7 million of transition and realignment expenses associated with the Remy acquisition, including certain costs related to the sale of Remy light vehicle aftermarket business.
- The Company incurred restructuring expense of $26.9 million primarily related to continuation of prior year actions in both the Drivetrain and Engine segments. The Drivetrain segment charges represent other expenses and employee termination benefits associated with three labor unions at separate facilities in Western Europe for approximately 450 employees, as well as restructuring of the 2015 Remy acquisition. The Engine segment charges primarily relate to the restructuring of the 2014 Gustav Wahler GmbH u. Co. KG and its general partner ("Wahler") acquisition. These expenses included $10.6 million related to employee termination benefits and $16.3 million of other expenses including $3.1 million related to winding down certain operations in North America. Both the Drivetrain and Engine restructuring actions are designed to improve the future profitability and competitiveness of each segment.
- The Company recorded intangible asset impairment losses of $12.6 million related to Engine segment Etatech's ECCOS intellectual technology due to the discontinuance of interest from potential customers during the fourth quarter of 2016 that significantly lowered the commercial feasibility of the product line.
- The Company recorded a $6.2 million gain associated with the release of certain Remy light vehicle aftermarket liabilities related to the expiration of a customer contract.
- The Company recorded reduction of income tax expenses of $263.0 million, $22.7 million, $8.6 million, $6.0 million and $4.4 million primarily related to asbestos-related charge, loss on divestiture, other one-time tax adjustments, restructuring expense and intangible asset impairment loss, respectively, as well as a tax expense of $2.2 million related to a gain associated with the release of certain Remy light vehicle aftermarket liabilities due to the expiration of a customer contract.

Year ended December 31, 2015:

- The Company incurred restructuring expense of $65.7 million, associated with both the Drivetrain and Engine segments and a global realignment plan. The Drivetrain segment charges mostly represent expenses associated with severance agreements with three labor unions at separate facilities in Western Europe for approximately 450 employees, as well as restructuring of the 2015 Remy acquisition. The Engine segment charges primarily relate to the restructuring of the 2014 Wahler acquisition. These expenses included $41.5 million related to employee termination benefits and $11.7 million of other expenses. Both the Drivetrain and Engine restructuring actions are

designed to improve the future profitability and competitiveness of each segment. Also included in the restructuring amount above is $12.5 million related to a global realignment plan intended to enhance treasury management flexibility by creating a legal entity structure that better aligns with the Company's business strategy.

- The Company incurred a non-cash settlement loss of $25.7 million related to a lump-sum pension de-risking disbursement made to an insurance company to unconditionally and irrevocably guarantee all future payments to certain participants that were receiving payments from the U.S. pension plan.
- The Company recorded $21.8 million for merger and acquisition expenses primarily related to the Remy acquisition. This amount includes $13.0 million related to investment banker fees and $8.8 million related to professional fees.
- The Company recorded a $10.8 million gain on the previously held equity interest in BERU Diesel Start Systems Pvt. Ltd. ("BERU Diesel") as a result of acquiring the remaining 51% of this joint venture.
- The Company recorded reduction of income tax expenses of $9.9 million, $9.0 million, $3.8 million and $3.7 million primarily related to foreign tax incentives and tax settlements, the pension settlement loss, merger and acquisition expense and restructuring expense, respectively.

Net Sales

Net sales for the year ended December 31, 2017 totaled $9,799.3 million, an 8.0% increase from the year ended December 31, 2016. Excluding the impact of stronger foreign currencies and the net impact of acquisitions and divestitures, net sales increased 10.3%.

Net sales for the year ended December 31, 2016 totaled $9,071.0 million, a 13.1% increase from the year ended December 31, 2015. Excluding the impact of weakening foreign currencies, and the 2015 Remy acquisition, net sales increased 5.2%.

The following table details our results of operations as a percentage of net sales:

	Year Ended December 31,		
(percentage of net sales)	2017	2016	2015
Net sales	100.0 %	100.0 %	100.0 %
Cost of sales	78.4	78.7	78.8
Gross profit	21.6	21.3	21.2
Selling, general and administrative expenses	9.2	9.0	8.3
Other expense, net	1.5	9.8	1.2
Operating income	10.9	2.5	11.7
Equity in affiliates’ earnings, net of tax	(0.5)	(0.5)	(0.5)
Interest income	(0.1)	(0.1)	(0.1)
Interest expense and finance charges	0.7	0.9	0.8
Earnings before income taxes and noncontrolling interest	10.8	2.2	11.5
Provision for income taxes	5.9	0.3	3.5
Net earnings	4.9	1.9	8.0
Net earnings attributable to the noncontrolling interest, net of tax	0.4	0.5	0.4
Net earnings attributable to BorgWarner Inc.	4.5 %	1.4 %	7.6 %

Cost of sales as a percentage of net sales was 78.4%, 78.7% and 78.8% in the years ended December 31, 2017, 2016 and 2015, respectively. The Company's material cost of sales was approximately 55% of net sales in the years ended December 31, 2017, 2016 and 2015. The Company's remaining cost to convert raw material to finished product, which includes direct labor and manufacturing overhead, continues to improve during the years ended December 31, 2017 and 2016 compared to 2015. Gross profit as a percentage of net sales was 21.6%, 21.3% and 21.2% in the years ended December 31, 2017, 2016 and

2015, respectively. Included in the 2016 gross profit and gross margin was a $6.2 million gain associated with the release of certain Remy light vehicle aftermarket liabilities related to the expiration of a customer contract.

Selling, general and administrative expenses (“SG&A”) was $898.5 million, $817.5 million and $662.0 million or 9.2%, 9.0% and 8.3% of net sales for the years ended December 31, 2017, 2016 and 2015, respectively. Excluding the impact of the 2017 acquisition of Sevcon, SG&A and SG&A as a percentage of net sales were $891.3 million and 9.1% for the year ended December 31, 2017. Excluding the impact of the 2015 acquisition of Remy, SG&A and SG&A as a percentage of net sales were $696.0 million and 8.5% for the year ended December 31, 2016.

Research and development ("R&D") costs, net of customer reimbursements, was $407.5 million, or 4.2% of net sales, in the year ended December 31, 2017, compared to $343.2 million, or 3.8% of net sales, and $307.4 million, or 3.8% of net sales, in the years ended December 31, 2016 and 2015, respectively. The increase of R&D costs, net of customer reimbursements, in the year ended December 31, 2017 compared with the years ended December 31, 2016 and 2015 was primarily due to investments in advanced engineering programs across product lines. We will continue to invest in a number of cross-business R&D programs, as well as a number of other key programs, all of which are necessary for short- and long-term growth. Our current long-term expectation for R&D spending remains at 4% of net sales.

Other expense, net was $144.5 million, $889.7 million and $101.4 million for the years ended December 31, 2017, 2016 and 2015, respectively. This line item is primarily comprised of non-income tax items discussed within the subtitle "Non-comparable items impacting the Company's earnings per diluted share and net earnings" above.

Equity in affiliates' earnings, net of tax was $51.2 million, $42.9 million and $40.0 million in the years ended December 31, 2017, 2016 and 2015, respectively. This line item is driven by the results of our 50%-owned Japanese joint venture, NSK-Warner, and our 32.6%-owned Indian joint venture, Turbo Energy Private Limited (“TEL”). The increase in the year ended December 31, 2017 compared to 2016 and 2015 is primarily driven by higher earnings from NSK-Warner as a result of improved business conditions in Asia. Refer to Note 5, "Balance Sheet Information," to the Consolidated Financial Statements in Item 8 of this report for further discussion of NSK-Warner.

Interest expense and finance charges were $70.5 million, $84.6 million and $60.4 million in the years ended December 31, 2017, 2016 and 2015, respectively. The decrease in interest expense for the year ended December 31, 2017 compared with the year ended December 31, 2016 was primarily due to the reduction in average outstanding short term borrowings and senior notes and increase in capitalized interest. The increase in interest expense for the year ended December 31, 2016 compared with the year ended December 31, 2015 was primarily due to the Company's March and November 2015 issuances of senior notes.

Provision for income taxes The provision for income taxes resulted in an effective tax rate of 54.6% for the year ended December 31, 2017, compared with rates of 15.9% and 30.3% for the years ended December 31, 2016 and 2015, respectively. The U.S. income tax payable of $25.1 million includes an estimated $23.6 million of transition tax, net of foreign tax credits associated with the required inclusion of unremitted foreign earnings and amounts carried forward from prior years. The estimated transition tax is due and payable annually over an eight year period beginning in the first quarter of 2018. For further details, see Note 4, "Income Tax," to the Consolidated Financial Statements in Item 8.

The Company is continuing to evaluate the impact that the Act will have on the future effective tax rates. Based upon the Company’s current interpretations of tax regulations, we estimate that our 2018 effective tax rate will be approximately 28%.

The effective tax rate of 54.6% for the year ended December 31, 2017 includes reduction of income tax expenses of $10.1 million, $1.0 million, $18.2 million and $3.8 million related to restructuring expense, merger and acquisition expense, asset impairment expense and other one-time tax adjustments, respectively, discussed in the Other Expense, Net footnote. Additionally, the Company recorded a tax expense of $273.5 million for the change in the tax law related to tax effects of the Act. Excluding the impact of these non-comparable items, the Company's annual effective tax rate associated with ongoing operations for 2017 was 28.2%.

The effective tax rate of 15.9% for the year ended December 31, 2016 includes reduction of income tax expenses of $263.0 million, $22.7 million, $8.6 million, $6.0 million and $4.4 million associated with an asbestos-related charge, loss on divestiture, other one-time tax adjustments, restructuring expense and intangible asset impairment loss, respectively, as well as a tax expense of $2.2 million related to a gain associated with the release of certain Remy light vehicle aftermarket liabilities due to the expiration of a customer contract. Excluding the impact of these non-comparable items, the Company's annual effective tax rate associated with ongoing operations for 2016 was 30.9%.

The effective tax rate of 30.3% for the year ended December 31, 2015 includes reduction of income tax expenses of $9.0 million, $3.8 million and $3.7 million related to the pension settlement loss, merger and acquisition expense and restructuring expense discussed in Note 3, "Other Expense, Net," to the Consolidated Financial Statements in Item 8 of the report. Additionally, the effective tax rate includes a tax benefit of $9.9 million primarily related to foreign tax incentives and tax settlements. Excluding the impact of these non-comparable items, the Company's annual effective tax rate associated with ongoing operations for 2015 was 29.8%.

Net earnings attributable to the noncontrolling interest, net of tax of $43.4 million for the year ended December 31, 2017 increased by $1.7 million and $6.7 million compared to the years ended December 31, 2016 and 2015, respectively. The increase during the year ended December 31, 2017 compared to the years ended December 31, 2016 and 2015 was primarily related to higher sales and earnings by the Company's joint ventures.

Results By Reporting Segment

The Company's business is comprised of two reporting segments: Engine and Drivetrain. These segments are strategic business groups, which are managed separately as each represents a specific grouping of related automotive components and systems.

The Company allocates resources to each segment based upon the projected after-tax return on invested capital ("ROIC") of its business initiatives. ROIC is comprised of Adjusted EBIT after deducting notional taxes compared to the projected average capital investment required. Adjusted EBIT is comprised of earnings before interest, income taxes and noncontrolling interest (“EBIT") adjusted for restructuring, goodwill impairment charges, affiliates' earnings and other items not reflective of ongoing operating income or loss.

Adjusted EBIT is the measure of segment income or loss used by the Company. The Company believes Adjusted EBIT is most reflective of the operational profitability or loss of our reporting segments.

The following tables show segment information and Adjusted EBIT for the Company's reporting segments.

Net Sales by Reporting Segment

(millions of dollars)	Year Ended December 31, 2017	2016	2015
Engine	$6,061.5	$5,590.1	$5,500.0
Drivetrain	3,790.3	3,523.7	2,556.7
Inter-segment eliminations	(52.5)	(42.8)	(33.5)
Net sales	$9,799.3	$9,071.0	$8,023.2

Adjusted Earnings Before Interest, Income Taxes and Noncontrolling Interest ("Adjusted EBIT")

(millions of dollars)	Year Ended December 31, 2017	2016	2015
Engine	$995.7	$947.3	$913.9
Drivetrain	449.8	364.5	304.6
Adjusted EBIT	1,445.5	1,311.8	1,218.5
Asset impairment and loss on divestiture	71.0	127.1	—
Restructuring expense	58.5	26.9	65.7
Merger and acquisition expense	10.0	23.7	21.8
Lease termination settlement	5.3	—	—
Other expense, net	2.1	—	—
Asbestos-related charge	—	703.6	—
Intangible asset impairment	—	12.6	—
Contract expiration gain	—	(6.2)	—
Pension settlement loss	—	—	25.7
Gain on previously held equity interest	—	—	(10.8)
Corporate, including equity in affiliates' earnings and stock-based compensation	170.3	155.3	136.4
Interest income	(5.8)	(6.3)	(7.5)
Interest expense and finance charges	70.5	84.6	60.4
Earnings before income taxes and noncontrolling interest	1,063.6	190.5	926.8
Provision for income taxes	580.3	30.3	280.4
Net earnings	483.3	160.2	646.4
Net earnings attributable to the noncontrolling interest, net of tax	43.4	41.7	36.7
Net earnings attributable to BorgWarner Inc.	$439.9	$118.5	$609.7

The Engine segment's net sales for the year ended December 31, 2017 increased $471.4 million, or 8.4%, and segment Adjusted EBIT increased $48.4 million, or 5.1%, from the year ended December 31, 2016. Excluding the impact of strengthening foreign currencies, primarily the Euro and Korean Won, net sales increased 7.7% from the year ended December 31, 2016 due to higher sales of light vehicle turbochargers, thermal products, engine timing systems and stronger commercial vehicle markets around the world. The segment Adjusted EBIT margin was 16.4% for the year ended December 31, 2017, down from 16.9% in the year ended December 31, 2016. The Adjusted EBIT margin decrease was primarily related to inefficiencies in the non-core emission product lines. In the third quarter of 2017, the Company initiated actions designed to improve future profitability and competitiveness and started exploring strategic options for the non-core emission product lines. See the Restructuring footnote to the Consolidated Financial Statements for further discussion.

The Engine segment's net sales for the year ended December 31, 2016 increased $90.1 million, or 1.6%, and segment Adjusted EBIT increased $33.4 million, or 3.7%, from the year ended December 31, 2015. Excluding the impact of weakening foreign currencies, primarily the Euro, Chinese Renminbi and

Korean Won, net sales increased 3.1% from the year ended December 31, 2016 primarily due to higher sales of light vehicle turbochargers and engine timing systems, including variable cam timing, partially offset by weak aftermarket and commercial vehicle markets around the world. The segment Adjusted EBIT margin was 16.9% for the year ended December 31, 2016, up from 16.6% in the year ended December 31, 2015.

The Drivetrain segment's net sales for the year ended December 31, 2017 increased $266.6 million, or 7.6%, and segment Adjusted EBIT increased $85.3 million, or 23.4%, from the year ended December 31, 2016. Excluding the impact of strengthening foreign currencies, primarily the Euro and Korean Won, and the net impact of acquisitions and divestitures, net sales increased 14.9% from the year ended December 31, 2016 primarily due to higher sales of all-wheel drive systems and transmission components. The segment Adjusted EBIT margin was 11.9% in the year ended December 31, 2017, compared to 10.3% in the year ended December 31, 2016. The Adjusted EBIT margin improvement was primarily due to increased sales and the divestiture of the Remy light vehicle aftermarket business.

The Drivetrain segment's net sales for the year ended December 31, 2016 increased $967.0 million, or 37.8%, and segment Adjusted EBIT increased $59.9 million, or 19.7%, from the year ended December 31, 2015. Excluding the impact of weakening foreign currencies, primarily the Euro, Chinese Renminbi and Korean Won, and the 2015 Remy acquisition, net sales increased 9.9% from the year ended December 31, 2015 primarily due to higher sales of all-wheel drive systems. The segment Adjusted EBIT margin was 10.3% in the year ended December 31, 2016, compared to 11.9% in the year ended December 31, 2015.

Corporate represents headquarters' expenses not directly attributable to the individual segments and equity in affiliates' earnings. This net expense was $170.3 million, $155.3 million and $136.4 million for the years ended December 31, 2017, 2016 and 2015, respectively. The increase of Corporate expenses in 2017 is primarily due to costs associated with talent acquisition and severance expenses, stock-based compensation, compliance costs and various other corporate initiatives.

Outlook

Our overall outlook for 2018 is positive. Net new business-related sales growth, due to increased penetration of BorgWarner products around the world, is expected to drive growth above the modest global industry production growth expected in 2018.

The Company maintains a positive long-term outlook for its global business and is committed to new product development and strategic capital investments to enhance its product leadership strategy. The several trends that are driving our long-term growth are expected to continue, including the increased turbocharger adoption in North America and Asia, the increased adoption of automated transmissions in Europe and Asia-Pacific, and the move to variable cam and chain engine timing systems in Europe and Asia-Pacific. Our long-term growth is also expected to benefit from the adoption of product offerings for hybrid and electric vehicles.

LIQUIDITY AND CAPITAL RESOURCES

The Company maintains various liquidity sources including cash and cash equivalents and the unused portion of our multi-currency revolving credit agreement. At December 31, 2017, the Company had $545.3 million of cash, of which $541.2 million of cash was held by our subsidiaries outside of the United States. Cash held by these subsidiaries is used to fund foreign operational activities and future investments, including acquisitions. The vast majority of cash held outside the United States is available for repatriation, however, doing so could result in increased foreign and U.S. state and local income taxes. As a result of the Tax Cuts and Jobs Act of 2017("the Act"), the Company has recorded a liability for the U.S. federal and applicable state income tax liabilities calculated under the provisions of the deemed repatriation of foreign earnings. As of January 1, 2018, funds repatriated from foreign subsidiaries will generally no longer be taxable for

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U.S. federal tax purposes. A deferred tax liability has been recorded for all estimated legally distributable foreign earnings. The Company uses its U.S. liquidity primarily for various corporate purposes, including but not limited to, debt service, share repurchases, dividend distributions and other corporate expenses.

The Act reduces the U.S. federal corporate tax rate from 35 percent to 21 percent, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred. We believe the impact of the Act on liquidity sources as of December 31, 2017 is insignificant.

On June 29, 2017, the Company amended and extended its $1 billion multi-currency revolving credit facility (which included a feature that allowed the Company's borrowings to be increased to $1.25 billion) to a $1.2 billion multi-currency revolving credit facility (which includes a feature that allows the Company's borrowings to be increased to $1.5 billion). The facility provides for borrowings through June 29, 2022. The Company has one key financial covenant as part of the credit agreement which is a debt to EBITDA ("Earnings Before Interest, Taxes, Depreciation and Amortization") ratio. The Company was in compliance with the financial covenant at December 31, 2017 and expects to remain compliant in future periods. At December 31, 2017 and December 31, 2016, the Company had no outstanding borrowings under this facility.

The Company's commercial paper program allows the Company to issue short-term, unsecured commercial paper notes up to a maximum aggregate principal amount outstanding, which increased from
$1.0 billion to $1.2 billion effective July 26, 2017. Under this program, the Company may issue notes from time to time and will use the proceeds for general corporate purposes. At December 31, 2017, the Company had no outstanding borrowings under this program. As of December 31, 2016, the Company had outstanding borrowings of $50.8 million under this program, which is classified in the Condensed Consolidated Balance Sheets in Notes payable and other short-term debt.

The total current combined borrowing capacity under the multi-currency revolving credit facility and commercial paper program cannot exceed $1.2 billion.

In addition to the credit facility, the Company's universal shelf registration has an unlimited amount of various debt and equity instruments that could be issued.

On February 08, 2017, April 26, 2017, and July 26, 2017, the Company’s Board of Directors declared quarterly cash dividends of $0.14 per share of common stock. On November 8, 2017, the Company’s Board of Directors declared quarterly cash dividends of $0.17 per share of common stock. These dividends were paid in the 12 months ended December 31, 2017.

The Company's net debt to net capital ratio was 30.0% at December 31, 2017 versus 35.0% at December 31, 2016.

From a credit quality perspective, the Company has a credit rating of BBB+ from both Standard & Poor's and Fitch Ratings and Baa1 from Moody's. The current outlook from Standard & Poor's and Fitch Ratings is stable. In October 2017, Moody’s reaffirmed the Company’s credit rating of “Baa1” and revised the rating outlook to stable from negative. None of the Company's debt agreements require accelerated repayment in the event of a downgrade in credit ratings.

Capitalization

(millions of dollars)	December 31, 2017	2016
Notes payable and short-term debt	$84.6	$175.9
Long-term debt	2,103.7	2,043.6
Total debt	2,188.3	2,219.5
Less: cash	545.3	443.7
Total debt, net of cash	1,643.0	1,775.8
Total equity	3,825.9	3,301.9
Total capitalization	$5,468.9	$5,077.7
Total debt, net of cash, to capital ratio	30.0 %	35.0 %

Balance sheet debt decreased by $31.2 million and cash increased by $101.6 million compared with December 31, 2016. The $132.8 million decrease in balance sheet debt (net of cash) was primarily due to cash flow from operations.

Total equity increased by $524.0 million in the year ended December 31, 2017 as follows:

(millions of dollars)	
Balance, January 1, 2017	$3,301.9
Net earnings	483.3
Purchase of treasury stock	(100.0)
Stock-based compensation	50.6
Other comprehensive income	243.5
Dividends declared to BorgWarner stockholders	(124.1)
Dividends declared to noncontrolling stockholders	(29.3)
Balance, December 31, 2017	$3,825.9

Operating Activities

Net cash provided by operating activities was $1,180.3 million, $1,035.7 million and $867.9 million in the years ended December 31, 2017, 2016 and 2015, respectively. The increase for the year ended December 31, 2017 compared with the year ended December 31, 2016 primarily reflected higher net earnings adjusted for non-cash charges to operations and improved working capital. The increase for the year ended December 31, 2016 compared with the year ended December 31, 2015 primarily reflected higher net earnings adjusted for non-cash charges to operations and improved working capital resulting from inventory management initiatives and product mix change.

Investing Activities

Net cash used in investing activities was $752.3 million, $404.2 million and $1,759.1 million in the years ended December 31, 2017, 2016 and 2015, respectively. The increase in the year ended December 31, 2017 compared with the year ended December 31, 2016 was primarily due to the acquisition of Sevcon and higher capital expenditures, including tooling outlays, offset by the 2016 sales of Divgi-Warner and the Remy light vehicle aftermarket business. The decrease in the year ended December 31, 2016 compared with the year ended December 31, 2015 was primarily driven by lower capital expenditures, including tooling outlays, the 2016 sales of Divgi-Warner and the Remy light vehicle aftermarket business and the 2015 acquisition of Remy and BERU Diesel. Year over year capital spending increase of $59.4 million during the year ended December 31, 2017 is due to higher spending required for new program awards within the Drivetrain segment. Year over year capital spending decrease of $76.7 million during the year ended December 31, 2016 was primarily due to lower spending on new buildings and building expansions.

Financing Activities

Net cash used in financing activities was $362.5 million and $733.8 million in the years ended December 31, 2017 and 2016, respectively, and net cash provided by financing activities was $736.6 million in the year ended December 31, 2015. The decrease in the year ended December 31, 2017 compared with the year ended December 31, 2016 was primarily due to lower debt repayments and treasury stock purchases. The decrease in the year ended December 31, 2016 compared with the year ended December 31, 2015 was primarily driven by lower debt borrowings and higher debt repayments, partially offset by lower treasury stock purchases.

The Company's significant contractual obligation payments at December 31, 2017 are as follows:

(millions of dollars)	Total	2018	2019-2020	2021-2022	After 2022
Other postretirement employee benefits, excluding pensions (a)	$138.3	$13.3	$ 23.9	$ 20.2	$80.9
Defined benefit pension plans (b)	50.2	3.5	9.1	9.8	27.8
Notes payable and long-term debt	2,200.1	84.6	391.4	603.1	1,121.0
Projected interest payments	904.2	82.9	145.2	114.2	561.9
Non-cancelable operating leases	78.3	23.0	28.1	15.4	11.8
Capital spending obligations	106.5	106.5	—	—	—
Income tax payments (c)	333.5	333.5	—	—	—
Total	$3,811.1	$647.3	$ 597.7	$ 762.7	$1,803.4

(a) Other postretirement employee benefits, excluding pensions, include anticipated future payments to cover retiree medical and life insurance benefits. Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for disclosures related to the Company’s other postretirement employee benefits.

(b) Since the timing and amount of payments for funded defined benefit pension plans are usually not certain for future years such potential payments are not shown in this table. Amount contained in “After 2022” column is for unfunded plans and includes estimated payments through 2027. Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for disclosures related to the Company’s pension benefits.

(c) Refer to Note 4, "Income Taxes," to the Consolidated Financial Statements in Item 8 of this report for disclosures related to the Company’s income taxes.

We believe that the combination of cash from operations, cash balances, available credit facilities, and the universal shelf registration capacity will be sufficient to satisfy our cash needs for our current level of operations and our planned operations for the foreseeable future. We will continue to balance our needs for internal growth, external growth, debt reduction and cash conservation.

Asbestos-related Liability

During 2017 and 2016, the Company had paid indemnity and related defense costs totaling $51.7 million and $45.3 million, respectively. These gross payments are before tax benefits and any insurance receipts. Indemnity and defense costs are incorporated into the Company's operating cash flows and will continue to be in the future.

Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding costs and assumptions for asbestos-related liability.

Off Balance Sheet Arrangements

The Company has certain leases that are recorded as operating leases. Types of operating leases include leases on facilities, vehicles and certain office equipment. The total expected future cash outlays for non-cancelable operating lease obligations at December 31, 2017 is $78.3 million. Refer to Note 16, "Leases and Commitments," to the Consolidated Financial Statements in Item 8 of this report for more information on operating leases, including future minimum payments.

Pension and Other Postretirement Employee Benefits

The Company's policy is to fund its defined benefit pension plans in accordance with applicable government regulations and to make additional contributions when appropriate. At December 31, 2017, all legal funding requirements had been met. The Company contributed $18.3 million, $19.7 million and $19.3 million to its defined benefit pension plans in the years ended December 31, 2017, 2016 and 2015, respectively. The Company expects to contribute a total of $15 million to $25 million into its defined benefit pension plans during 2018. Of the $15 million to $25 million in projected 2018 contributions, $3.5 million are contractually obligated, while any remaining payments would be discretionary.

The funded status of all pension plans was a net unfunded position of $188.6 million and $187.4 million at December 31, 2017 and 2016, respectively. Of these amounts, $75.7 million and $77.5 million at December 31, 2017 and 2016, respectively, were related to plans in Germany, where there is not a tax deduction allowed under the applicable regulations to fund the plans; hence the common practice is to make contributions as benefit payments become due.

Other postretirement employee benefits primarily consist of postretirement health care benefits for certain employees and retirees of the Company's U.S. operations. The Company funds these benefits as retiree claims are incurred. Other postretirement employee benefits had an unfunded status of $107.0 million and $119.9 million at December 31, 2017 and 2016, respectively.

The Company believes it will be able to fund the requirements of these plans through cash generated from operations or other available sources of financing for the foreseeable future.

Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for more information regarding costs and assumptions for employee retirement benefits.

OTHER MATTERS

Contingencies

In the normal course of business, the Company is party to various commercial and legal claims, actions and complaints, including matters involving warranty claims, intellectual property claims, general liability and various other risks. It is not possible to predict with certainty whether or not the Company will ultimately be successful in any

of these commercial and legal matters or, if not, what the impact might be. The

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Company's environmental and product liability contingencies are discussed separately below. The Company's management does not expect that an adverse outcome in any of these commercial and legal claims, actions and complaints will have a material adverse effect on the Company's results of operations, financial position or cash flows, although it could be material to the results of operations in a particular quarter.

Environmental

The Company and certain of its current and former direct and indirect corporate predecessors, subsidiaries and divisions have been identified by the United States Environmental Protection Agency and certain state environmental agencies and private parties as potentially responsible parties (“PRPs”) at various hazardous waste disposal sites under the Comprehensive Environmental Response, Compensation and Liability Act (“Superfund”) and equivalent state laws and, as such, may presently be liable for the cost of clean-up and other remedial activities at 27 such sites. Responsibility for clean-up and other remedial activities at a Superfund site is typically shared among PRPs based on an allocation formula.

The Company believes that none of these matters, individually or in the aggregate, will have a material adverse effect on its results of operations, financial position or cash flows. Generally, this is because either the estimates of the maximum potential liability at a site are not material or the liability will be shared with other PRPs, although no assurance can be given with respect to the ultimate outcome of any such matter.

Refer to "Note 14 - Contingencies," to the Consolidated Financial Statements in Item 8 of this report for further details and information respecting the Company’s environmental liability.

Asbestos-related Liability

Like many other industrial companies that have historically operated in the United States, the Company, or parties the Company is obligated to indemnify, continues to be named as one of many defendants in asbestos-related personal injury actions. The Company has an estimated liability of $828.2 million as of December 31, 2017 for asbestos-related claims and associated costs through 2067, which is the last date by which the Company currently estimates it may have resolved all asbestos-related claims. The Company additionally estimates that, as of December 31, 2017, it has aggregate insurance coverage available in the amount of $386.4 million to satisfy asbestos-related claims and associated defense costs.

Refer to "Note 14 - Contingencies," to the Consolidated Financial Statements in Item 8 of this report for further details and information respecting the Company’s asbestos-related liability and corresponding insurance asset.

CRITICAL ACCOUNTING POLICIES

The consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States (“GAAP”). In preparing these financial statements, management has made its best estimates and judgments of certain amounts included in the financial statements, giving due consideration to materiality. Critical accounting policies are those that are most important to the portrayal of the Company's financial condition and results of operations. Some of these policies require management's most difficult, subjective or complex judgments in the preparation of the financial statements and accompanying notes. Management makes estimates and assumptions about the effect of matters that are inherently uncertain, relating to the reporting of assets, liabilities, revenues, expenses and the disclosure of contingent assets and liabilities. Our most critical accounting policies are discussed below.

Use of estimates The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial

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statements and the accompanying notes, as well as, the amounts of revenues and expenses reported during the periods covered by these financial statements and accompanying notes. Actual results could differ from those estimates.

Concentration of risk The Company performs ongoing credit evaluations of its suppliers and customers and, with the exception of certain financing transactions, does not require collateral from its OEM customers. Some automotive parts suppliers continue to experience commodity cost pressures and the effects of industry overcapacity. These factors have increased pressure on the industry's supply base, as suppliers cope with changing commodity costs, lower production volumes and other challenges. The Company receives certain of its raw materials from sole suppliers or a limited number of suppliers. The inability of a supplier to fulfill supply requirements of the Company could affect future operating results.

Revenue recognition The Company recognizes revenue when title and risk of loss pass to the customer, which is usually upon shipment of product. Although the Company may enter into long-term supply agreements with its major customers, each shipment of goods is treated as a separate sale and the prices are not fixed over the life of the agreements.

Cost of sales The Company includes materials, direct labor and manufacturing overhead within cost of sales. Manufacturing overhead is comprised of indirect materials, indirect labor, factory operating costs and other such costs associated with manufacturing products for sale.

Impairment of long-lived assets, including definite-lived intangible assets The Company reviews the carrying value of its long-lived assets, whether held for use or disposal, including other amortizing intangible assets, when events and circumstances warrant such a review under Accounting Standards Codification ("ASC") Topic 360. In assessing long-lived assets for an impairment loss, assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. In assessing long-lived assets for impairment, management generally considers individual facilities the lowest level for which identifiable cash flows are largely independent. A recoverability review is performed using the undiscounted cash flows if there is a triggering event. If the undiscounted cash flow test for recoverability identifies a possible impairment, management will perform a fair value analysis. Management determines fair value under ASC Topic 820 using the appropriate valuation technique of market, income or cost approach. If the carrying value of a long-lived asset is considered impaired, an impairment charge is recorded for the amount by which the carrying value of the long-lived asset exceeds its fair value.

Management believes that the estimates of future cash flows and fair value assumptions are reasonable; however, changes in assumptions underlying these estimates could affect the valuations. Significant judgments and estimates used by management when evaluating long-lived assets for impairment include: (i) an assessment as to whether an adverse event or circumstance has triggered the need for an impairment review; (ii) undiscounted future cash flows generated by the asset; and (iii) fair valuation of the asset. Events and conditions that could result in impairment in the value of our long-lived assets include changes in the industries in which we operate, particularly the impact of a downturn in the global economy, as well as competition and advances in technology, adverse changes in the regulatory environment, or other factors leading to reduction in expected long-term sales or profitability.

Assets and liabilities held for sale The Company classifies assets and liabilities (disposal groups) to be sold as held for sale in the period in which all of the following criteria are met: management, having the authority to approve the action, commits to a plan to sell the disposal group; the disposal group is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such disposal groups; an active program to locate a buyer and other actions required to complete the plan to sell the disposal group have been initiated; the sale of the disposal group is probable, and transfer of the disposal group is expected to qualify for recognition as a completed sale within one year, except if events or circumstances beyond the Company's control extend the period of time required to sell the disposal group

beyond one year; the disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

The Company initially measures a disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell. Any loss resulting from this measurement is recognized in the period in which the held for sale criteria are met. Conversely, gains are not recognized on the sale of a disposal group until the date of sale. The Company assesses the fair value of a disposal group, less any costs to sell, each reporting period it remains classified as held for sale and reports any subsequent changes as an adjustment to the carrying value of the disposal group, as long as the new carrying value does not exceed the carrying value of the disposal group at the time it was initially classified as held for sale.

Upon determining that a disposal group meets the criteria to be classified as held for sale, the Company reports the assets and liabilities of the disposal group, if material, in the line items assets held for sale and liabilities held for sale in the Consolidated Balance Sheet.

Refer to Note 19, "Assets and Liabilities Held for Sale," to the Consolidated Financial Statements in Item 8 of this report for more information.

Goodwill and other indefinite-lived intangible assets During the fourth quarter of each year, the Company qualitatively assesses its goodwill and indefinite-lived intangible assets assigned to each of its reporting units. This qualitative assessment evaluates various events and circumstances, such as macro economic conditions, industry and market conditions, cost factors, relevant events and financial trends, that may impact a reporting unit's fair value. Using this qualitative assessment, the Company determines whether it is more-likely-than-not the reporting unit's fair value exceeds its carrying value. If it is determined that it is not more-likely-than-not the reporting unit's fair value exceeds the carrying value, or upon consideration of other factors, including recent acquisition, restructuring or divestiture activity, the Company performs a quantitative, "step one," goodwill impairment analysis. In addition, the Company may test goodwill in between annual test dates if an event occurs or circumstances change that could more-likely-than-not reduce the fair value of a reporting unit below its carrying value.

During the fourth quarter of 2017, the Company performed an analysis on each reporting unit. For the reporting unit with restructuring activities, the Company performed a quantitative, "step one," goodwill impairment analysis, which requires the Company to make significant assumptions and estimates about the extent and timing of future cash flows, discount rates and growth rates. The basis of this goodwill impairment analysis is the Company's annual budget and long-range plan (“LRP”). The annual budget and LRP includes a five year projection of future cash flows based on actual new products and customer commitments and assumes the last year of the LRP data is a fair indication of the future performance. Because the LRP is estimated over a significant future period of time, those estimates and assumptions are subject to a high degree of uncertainty. Further, the market valuation models and other financial ratios used by the Company require certain assumptions and estimates regarding the applicability of those models to the Company's facts and circumstances.

The Company believes the assumptions and estimates used to determine the estimated fair value are reasonable. Different assumptions could materially affect the estimated fair value. The primary assumptions affecting the Company's December 31, 2017 goodwill quantitative, "step one," impairment review are as follows:

- Discount rate: The Company used a 10.4% weighted average cost of capital ("WACC") as the discount rate for future cash flows. The WACC is intended to represent a rate of return that would be expected by a market participant.

- Operating income margin: The Company used historical and expected operating income margins, which may vary based on the projections of the reporting unit being evaluated.

- Revenue growth rate:The Company used a global automotive market industry growth rate forecast adjusted to estimate its own market participation for product lines.

In addition to the above primary assumptions, the Company notes the following risks to volume and operating income assumptions that could have an impact on the discounted cash flow models:

- The automotive industry is cyclical and the Company's results of operations would be adversely affected by industry downturns.
- The Company is dependent on market segments that use our key products and would be affected by decreasing demand in those segments.
- The Company is subject to risks related to international operations.

Based on the assumptions outlined above, the impairment testing conducted in the fourth quarter of 2017 indicated the Company's goodwill assigned to the reporting unit with restructuring activity that was quantitatively assessed was not impaired and contained a fair value that exceeded the reporting unit's carrying value by more than 20%. Additionally, for the reporting unit quantitatively assessed, sensitivity analyses were completed indicating that a one percent increase in the discount rate, a one percent decrease in the operating margin, or a one percent decrease in the revenue growth rate assumptions would not result in the carrying value exceeding the fair value.

Refer to Note 6, "Goodwill and Other Intangibles," to the Consolidated Financial Statements in Item 8 of this report for more information regarding goodwill.

Product warranties The Company provides warranties on some, but not all, of its products. The warranty terms are typically from one to three years. Provisions for estimated expenses related to product warranty are made at the time products are sold. These estimates are established using historical information about the nature, frequency and average cost of warranty claim settlements as well as product manufacturing and industry developments and recoveries from third parties. Management actively studies trends of warranty claims and takes action to improve product quality and minimize warranty claims. Management believes that the warranty accrual is appropriate; however, actual claims incurred could differ from the original estimates, requiring adjustments to the accrual. The increase in 2016 in our warranty provision as a percentage of net sales was primarily related to the Company's fourth quarter 2015 acquisition of Remy:

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Net sales	$9,799.3	$9,071.0	$8,023.2
Warranty provision	$73.1	$62.2	$28.6
Warranty provision as a percentage of net sales	0.7 %	0.7 %	0.4 %

The following table illustrates the sensitivity of a 25 basis point change (as a percentage of net sales) in the assumed warranty trend on the Company's accrued warranty liability:

	December 31,		
(millions of dollars)	2017	2016	2015
25 basis point decrease (income)/expense	$(24.5)	$(22.7)	$(20.1)
25 basis point increase (income)/expense	$24.5	$22.7	$20.1

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At December 31, 2017, the total accrued warranty liability was $111.5 million. The accrual is represented as $69.0 million in current liabilities and $42.5 million in non-current liabilities on our Consolidated Balance Sheet.

Refer to Note 7, "Product Warranty," to the Consolidated Financial Statements in Item 8 of this report for more information regarding product warranties.

Other loss accruals and valuation allowances The Company has numerous other loss exposures, such as customer claims, workers' compensation claims, litigation and recoverability of assets. Establishing loss accruals or valuation allowances for these matters requires the use of estimates and judgment in regard to the risk exposure and ultimate realization. The Company estimates losses under the programs using consistent and appropriate methods; however, changes to its assumptions could materially affect the recorded accrued liabilities for loss or asset valuation allowances.

Asbestos The Company and certain of its subsidiaries along with numerous other companies are named as defendants in personal injury lawsuits based on alleged exposure to asbestos-containing materials. With the assistance of third party consultants, the Company estimates the liability and corresponding insurance recovery for pending and future claims not yet asserted through December 31, 2059 with a runoff through 2067 and defense costs. This estimate is based on the Company's historical claim experience and estimates of the number and resolution cost of potential future claims that may be filed based on anticipated levels of unique plaintiff asbestos-related claims in the U.S. tort system against all defendants. This estimate is not discounted to present value. The Company currently believes that December 31, 2067 is a reasonable assumption as to the last date on which it is likely to have resolved all asbestos-related claims, based on the nature and useful life of the Company’s products and the likelihood of incidence of asbestos-related disease in the U.S. population generally. The Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs on an ongoing basis by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy. The Company continues to have additional excess insurance coverage available for potential future asbestos-related claims. In connection with the Company’s ongoing review of its asbestos-related claims, the Company also reviewed the amount of its potential insurance coverage for such claims, taking into account the remaining limits of such coverage, the number and amount of claims on our insurance from co-insured parties, ongoing litigation against the Company’s insurers, potential remaining recoveries from insolvent insurers, the impact of previous insurance settlements, and coverage available from solvent insurers not party to the coverage litigation.

Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding management's judgments applied in the recognition and measurement of asbestos-related assets and liabilities.

Environmental contingencies The Company works with outside experts to determine a range of potential liability for environmental sites. The ranges for each individual site are then aggregated into a loss range for the total accrued liability. We record an accrual at the most probable amount within the range unless one cannot be determined; in which case we record the accrual at the low end of the range. Management's estimate of the loss for environmental liability was $8.3 million at December 31, 2017.

Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding environmental accrual.

Pension and other postretirement defined benefits The Company provides postretirement defined benefits to a number of its current and former employees. Costs associated with postretirement defined

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benefits include pension and postretirement health care expenses for employees, retirees and surviving spouses and dependents.

The Company's defined benefit pension and other postretirement plans are accounted for in accordance with ASC Topic 715. The determination of the Company's obligation and expense for its pension and other postretirement employee benefits, such as retiree health care, is dependent on certain assumptions used by actuaries in calculating such amounts. Certain assumptions, including the expected long-term rate of return on plan assets, discount rate, rates of increase in compensation and health care costs trends are described in Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report. The effects of any modification to those assumptions are either recognized immediately or amortized over future periods in accordance with GAAP.

In accordance with GAAP, actual results that differ from assumptions used are accumulated and generally amortized over future periods. The primary assumptions affecting the Company's accounting for employee benefits under ASC Topics 712 and 715 as of December 31, 2017 are as follows:

- Expected long-term rate of return on plan assets: The expected long-term rate of return is used in the calculation of net periodic benefit cost. The required use of the expected long-term rate of return on plan assets may result in recognized returns that are greater or less than the actual returns on those plan assets in any given year. Over time, however, the expected long-term rate of return on plan assets is designed to approximate actual earned long-term returns. The expected long-term rate of return for pension assets has been determined based on various inputs, including historical returns for the different asset classes held by the Company's trusts and its asset allocation, as well as inputs from internal and external sources regarding expected capital market return, inflation and other variables. The Company also considers the impact of active management of the plans' invested assets. In determining its pension expense for the year ended December 31, 2017, the Company used long-term rates of return on plan assets ranging from 1.5% to 6.00% outside of the U.S. and 6.01% in the U.S.

Actual returns on U.S. pension assets were 11.5%, 5.9% and 0.1% for the years ended December 31, 2017, 2016 and 2015, respectively, compared to the expected rate of return assumption of 6.01% for the same years ended.

Actual returns on U.K. pension assets were 9.7%, 22.0% and 1.0% for the years ended December 31, 2017, 2016 and 2015, respectively, compared to the expected rate of return assumption of 6.00% for the same years ended.

Actual returns on German pension assets were 7.0%, 8.6% and 5.1% for the years ended December 31, 2017, 2016 and 2015, respectively, compared to the expected rate of return assumption of 5.9% for the same years ended.

- Discount rate: The discount rate is used to calculate pension and other postretirement employee benefit obligations (“OPEB”). In determining the discount rate, the Company utilizes a full yield approach in the estimation of service and interest components by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. The Company used discount rates ranging from 0.66% to 9.50% to determine its pension and other benefit obligations as of December 31, 2017, including weighted average discount rates of 3.55% in the U.S., 2.25% outside of the U.S., and 3.32% for U.S. other postretirement health care plans. The U.S. discount rate reflects the fact that our U.S. pension plan has been closed for new participants since 1989 (1999 for our U.S. health care plan).

- Health care cost trend: For postretirement employee health care plan accounting, the Company reviews external data and Company specific historical trends for health care cost to determine the health care cost trend rate assumptions. In determining the projected benefit obligation for postretirement employee

health care plans as of December 31, 2017, the Company used health care cost trend rates of 6.75%, declining to an ultimate trend rate of 5% by the year 2025.

While the Company believes that these assumptions are appropriate, significant differences in actual experience or significant changes in these assumptions may materially affect the Company's pension and OPEB and its future expense.

The following table illustrates the sensitivity to a change in certain assumptions for Company sponsored U.S. and non-U.S. pension plans on its 2018 pre-tax pension expense:

(millions of dollars)	Impact on U.S. 2018 pre-tax pension (expense)/income	Impact on Non-U.S. 2018 pre-tax pension (expense)/income
One percentage point decrease in discount rate	$ — *	$ (5.9)
One percentage point increase in discount rate	$ — *	$ 5.9
One percentage point decrease in expected return on assets	$ (2.3)	$ (4.8)
One percentage point increase in expected return on assets	$ 2.3	$ 4.8

* A one percentage point increase or decrease in the discount rate would have a negligible impact on the Company’s U.S. 2018 pre-tax pension expense.

The following table illustrates the sensitivity to a change in the discount rate assumption related to the Company’s U.S. OPEB interest expense:

(millions of dollars)	Impact on 2018 pre-tax OPEB interest (expense)/income
One percentage point decrease in discount rate	$ (0.8)
One percentage point increase in discount rate	$ 0.8

The sensitivity to a change in the discount rate assumption related to the Company's total 2018 U.S. OPEB expense is expected to be negligible, as any increase in interest expense will be offset by net actuarial gains.

The following table illustrates the sensitivity to a one-percentage point change in the assumed health care cost trend related to the Company's OPEB obligation and service and interest cost:

(millions of dollars)	One Percentage Point Increase	Decrease
Effect on other postretirement employee benefit obligation	$7.1	$ (6.3)
Effect on total service and interest cost components	$0.2	$ (0.2)

Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for more information regarding the Company’s retirement benefit plans.

Restructuring Restructuring costs may occur when the Company takes action to exit or significantly curtail a part of its operations or implements a reorganization that affects the nature and focus of operations. A restructuring charge can consist of severance costs associated with reductions to the workforce, costs to terminate an operating lease or contract, professional fees and other costs incurred related to the implementation of restructuring activities.

Income taxes The Company accounts for income taxes in accordance with ASC Topic 740. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted

tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled.

Management judgment is required in determining the Company’s provision for income taxes, deferred tax assets and liabilities and the valuation allowance recorded against the Company’s net deferred tax assets. In calculating the provision for income taxes on an interim basis, the Company uses an estimate of the annual effective tax rate based upon the facts and circumstances known at each interim period. In determining the need for a valuation allowance, the historical and projected financial performance of the operation recording the net deferred tax asset is considered along with any other pertinent information. Since future financial results may differ from previous estimates, periodic adjustments to the Company’s valuation allowance may be necessary.

The Company is subject to income taxes in the U.S. at the federal and state level and numerous non-U.S. jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes and recording the related assets and liabilities. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is less than certain. Accruals for income tax contingencies are provided for in accordance with the requirements of ASC Topic 740. The Company’s U.S. federal and certain state income tax returns and certain non-U.S. income tax returns are currently under various stages of audit by applicable tax authorities. Although the outcome of ongoing tax audits is always uncertain, management believes that it has appropriate support for the positions taken on its tax returns and that its annual tax provisions included amounts sufficient to pay assessments, if any, which may be proposed by the taxing authorities. At December 31, 2017, the Company has recorded a liability for its best estimate of the more-likely-than-not loss on certain of its tax positions, which is included in other non-current liabilities. Nonetheless, the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ materially from the amounts accrued for each year.

The Tax Cuts and Jobs Act (“the Act”) that was signed into law in December 2017 constitutes a major change to the US tax system. The estimated impact of the law is based on management’s current interpretations of the Act and related assumptions. Our final tax liability may be materially different from current estimates based on regulatory developments and our further analysis of the impacts of the Act. In future periods, our effective tax rate could be subject to additional uncertainty as a result of regulatory developments related to Act.

Refer to Note 4, "Income Taxes," to the Consolidated Financial Statements in Item 8 of this report for more information regarding income taxes.

New Accounting Pronouncements

Refer to Note 1, "Summary of Significant Accounting Policies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding new applicable accounting pronouncements.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company's primary market risks include fluctuations in interest rates and foreign currency exchange rates. We are also affected by changes in the prices of commodities used or consumed in our manufacturing operations. Some of our commodity purchase price risk is covered by supply agreements with customers and suppliers. Other commodity purchase price risk is addressed by hedging strategies, which include forward contracts. The Company enters into derivative instruments only with high credit quality counterparties and diversifies its positions across such counterparties in order to reduce its exposure to credit losses. We do not engage in any derivative instruments for purposes other than hedging specific operating risks.

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We have established policies and procedures to manage sensitivity to interest rate, foreign currency exchange rate and commodity purchase price risk, which include monitoring the level of exposure to each market risk. For quantitative disclosures about market risk, refer to Note 10, "Financial Instruments," to the Consolidated Financial Statements in Item 8 of this report for information with respect to interest rate risk and foreign currency exchange rate risk and commodity purchase price risk.

Interest Rate Risk

Interest rate risk is the risk that we will incur economic losses due to adverse changes in interest rates. The Company manages its interest rate risk by balancing its exposure to fixed and variable rates while attempting to optimize its interest costs. The Company selectively uses interest rate swaps to reduce market value risk associated with changes in interest rates (fair value hedges). At December 31, 2017, the amount of debt with fixed interest rates was 99.7% of total debt. Our earnings exposure related to adverse movements in interest rates is primarily derived from outstanding floating rate debt instruments that are indexed to floating money market rates. A 10% increase or decrease in the average cost of our variable rate debt would result in a change in pre-tax interest expense of approximately $0.1 million, $0.1 million and $2.1 million in the years ended December 31, 2017, 2016 and 2015, respectively.

Foreign Currency Exchange Rate Risk

Foreign currency exchange rate risk is the risk that we will incur economic losses due to adverse changes in foreign currency exchange rates. Currently, our most significant currency exposures relate to the British Pound, the Chinese Renminbi, the Euro, the Hungarian Forint, the Japanese Yen, the Mexican Peso, the Swedish Krona and the South Korean Won. We mitigate our foreign currency exchange rate risk by establishing local production facilities and related supply chain participants in the markets we serve, by invoicing customers in the same currency as the source of the products and by funding some of our investments in foreign markets through local currency loans. Such non-U.S. Dollar debt was $59.2 million and $82.1 million as of December 31, 2017 and 2016, respectively. We also monitor our foreign currency exposure in each country and implement strategies to respond to changing economic and political environments. The depreciation of the British Pound following the United Kingdom's 2016 vote to leave the European Union is not expected to have a significant impact on the Company since net sales from the United Kingdom represent less than 2% of the Company's net sales in 2017. In addition, the Company periodically enters into forward currency contracts in order to reduce exposure to exchange rate risk related to transactions denominated in currencies other than the functional currency. As of December 31, 2017 and 2016, the Company recorded a deferred gain related to foreign currency derivatives of $1.6 million and $6.7 million, respectively, and deferred loss related to foreign currency derivatives of $3.9 million and $1.1 million, respectively.

The foreign currency translation adjustment gain of $236.5 million for the year ended December 31, 2017, and foreign currency translation adjustment loss of $109.1 million and $260.5 million for the years ended December 31, 2016 and 2015, respectively, contained within our Consolidated Statements of Comprehensive Income represent the foreign currency translational impacts of converting our non-U.S. dollar subsidiaries financial statements to the Company’s reporting currency (U.S. Dollar). The 2017 foreign currency translation adjustment gain was primarily due to the impact of a weakening U.S. dollar against the Euro, which decreased approximately 14% and increased other comprehensive income by approximately $265.9 million since December 31, 2016. The 2016 foreign currency translation adjustment loss was primarily due to the impact of a strengthening U.S. dollar against the Euro and Chinese Renminbi, which increased other comprehensive loss by approximately $60 million and $45 million, respectively. The 2015 foreign currency translation adjustment loss was primarily due to the impact of a strengthening U.S. dollar, which increased approximately 10% in relation to the Euro between December 31, 2014 and 2015. This 10% change in the Euro increased other comprehensive loss by approximately $220 million.

Commodity Price Risk

Commodity price risk is the possibility that we will incur economic losses due to adverse changes in the cost of raw materials used in the production of our products. Commodity forward and option contracts are executed to offset our exposure to potential change in prices mainly for various non-ferrous metals and natural gas consumption used in the manufacturing of vehicle components. As of December 31, 2017, the Company had no forward or option commodity contracts outstanding, and as of December 31, 2016, the Company had forward and option commodity contracts with a total notional value of $1.0 million outstanding.

Disclosure Regarding Forward-Looking Statements

The matters discussed in this Item 7 include forward looking statements. See "Forward Looking Statements" at the beginning of this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative information regarding market risk, please refer to the discussion in Item 7 of this report under the caption "Quantitative and Qualitative Disclosures about Market Risk."

For information regarding interest rate risk, foreign currency exchange risk and commodity price risk, refer to the Financial Instruments footnote. For information regarding the levels of indebtedness subject to interest rate fluctuation, refer to the Notes Payable and Long-Term Debt footnote. For information regarding the level of business outside the United States, which is subject to foreign currency exchange rate market risk, refer to the Reporting Segments and Related Information footnote.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of BorgWarner Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of BorgWarner Inc. and its subsidiaries as of December 31, 2017 and December 31, 2016, and the related consolidated statements of operations, comprehensive income, equity, and cash flows for each of the three years in the period ended December 31, 2017, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and December 31, 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

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

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

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

As described in Management’s Report on Internal Control over Financial Reporting, management has excluded Sevcon, Inc. from its assessment of internal control over financial reporting as of December 31, 2017 because it was

acquired by the Company in a purchase business combination during 2017. We have also excluded Sevcon, Inc. from our audit of internal control over financial reporting. Sevcon, Inc. is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent 0.6% and 0.2%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2017.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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/ PricewaterhouseCoopers LLP
Detroit, Michigan
February 8, 2018

We have served as the Company’s auditor since 2008.

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except share and per share amounts)	December 31, 2017	2016
ASSETS		
Cash	$545.3	$443.7
Receivables, net	2,018.9	1,689.3
Inventories, net	766.3	641.2
Prepayments and other current assets	145.4	137.4
Assets held for sale	67.3	—
Total current assets	3,543.2	2,911.6
Property, plant and equipment, net	2,863.8	2,501.8
Investments and other long-term receivables	547.4	502.2
Goodwill	1,881.8	1,702.2
Other intangible assets, net	492.7	463.5
Other non-current assets	458.7	753.4
Total assets	$9,787.6	$8,834.7
LIABILITIES AND EQUITY		
Notes payable and other short-term debt	$84.6	$175.9
Accounts payable and accrued expenses	2,270.3	1,847.3
Income taxes payable	40.8	68.6
Liabilities held for sale	29.5	—
Total current liabilities	2,425.2	2,091.8
Long-term debt	2,103.7	2,043.6
Other non-current liabilities:		
Asbestos-related liabilities	775.7	827.6
Retirement-related liabilities	301.6	294.1
Other	355.5	275.7
Total other non-current liabilities	1,432.8	1,397.4
Commitments and contingencies		
Capital stock:		
Preferred stock, $0.01 par value; authorized shares: 5,000,000; none issued and outstanding	—	—
Common stock, $0.01 par value; authorized shares: 390,000,000; issued shares: (2017 - 246,387,057; 2016 - 246,387,057); outstanding shares: (2017- 210,812,793; 2016 - 212,262,965)	2.5	2.5
Non-voting common stock, $0.01 par value; authorized shares: 25,000,000; none issued and outstanding	—	—
Capital in excess of par value	1,118.7	1,104.3
Retained earnings	4,531.0	4,215.2
Accumulated other comprehensive loss	(490.0)	(722.1)
Common stock held in treasury, at cost: (2017 - 35,574,264 shares; 2016 - 34,124,092 shares)	(1,445.4)	(1,381.6)
Total BorgWarner Inc. stockholders' equity	3,716.8	3,218.3
Noncontrolling interest	109.1	83.6
Total equity	3,825.9	3,301.9

Total liabilities and equity	$9,787.6	$8,834.7

See Accompanying Notes to Consolidated Financial Statements.

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
(in millions, except share and per share amounts)	2017	2016	2015
Net sales	$9,799.3	$9,071.0	$8,023.2
Cost of sales	7,679.2	7,137.9	6,320.1
Gross profit	2,120.1	1,933.1	1,703.1
Selling, general and administrative expenses	898.5	817.5	662.0
Other expense, net	144.5	889.7	101.4
Operating income	1,077.1	225.9	939.7
Equity in affiliates' earnings, net of tax	(51.2)	(42.9)	(40.0)
Interest income	(5.8)	(6.3)	(7.5)
Interest expense and finance charges	70.5	84.6	60.4
Earnings before income taxes and noncontrolling interest	1,063.6	190.5	926.8
Provision for income taxes	580.3	30.3	280.4
Net earnings	483.3	160.2	646.4
Net earnings attributable to the noncontrolling interest, net of tax	43.4	41.7	36.7
Net earnings attributable to BorgWarner Inc.	$439.9	$118.5	$609.7
Earnings per share — basic	$2.09	$0.55	$2.72
Earnings per share — diluted	$2.08	$0.55	$2.70
Weighted average shares outstanding (thousands):			
Basic	210,429	214,374	224,414
Diluted	211,548	215,328	225,648
Dividends declared per share	$0.59	$0.53	$0.52

See Accompanying Notes to Consolidated Financial Statements.

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
(in millions of dollars)	2017	2016	2015
Net earnings attributable to BorgWarner Inc.	$439.9	$118.5	$609.7
Other comprehensive income (loss)			
Foreign currency translation adjustments	236.5	(109.1)	(260.5)
Hedge instruments*	(6.3)	7.0	(3.7)
Defined benefit postretirement plans*	0.5	(8.2)	37.4
Other*	1.4	(1.6)	0.2
Total other comprehensive income (loss) attributable to BorgWarner Inc.	232.1	(111.9)	(226.6)
Comprehensive income attributable to BorgWarner Inc.*	672.0	6.6	383.1
Net earnings attributable to noncontrolling interest, net of tax*	43.4	41.7	36.7
Other comprehensive income (loss) attributable to the noncontrolling interest*	11.4	(5.1)	(5.1)
Comprehensive income	$726.8	$43.2	$414.7

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*Net of income taxes.

See Accompanying Notes to Consolidated Financial Statements.

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
(in millions of dollars)	2017	2016	2015
OPERATING			
Net earnings	$483.3	$160.2	$646.4
Adjustments to reconcile net earnings to net cash flows from operations:			
Non-cash charges (credits) to operations:			
Asset impairment and loss on divestiture	71.0	127.1	—
Asbestos-related charge	—	703.6	—
Gain on previously held equity interest	—	—	(10.8)
Pension settlement loss	—	—	25.7
Depreciation and amortization	407.8	391.4	320.2
Stock-based compensation expense	52.7	43.6	40.2
Restructuring expense, net of cash paid	27.0	12.0	36.3
Deferred income tax provision (benefit)	41.8	(268.9)	13.3
Tax reform adjustments to provision for income taxes	273.5	—	—
Equity in affiliates' earnings, net of dividends received, and other	(32.0)	(17.0)	(21.9)
Net earnings adjusted for non-cash charges to operations	1,325.1	1,152.0	1,049.4
Changes in assets and liabilities:			
Receivables	(167.9)	(137.5)	(81.8)
Inventories	(84.5)	(36.5)	(52.9)
Prepayments and other current assets	0.5	8.8	(9.4)
Accounts payable and accrued expenses	232.8	134.9	23.1
Income taxes payable	(42.8)	(14.2)	34.6
Other assets and liabilities	(82.9)	(71.8)	(95.1)
Net cash provided by operating activities	1,180.3	1,035.7	867.9
INVESTING			
Capital expenditures, including tooling outlays	(560.0)	(500.6)	(577.3)
Proceeds from sale of businesses, net of cash divested	—	85.8	—
Proceeds from asset disposals and other	4.5	10.6	4.7
Payments for businesses acquired, including restricted cash, net of cash acquired	(185.7)	—	(1,199.6)
(Payments for) proceeds from settlement of net investment hedges	(8.5)	—	13.1
Payments for venture capital investment	(2.6)	—	—
Net cash used in investing activities	(752.3)	(404.2)	(1,759.1)
FINANCING			
Net decrease in notes payable	(88.3)	(129.1)	(316.7)
Additions to long-term debt, net of debt issuance costs	3.0	4.6	1,569.2
Repayments of long-term debt, including current portion	(19.3)	(193.6)	(29.8)
Payments for debt issuance cost	(2.4)	—	—
Proceeds from interest rate swap termination	—	8.9	—
Payments for purchase of treasury stock	(100.0)	(288.0)	(349.8)
(Payments for) proceeds from stock-based compensation items	(2.1)	6.7	3.7
Dividends paid to BorgWarner stockholders	(124.1)	(113.4)	(116.7)
Dividends paid to noncontrolling stockholders	(29.3)	(29.9)	(23.3)
Net cash (used in) provided by financing activities	(362.5)	(733.8)	736.6
Effect of exchange rate changes on cash	36.1	(31.7)	(65.5)
Net increase (decrease) in cash	101.6	(134.0)	(220.1)
Cash at beginning of year	443.7	577.7	797.8
Cash at end of year	$545.3	$443.7	$577.7

SUPPLEMENTAL CASH FLOW INFORMATION			
Cash paid during the year for:			
Interest	$92.0	$100.3	$70.2
Income taxes, net of refunds	$279.8	$300.5	$183.8
Non-cash investing transactions			
Liabilities assumed from business acquired	$18.0	$—	$31.1
Non-cash financing transactions			
Debt assumed from business acquired	$—	$—	$10.9

See Accompanying Notes to Consolidated Financial Statements.

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

	Number of shares		BorgWarner Inc. stockholder's equity					
(in millions of dollars, except share data)	Issued common stock	Common stock held in treasury	Issued common stock	Capital in excess of par value	Treasury stock	Retained earnings	Accumulated other comprehensive income (loss)	Noncontrolling interests
Balance, January 1, 2015	246,390,620	(19,960,537)	$2.5	$1,112.4	$(832.2)	$3,717.1	$ (383.6)	$ 74.7
Dividends declared	—	—	—	—	—	(116.7)	—	(28.5)
Stock incentive plans	—	439,653	—	(1.8)	18.6	—	—	—
Net issuance for executive stock plan	—	—	—	2.4	—	—	—	—
Net issuance of restricted stock	(3,563)	532,951	—	(3.3)	18.2	—	—	—
Purchase of treasury stock	—	(8,074,303)	—	—	(363.0)	—	—	—
Net earnings	—	—	—	—	—	609.7	—	36.7
Other comprehensive loss	—	—	—	—	—	—	(226.6)	(5.1)
Balance, December 31, 2015	246,387,057	(27,062,236)	$2.5	$1,109.7	$(1,158.4)	$4,210.1	$ (610.2)	$ 77.8
Dividends declared	—	—	—	—	—	(113.4)	—	(26.0)
Stock incentive plans	—	793,230	—	(19.4)	32.4	—	—	—
Net issuance for executive stock plan	—	—	—	12.8	—	—	—	—
Net issuance of restricted stock	—	414,464	—	1.2	19.2	—	—	—
Purchase of treasury stock	—	(8,269,550)	—	—	(274.8)	—	—	—
Business divestiture	—	—	—	—	—	—	—	(4.8)
Net earnings	—	—	—	—	—	118.5	—	41.7
Other comprehensive loss	—	—	—	—	—	—	(111.9)	(5.1)
Balance, December 31, 2016	246,387,057	(34,124,092)	$2.5	$1,104.3	$(1,381.6)	$4,215.2	$ (722.1)	$ 83.6
Dividends declared	—	—	—	—	—	(124.1)	—	(29.3)
Stock incentive plans	—	473,419	—	(10.6)	18.9	—	—	—
Net issuance for executive stock plan	—	73,935	—	21.0	2.7	—	—	—
Net issuance of restricted stock	—	402,184	—	4.0	14.6	—	—	—
Purchase of treasury stock	—	(2,399,710)	—	—	(100.0)	—	—	—
Net earnings	—	—	—	—	—	439.9	—	43.4
Other comprehensive income	—	—	—	—	—	—	232.1	11.4
Balance, December 31, 2017	246,387,057	(35,574,264)	$2.5	$1,118.7	$(1,445.4)	$4,531.0	$ (490.0)	$ 109.1

See Accompanying Notes to Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

INTRODUCTION

BorgWarner Inc. and Consolidated Subsidiaries (the “Company”) is a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. Our products help improve vehicle performance, propulsion efficiency, stability and air quality. These products are manufactured and sold worldwide, primarily to original equipment manufacturers (“OEMs”) of light vehicles (passenger cars, sport-utility vehicles ("SUVs"), vans and light trucks). The Company's products are also sold to other OEMs of commercial vehicles (medium-duty trucks, heavy-duty trucks and buses) and off-highway vehicles (agricultural and construction machinery and marine applications). We also manufacture and sell our products to certain Tier One vehicle systems suppliers and into the aftermarket for light, commercial and off-highway vehicles. The Company operates manufacturing facilities serving customers in Europe, the Americas and Asia and is an original equipment supplier to every major automotive OEM in the world. The Company's products fall into two reporting segments: Engine and Drivetrain.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The following paragraphs briefly describe the Company's significant accounting policies.

Basis of presentation Certain prior period amounts have been reclassified to conform to current period presentation. During 2017, the Company identified a prior period error related to the exclusion of the net earnings attributable to the non-controlling interest in the 2016 and 2015 Consolidated Statements of Comprehensive Income. The inclusion of these amounts increased total Comprehensive Income by $41.7 million and $36.7 million for the years ended December 31, 2016 and 2015, respectively.

The Company concluded that the errors were not material to the financial statements of any prior annual or interim period and therefore, amendments of previously filed reports are not required. In accordance with ASC Topic 250, "Accounting Changes and Error Corrections," we have corrected the error for all prior periods presented by revising the consolidated financial statements appearing herein. Quarterly periods not presented herein will be revised, as applicable, in future filings. The revision had no impact on the Consolidated Balance Sheets, Consolidated Statements of Operations, Consolidated Statements of Cash Flows or the Consolidated Statements of Equity.

Use of estimates The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (“GAAP”) requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the accompanying notes, as well as the amounts of revenues and expenses reported during the periods covered by these financial statements and accompanying notes. Actual results could differ from those estimates.

Principles of consolidation The Consolidated Financial Statements include all majority-owned subsidiaries with a controlling financial interest. All inter-company accounts and transactions have been eliminated in consolidation. Investments in 20% to 50% owned affiliates are accounted for under the equity method when the Company does not have a controlling financial interest.

Revenue recognition The Company recognizes revenue when title and risk of loss pass to the customer, which is usually upon shipment of product. Although the Company may enter into long-term supply agreements with its major customers, each shipment of goods is treated as a separate sale and the prices are not fixed over the life of the agreements.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Cost of sales The Company includes materials, direct labor and manufacturing overhead within cost of sales. Manufacturing overhead is comprised of indirect materials, indirect labor, factory operating costs and other such costs associated with manufacturing products for sale.

Cash Cash is valued at fair market value. It is the Company's policy to classify all highly liquid investments with original maturities of three months or less as cash. Cash is maintained with several financial institutions. Deposits held with banks may exceed the amount of insurance provided on such deposits. Generally, these deposits may be redeemed upon demand and are maintained with financial institutions of reputable credit and therefore bear minimal risk.

Receivables, net Accounts receivable are stated at cost less an allowance for bad debts. An allowance for doubtful accounts is recorded when it is probable amounts will not be collected based on specific identification of customer circumstances or age of the receivable.

See the Balance Sheet Information footnote to the Consolidated Financial Statements for more information on receivables, net.

Inventories, net Cost of certain U.S. inventories is determined using the last-in, first-out (“LIFO”) method at the lower of cost or market, while other U.S. and foreign operations use the first-in, first-out (“FIFO”) or average-cost methods at the lower of cost and net realizable value. Inventory held by U.S. operations using the LIFO method was $147.4 million and $131.4 million at December 31, 2017 and 2016, respectively. Such inventories, if valued at current cost instead of LIFO, would have been greater by $13.1 million and $15.2 million at December 31, 2017 and 2016, respectively.

See the Balance Sheet Information footnote to the Consolidated Financial Statements for more information on inventories, net.

Pre-production costs related to long-term supply arrangements Engineering, research and development and other design and development costs for products sold on long-term supply arrangements are expensed as incurred unless the Company has a contractual guarantee for reimbursement from the customer. Costs for molds, dies and other tools used to make products sold on long-term supply arrangements for which the Company either has title to the assets or has the non-cancelable right to use the assets during the term of the supply arrangement are capitalized in property, plant and equipment and amortized to cost of sales over the shorter of the term of the arrangement or over the estimated useful lives of the assets, typically three to five years. Costs for molds, dies and other tools used to make products sold on long-term supply arrangements for which the Company has a contractual guarantee for lump sum reimbursement from the customer are capitalized in prepayments and other current assets.

Property, plant and equipment, net Property, plant and equipment is valued at cost less accumulated depreciation. Expenditures for maintenance, repairs and renewals of relatively minor items are generally charged to expense as incurred. Renewals of significant items are capitalized. Depreciation is generally computed on a straight-line basis over the estimated useful lives of the assets. Useful lives for buildings range from 15 to 40 years and useful lives for machinery and equipment range from three to 12 years. For income tax purposes, accelerated methods of depreciation are generally used.

See the Balance Sheet Information footnote to the Consolidated Financial Statements for more information on property, plant and equipment, net.

Impairment of long-lived assets, including definite-lived intangible assets The Company reviews the carrying value of its long-lived assets, whether held for use or disposal, including other amortizing intangible assets, when events and circumstances warrant such a review under Accounting Standards Codification ("ASC") Topic 360. In assessing long-lived assets for an impairment loss, assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

of the cash flows of other assets and liabilities. In assessing long-lived assets for impairment, management generally considers individual facilities the lowest level for which identifiable cash flows are largely independent. A recoverability review is performed using the undiscounted cash flows if there is a triggering event. If the undiscounted cash flow test for recoverability identifies a possible impairment, management will perform a fair value analysis. Management determines fair value under ASC Topic 820 using the appropriate valuation technique of market, income or cost approach. If the carrying value of a long-lived asset is considered impaired, an impairment charge is recorded for the amount by which the carrying value of the long-lived asset exceeds its fair value.

Management believes that the estimates of future cash flows and fair value assumptions are reasonable; however, changes in assumptions underlying these estimates could affect the valuations. Significant judgments and estimates used by management when evaluating long-lived assets for impairment include: (i) an assessment as to whether an adverse event or circumstance has triggered the need for an impairment review; (ii) undiscounted future cash flows generated by the asset; and (iii) fair valuation of the asset.

Assets and liabilities held for sale The Company classifies assets and liabilities (disposal groups) to be sold as held for sale in the period in which all of the following criteria are met: management, having the authority to approve the action, commits to a plan to sell the disposal group; the disposal group is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such disposal groups; an active program to locate a buyer and other actions required to complete the plan to sell the disposal group have been initiated; the sale of the disposal group is probable, and transfer of the disposal group is expected to qualify for recognition as a completed sale within one year, except if events or circumstances beyond the Company's control extend the period of time required to sell the disposal group beyond one year; the disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

The Company initially measures a disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell. Any loss resulting from this measurement is recognized in the period in which the held for sale criteria are met. Conversely, gains are not recognized on the sale of a disposal group until the date of sale. The Company assesses the fair value of a disposal group, less any costs to sell, each reporting period it remains classified as held for sale and reports any subsequent changes as an adjustment to the carrying value of the disposal group, as long as the new carrying value does not exceed the carrying value of the disposal group at the time it was initially classified as held for sale.

Upon determining that a disposal group meets the criteria to be classified as held for sale, the Company reports the assets and liabilities of the disposal group, if material, in the line items assets held for sale and liabilities held for sale in the Consolidated Balance Sheets. Additionally, depreciation is not recorded during the period in which the long-lived assets, included in the disposal group, are classified as held for sale.

Goodwill and other indefinite-lived intangible assets During the fourth quarter of each year, the Company qualitatively assesses its goodwill and indefinite-lived intangible assets assigned to each of its reporting units. This qualitative assessment evaluates various events and circumstances, such as macro economic conditions, industry and market conditions, cost factors, relevant events and financial trends, that may impact a reporting unit's fair value. Using this qualitative assessment, the Company determines whether it is more-likely-than-not the reporting unit's fair value exceeds its carrying value. If it is determined that it is not more-likely-than-not the reporting unit's fair value exceeds the carrying value, or upon consideration of other factors, including recent acquisition, restructuring or divestiture activity, the Company performs a quantitative, "step one," goodwill impairment analysis. In addition, the Company may test goodwill in between annual test dates if an event occurs or circumstances change that could more-likely-than-not reduce the fair value of a reporting unit below its carrying value.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

See the Goodwill and Other Intangibles footnote to the Consolidated Financial Statements for more information on goodwill and other indefinite-lived intangible assets.

Product warranties The Company provides warranties on some, but not all, of its products. The warranty terms are typically from one to three years. Provisions for estimated expenses related to product warranty are made at the time products are sold. These estimates are established using historical information about the nature, frequency and average cost of warranty claim settlements as well as product manufacturing and industry developments and recoveries from third parties. Management actively studies trends of warranty claims and takes action to improve product quality and minimize warranty claims. Management believes that the warranty accrual is appropriate; however, actual claims incurred could differ from the original estimates, requiring adjustments to the accrual. The product warranty accrual is allocated to current and non-current liabilities in the Consolidated Balance Sheets.

See the Product Warranty footnote to the Consolidated Financial Statements for more information on product warranties.

Other loss accruals and valuation allowances The Company has numerous other loss exposures, such as customer claims, workers' compensation claims, litigation and recoverability of assets. Establishing loss accruals or valuation allowances for these matters requires the use of estimates and judgment in regard to the risk exposure and ultimate realization. The Company estimates losses under the programs using consistent and appropriate methods, however, changes to its assumptions could materially affect the recorded accrued liabilities for loss or asset valuation allowances.

Asbestos The Company and certain of its subsidiaries along with numerous other companies are named as defendants in personal injury lawsuits based on alleged exposure to asbestos-containing materials. With the assistance of third party consultants, the Company estimates the liability and corresponding insurance recovery for pending and future claims not yet asserted through December 31, 2059 with a runoff through 2067 and defense costs. This estimate is based on the Company's historical claim experience and estimates of the number and resolution cost of potential future claims that may be filed based on anticipated levels of unique plaintiff asbestos-related claims in the U.S. tort system against all defendants. This estimate is not discounted to present value. The Company currently believes that December 31, 2067 is a reasonable assumption as to the last date on which it is likely to have resolved all asbestos-related claims, based on the nature and useful life of the Company’s products and the likelihood of incidence of asbestos-related disease in the U.S. population generally. The Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs on an ongoing basis by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy. The Company continues to have additional excess insurance coverage available for potential future asbestos-related claims. In connection with the Company’s ongoing review of its asbestos-related claims, the Company also reviewed the amount of its potential insurance coverage for such claims, taking into account the remaining limits of such coverage, the number and amount of claims on our insurance from co-insured parties, ongoing litigation against the Company’s insurers, potential remaining recoveries from insolvent insurers, the impact of previous insurance settlements, and coverage available from solvent insurers not party to the coverage litigation.

See the Contingencies footnote to the Consolidated Financial Statements for more information regarding management's judgments applied in the recognition and measurement of asbestos-related assets and liabilities.

Environmental contingencies The Company accounts for environmental costs in accordance with ASC Topic 450. Costs related to environmental assessments and remediation efforts at operating facilities are accrued when it is

probable that a liability has been incurred and the amount of that liability can be

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

reasonably estimated. Estimated costs are recorded at undiscounted amounts, based on experience and assessments and are regularly evaluated. The liabilities are recorded in accounts payable and accrued expenses and other non-current liabilities in the Company's Consolidated Balance Sheets.

See the Contingencies footnote to the Consolidated Financial Statements for more information regarding environmental contingencies.

Derivative financial instruments The Company recognizes that certain normal business transactions generate risk. Examples of risks include exposure to exchange rate risk related to transactions denominated in currencies other than the functional currency, changes in commodity costs and interest rates. It is the objective and responsibility of the Company to assess the impact of these transaction risks and offer protection from selected risks through various methods, including financial derivatives. Virtually all derivative instruments held by the Company are designated as hedges, have high correlation with the underlying exposure and are highly effective in offsetting underlying price movements. Accordingly, gains and losses from changes in qualifying hedge fair values are matched with the underlying transactions. All hedge instruments are carried at their fair value based on quoted market prices for contracts with similar maturities. The Company does not engage in any derivative transactions for purposes other than hedging specific risks.

See the Financial Instruments footnote to the Consolidated Financial Statements for more information on derivative financial instruments.

Foreign currency The financial statements of foreign subsidiaries are translated to U.S. dollars using the period-end exchange rate for assets and liabilities and an average exchange rate for each period for revenues, expenses and capital expenditures. The local currency is the functional currency for substantially all of the Company's foreign subsidiaries. Translation adjustments for foreign subsidiaries are recorded as a component of accumulated other comprehensive income (loss) in equity. The Company recognizes transaction gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency in earnings as incurred.

See the Accumulated Other Comprehensive Loss footnote to the Consolidated Financial Statements for more information on accumulated other comprehensive loss.

Pensions and other postretirement employee defined benefits The Company's defined benefit pension and other postretirement employee benefit plans are accounted for in accordance with ASC Topic 715. Disability, early retirement and other postretirement employee benefits are accounted for in accordance with ASC Topic 712.

Pensions and other postretirement employee benefit costs and related liabilities and assets are dependent upon assumptions used in calculating such amounts. These assumptions include discount rates, expected returns on plan assets, health care cost trends, compensation and other factors. In accordance with GAAP, actual results that differ from the assumptions used are accumulated and amortized over future periods, and accordingly, generally affect recognized expense in future periods.

See the Retirement Benefit Plans footnote to the Consolidated Financial Statements for more information regarding the Company's pension and other postretirement employee defined benefit plans.

Restructuring Restructuring costs may occur when the Company takes action to exit or significantly curtail a part of its operations or implements a reorganization that affects the nature and focus of operations. A restructuring charge can consist of severance costs associated with reductions to the workforce, costs to terminate an operating lease or contract, professional fees and other costs incurred related to the implementation of restructuring activities.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

See the Restructuring footnote to the Consolidated Financial Statements for more information regarding the Company's restructuring activities.

Income taxes In accordance with ASC Topic 740, the Company's income tax expense is calculated based on expected income and statutory tax rates in the various jurisdictions in which the Company operates and requires the use of management's estimates and judgments.

See the Income Taxes footnote to the Consolidated Financial Statements for more information regarding income taxes.

New Accounting Pronouncements

In August 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-12, "Derivatives and Hedging (Topic 815)." It expands and refines hedge accounting for both nonfinancial and financial risk components and reduces complexity in fair value hedges of interest rate risk. It eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. It also eases certain documentation and assessment requirements and modifies the accounting for components excluded from assessment of hedge effectiveness. The guidance is effective prospectively for interim and annual periods beginning after December 15, 2018. Early adoption is permitted. The Company expects to early adopt this guidance on Q1 2018 and does not expect the adoption to have a material impact on its Consolidated Financial Statements.

In May 2017, the FASB issued ASU No. 2017-09, "Scope of Modification Accounting." Under this guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the share-based payment award changes as a result of the change in terms or conditions. This guidance is effective prospectively for interim and annual periods beginning after December 15, 2017. Early adoption is permitted. The Company does not expect this guidance to have any impact on its Consolidated Financial Statements.

In March 2017, the FASB issued ASU No. 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." It requires disaggregating the service cost component from the other components of net benefit cost, provides explicit guidance on how to present the service cost component and the other components of net benefit cost in the income statement and allows only the service cost component of net benefit cost to be eligible for capitalization when applicable. This guidance is effective for interim and annual periods beginning after December 15, 2017. Early adoption is permitted. The Company does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In January 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-04, "Simplifying the Test for Goodwill Impairment." It eliminates Step 2 from the goodwill impairment test and an established that an entity should recognize an impairment charge for the amount by which the carrying amount of the reporting unit exceeds the reporting unit's fair value, not to exceed the carrying amount of the goodwill. This guidance is effective for annual and any interim impairment tests in fiscal years beginning after December 15, 2019. The Company adopted this guidance in the fourth quarter of 2017 in conjunction with the annual goodwill impairment test and there is no impact on its Consolidated Financial Statements.

In January 2017, the FASB issued Accounting Standards Update ("ASU") No. 2017-01, "Clarifying the Definition of a Business." It revises the definition of a business and provides a framework to evaluate when an input and a substantive process are present in an acquisition to be considered a business. This guidance is effective for annual periods beginning after December 15, 2017. The Company does not expect this guidance to have any impact on its

Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In November 2016, the FASB issued ASU No. 2016-18, "Restricted Cash." It requires that amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. This guidance is effective for interim and annual reporting periods beginning after December 15, 2017. The Company does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In August 2016, the FASB issued ASU No. 2016-15, "Classification of Certain Cash Receipts and Cash Payments." It provides guidance on eight specific cash flow issues with the objective of reducing the existing diversity in practice in how they are classified in the statement of cash flows. This guidance is effective for interim and annual reporting periods beginning after December 15, 2017. Early adoption is permitted, provided that all of the amendments are adopted in the same period. The Company does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In March 2016, the FASB issued ASU No. 2016-09, "Improvements to Employee Share-Based Payment Accounting." Under this guidance, the areas of simplification involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, impact on earnings per share and classification on the statement of cash flows. This guidance is effective for interim and annual reporting periods beginning after December 15, 2016. Upon adopting this guidance in 2017, the Company recorded a tax benefit of $0.8 million within provision for income tax related to the excess tax benefit on share-based awards and reflected the excess tax benefit in operating activities rather than financing activities in the Consolidated Statements of Cash Flows. The Company elected to apply this change in presentation prospectively, so prior periods have not been adjusted. The Company also excluded the excess tax benefits from the assumed proceeds available to repurchase shares in the computation of diluted earnings per share for the year ended December 31, 2017. The impact of this change was de minimis. Additionally, the Company elected not to change its policy on accounting for forfeitures and continued to estimate the total number of awards for which the requisite service period will not be rendered.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)." Under this guidance, lessees will be required to recognize a right-of-use asset and a lease liability for all operating leases defined under previous GAAP. This guidance is effective for interim and annual reporting periods beginning after December 15, 2018. The Company is currently developing policies and processes to meet the requirements of this new guidance. The Company is in the process of analyzing its global lease obligations in order to evaluate the impact this guidance will have on its Consolidated Financial Statements. See the Leases and Commitments footnote to the Consolidated Financial Statements for further information on the Company's leases.

In January 2016, the FASB issued ASU No. 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities." It requires equity investments (except those accounted for under the equity method of accounting) to be measured at fair value with changes in fair value recognized in net income. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. It also requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset on the balance sheet or the accompanying notes to the financial statements. This guidance is effective for interim and fiscal years beginning after December 15, 2017. The Company expects to elect the measurement alternative for equity investments without readily determinable fair values and does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In May 2014, the FASB amended the Accounting Standards Codification to add Topic 606, "Revenue from Contracts with Customers," outlining a single comprehensive model for entities to use in accounting for revenue arising from

contracts with customers and superseding most current revenue recognition

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

guidance. The new guidance will also require new disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. This guidance is effective for interim and annual reporting periods beginning after December 15, 2017. The Company will adopt this guidance effective January 1, 2018 utilizing the Modified Retrospective approach, by recognizing the cumulative effect of initially applying the new standard as an adjustment to the opening balance of retained earnings.

Throughout 2017 and 2016, the Company monitored FASB activity related to the new standard, and worked with non-authoritative industry groups to assess relevant issues and the implementation of the new standard.

The relevant issues include (1) customer contracts and arrangements related to our highly customized products with no alternative use and for which the Company has an enforceable right to payment which will result in the recognition of revenue over time as parts are produced rather than upon shipment or delivery of the parts; and (2) pricing provisions contained in a limited number of our contracts and customer arrangements. The Company does not expect any changes to how it accounts for reimbursable pre-production costs, currently accounted for as a cost reduction. As the majority of the Company's revenues are not impacted by the new guidance, the adoption of this guidance is not expected to have a material impact on the Company's consolidated financial position, results of operations, equity or cash flows.

NOTE 2 RESEARCH AND DEVELOPMENT COSTS

The Company's net Research & Development ("R&D") expenditures are included in selling, general and administrative expenses of the Consolidated Statements of Operations. Customer reimbursements are netted against gross R&D expenditures as they are considered a recovery of cost. Customer reimbursements for prototypes are recorded net of prototype costs based on customer contracts, typically either when the prototype is shipped or when it is accepted by the customer. Customer reimbursements for engineering services are recorded when performance obligations are satisfied in accordance with the contract and accepted by the customer. Financial risks and rewards transfer upon shipment, acceptance of a prototype component by the customer or upon completion of the performance obligation as stated in the respective customer agreement.

The following table presents the Company's gross and net expenditures on R&D activities:

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Gross R&D expenditures	$473.1	$417.8	$386.2
Customer reimbursements	(65.6)	(74.6)	(78.8)
Net R&D expenditures	$407.5	$343.2	$307.4

Net R&D expenditures as a percentage of net sales were 4.2%, 3.8% and 3.8% for the years ended December 31, 2017, 2016 and 2015, respectively. The Company has contracts with several customers at the Company's various R&D locations. No such contract exceeded 5% of net R&D expenditures in any of the years presented.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NOTE 3 OTHER EXPENSE, NET

Items included in other expense, net consist of:

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Asset impairment and loss on divestiture	$71.0	$127.1	$—
Restructuring expense	58.5	26.9	65.7
Merger and acquisition expense	10.0	23.7	21.8
Lease termination settlement	5.3	—	—
Asbestos-related charge	—	703.6	—
Intangible asset impairment	—	12.6	—
Pension settlement loss	—	—	25.7
Gain on previously held equity interest	—	—	(10.8)
Other income	(0.3)	(4.2)	(1.0)
Other expense, net	$144.5	$889.7	$101.4

In the third quarter of 2017, the Company started exploring strategic options for the non-core emission product lines. In the fourth quarter of 2017, the Company launched an active program to locate a buyer for the non-core pipes and thermostat product lines and initiated all other actions required to complete the plan to sell the non-core product lines. The Company determined that the assets and liabilities of the pipes and thermostat product lines met the held for sale criteria as of December 31, 2017. As a result, the Company recorded an asset impairment expense of $71.0 million in the fourth quarter of 2017 to adjust the net book value of this business to fair value less costs to sell. See the Assets and Liabilities Held for Sale footnote to the Consolidated Financial Statements for further details.

In October 2016, the Company entered into a definitive agreement to sell the light vehicle aftermarket business associated with Remy. This transaction closed in the fourth quarter of 2016 and the Company recorded a loss on divestiture of $127.1 million in the year ended December 31, 2016. See the Recent Transactions footnote to the Consolidated Financial Statements for further discussion.

During the years ended December 31, 2017, 2016 and 2015, the Company recorded restructuring expense of $58.5 million, $26.9 million and $65.7 million, respectively, primarily related to Drivetrain and Engine segment actions designed to improve future profitability and competitiveness. The restructuring expense in the year ended December 31, 2015 also included amounts related to a global realignment plan intended to enhance treasury management flexibility by creating a legal entity structure that better aligns with the Company's business strategy. See the Restructuring footnote to the Consolidated Financial Statements for further discussion of these expenses.

During the year ended December 31, 2017, the Company recorded $10.0 million of merger and acquisition expense primarily related to the acquisition of Sevcon, Inc. ("Sevcon") completed on September 27, 2017. See the Recent Transactions footnote to the Consolidated Financial Statements for further discussion.

During the fourth quarter of 2015, the Company acquired 100% of the equity interests in Remy. During the year ended December 31, 2016 and 2015, the Company incurred $23.7 million and $21.8 million of transition and realignment expenses and other professional fees associated with this transaction, respectively. See the Recent Transactions footnote to the Consolidated Financial Statements for further discussion.

During the first quarter of 2017, the Company recorded a loss of $5.3 million related to the termination of a long term property lease for a manufacturing facility located in Europe.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In the fourth quarter of 2016, the Company determined that its best estimate of the aggregate liability both for asbestos-related claims asserted but not yet resolved and potential asbestos-related claims not yet asserted, including an estimate for defense costs, was $879.3 million as of December 31, 2016. The Company recorded a charge of $703.6 million before tax ($440.6 million after tax) in Other Expense, representing the difference in the total liability from what was previously accrued, consulting fees, less available insurance coverage. See the Contingencies footnote to the Consolidated Financial Statements for further discussion.

During the fourth quarter of 2016, the Company recorded an intangible asset impairment loss of $12.6 million related to Engine segment Etatech’s ECCOS intellectual technology. The ECCOS intellectual technology impairment was due to the discontinuance of interest from potential customers during the fourth quarter of 2016 that significantly lowered the commercial feasibility of the product line.

During the fourth quarter of 2015, the Company settled approximately $48 million of its projected benefit obligation by transferring approximately $48 million in plan assets through a lump-sum pension de-risking disbursement made to an insurance company. This agreement unconditionally and irrevocably guarantees all future payments to certain participants that were receiving payments from the U.S. pension plan. The insurance company assumes all investment risk associated with the assets that were delivered as part of this transaction. As a result, the Company recorded a non-cash settlement loss of $25.7 million related to the accelerated recognition of unamortized losses.

During the first quarter of 2015, the Company completed the purchase of the remaining 51% of BERU Diesel Start Systems Pvt. Ltd. ("BERU Diesel") by acquiring the shares of its former joint venture partner. As a result of this transaction, the Company recorded a $10.8 million gain on the previously held equity interest in this joint venture. See the Recent Transactions footnote to the Consolidated Financial Statements for further discussion of this acquisition.

NOTE 4 INCOME TAXES

Earnings before income taxes and the provision for income taxes are presented in the following table.

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Earnings before income taxes:			
U.S.	$203.0	$(724.7)	$125.6
Non-U.S.	860.6	915.2	801.2
Total	$1,063.6	$190.5	$926.8
Provision for income taxes:			
Current:			
Federal	$36.4	$37.4	$32.5
State	4.6	6.1	(4.3)
Foreign	247.4	251.7	228.3
Total current	288.4	295.2	256.5
Deferred:			
Federal	323.7	(239.8)	31.8
State	2.1	(13.2)	2.6
Foreign	(33.9)	(11.9)	(10.5)
Total deferred	291.9	(264.9)	23.9
Total provision for income taxes	$580.3	$30.3	$280.4

The provision for income taxes resulted in an effective tax rate of 54.6%, 15.9% and 30.3% for the years ended December 31, 2017, 2016 and 2015, respectively. An analysis of the differences between the effective

tax rate and the U.S. statutory rate for the years ended December 31, 2017, 2016 and 2015 is presented below.

The Tax Cuts and Jobs Act (the "Act") was enacted on December 22, 2017. The Act reduces the U.S. federal corporate tax rate from 35 percent to 21 percent, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred. As of December 31, 2017, in accordance with guidance provided by Staff Accounting Bulletin No. 118 (SAB 118), we have not completed our accounting for the tax effects of enactment of the Act. In certain cases, as described below, we have made a provisional estimate of significant items including: (i) the effects on our existing deferred tax balances, (ii) the one-time transition tax, and (iii) our indefinite reinvestment assertion, including the measurement of deferred taxes on foreign unremitted earnings. These provisional items require additional information and analysis to complete the accounting. Other items for which the accounting for the tax effects of the Act is complete are not significant. Items for which the accounting for the tax effects of the Act cannot be completed is not applicable.

The Act is complex and its impact may materially differ from these estimates, due to, among other things, changes in the Company’s assumptions, implementation guidance that may be issued from the Internal Revenue Service and related interpretations and clarifications of tax law relevant for the completion of the Company’s 2017 tax return filings. The Company expects to complete its assessment of these items during 2018, and any adjustments to the provisional amounts initially recorded, will be included as an adjustment to income tax expense or benefit in the period the amounts are determined, in accordance with SAB 118.

We recognized income tax expense of $273.5 million in the year ended December 31, 2017 for significant items we could reasonably estimate associated with the Act. This expense reflects (i) the revaluation of our net deferred tax assets based on a U.S. federal tax rate of 21 percent, (ii) a one-time transition tax on our unremitted foreign earnings and profits, net of foreign tax credits, and (iii) our indefinite reinvestment assertion, including the measurement of deferred taxes on foreign unremitted earnings.

In light of the treatment of foreign earnings under the Act, we have reconsidered our indefinite reinvestment position and provisionally concluded we will no longer assert indefinite reinvestment with respect to our foreign unremitted earnings. Therefore, the Company has accrued additional provisional deferred tax liabilities of $94.1 million with respect to the expected future remittance of foreign earnings.

The U.S. income tax payable of $25.1 million includes an estimated $23.6 million of transition tax, net of foreign tax credits associated with the required inclusion of unremitted foreign earnings and amounts carried forward from prior years. The estimated transition tax is due and payable annually over an eight year period beginning in the first quarter of 2018.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Income taxes at U.S. statutory rate of 35%	$372.3	$66.7	$324.4
Increases (decreases) resulting from:			
State taxes, net of federal benefit	2.3	(10.6)	8.2
U.S. tax on non-U.S. earnings	226.0	40.7	31.5
Affiliates' earnings	(17.9)	(15.0)	(14.0)
Foreign rate differentials	(100.2)	(93.3)	(92.6)
Tax holidays	(31.0)	(25.5)	(21.2)
Withholding taxes	24.9	13.3	7.8
Tax credits	(24.2)	(3.2)	(3.2)
Reserve adjustments, settlements and claims	8.0	11.6	19.4
Valuation allowance adjustments	12.2	(2.7)	8.3
Non-deductible transaction costs	10.9	8.3	8.1
Provision to return and other one-time tax adjustments	(1.9)	0.3	(5.1)
Impact of transactions	4.0	16.3	11.6
Currency	0.7	10.0	0.1
Other foreign taxes	8.1	12.9	9.0
Partnership income	3.3	3.4	3.1
Revaluation of U.S. deferred taxes	63.7	—	—
Other	19.1	(2.9)	(15.0)
Provision for income taxes, as reported	$580.3	$30.3	$280.4

The 2017 effective tax rate increased 38.7 percentage to 54.6%. The change in the effective tax rate for 2017, as compared to 2016, was primarily due to the Act. In addition to the transition tax, which results in a tax charge of $104.7 million, the Act also includes a reduction in the US income tax rate from 35% to 21%, as of January 1, 2018. This change in income tax rate requires a revaluation of our US deferred tax assets and liabilities at December 31, 2017, resulting in a tax charge of $ $63.7 million. The Company also included a tax charge of $94.1 million for additional provisional deferred tax liabilities with respect to the expected future remittance of foreign earnings.

The Company's provision for income taxes for the year ended December 31, 2017, includes reduction of income tax expenses of $10.1 million, $1.0 million, $18.2 million and $3.8 million related to the restructuring expense, merger and acquisition expense, asset impairment expense and other one-time adjustments, respectively, discussed in the Other Expense, Net footnote.

The Company's provision for income taxes for the year ended December 31, 2016, includes reduction of income tax expenses of $263.0 million, $22.7 million, $8.6 million, $6.0 million and $4.4 million associated with an asbestos-related charge, loss on divestiture, other one-time adjustments, restructuring expense and intangible asset impairment loss, respectively, discussed in the Other Expense, Net footnote. Additionally, this rate includes a tax expense of $2.2 million related to a gain associated with the release of certain Remy light vehicle aftermarket liabilities due to the expiration of a customer contract.

The Company's provision for income taxes for the year ended December 31, 2015, includes reduction of income tax expenses of $9.0 million, $3.8 million and $3.7 million related to the pension settlement loss, merger and acquisition expense and restructuring expense, respectively, discussed in the Other Expense, Net footnote. Additionally, this rate includes a tax benefit of $9.9 million primarily related to foreign tax incentives and tax settlements.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

A roll forward of the Company's total gross unrecognized tax benefits for the years ended December 31, 2017 and 2016, respectively, is presented below. Of the total $85.1 million of unrecognized tax benefits as of December 31, 2017, approximately $62.4 million of the total represents the amount that, if recognized, would affect the Company's effective income tax rate in future periods. This amount differs from the gross unrecognized tax benefits presented in the table due to the decrease in the U.S. federal income taxes which would occur upon recognition of the state tax benefits and U.S. foreign tax credits included therein.

(millions of dollars)	2017	2016
Balance, January 1	$91.1	$127.3
Additions based on tax positions related to current year	16.8	16.1
Additions/(reductions) for tax positions of prior years	(2.4)	1.6
Reductions for closure of tax audits and settlements	(19.9)	(45.7)
Reductions for lapse in statute of limitations	(0.8)	(5.0)
Translation adjustment	7.2	(3.2)
Balance, December 31	$92.0	$91.1

Remy applied for a bilateral Advance Pricing Agreement ("APA") between the U.S. Internal Revenue Service and South Korea National Tax Service covering the tax years 2007 through 2014. At December 31, 2015, the Company recorded an uncertain tax benefit and related U.S. foreign tax credits of approximately $44.0 million. In the second quarter of 2016, the Company received the signed APA from the tax authorities and reclassified the related uncertain tax benefit to a current tax payable, which the Company paid in the third quarter of 2016.

The Company recognizes interest and penalties related to unrecognized tax benefits in income tax expense. The amount recognized in income tax expense for 2017 and 2016 is $6.4 million and $3.2 million, respectively. The Company has an accrual of approximately $22.6 million and $16.0 million for the payment of interest and penalties at December 31, 2017 and 2016, respectively. The Company estimates that payments of approximately $0.8 million will be made in the next 12 months for assessed tax liabilities from certain taxing jurisdictions and has reclassified this amount to current in the balance sheet as shown in the Balance Sheet Information footnote. Other possible changes within the next 12 months cannot be reasonably estimated at this time.

The Company and/or one of its subsidiaries files income tax returns in the U.S. federal, various state jurisdictions and various foreign jurisdictions. In certain tax jurisdictions, the Company may have more than one taxpayer. The Company is no longer subject to income tax examinations by tax authorities in its major tax jurisdictions as follows:

Tax jurisdiction	Years no longer subject to audit	Tax jurisdiction	Years no longer subject to audit
U.S. Federal	2013 and prior	Japan	2015 and prior
China	2011 and prior	Mexico	2011 and prior
France	2013 and prior	Poland	2011 and prior
Germany	2011 and prior	South Korea	2011 and prior
Hungary	2008 and prior		

In the U.S., certain tax attributes created in years prior to 2013 were subsequently utilized. Even though the U.S. federal statute of limitations has expired for years prior to 2013, the years in which these tax attributes were created could still be subject to examination, limited to only the examination of the creation of the tax attribute.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The gross components of deferred tax assets and liabilities as of December 31, 2017 and 2016 consist of the following:

	December 31,	
(millions of dollars)	2017	2016
Deferred tax assets:		
Foreign tax credits	$—	$139.5
Employee compensation	26.4	41.3
Other comprehensive loss	54.5	66.3
Research and development capitalization	76.4	145.1
Net operating loss and capital loss carryforwards	74.6	71.5
Pension and other postretirement benefits	19.1	38.8
Asbestos-related	167.1	263.0
Other	146.6	128.9
Total deferred tax assets	$564.7	$894.4
Valuation allowance	(95.9)	(71.2)
Net deferred tax asset	$468.8	$823.2
Deferred tax liabilities:		
Goodwill and intangible assets	(193.9)	(251.3)
Fixed assets	(104.6)	(147.1)
Unremitted foreign earnings	(98.5)	(38.5)
Other	(12.0)	(16.5)
Total deferred tax liabilities	$(409.0)	$(453.4)
Net deferred taxes	$59.8	$369.8

At December 31, 2017, certain non-U.S. subsidiaries have net operating loss carryforwards totaling $168.9 million available to offset future taxable income. Of the total $168.9 million, $110.0 million expire at various dates from 2018 through 2036 and the remaining $58.9 million have no expiration date. The Company has a valuation allowance recorded against $88.0 million of the $168.9 million of non-U.S. net operating loss carryforwards. Certain U.S. subsidiaries have state net operating loss carryforwards totaling $791.1 million which are partially offset by a valuation allowance of $779.2 million. The state net operating loss carryforwards expire at various dates from 2018 to 2037. Certain U.S. subsidiaries also have state tax credit carryforwards of $19.7 million which are fully offset by a valuation allowance of $19.7 million. Certain non-U.S. subsidiaries located in China had tax exemptions or tax holidays, which reduced local tax expense approximately $31.0 million and $25.5 million in 2017 and 2016, respectively. The U.S. foreign tax credit carryforwards of $139.5 million from 2016 were fully utilized in 2017 as a result of the transition tax.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NOTE 5 BALANCE SHEET INFORMATION

Detailed balance sheet data is as follows:

	December 31,	
(millions of dollars)	2017	2016
Receivables, net:		
Customers	$1,735.7	$1,448.3
Indirect taxes	152.1	99.1
Other	136.8	144.8
Gross receivables	2,024.6	1,692.2
Bad debt allowance(a)	(5.7)	(2.9)
Total receivables, net	$2,018.9	$1,689.3
Inventories, net:		
Raw material and supplies	$469.7	$378.6
Work in progress	126.7	102.9
Finished goods	183.0	174.9
FIFO inventories	779.4	656.4
LIFO reserve	(13.1)	(15.2)
Total inventories, net	$766.3	$641.2
Prepayments and other current assets:		
Prepaid tooling	$81.9	$77.5
Prepaid taxes	5.3	8.0
Other	58.2	51.9
Total prepayments and other current assets	$145.4	$137.4
Property, plant and equipment, net:		
Land and land use rights	$115.7	$111.0
Buildings	783.5	670.6
Machinery and equipment	2,734.4	2,371.2
Capital leases	1.5	3.9
Construction in progress	410.5	338.2
Property, plant and equipment, gross	4,045.6	3,494.9
Accumulated depreciation	(1,391.7)	(1,137.5)
Property, plant & equipment, net, excluding tooling	2,653.9	2,357.4
Tooling, net of amortization	209.9	144.4
Property, plant & equipment, net	$2,863.8	$2,501.8
Investments and other long-term receivables:		
Investment in equity affiliates	$239.6	$218.9
Other long-term receivables	307.8	283.3
Total investments and other long-term receivables	$547.4	$502.2
Other non-current assets:		
Deferred income taxes	$121.2	$424.0
Asbestos insurance asset	127.7	178.7
Other	209.8	150.7
Total other non-current assets	$458.7	$753.4

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

(millions of dollars)	December 31, 2017	2016
Accounts payable and accrued expenses:		
Trade payables	$1,545.6	$1,259.4
Payroll and employee related	239.7	206.4
Indirect taxes	111.0	63.9
Product warranties	69.0	63.9
Customer related	75.7	52.8
Asbestos-related liability	52.5	51.7
Interest	22.9	22.9
Retirement related	17.2	18.1
Dividends payable to noncontrolling shareholders	17.7	15.7
Unrecognized tax benefits	0.8	15.5
Insurance	10.1	7.8
Severance	5.8	6.4
Derivatives	5.0	1.2
Other	97.3	61.6
Total accounts payable and accrued expenses	$2,270.3	$1,847.3
Other non-current liabilities:		
Deferred income taxes	$61.4	$54.2
Deferred revenue	52.4	33.5
Product warranties	42.5	31.4
Other	199.2	156.6
Total other non-current liabilities	$355.5	$275.7

(a) Bad debt allowance:	2017	2016	2015
Beginning balance, January 1	$(2.9)	$(1.9)	$(2.3)
Provision	(2.7)	(3.2)	(0.5)
Write-offs	0.1	0.2	0.7
Business divestiture	—	2.0	—
Translation adjustment and other	(0.2)	—	0.2
Ending balance, December 31	$(5.7)	$(2.9)	$(1.9)

As of December 31, 2017 and December 31, 2016, accounts payable of $106.5 million and $85.3 million, respectively, were related to property, plant and equipment purchases.

Interest costs capitalized for the years ended December 31, 2017, 2016 and 2015 were $19.7 million, $14.1 million and $16.5 million, respectively.

NSK-Warner KK ("NSK-Warner")

The Company has a 50% interest in NSK-Warner, a joint venture based in Japan that manufactures automatic transmission components. The Company's share of the earnings reported by NSK-Warner is accounted for using the equity method of accounting. NSK-Warner is the joint venture partner with a 40% interest in the Drivetrain Segment's South Korean subsidiary, BorgWarner Transmission Systems Korea Ltd. Dividends from NSK-Warner were $20.2 million, $34.3 million and $18.0 million in calendar years ended December 31, 2017, 2016 and 2015, respectively.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NSK-Warner has a fiscal year-end of March 31. The Company's equity in the earnings of NSK-Warner consists of the 12 months ended November 30. Following is summarized financial data for NSK-Warner, translated using the ending or periodic rates, as of and for the years ended November 30, 2017, 2016 and 2015 (unaudited):

	November 30,	
(millions of dollars)	2017	2016
Balance sheets:		
Cash and securities	$104.6	$98.6
Current assets, including cash and securities	289.2	256.3
Non-current assets	231.9	194.5
Current liabilities	154.9	122.6
Non-current liabilities	68.1	48.2
Total equity	298.1	280.0

	Year Ended November 30,		
(millions of dollars)	2017	2016	2015
Statements of operations:			
Net sales	$669.6	$601.8	$519.0
Gross profit	149.2	134.1	118.6
Net earnings	85.2	71.7	73.3

NSK-Warner had no debt outstanding as of November 30, 2017 and 2016. Purchases by the Company from NSK-Warner were $12.3 million, $23.9 million and $23.0 million for the years ended December 31, 2017, 2016 and 2015, respectively.

NOTE 6 GOODWILL AND OTHER INTANGIBLES

During the fourth quarter of each year, the Company qualitatively assesses its goodwill and indefinite-lived intangible assets assigned to each of its reporting units. This qualitative assessment evaluates various events and circumstances, such as macro economic conditions, industry and market conditions, cost factors, relevant events and financial trends, that may impact a reporting unit's fair value. Using this qualitative assessment, the Company determines whether it is more-likely-than-not the reporting unit's fair value exceeds its carrying value. If it is determined that it is not more-likely-than-not the reporting unit's fair value exceeds the carrying value, or upon consideration of other factors, including recent acquisition, restructuring or divestiture activity, the Company performs a quantitative, "step one," goodwill impairment analysis. In addition, the Company may test goodwill in between annual test dates if an event occurs or circumstances change that could more-likely-than-not reduce the fair value of a reporting unit below its carrying value.

During the fourth quarter of 2017, the Company performed an analysis on each reporting unit. For the reporting unit with restructuring activities, the Company performed a quantitative, "step one," goodwill impairment analysis, which requires the Company to make significant assumptions and estimates about the extent and timing of future cash flows, discount rates and growth rates. The basis of this goodwill impairment analysis is the Company's annual budget and long-range plan ("LRP"). The annual budget and LRP includes a five year projection of future cash flows based on actual new products and customer commitments and assumes the last year of the LRP data is a fair indication of the future performance. Because the LRP is estimated over a significant future period of time, those estimates and assumptions are subject to a high degree of uncertainty. Further, the market valuation models and other financial ratios

used by the Company require certain assumptions and estimates regarding the applicability of those models to the Company's facts and circumstances.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company believes the assumptions and estimates used to determine the estimated fair value are reasonable. Different assumptions could materially affect the estimated fair value. The primary assumptions affecting the Company's December 31, 2017 goodwill quantitative, "step one," impairment review are as follows:

- Discount rate: The Company used a 10.4% weighted average cost of capital (“WACC”) as the discount rate for future cash flows. The WACC is intended to represent a rate of return that would be expected by a market participant.

- Operating income margin: The Company used historical and expected operating income margins, which may vary based on the projections of the reporting unit being evaluated.

- Revenue growth rate: The Company used a global automotive market industry growth rate forecast adjusted to estimate its own market participation for product lines.

In addition to the above primary assumptions, the Company notes the following risks to volume and operating income assumptions that could have an impact on the discounted cash flow models:

- The automotive industry is cyclical and the Company's results of operations would be adversely affected by industry downturns.
- The Company is dependent on market segments that use our key products and would be affected by decreasing demand in those segments.
- The Company is subject to risks related to international operations.

Based on the assumptions outlined above, the impairment testing conducted in the fourth quarter of 2017 indicated the Company's goodwill assigned to the reporting unit with restructuring activity that was quantitatively assessed was not impaired and contained a fair value that exceeded the reporting unit's carrying value by more than 20%. Additionally, for the reporting unit quantitatively assessed, sensitivity analyses were completed indicating that a one percent increase in the discount rate, a one percent decrease in the operating margin, or a one percent decrease in the revenue growth rate assumptions would not result in the carrying value exceeding the fair value.

The changes in the carrying amount of goodwill for the years ended December 31, 2017 and 2016 are as follows:

	2017		2016	
(millions of dollars)	Engine	Drivetrain	Engine	Drivetrain
Gross goodwill balance, January 1	$1,324.0	$880.2	$1,338.2	$ 921.5
Accumulated impairment losses, January 1	(501.8)	(0.2)	(501.8)	(0.2)
Net goodwill balance, January 1	$822.2	$880.0	$836.4	$ 921.3
Goodwill during the year:				
Acquisitions*	—	125.8	—	(12.1)
Held for sale	(7.3)	—	—	—
Divestitures**	—	—	—	(24.2)
Translation adjustment and other	42.9	18.2	(14.2)	(5.0)
Ending balance, December 31	$857.8	$1,024.0	$822.2	$ 880.0

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* Acquisitions during 2017 relate to the Company's 2017 purchase of Sevcon. Acquisitions during 2016 were related to the Company's fair value adjustments for the 2015 Remy acquisition, based on new information obtained during the measurement period.

** Divestitures relate to the Company's 2016 disposition of Remy light vehicle aftermarket business and Divgi-Warner Private Limited.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company’s other intangible assets, primarily from acquisitions, consist of the following:

(millions of dollars)	December 31, 2017			December 31, 2016		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Amortized intangible assets:						
Patented and unpatented technology	$157.7	$ 52.9	$104.8	$108.1	$ 41.5	$66.6
Customer relationships	507.6	181.0	326.6	481.4	141.2	340.2
Miscellaneous	4.9	3.2	1.7	5.3	3.4	1.9
Total amortized intangible assets	670.2	237.1	433.1	594.8	186.1	408.7
In-process R&D	3.8	—	3.8	3.8	—	3.8
Unamortized trade names	55.8	—	55.8	51.0	—	51.0
Total other intangible assets	$729.8	$ 237.1	$492.7	$649.6	$ 186.1	$463.5

Amortization of other intangible assets was $40.0 million, $40.4 million and $19.2 million for the years ended December 31, 2017, 2016 and 2015, respectively. The estimated useful lives of the Company's amortized intangible assets range from three to 20 years. The Company utilizes the straight line method of amortization recognized over the estimated useful lives of the assets. The estimated future annual amortization expense, primarily for acquired intangible assets, is as follows: $44.3 million in 2018, $43.3 million in 2019, $42.5 million in 2020, $42.2 million in 2021 and $40.9 million in 2022.

A roll forward of the gross carrying amounts of the Company's other intangible assets is presented below:

(millions of dollars)	2017	2016
Beginning balance, January 1	$649.6	$705.3
Acquisitions*	72.6	—
Held for sale	(32.7)	—
Impairment**	—	(23.9)
Divestitures***	—	(19.9)
Translation adjustment	40.3	(11.9)
Ending balance, December 31	$729.8	$649.6

* Acquisitions primarily relate to the Company's 2017 purchase of Sevcon.
** Relates to the impairment of the Company's Etatech ECCOS intellectual technology in 2016.
*** Divestiture relates to the Company's sale of Remy light vehicle aftermarket business in 2016.

A roll forward of the accumulated amortization associated with the Company's other intangible assets is presented below:

(millions of dollars)	2017	2016
Beginning balance, January 1	$186.1	$161.5
Amortization	40.0	40.4
Held for sale	(11.6)	—
Impairment	—	(8.2)
Divestitures	—	(0.3)
Translation adjustment	22.6	(7.3)
Ending balance, December 31	$237.1	$186.1

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NOTE 7 PRODUCT WARRANTY

The changes in the carrying amount of the Company’s total product warranty liability for the years ended December 31, 2017 and 2016 were as follows:

(millions of dollars)	2017	2016
Beginning balance, January 1	$95.3	$107.9
Provisions	73.1	62.2
Acquisitions	1.0	6.9
Dispositions	—	(9.1)
Held for sale	(3.6)	—
Payments	(60.6)	(70.1)
Translation adjustment	6.3	(2.5)
Ending balance, December 31	$111.5	$95.3

Acquisition activity in 2017 of $1.0 million relates to the warranty liability associated with the Company's purchase of Sevcon.

Acquisition activity in 2016 of $6.9 million relates to the Company's accrual for product issues that pre-dated the Company's 2015 acquisition of Remy. Disposition activity in 2016 of $9.1 million relates to the sale of the Remy light vehicle aftermarket business.

The product warranty liability is classified in the Consolidated Balance Sheets as follows:

	December 31,	
(millions of dollars)	2017	2016
Accounts payable and accrued expenses	$69.0	$63.9
Other non-current liabilities	42.5	31.4
Total product warranty liability	$111.5	$95.3

NOTE 8 NOTES PAYABLE AND LONG-TERM DEBT

As of December 31, 2017 and 2016, the Company had short-term and long-term debt outstanding as follows:

	December 31,	
(millions of dollars)	2017	2016
Short-term debt		
Short-term borrowings	$68.8	$156.5
Long-term debt		
8.00% Senior notes due 10/01/19 ($134 million par value)	137.4	139.1
4.625% Senior notes due 09/15/20 ($250 million par value)	251.4	251.9
1.80% Senior notes due 11/7/22 (€500 million par value)	595.7	520.7
3.375% Senior notes due 03/15/25 ($500 million par value)	496.1	495.6
7.125% Senior notes due 02/15/29 ($121 million par value)	118.9	118.8
4.375% Senior notes due 03/15/45 ($500 million par value)	493.5	493.3
Term loan facilities and other	26.5	43.6
Total long-term debt	$2,119.5	$2,063.0
Less: current portion	15.8	19.4
Long-term debt, net of current portion	$2,103.7	$2,043.6

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In July 2016, the Company terminated interest rate swaps which had the effect of converting $384 million of fixed rate notes to variable rates. The gain on the termination is being amortized into interest expense over the remaining terms of the notes. The value related to these swap terminations as of December 31, 2017 was $2.9 million and $0.8 million on the 4.625% and 8.00% notes, respectively, as an increase to the notes. The value of these interest rate swaps as of December 31, 2016 was $3.9 million and $1.3 million on the 4.625% and 8.00% notes, respectively, as a decrease to the notes.

The Company terminated fixed to floating interest rate swaps in 2009. The gain on the termination is being amortized into interest expense over the remaining term of the note. The value related to this swap termination at December 31, 2017 was $2.7 million on the 8.00% note as an increase to the note. The value related to these swap terminations at December 31, 2016 was $4.1 million on the 8.00% note as an increase to the note.

The weighted average interest rate on short-term borrowings outstanding as of December 31, 2017 and 2016 was 3.1% and 2.3%, respectively. The weighted average interest rate on all borrowings outstanding, including the effects of outstanding swaps, as of December 31, 2017 and 2016 was 3.8%.

Annual principal payments required as of December 31, 2017 are as follows :

(millions of dollars)	
2018	$84.6
2019	138.7
2020	252.7
2021	2.7
2022	600.4
After 2022	1,121.0
Total payments	$2,200.1
Less: unamortized discounts	11.8
Total	$2,188.3

The Company's long-term debt includes various covenants, none of which are expected to restrict future operations.

On June 29, 2017, the Company amended and extended its $1 billion multi-currency revolving credit facility (which included a feature that allowed the Company's borrowings to be increased to $1.25 billion) to a $1.2 billion multi-currency revolving credit facility (which includes a feature that allows the Company's borrowings to be increased to $1.5 billion). The facility provides for borrowings through June 29, 2022. The Company has one key financial covenant as part of the credit agreement which is a debt to EBITDA ("Earnings Before Interest, Taxes, Depreciation and Amortization") ratio. The Company was in compliance with the financial covenant at December 31, 2017 and expects to remain compliant in future periods. At December 31, 2017 and December 31, 2016, the Company had no outstanding borrowings under this facility.

The Company's commercial paper program allows the Company to issue short-term, unsecured commercial paper notes up to a maximum aggregate principal amount outstanding, which increased from $1.0 billion to $1.2 billion effective July 26, 2017. Under this program, the Company may issue notes from time to time and will use the proceeds for general corporate purposes. At December 31, 2017, the Company had no outstanding borrowings under this program. As of December 31, 2016, the Company had outstanding borrowings of $50.8 million under this program, which is classified in the Condensed Consolidated Balance Sheets in Notes payable and other short-term debt.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The total current combined borrowing capacity under the multi-currency revolving credit facility and commercial paper program cannot exceed $1.2 billion.

As of December 31, 2017 and 2016, the estimated fair values of the Company's senior unsecured notes totaled $2,209.1 million and $2,081.4 million, respectively. The estimated fair values were $116.1 million and $62.0 million higher than their carrying value at December 31, 2017 and 2016, respectively. Fair market values of the senior unsecured notes are developed using observable values for similar debt instruments, which are considered Level 2 inputs as defined by ASC Topic 820. The carrying values of the Company's multi-currency revolving credit facility and commercial paper program approximates fair value. The fair value estimates do not necessarily reflect the values the Company could realize in the current markets.

The Company had outstanding letters of credit of $31.4 million and $32.3 million at December 31, 2017 and 2016, respectively. The letters of credit typically act as guarantees of payment to certain third parties in accordance with specified terms and conditions.

NOTE 9 FAIR VALUE MEASUREMENTS

ASC Topic 820 emphasizes that fair value is a market-based measurement, not an entity specific measurement. Therefore, a fair value measurement should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering market participant assumptions in fair value measurements, ASC Topic 820 establishes a fair value hierarchy, which prioritizes the inputs used in measuring fair values as follows:

Level 1: Observable inputs such as quoted prices for identical assets or liabilities in active markets;
Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Assets and liabilities measured at fair value are based on one or more of the following three valuation techniques noted in ASC Topic 820:

A. Market approach: Prices and other relevant information generated by market transactions involving identical or comparable assets, liabilities or a group of assets or liabilities, such as a business.
B. Cost approach: Amount that would be required to replace the service capacity of an asset (replacement cost).
C. Income approach: Techniques to convert future amounts to a single present amount based upon market expectations (including present value techniques, option-pricing and excess earnings models).

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following tables classify assets and liabilities measured at fair value on a recurring basis as of December 31, 2017 and 2016:

(millions of dollars)	Balance at December 31, 2017	Basis of fair value measurements Quoted prices in active markets for identical items (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Valuation technique
Assets:					
Foreign currency contracts	$ 1.7	$ —	$ 1.7	$ —	A
Other long-term receivables (insurance settlement agreement note receivable)	$ 42.9	$ —	$ 42.9	$ —	C
Liabilities:					
Foreign currency contracts	$ 5.0	$ —	$ 5.0	$ —	A

(millions of dollars)	Balance at December 31, 2016	Basis of fair value measurements Quoted prices in active markets for identical items (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Valuation technique
Assets:					
Commodity contracts	$ 0.1	$ —	$ 0.1	$ —	A
Foreign currency contracts	$ 7.2	$ —	$ 7.2	$ —	A
Other long-term receivables (insurance settlement agreement note receivable)	$ 71.5	$ —	$ 71.5	$ —	C
Liabilities:					
Foreign currency contracts	$ 1.1	$ —	$ 1.1	$ —	A

The following tables classify the Company's defined benefit plan assets measured at fair value on a recurring basis as of December 31, 2017 and 2016:

(millions of dollars)	Balance at December 31, 2017	Basis of fair value measurements Quoted prices in active markets	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Valuation technique	Assets measured at NAV (a)

		for identical items (Level 1)				
U.S. Plans:						
Fixed income securities	$ 127.1	$1.3	$ —	$	—A	125.8
Equity securities	86.7	13.5	—	—	A	73.2
Real estate and other	26.3	19.9	0.4	—	A	6.0
	$ 240.1	$34.7	$ 0.4	$	—	$ 205.0
Non-U.S. Plans:						
Fixed income securities	$ 212.4	$—	$ —	$	—A	212.4
Equity securities	233.9	105.4	—	—	A	128.5
Real estate and other	37.1	—	—	—	A	37.1
	$ 483.4	$105.4	$ —	$	—	$ 378.0

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

(millions of dollars)	Balance at December 31, 2016	Basis of fair value measurements Quoted prices in active markets for identical items (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Valuation technique	Assets measured at NAV (a)
U.S. Plans:						
Fixed income securities	$ 113.8	$15.3	$ —	$ —	A	98.5
Equity securities	94.2	37.2	—	—	A	57.0
Real estate and other	21.5	13.1	0.5	—	A	7.9
	$ 229.5	$65.6	$ 0.5	$ —		$ 163.4
Non-U.S. Plans:						
Fixed income securities	$ 183.4	$—	$ —	$ —	A	183.4
Equity securities	190.8	87.1	—	—	A	103.7
Real estate and other	19.6	—	—	—	A	19.6
	$ 393.8	$87.1	$ —	$ —		$ 306.7

(a) Certain assets that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. These amounts represent investments in commingled and managed funds which have underlying assets in fixed income securities, equity securities, and other assets.

Refer to the Retirement Benefit Plans footnote to the Consolidated Financial Statements for more detail surrounding the defined plan's asset investment policies and strategies, target allocation percentages and expected return on plan asset assumptions.

NOTE 10 FINANCIAL INSTRUMENTS

The Company's financial instruments include cash and marketable securities. Due to the short-term nature of these instruments, their book value approximates their fair value. The Company's financial instruments may include long-term debt, interest rate and cross-currency swaps, commodity derivative contracts and foreign currency derivatives. All derivative contracts are placed with counterparties that have an S&P, or equivalent, investment grade credit rating at the time of the contracts' placement. At December 31, 2017 and 2016, the Company had no derivative contracts that contained credit risk related contingent features.

The Company uses certain commodity derivative contracts to protect against commodity price changes related to forecasted raw material and supplies purchases. The Company primarily utilizes forward and option contracts, which are designated as cash flow hedges. At December 31, 2017, there were no commodity derivative contracts outstanding:

Commodity	Commodity derivative contracts Volume hedged December 31	Volume hedged December 31, 2016	Units of measure	Duration

	2017		
Copper	— 213.8	Metric Tons	—

The Company manages its interest rate risk by balancing its exposure to fixed and variable rates while attempting to optimize its interest costs. The Company selectively uses interest rate swaps to reduce market value risk associated with changes in interest rates (fair value hedges). At December 31, 2017 and December 31, 2016, the Company had no outstanding interest rate swaps.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company uses foreign currency forward and option contracts to protect against exchange rate movements for forecasted cash flows, including capital expenditures, purchases, operating expenses or sales transactions designated in currencies other than the functional currency of the operating unit. In addition, the Company uses foreign currency forward contracts to hedge exposure associated with our net investment in certain foreign operations (net investment hedges). The Company has also designated its Euro denominated debt as a net investment hedge of the Company's investment in a European subsidiary. Foreign currency derivative contracts require the Company, at a future date, to either buy or sell foreign currency in exchange for the operating units' local currency. At December 31, 2017 and December 31, 2016, the following foreign currency derivative contracts were outstanding:

Foreign currency derivatives (in millions)

Functional currency	Traded currency	Notional in traded currency December 31, 2017	Notional in traded currency December 31, 2016	Ending Duration
Brazilian real	Euro	1.1	—	Apr - 18
Chinese renminbi	Euro	18.6	—	Jun - 18
Chinese renminbi	US dollar	36.0	33.5	Sept - 18
Euro	British pound	3.9	4.2	Dec - 18
Euro	Chinese renminbi	85.0	—	Dec - 18
Euro	Japanese yen	1,311.3	1,004.8	Dec - 18
Euro	Polish zloty	—	18.8	Dec - 17
Euro	Swedish krona	267.4	—	May - 18
Euro	US dollar	56.5	35.3	Mar - 19
Japanese yen	Chinese renminbi	—	68.7	Dec - 17
Japanese yen	Korean won	—	5,689.2	Dec - 17
Japanese yen	US dollar	—	2.0	Dec - 17
Korean won	Euro	3.1	—	Dec - 18
Korean won	Japanese yen	619.0	539.9	Dec - 18
Korean won	US dollar	11.2	14.2	Dec - 18
Mexican peso	US dollar	—	10.5	Dec - 17
Swedish krona	Euro	109.7	48.2	Jan - 20
US dollar	Euro	42.0	—	Dec - 18

At December 31, 2017 and 2016, the following amounts were recorded in the Consolidated Balance Sheets as being payable to or receivable from counterparties under ASC Topic 815:

	Assets			Liabilities		
(millions of dollars)	Location	December 31, 2017	December 31, 2016	Location	December 31, 2017	December 31, 2016
Foreign currency	Prepayments and other current assets	$ 0.9	$ 7.2	Accounts payable and accrued expenses	$ 5.0	$ 1.1
	Other non-current assets	$ 0.8	$ —	Other non-current liabilities	$ —	$ —
Commodity	Prepayments and other current assets	$ —	$ 0.1	Accounts payable and accrued expenses	$ —	$ —

Effectiveness for cash flow and net investment hedges is assessed at the inception of the hedging relationship and quarterly, thereafter. To the extent that derivative instruments are deemed to be effective, gains and losses arising from these contracts are deferred into accumulated other comprehensive income (loss) ("AOCI") and reclassified into income as the underlying operating transactions are recognized. These realized gains or losses offset the hedged

transaction and are recorded on the same line in the statement of operations. To the extent that derivative instruments are deemed to be ineffective, gains or losses are recognized into income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The table below shows deferred gains (losses) reported in AOCI, as well as the amount expected to be reclassified to income in one year or less. The amount expected to be reclassified to income in one year or less assumes no change in the current relationship of the hedged item at December 31, 2017 market rates.

(millions of dollars)	Deferred gain (loss) in AOCI at		Gain (loss) expected to be reclassified to income in one year or less
	December 31, 2017	December 31, 2016	
Foreign currency	$(2.3)	$ 5.6	$ (3.1)
Commodity	—	(0.1)	—
Net investment hedges	(54.2)	29.5	—
Total	$(56.5)	$ 35.0	$ (3.1)

Derivative instruments designated as hedging instruments as defined by ASC Topic 815 held during the period resulted in the following gains and losses recorded in income:

		Gain (loss) reclassified from AOCI to income (effective portion)			Gain (loss) recognized in income (ineffective portion)	
		Year Ended December 31,			Year Ended December 31,	
(millions of dollars)	Location	2017	2016	Location	2017	2016
Foreign currency	Sales	$3.4	$(0.1)	SG&A expense	$—	$0.3
Foreign currency	Cost of goods sold	$(0.1)	$1.4	SG&A expense	$(0.1)	$—
Commodity	Cost of goods sold	$0.5	$(1.4)	Cost of goods sold	$—	$(0.3)

(millions of dollars)		Year Ended December 31,			
		2017		2016	
Contract Type	Location	Gain (loss) on swaps	Gain (loss) on borrowings	Gain (loss) on swaps	Gain (loss) on borrowings
Interest rate swap	Interest expense and finance charges	$—	$ —	$8.5	$ (8.5)

At December 31, 2017 and 2016, derivative instruments that were not designated as hedging instruments as defined by ASC Topic 815 were immaterial.

NOTE 11 RETIREMENT BENEFIT PLANS

The Company sponsors various defined contribution savings plans, primarily in the U.S., that allow employees to contribute a portion of their pre-tax and/or after-tax income in accordance with plan specified guidelines. Under specified conditions, the Company will make contributions to the plans and/or match a percentage of the employee contributions up to certain limits. Total expense related to the defined contribution plans was $33.5 million, $28.3 million and $28.0 million in the years ended December 31, 2017, 2016 and 2015, respectively.

The Company has a number of defined benefit pension plans and other postretirement employee benefit plans covering eligible salaried and hourly employees and their dependents. The defined pension benefits provided are primarily based on (i) years of service and (ii) average compensation or a monthly retirement benefit amount. The Company provides defined benefit pension plans in France, Germany, Ireland, Italy, Japan, Mexico, Monaco, South Korea, Sweden, U.K. and the U.S. The other postretirement employee benefit plans, which provide medical benefits, are unfunded plans. All pension and other postretirement employee benefit plans in the U.S. have been closed to new employees. The measurement date for all plans is December 31.

During the fourth quarter of 2015, the Company settled approximately $48 million of its projected benefit obligation by transferring approximately $48 million in plan assets through a lump-sum pension de-risking disbursement made to an insurance company. This agreement unconditionally and irrevocably guarantees

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

all future payments to certain participants that were receiving payments from the U.S. pension plan. The insurance company assumes all investment risk associated with the assets that were delivered as part of this transaction. As a result, the Company recorded a non-cash settlement loss of $25.7 million related to the accelerated recognition of unamortized losses.

The following table summarizes the expenses for the Company's defined contribution and defined benefit pension plans and the other postretirement defined employee benefit plans.

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Defined contribution expense	$33.5	$28.3	$28.0
Defined benefit pension expense	12.5	10.1	35.5
Other postretirement employee benefit expense	0.5	1.4	3.3
Total	$46.5	$39.8	$66.8

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following provides a roll forward of the plans' benefit obligations, plan assets, funded status and recognition in the Consolidated Balance Sheets.

	Pension benefits				Other postretirement employee benefits	
	Year Ended December 31,				Year Ended December 31,	
	2017		2016			
(millions of dollars)	US	Non-US	US	Non-US	2017	2016
Change in projected benefit obligation:						
Projected benefit obligation, January 1	$282.5	$528.2	$300.7	$508.5	$119.9	$145.3
Service cost	—	18.0	—	16.2	0.1	0.2
Interest cost	8.9	11.0	9.6	12.5	3.2	4.0
Plan participants' contributions	—	0.3	—	0.4	—	—
Plan amendments	—	—	—	0.2	(0.7)	—
Settlement and curtailment	—	(3.7)	—	(1.3)	—	—
Actuarial loss (gain)	8.7	(7.8)	(5.7)	70.2	2.2	(14.4)
Currency translation	—	63.4	—	(45.3)	—	—
Acquisition (divestiture)	4.0	37.0	—	(12.8)	—	—
Benefits paid	(20.8)	(17.6)	(22.1)	(20.4)	(17.7)	(15.2)
Projected benefit obligation, December 31	$283.3	$628.8	$282.5	$528.2	$107.0	$119.9
Change in plan assets:						
Fair value of plan assets, January 1	$229.5	$393.8	$235.8	$395.1		
Actual return on plan assets	23.5	30.7	12.7	54.0		
Employer contribution	4.0	14.3	2.7	17.0		
Plan participants' contribution	—	0.3	—	0.4		
Settlements	—	(3.6)	—	(1.3)		
Currency translation	—	46.8	—	(40.8)		
Acquisition (divestiture)	3.8	18.1	—	(10.2)		
Other	—	0.6	—	—		
Benefits paid	(20.7)	(17.6)	(21.7)	(20.4)		
Fair value of plan assets, December 31	$240.1	$483.4	$229.5	$393.8		
Funded status	$(43.2)	$(145.4)	$(53.0)	$(134.4)	$(107.0)	$(119.9)
Amounts in the Consolidated Balance Sheets consist of:						
Non-current assets	$—	$23.2	$—	$4.9	$—	$—
Current liabilities	(0.1)	(3.9)	(0.1)	(3.5)	(13.2)	(14.5)
Non-current liabilities	(43.1)	(164.7)	(52.9)	(135.8)	(93.8)	(105.4)
Net amount	$(43.2)	$(145.4)	$(53.0)	$(134.4)	$(107.0)	$(119.9)
Amounts in accumulated other comprehensive loss consist of:						
Net actuarial loss	$111.0	$159.0	$116.9	$163.7	$20.8	$19.9
Net prior service (credit) cost	(6.6)	0.8	(7.4)	0.8	(15.8)	(19.2)
Net amount*	$104.4	$159.8	$109.5	$164.5	$5.0	$0.7
Total accumulated benefit obligation for all plans	$283.3	$602.0	$282.5	$505.5		

* AOCI shown above does not include our equity investee, NSK-Warner. NSK-Warner had an AOCI loss of $9.7 million and $10.8 million at December 31, 2017 and 2016, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The funded status of pension plans with accumulated benefit obligations in excess of plan assets at December 31 is as follows:

	December 31,	
(millions of dollars)	2017	2016
Accumulated benefit obligation	$(681.2)	$(594.0)
Plan assets	494.8	423.3
Deficiency	$(186.4)	$(170.7)
Pension deficiency by country:		
United States	$(43.2)	$(53.0)
Germany	(75.7)	(77.5)
Other	(67.5)	(40.2)
Total pension deficiency	$(186.4)	$(170.7)

The weighted average asset allocations of the Company’s funded pension plans and target allocations by asset category are as follows:

	December 31,		Target Allocation
	2017	2016	
U.S. Plans:			
Real estate and other	11 %	9 %	0% - 15%
Fixed income securities	53 %	50 %	45% - 65%
Equity securities	36 %	41 %	25% - 45%
	100%	100%	
Non-U.S. Plans:			
Real estate and other	8 %	5 %	0% - 10%
Fixed income securities	44 %	47 %	43% - 53%
Equity securities	48 %	48 %	46% - 56%
	100%	100%	

The Company's investment strategy is to maintain actual asset weightings within a preset range of target allocations. The Company believes these ranges represent an appropriate risk profile for the planned benefit payments of the plans based on the timing of the estimated benefit payments. In each asset category, separate portfolios are maintained for additional diversification. Investment managers are retained in each asset category to manage each portfolio against its benchmark. Each investment manager has appropriate investment guidelines. In addition, the entire portfolio is evaluated against a relevant peer group. The defined benefit pension plans did not hold any Company securities as investments as of December 31, 2017 and 2016. A portion of pension assets is invested in common and commingled trusts.

The Company expects to contribute a total of $15 million to $25 million into its defined benefit pension plans during 2018. Of the $15 million to $25 million in projected 2018 contributions, $3.5 million are contractually obligated, while any remaining payments would be discretionary.

Refer to the Fair Value Measurements footnote to the Consolidated Financial Statements for more detail surrounding the fair value of each major category of plan assets, as well as the inputs and valuation techniques used to develop the fair value measurements of the plans' assets at December 31, 2017 and 2016.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

See the table below for a breakout of net periodic benefit cost between U.S. and non-U.S. pension plans:

	Pension benefits						Other postretirement employee benefits		
	Year Ended December 31,						Year Ended December 31,		
	2017		2016		2015				
(millions of dollars)	US	Non-US	US	Non-US	US	Non-US	2017	2016	2015
Service cost	$—	$ 18.0	$—	$ 16.2	$—	$ 14.9	$0.1	$0.2	$0.2
Interest cost	8.9	11.0	9.6	12.5	11.2	14.1	3.2	4.0	5.7
Expected return on plan assets	(13.2)	(23.8)	(15.0)	(24.3)	(17.0)	(24.8)	—	—	—
Settlements, curtailments and other	—	0.3	—	—	25.7	(0.8)	—	—	—
Amortization of unrecognized prior service (credit) cost	(0.8)	—	(0.8)	0.6	(0.8)	0.1	(4.1)	(4.9)	(5.7)
Amortization of unrecognized loss	4.2	7.9	5.1	6.2	6.3	6.6	1.3	2.1	3.1
Net periodic (income) cost	$(0.9)	$ 13.4	$(1.1)	$ 11.2	$25.4	$ 10.1	$0.5	$1.4	$3.3

The estimated net loss for the defined benefit pension plans that will be amortized from accumulated other comprehensive loss into net periodic benefit cost over the next fiscal year is $11.2 million. The estimated net loss and prior service credit for the other postretirement employee benefit plans that will be amortized from accumulated other comprehensive loss into net periodic benefit cost over the next fiscal year are $1.2 million and $4.1 million, respectively.

The Company's weighted-average assumptions used to determine the benefit obligations for its defined benefit pension and other postretirement employee benefit plans as of December 31, 2017 and 2016 were as follows:

	December 31,	
(percent)	2017	2016
U.S. pension plans:		
Discount rate	3.55	3.94
Rate of compensation increase	N/A	N/A
U.S. other postretirement employee benefit plans:		
Discount rate	3.32	3.61
Rate of compensation increase	N/A	N/A
Non-U.S. pension plans:		
Discount rate	2.25	2.25
Rate of compensation increase	2.98	3.00

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company’s weighted-average assumptions used to determine the net periodic benefit cost for its defined benefit pension and other postretirement employee benefit plans for the years ended December 31, 2017, 2016 and 2015 were as follows:

	Year Ended December 31,		
(percent)	2017	2016	2015
U.S. pension plans:			
Discount rate	3.94	4.15	3.89
Rate of compensation increase	N/A	N/A	N/A
Expected return on plan assets	6.01	6.70	6.71
U.S. other postretirement plans:			
Discount rate	3.61	3.84	3.50
Rate of compensation increase	N/A	N/A	N/A
Expected return on plan assets	N/A	N/A	N/A
Non-U.S. pension plans:			
Discount rate	2.25	2.99	2.84
Rate of compensation increase	3.00	3.01	2.84
Expected return on plan assets	5.68	6.41	6.53

The Company's approach to establishing the discount rate is based upon the market yields of high-quality corporate bonds, with appropriate consideration of each plan's defined benefit payment terms and duration of the liabilities. In determining the discount rate, the Company utilizes a full yield approach in the estimation of service and interest components by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows.

The Company determines its expected return on plan asset assumptions by evaluating estimates of future market returns and the plans' asset allocation. The Company also considers the impact of active management of the plans' invested assets.

The estimated future benefit payments for the pension and other postretirement employee benefits are as follows:

(millions of dollars)	Pension benefits		Other postretirement employee benefits
Year	U.S.	Non-U.S.	
2018	$22.2	$ 20.0	$ 13.3
2019	19.5	20.5	12.2
2020	19.4	21.4	11.7
2021	19.3	22.4	10.6
2022	18.5	23.6	9.6
2023-2027	87.2	130.8	34.2

The weighted-average rate of increase in the per capita cost of covered health care benefits is projected to be 6.75% in 2018 for pre-65 and post-65 participants, decreasing to 5.0% by the year 2025. A one-percentage point change in the assumed health care cost trend would have the following effects:

One Percentage Point

(millions of dollars)	Increase	Decrease
Effect on other postretirement employee benefit obligation	$7.1	$ (6.3)
Effect on total service and interest cost components	$0.2	$ (0.2)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NOTE 12 STOCK-BASED COMPENSATION

Under the Company's 2004 Stock Incentive Plan ("2004 Plan"), the Company granted options to purchase shares of the Company's common stock at the fair market value on the date of grant. The options vested over periods up to three years and have a term of 10 years from date of grant. At its November 2007 meeting, the Company's Compensation Committee decided that restricted common stock awards and stock units ("restricted stock") would be awarded in place of stock options for long-term incentive award grants to employees. Restricted stock granted to employees generally vests 50% after two years and the remainder after three years from the date of grant. Restricted stock granted to non-employee directors generally vests on the first anniversary date of the grant. In February 2014, the Company's Board of Directors replaced the expired 2004 Plan by adopting the BorgWarner Inc. 2014 Stock Incentive Plan ("2014 Plan"). On April 30, 2014, the Company's stockholders approved the 2014 Plan. Under the 2014 Plan, approximately 8 million shares are authorized for grant, of which approximately 4.9 million shares are available for future issuance as of December 31, 2017.

Stock Options A summary of the plans' shares under option at December 31, 2017, 2016 and 2015 is as follows:

	Shares (thousands)	Weighted average exercise price	Weighted average remaining contractual life (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2015	1,714	$ 16.11	1.7	$ 66.5
Exercised	(440)	$ 14.76		$ 19.2
Forfeited	(7)	$ 14.52		
Outstanding at December 31, 2015	1,267	$ 16.59	0.9	$ 33.7
Exercised	(794)	$ 16.07		$ 14.4
Outstanding at December 31, 2016	473	$ 17.47	0.1	$ 10.4
Exercised	(473)	$ 17.47		$ 10.4
Outstanding at December 31, 2017	—	$ —	0.0	$ —
Options exercisable at December 31, 2017	—	$ —	0.0	$ —

Proceeds from stock option exercises for the years ended December 31, 2017, 2016 and 2015 were as follows:

	Year Ended December 31,		
(millions of dollars)	2017	2016	2015
Proceeds from stock options exercised — gross	$8.3	$12.7	$6.5
Tax benefit	8.2	0.3	10.3
Proceeds from stock options exercised, net of tax	$16.5	$13.0	$16.8

Restricted Stock The value of restricted stock is determined by the market value of the Company's common stock at the date of grant. In 2017, restricted stock in the amount of 776,753 shares and 26,919 shares was granted to employees and non-employee directors, respectively. The value of the awards is recognized as compensation expense ratably over the restriction periods. As of December 31, 2017, there was $28.0 million of unrecognized compensation expense that will be recognized over a weighted average period of approximately 2 years.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Restricted stock compensation expense recorded in the Consolidated Statements of Operations is as follows:

	Year Ended December 31,		
(millions of dollars, except per share data)	2017	2016	2015
Restricted stock compensation expense	$27.0	$26.7	$28.0
Restricted stock compensation expense, net of tax	$19.7	$19.5	$20.4

A summary of the status of the Company’s nonvested restricted stock for employees and non-employee directors at December 31, 2017, 2016 and 2015 is as follows:

	Shares subject to restriction (thousands)	Weighted average grant date fair value
Nonvested at January 1, 2015	1,266	$ 43.57
Granted	687	$ 58.45
Vested	(588)	$ 39.14
Forfeited	(39)	$ 50.85
Nonvested at December 31, 2015	1,326	$ 53.18
Granted	724	$ 30.07
Vested	(551)	$ 47.55
Forfeited	(70)	$ 43.05
Nonvested at December 31, 2016	1,429	$ 44.12
Granted	804	$ 40.10
Vested	(521)	$ 56.53
Forfeited	(119)	$ 38.97
Nonvested at December 31, 2017	1,593	$ 38.86

Total Shareholder Return Performance Share Plans The 2004 and 2014 Plans provide for awarding of performance shares to members of senior management at the end of successive three-year periods based on the Company's performance in terms of total shareholder return relative to a peer group of automotive companies. Based on the Company’s relative ranking within the performance peer group, it is possible for none of the awards to vest or for a range up to the 200% of the target shares to vest.

The Company recognizes compensation expense relating to its performance share plans ratably over the performance period regardless of whether the market conditions are expected to be achieved. Compensation expense associated with the performance share plans is calculated using a lattice model (Monte Carlo simulation). The amounts expensed under the plan and the common stock issuances for the three-year measurement periods ended December 31, 2017, 2016 and 2015 were as follows:

	Year Ended December 31,		
(millions of dollars, except share data)	2017	2016	2015
Expense	$9.9	$9.6	$12.2
Number of shares	—	—	—

The Company’s non-vested total shareholder return performance share awards outstanding at December 31, 2017, 2016 and 2015 were 356,750; 409,600; and 474,600 shares, respectively. The weighted average grant date fair value of the

total shareholder return performance share awards was $32.26, $43.99 and $56.55 for 2017, 2016 and 2015, respectively. As of December 31, 2017, there was $7.2 million of unrecognized compensation expense that will be recognized over a weighted average period of approximately 2 years.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Relative Revenue Growth Performance Share Plans In the second quarter of 2016, the Company started a new performance share program to reward members of senior management based on the Company's performance in terms of revenue growth relative to the vehicle market over three-year performance periods. The value of this performance share award is determined by the market value of the Company's common stock at the date of grant. The Company recognizes compensation expense relating to its performance share plans over the performance period based on the number of shares expected to vest at the end of each reporting period. The actual performance of the Company is evaluated quarterly, and the expense is adjusted according to the new projections. The amounts expensed under the plan and common stock issuance for the year ended December 31, 2017 and 2016 were as follows:

	Year Ended December 31,	
(millions of dollars, except share data)	2017	2016
Expense	$15.9	$7.1
Number of shares	126,000	—

A summary of the status of the Company's nonvested relative revenue growth performance shares at December 31, 2017 and 2016 is as follows:

	Number of shares (thousands)	Weighted average grant date fair value
Nonvested at December 31, 2015	—	$ —
Granted	485	$ 38.62
Vested	(126)	$ 38.62
Forfeited	(39)	$ 38.62
Nonvested at December 31, 2016	320	$ 38.62
Granted	198	$ 40.08
Vested	(156)	$ 38.62
Forfeited	(7)	$ 39.20
Nonvested at December 31, 2017	355	$ 39.42

Based on the Company's relative revenue growth in excess of the industry vehicle production, it is possible for none of the awards to vest or for a range up to the 200% of the target shares to vest. As of December 31, 2017, there was $9.3 million of unrecognized compensation expense that will be recognized over a weighted average period of approximately 2 years. The unrecognized amount of compensation expense is based on projected performance as of December 31, 2017.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NOTE 13 ACCUMULATED OTHER COMPREHENSIVE LOSS

The following table summarizes the activity within accumulated other comprehensive loss during the years ended December 31, 2017, 2016 and 2015:

(millions of dollars)	Foreign currency translation adjustments	Hedge instruments	Defined benefit postretirement plans	Other	Total
Beginning Balance, January 1, 2015	$ (160.7)	$ 1.7	$ (227.3)	$2.7	$(383.6)
Comprehensive (loss) income before reclassifications	(260.5)	2.6	44.9	0.2	(212.8)
Income taxes associated with comprehensive (loss) income before reclassifications	—	(1.6)	(14.3)	—	(15.9)
Reclassification from accumulated other comprehensive (loss) income	—	(6.1)	9.6	—	3.5
Income taxes reclassified into net earnings	—	1.4	(2.8)	—	(1.4)
Ending Balance December 31, 2015	$ (421.2)	$ (2.0)	$ (189.9)	$2.9	$(610.2)
Comprehensive (loss) income before reclassifications	(109.1)	8.0	(11.4)	(1.6)	(114.1)
Income taxes associated with comprehensive (loss) income before reclassifications	—	(0.7)	(2.6)	—	(3.3)
Reclassification from accumulated other comprehensive (loss) income	—	0.1	8.3	—	8.4
Income taxes reclassified into net earnings	—	(0.4)	(2.5)	—	(2.9)
Ending Balance December 31, 2016	$ (530.3)	$ 5.0	$ (198.1)	$1.3	$(722.1)
Comprehensive (loss) income before reclassifications	236.5	(4.5)	(5.0)	1.4	228.4
Income taxes associated with comprehensive (loss) income before reclassifications	—	1.0	(0.5)	—	0.5
Reclassification from accumulated other comprehensive (loss) income	—	(3.8)	8.5	—	4.7
Income taxes reclassified into net earnings	—	1.0	(2.5)	—	(1.5)
Ending Balance December 31, 2017	$ (293.8)	$ (1.3)	$ (197.6)	$2.7	$(490.0)

NOTE 14 CONTINGENCIES

In the normal course of business, the Company is party to various commercial and legal claims, actions and complaints, including matters involving warranty claims, intellectual property claims, general liability and various other risks. It is not possible to predict with certainty whether or not the Company will ultimately be successful in any of these commercial and legal matters or, if not, what the impact might be. The Company's environmental and product liability contingencies are discussed separately below. The Company's management does not expect that an adverse outcome in any of these commercial and legal claims, actions and complaints will have a material adverse effect on the Company's results of operations, financial position or cash flows, although it could be material to the results of operations in a particular quarter.

Environmental

The Company and certain of its current and former direct and indirect corporate predecessors, subsidiaries and divisions have been identified by the United States Environmental Protection Agency and certain state environmental agencies and private parties as potentially responsible parties ("PRPs") at various hazardous waste disposal sites under the Comprehensive Environmental Response, Compensation and Liability Act ("Superfund") and equivalent state laws

and, as such, may presently be liable for the cost of clean-up and other remedial activities at 27 such sites. Responsibility for clean-up and other remedial activities at a Superfund site is typically shared among PRPs based on an allocation formula.

The Company believes that none of these matters, individually or in the aggregate, will have a material adverse effect on its results of operations, financial position or cash flows. Generally, this is because either

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

the estimates of the maximum potential liability at a site are not material or the liability will be shared with other PRPs, although no assurance can be given with respect to the ultimate outcome of any such matter.

Based on information available to the Company (which in most cases includes: an estimate of allocation of liability among PRPs; the probability that other PRPs, many of whom are large, solvent public companies, will fully pay the cost apportioned to them; currently available information from PRPs and/or federal or state environmental agencies concerning the scope of contamination and estimated remediation and consulting costs; and remediation alternatives), the Company has an accrual for indicated environmental liabilities of $8.3 million and $6.3 million at December 31, 2017 and at December 31, 2016, respectively. The Company expects to pay out substantially all of the amounts accrued for environmental liability over the next five years.

In connection with the sale of Kuhlman Electric Corporation ("Kuhlman Electric"), a former indirect subsidiary, the Company agreed to indemnify the buyer and Kuhlman Electric against certain environmental liabilities relating to certain operations of Kuhlman Electric that pre-date the Company's 1999 acquisition of Kuhlman Electric. Kuhlman Electric was sued by plaintiffs alleging personal injuries purportedly arising from contamination at Kuhlman Electric's Crystal Springs, Mississippi facility. The Company understands that Kuhlman Electric was required by regulatory officials to remediate such contamination. Kuhlman Electric and its new owner tendered the personal injury lawsuits and regulatory demands to the Company. After the Company made certain payments to the plaintiffs and undertook certain remediation on Kuhlman Electric's behalf, litigation regarding the validity of the indemnity ensued. The underlying personal injury lawsuits and indemnity litigation now have been fully resolved. The Company continues to pursue litigation against Kuhlman Electric's historical insurers for reimbursement of amounts it paid on behalf of Kuhlman Electric under the indemnity. The Company may in the future become subject to further legal proceedings relating to these matters.

Asbestos-related Liability

Like many other industrial companies that have historically operated in the United States, the Company, or parties that the Company is obligated to indemnify, continues to be named as one of many defendants in asbestos-related personal injury actions. We believe that the Company's involvement is limited because these claims generally relate to a few types of automotive products that were manufactured over thirty years ago and contained encapsulated asbestos. The nature of the fibers, the encapsulation of the asbestos, and the manner of the products' use all lead the Company to believe that these products were and are highly unlikely to cause harm. Furthermore, the useful life of nearly all of these products expired many years ago.

The Company's asbestos-related claims activity for the year ended December 31, 2017 and 2016 is as follows:

	2017	2016
Beginning Claims January 1	9,385	10,061
New Claims Received	2,116	2,078
Dismissed Claims	(1,866)	(2,402)
Settled Claims	(410)	(352)
Ending Claims December 31	9,225	9,385

The Company vigorously defends against these claims, and has obtained the dismissal of the majority of the claims asserted against it without any payment. The Company likewise expects that no payment will be made by the Company or its insurers in the vast majority of current and future asbestos-related claims in which it has been or will be named (or has an obligation to indemnify a party which has been or will be named).

Through December 31, 2017 and December 31, 2016, the Company incurred $528.7 million and $477.7 million, respectively, in indemnity (including settlement payments) and defense costs in connection with

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

asbestos-related claims. During 2017 and 2016, the Company paid $51.7 million and $45.3 million, respectively, in indemnity and related defense costs in connection with asbestos-related claims. These gross payments are before tax benefits and any insurance receipts. Indemnity and defense costs are incorporated into the Company's operating cash flows and will continue to be in the future.

The Company reviews, on an ongoing basis, its own experience in handling asbestos-related claims and trends affecting asbestos-related claims in the U.S. tort system generally, for the purposes of assessing the value of pending asbestos-related claims and the estimated number and value of those that may be asserted in the future, as well as potential recoveries from the Company’s insurers with respect to such claims and defense costs. For periods prior to the year ending December 31, 2016, the Company determined that its liability for pending asbestos-related claims not yet resolved, and their associated defense costs, was both probable and reasonably estimable and, in accordance with ASC 450-20, Contingencies, the Company accrued a liability for such claims. The Company further determined with respect to such periods that its liability for potential asbestos-related claims that had not yet been asserted, and their associated defense costs, could not then be reasonably estimated. The inability to arrive at a reasonable estimate of the liability for such claims and defense costs was based on, among other factors, the Company’s unique defense profile resulting from the fact that its long-discontinued asbestos-containing products used encapsulated asbestos, ceased to be manufactured more than 30 years ago, and had short useful lives; the volatility in claim filing patterns against the Company, including the number and type of such claims; changes in asbestos-related litigation in the United States and tort reform efforts at the individual court level and as a result of state or federal legislation; the significant number of co-defendants that had filed for bankruptcy; the magnitude and timing of co-defendant bankruptcy trust payments; and the inherent uncertainty of future disease incidence and claiming patterns against the Company. All of these factors collectively formed the basis for the Company’s conclusion in periods prior to the year ending December 31, 2016 that a reasonable estimate of the liability for potential asbestos-related claims not yet asserted could not be made.

The Company continued its efforts to evaluate these factors in connection with the preparation of its annual financial statements for the year ending December 31, 2016 and, if possible, arrive at a reasonable estimate of the number and value of potential future asbestos-related claims. The Company concluded based on those efforts that the potential liability for asbestos-related claims not yet asserted was capable of reasonable estimation for several reasons, including the identification and verification of trends in the Company’s claims data in recent years indicating that its specific claims experience was becoming less volatile and stabilizing; changes in the management of asbestos-related claims, including specifically: the engagement of new National Coordinating Counsel with significant asbestos litigation experience and a global presence, the engagement of several new local counsel panels, outsourcing administration and claims handling to a third party, implementing various improvements in the processing of asbestos-related claims so as to allow the Company’s management to have greater real-time insight into the handling of individual asbestos-related claims, and increasing audits and compliance reviews of counsel handling asbestos-related claims; stabilization in the asbestos litigation environment faced by the Company; a reduction in co-defendant bankruptcies to historically low levels; stabilization in asbestos trust payments; and a reduction of uncertainty stemming from the elimination of many dormant claims and changes in the Company’s litigation and defense strategy respecting asbestos-related claims. All of these factors taken together informed the Company’s efforts to make a reasonable estimate of potential asbestos-related claims not yet asserted, and no one factor was determinative.

As part of its review and assessment of asbestos-related claims, the Company hired a third party consultant in the third quarter of 2016 to further assist in the analysis of potential future asbestos-related claims. The consultant’s work utilized data and analysis resulting from the Company’s claim review process and included the development of an estimate of the potential value of asbestos-related claims asserted but not yet resolved as well as the number and potential value of asbestos-related claims not yet asserted. In developing the estimate of liability for potential future claims, the third-party consultant projected a potential number of future claims based on the Company’s historical claim filings and patterns and compared that to

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

anticipated levels of unique plaintiff asbestos-related claims asserted in the U.S. tort system against all defendants. The consultant also utilized assumptions based on the Company's historical proportion of claims resolved without payment, historical settlement costs for those claims that result in a payment, and historical defense costs. The liabilities were then estimated by multiplying the pending and projected future claim filings by projected payments rates and average settlement amounts and then adding an estimate for defense costs.

The Company determined based on the factors described above, including the analysis and input of the consultant, that its best estimate of the aggregate liability both for asbestos-related claims asserted but not yet resolved and potential asbestos-related claims not yet asserted, including an estimate for defense costs, was $828.2 million and $879.3 million as of December 31, 2017 and December 31, 2016, respectively. This liability reflects the actuarial central estimate, which is intended to represent an expected value of the most probable outcome. As a result, the Company in the fourth quarter of 2016 recorded a charge of $703.6 million before tax, or $440.6 million after tax, resulting from the difference in total liability from what was previously accrued, consulting fees, less available insurance coverage. As of December 31, 2017, the Company estimates that its aggregate liability for such claims, including estimated defense costs, is as follows:

(millions of dollars)	
Asbestos Liability as of December 31, 2016	$879.3
Indemnity and Defense Related Costs	(51.1)
Asbestos Liability as of December 31, 2017	$828.2

The Company's estimate is not discounted to present value and includes an estimate of liability for potential future claims not yet asserted through December 31, 2059 with a runoff through 2067. The Company currently believes that December 31, 2067 is a reasonable assumption as to the last date on which it may have resolved all asbestos-related claims, based on the nature and useful life of the Company's products and the likelihood of incidence of asbestos-related disease in the U.S. population generally.

The Company's estimate of the indemnity and defense costs for asbestos-related claims asserted but not yet resolved and potential claims not yet asserted is its reasonable best estimate of such costs. Such estimate is subject to numerous uncertainties. These include future legislative or judicial changes affecting the U.S. tort system, bankruptcy proceedings involving one or more co-defendants, the impact and timing of payments from bankruptcy trusts that presently exist and those that may exist in the future, disease emergence and associated claim filings, the impact of future settlements or significant judgments, changes in the medical condition of claimants, changes in the treatment of asbestos-related disease, and any changes in settlement or defense strategies. The balances recorded for asbestos-related claims are based on the best available information and assumptions that the Company believes are reasonable, including as to the number of future claims that may be asserted, the percentage of claims that may result in a payment, the average cost to resolve such claims, and potential defense costs. The Company concluded that it is reasonably possible that it may incur additional losses through 2067 for asbestos-related claims, in addition to amounts recorded, of up to approximately $100.0 million as of December 31, 2017. The various assumptions utilized in arriving at the Company's estimate may also change over time, and the Company's actual liability for asbestos-related claims asserted but not yet resolved and those not yet asserted may be higher or lower than the Company's estimate as a result of such changes.

The Company has certain insurance coverage applicable to asbestos-related claims. Prior to June 2004, the settlement and defense costs associated with all asbestos-related claims were paid by the Company's primary layer insurance carriers under a series of interim funding arrangements. In June 2004, primary layer insurance carriers notified the Company of the alleged exhaustion of their policy limits. A declaratory judgment action was filed in January 2004 in the Circuit Court of Cook County, Illinois by Continental Casualty Company and related companies against the Company and certain of its historical general liability insurers. The Cook County court has issued a number of

interim rulings and discovery is

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

continuing in this proceeding. The Company is vigorously pursuing the litigation against all carriers that are parties to it, as well as pursuing settlement discussions with its carriers where appropriate. The Company has entered into settlement agreements with certain of its insurance carriers, resolving such insurance carriers' coverage disputes through the carriers' agreement to pay specified amounts to the Company, either immediately or over a specified period. Through December 31, 2017 and December 31, 2016, the Company received $270.0 million in cash and notes from insurers on account of indemnity and defense costs respecting asbestos-related claims.

The Company continues to have additional excess insurance coverage available for potential future asbestos-related claims. As of December 31, 2017 and December 31, 2016, the Company estimates that it has $386.4 million in aggregate insurance coverage available with respect to asbestos-related claims and their associated defense costs, which the Company has recorded as a receivable. The Company has determined the amount of that estimate by taking into account the remaining limits of the insurance coverage, the number and amount of potential claims from co-insured parties, potential remaining recoveries from insolvent insurers, the impact of previous insurance settlements, and coverage available from solvent insurers not party to the coverage litigation. The Company's remaining estimated insurance coverage relating to asbestos-related claims and their associated defense costs is the subject of disputes with its insurers, substantially all of which are being adjudicated in the Cook County insurance litigation. The Company believes that its insurance receivable is probable of collection notwithstanding those disputes based on, among other things, the arguments made by the insurers in the Cook County litigation and evaluation of those arguments by the Company and its counsel, the case law applicable to the issues in dispute, the rulings to date by the Cook County court, the absence of any credible evidence alleged by the insurers that they are not liable to indemnify the Company, and the fact that the Company has recovered a substantial portion of its insurance coverage (approximately $270.0 million) to date from its insurers under similar policies. However, the resolution of the insurance coverage disputes, and the number and amount of claims on our insurance from co-insured parties, may increase or decrease the amount of such insurance coverage available to the Company as compared to the Company's estimate.

The amounts recorded in the Condensed Consolidated Balance Sheets respecting asbestos-related claims are as follows:

	December 31,	
(millions of dollars)	2017	2016
Assets:		
Non-current assets	$386.4	$386.4
Total insurance assets	$386.4	$386.4
Liabilities:		
Accounts payable and accrued expenses	$52.5	$51.7
Other non-current liabilities	775.7	827.6
Total accrued liabilities	$828.2	$879.3

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

NOTE 15 RESTRUCTURING

In the third quarter of 2017, the Company initiated actions within its emissions business in the Engine segment designed to improve future profitability and competitiveness and started exploring strategic options for the non-core emission product lines. As a result, the Company recorded restructuring expense of $48.2 million in the year ended December 31, 2017, primarily related to professional fees and negotiated commercial costs associated with business divestiture and manufacturing footprint rationalization activities. The Company will continue its plan to improve the future profitability and competitiveness of its remaining European emissions business in the Engine segment. These actions may result in the recognition of additional restructuring charges that could be material.

On September 27, 2017, the Company acquired 100% of the equity interests of Sevcon. In connection with this transaction, the Company recorded restructuring expense of $6.8 million during the year ended December 31, 2017, primarily related to contractually required severance associated with Sevcon executive officers and other employee termination benefits.

In the fourth quarter of 2013, the Company initiated actions primarily in the Drivetrain segment designed to improve future profitability and competitiveness. As a continuation of these actions, the Company finalized severance agreements with three labor unions at separate facilities in Western Europe for approximately 450 employees. The Company recorded restructuring expense related to these facilities of $8.2 million and $28.0 million in the years ended December 31, 2016 and 2015, respectively. Included in this restructuring expense are employee termination benefits of $3.0 million and $20.1 million, respectively, and other expense of $5.2 million and $7.9 million, respectively.

In the second quarter of 2014, the Company initiated actions to improve the future profitability and competitiveness of Gustav Wahler GmbH u. Co. KG and its general partner ("Wahler"). The Company recorded restructuring expense related to Wahler of $9.6 million and $11.6 million in the years ended December 31, 2016 and 2015, respectively. These restructuring expenses are primarily related to employee termination benefits.

The Company recorded restructuring expense of $12.5 million in the year ended December 31, 2015 related to a global realignment plan intended to enhance treasury management flexibility by creating a legal entity structure that better aligns with the Company's business strategy.

In the fourth quarter of 2015, the Company acquired 100% of the equity interests in Remy and initiated actions to improve future profitability and competitiveness. The Company recorded restructuring expense of $6.1 million and $10.1 million in the years ended December 31, 2016 and 2015, respectively. Included in this restructuring expense was $3.1 million in the year ended December 31, 2016 related to winding down certain operations in North America. Additionally, the Company recorded employee termination benefits of $2.0 million and $10.1 million in the years ended December 31, 2016 and 2015, respectively, primarily related to contractually required severance associated with Remy executive officers and other employee termination benefits in Mexico.

Estimates of restructuring expense are based on information available at the time such charges are recorded. Due to the inherent uncertainty involved in estimating restructuring expenses, actual amounts paid for such activities may differ from amounts initially recorded. Accordingly, the Company may record revisions of previous estimates by adjusting previously established accruals.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following table displays a rollforward of the severance accruals recorded within the Company's Consolidated Balance Sheet and the related cash flow activity for the years ended December 31, 2017 and 2016:

	Severance Accruals		
(millions of dollars)	Drivetrain	Engine	Total
Balance at January 1, 2016	$25.3	$ 4.1	$29.4
Provision	5.0	5.6	10.6
Cash payments	(26.9)	(6.9)	(33.8)
Translation adjustment	0.3	(0.1)	0.2
Balance at December 31, 2016	3.7	2.7	6.4
Provision	4.7	1.4	6.1
Cash payments	(4.6)	(2.9)	(7.5)
Translation adjustment	0.3	0.1	0.4
Balance at December 31, 2017	$4.1	$ 1.3	$5.4

NOTE 16 LEASES AND COMMITMENTS

Certain assets are leased under long-term operating leases including rent for facilities. Most leases contain renewal options for various periods. Leases generally require the Company to pay for insurance, taxes and maintenance of the leased property. The Company leases other equipment such as vehicles and certain office equipment under short-term leases. Total rent expense was $39.6 million, $38.2 million and $31.9 million in the years ended December 31, 2017, 2016 and 2015, respectively. The Company does not have any material capital leases.

Future minimum operating lease payments at December 31, 2017 were as follows:

(millions of dollars)	
2018	$23.0
2019	18.9
2020	9.2
2021	8.4
2022	7.0
After 2022	11.8
Total minimum lease payments	$78.3

NOTE 17 EARNINGS PER SHARE

The Company presents both basic and diluted earnings per share of common stock (“EPS”) amounts. Basic EPS is calculated by dividing net earnings attributable to BorgWarner Inc. by the weighted average shares of common stock outstanding during the reporting period. Diluted EPS is calculated by dividing net earnings attributable to BorgWarner Inc. by the weighted average shares of common stock and common equivalent stock outstanding during the reporting period.

The dilutive impact of stock-based compensation is calculated using the treasury stock method. The treasury stock method assumes that the Company uses the assumed proceeds from the exercise of awards to repurchase common stock at the average market price during the period. The assumed proceeds under the treasury stock method include the purchase price that the grantee will pay in the future, compensation cost for future service that the Company has not yet recognized. Options are only dilutive when the average market price of the underlying common stock exceeds the exercise price of the options. The dilutive effects

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

of performance-based stock awards described in the Stock Based Compensation footnote are included in the computation of diluted earnings per share at the level the related performance criteria are met through the respective balance sheet date.

The following table reconciles the numerators and denominators used to calculate basic and diluted earnings per share of common stock:

	Year Ended December 31,		
(in millions except per share amounts)	2017	2016	2015
Basic earnings per share:			
Net earnings attributable to BorgWarner Inc.	$ 439.9	$ 118.5	$ 609.7
Weighted average shares of common stock outstanding	210.429	214.374	224.414
Basic earnings per share of common stock	$ 2.09	$ 0.55	$ 2.72
Diluted earnings per share:			
Net earnings attributable to BorgWarner Inc.	$ 439.9	$ 118.5	$ 609.7
Weighted average shares of common stock outstanding	210.429	214.374	224.414
Effect of stock-based compensation	1.119	0.954	1.234
Weighted average shares of common stock outstanding including dilutive shares	211.548	215.328	225.648
Diluted earnings per share of common stock	$ 2.08	$ 0.55	$ 2.70

NOTE 18 RECENT TRANSACTIONS

Sevcon, Inc.

On September 27, 2017, the Company acquired 100% of the equity interests in Sevcon for cash of $185.7 million. This amount includes $26.6 million paid to settle outstanding debt and $5.1 million paid for Sevcon stock-based awards attributable to pre-combination services.

Sevcon is a global player in electrification technologies, serving customers in the U.S., U.K., France, Germany, Italy, China and the Asia Pacific region. Sevcon complements BorgWarner's power electronics capabilities utilized to provide electrified propulsion solutions.

Sevcon's assets are reported within the Company's Drivetrain reporting segment as of the date of the acquisition. Sevcon's operating results from the date of acquisition through December 31, 2017 were insignificant to the Company's Consolidated Statement of Operations. The Company paid $185.7 million in 2017, which is reported as an investing activity in the Company's Consolidated Statement of Cash Flows.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following table summarizes the aggregated preliminary fair value of the assets acquired and liabilities assumed on September 27, 2017, the date of acquisition:

(millions of dollars)	
Receivables, net	$15.9
Inventories, net	18.6
Other current assets	2.8
Property, plant and equipment, net	7.3
Goodwill	125.8
Other intangible assets	70.7
Deferred tax liabilities	(9.5)
Income taxes payable	(0.7)
Other assets and liabilities	(2.7)
Accounts payable and accrued expenses	(24.5)
Total consideration, net of cash acquired	203.7
Less: Assumed retirement-related liabilities	18.0
Cash paid, net of cash acquired	$185.7

In connection with the acquisition, the Company capitalized $17.7 million for customer relationships, $48.8 million for developed technology and $4.2 million for the Sevcon trade name. These intangible assets, excluding the indefinite-lived trade name, will be amortized over a period of 7 to 20 years. Various valuation techniques were used to determine the fair value of the intangible assets, with the primary techniques being forms of the income approach, specifically, the relief-from-royalty and excess earnings valuation methods, which use significant unobservable inputs, or Level 3 inputs, as defined by the fair value hierarchy. Under these valuation approaches, the Company is required to make estimates and assumptions about sales, operating margins, growth rates, royalty rates and discount rates based on budgets, business plans, economic projections, anticipated future cash flows and marketplace data. Due to the nature of the transaction, goodwill is not deductible for tax purposes.

The Company is in the process of finalizing all purchase accounting adjustments related to the Sevcon acquisition. The Company has recorded fair value adjustments based on new information obtained during the measurement period primarily related to intangible assets. These adjustments have resulted in a decrease in goodwill of $7.8 million from the Company's initial estimate. In addition, certain other estimated values for the acquisition, including goodwill, contingencies and deferred taxes are not yet finalized, and the preliminary purchase price allocations are subject to change as the Company completes its analysis of the fair value at the date of acquisition.

Due to its insignificant size relative to the Company, supplemental pro forma financial information of the combined entity for the current and prior reporting period is not provided.

Divgi-Warner Private Limited.

In August 2016, the Company sold its 60% ownership interest in Divgi-Warner Private Limited ("Divgi-Warner") to the joint venture partner. This former joint venture was formed in 1995 to develop and manufacture transfer cases and synchronizer rings in India. As a result of the sale, the Company received cash proceeds of approximately $5.4 million, net of capital gains tax and cash divested, which is classified as an investing activity within the Condensed Consolidated Statement of Cash Flows. Furthermore, the Company wrote off noncontrolling interest of $4.8 million as result of the sale and recognized a negligible gain in the year ended December 31, 2016.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Remy International, Inc.

On November 10, 2015, the Company acquired 100% of the equity interests in Remy for $29.50 per share in cash. The Company also settled approximately $361.0 million of outstanding debt. Remy was a global market leading producer of rotating electrical components that had key technologies and operations in 10 countries. The cash paid, net of cash acquired, was 1,187.0 million.

In October 2016, the Company entered into a definitive agreement to sell the light vehicle aftermarket business associated with the Company's acquisition of Remy for approximately $80 million in cash. The Remy light vehicle aftermarket business sells remanufactured and new starters, alternators and multi-line products to aftermarket customers, mainly retailers in North America, and warehouse distributors in North America, South America and Europe. The sale of this business allowed the Company to focus on the rapidly developing original equipment manufacturer powertrain electrification trend. During the third quarter of 2016, the Company determined that assets and liabilities subject to the Remy light vehicle aftermarket business sale met the held for sale criteria and recorded an asset impairment expense of $106.5 million to adjust the net book value of this business to its fair value. During the fourth quarter of 2016, upon the closing of the transaction, the Company recorded an additional loss of $20.6 million related to the finalization of the sale proceeds, changes in working capital from the amounts originally estimated and costs associated with the winding down of an aftermarket related product line, resulting in a total loss on divestiture of $127.1 million in the year ended December 31, 2016. As a result of this transaction, total assets of $284.1 million including $94.7 million of inventory and $72.6 million of accounts receivable and total liabilities of $93.2 million were removed from the Company's consolidated balance sheet.

BERU Diesel Start Systems Pvt. Ltd.

In January 2015, the Company completed the purchase of the remaining 51% of BERU Diesel by acquiring the shares of its former joint venture partner. The former joint venture was formed in 1996 to develop and manufacture glow plugs in India. After this transaction, the Company owns 100% of the entity. The cash paid, net of cash acquired, was $12.6 million (783.1 million Indian rupees).

The operating results are reported within the Company's Engine reporting segment. The Company paid $12.6 million, which is recorded as an investing activity in the Company's Consolidated Statement of Cash Flows. As a result of this transaction, the Company recorded a 10.8 million gain on the previously held equity interest in this joint venture. Additionally, the Company acquired assets of $16.0 million, including $11.2 million in definite-lived intangible assets, and assumed liabilities of $4.6 million. The Company also recorded $13.9 million of goodwill, which is expected to be non-deductible for tax purposes.

NOTE 19 ASSETS AND LIABILITIES HELD FOR SALE

In the third quarter of 2017, the Company started exploring strategic options for the non-core emission product lines in the Engine segment. In the fourth quarter of 2017, the Company launched an active program to locate a buyer for the non-core pipes and thermostat product lines and initiated all other actions required to complete the plan to sell the non-core product lines. The Company determined that the assets and liabilities of the pipes and thermostat product lines met the held for sale criteria as of December 31, 2017. As such, assets of $67.3 million, including allocated goodwill of $7.3 million, and liabilities of $29.5 million were reclassified as held for sale on the Consolidated Balance Sheets as of December 31, 2017. The fair value of the assets and liabilities, less costs to sell, was determined to be less than the carrying value, therefore, the Company recorded an asset impairment expense of $71.0 million in Other expense, net to adjust the net book value of this business to its fair value less cost to sell. The business did not meet the criteria to be classified as a discontinued operation.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The assets and liabilities classified as held for sale as of December 31, 2017 are as follows:

(millions of dollars)	
Receivables, net	$21.0
Inventories, net	30.4
Prepayments and other current assets	10.3
Property, plant and equipment, net	47.7
Goodwill	7.3
Other intangible assets, net	21.1
Other assets	0.5
Impairment of carrying value	(71.0)
Total assets held for sale	$67.3
Accounts payable and accrued expenses	$24.6
Other liabilities	4.9
Total liabilities held for sale	$29.5

NOTE 20 REPORTING SEGMENTS AND RELATED INFORMATION

The Company's business is comprised of two reporting segments: Engine and Drivetrain. These segments are strategic business groups, which are managed separately as each represents a specific grouping of related automotive components and systems.

The Company allocates resources to each segment based upon the projected after-tax return on invested capital ("ROIC") of its business initiatives. ROIC is comprised of Adjusted EBIT after deducting notional taxes compared to the projected average capital investment required. Adjusted EBIT is comprised of earnings before interest, income taxes and noncontrolling interest (“EBIT") adjusted for restructuring, goodwill impairment charges, affiliates' earnings and other items not reflective of on-going operating income or loss.

Adjusted EBIT is the measure of segment income or loss used by the Company. The Company believes Adjusted EBIT is most reflective of the operational profitability or loss of our reporting segments. The following tables show segment information and Adjusted EBIT for the Company's reporting segments.

2017 Segment information

	Net sales					
(millions of dollars)	Customers	Inter-segment	Net	Year-end assets	Depreciation/ amortization	Long-lived asset expenditures (b)
Engine	$6,009.0	$ 52.5	$6,061.5	$4,732.9		