DANA INC
Form 10-K
February 15, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
Form 10-K
Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the Fiscal Year Ended: December 31, 2018
Commission File Number: 1-1063

Dana Incorporated
(Exact name of registrant as specified in its charter)

Delaware	26-1531856
(State of incorporation)	(IRS Employer Identification Number)
3939 Technology Drive, Maumee, OH	43537
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (419) 887-3000

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.

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 15(d) of the Act. Yes o No þ

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

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

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

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

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

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

The aggregate market value of the common stock held by non-affiliates of the registrant computed by reference to the closing price of the common stock on June 29, 2018 was $2,909,811,086.

There were 143,367,414 shares of the registrant's common stock outstanding at January 31, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement to be delivered to stockholders in connection with the Annual Meeting of Shareholders to be held on May 1, 2019 are incorporated by reference into Part III.

DANA INCORPORATED
FORM 10-K
YEAR ENDED DECEMBER 31, 2018

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Forward-Looking Information

Statements in this report (or otherwise made by us or on our behalf) that are not entirely historical constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements can often be identified by words such as "anticipates," "expects," "believes," "intends," "plans," "predicts," "seeks," "estimates," "projects," "outlook," "may," "will," "should," "would," "could," "potential," "continue," "or expressions, variations or negatives of these words. These statements represent the present expectations of Dana Incorporated and its consolidated subsidiaries (Dana) based on our current information and assumptions. Forward-looking statements are inherently subject to risks and uncertainties. Our plans, actions and actual results could differ materially from our present expectations due to a number of factors, including those discussed below and elsewhere in this report and in our other filings with the Securities and Exchange Commission (SEC). All forward-looking statements speak only as of the date made and we undertake no obligation to publicly update or revise any forward-looking statement to reflect events or circumstances that may arise after the date of this report.

PART I

(Dollars in millions, except per share amounts)

Item 1. Business

General

Dana Incorporated (Dana) is headquartered in Maumee, Ohio and was incorporated in Delaware in 2007. We are a global provider of high technology drive and motion products, sealing solutions, thermal-management technologies and fluid-power products and our customer base includes virtually every major vehicle and engine manufacturer in the global light vehicle, medium/heavy vehicle and off-highway markets. As of December 31, 2018 we employed approximately 30,900 people, operated in 33 countries and had 135 major facilities around the world.

The terms “Dana,” “we,” “our” and “us” are references to Dana. These references include the subsidiaries of Dana unless otherwise indicated or the context requires otherwise.

Overview of our Business

We have aligned our organization around four operating segments: Light Vehicle Driveline Technologies (Light Vehicle), Commercial Vehicle Driveline Technologies (Commercial Vehicle), Off-Highway Drive and Motion Technologies (Off-Highway) and Power Technologies. These operating segments have global responsibility and accountability for business commercial activities and financial performance.

External sales by operating segment for the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018		2017		2016	
	Dollars	% of Total	Dollars	% of Total	Dollars	% of Total
Light Vehicle	$3,575	43.9%	$3,172	44.0%	$2,607	44.8%
Commercial Vehicle	1,612	19.8%	1,412	19.6%	1,254	21.5%
Off-Highway	1,844	22.6%	1,521	21.1%	909	15.6%
Power Technologies	1,112	13.7%	1,104	15.3%	1,056	18.1%
Total	$8,143		$7,209		$5,826	

Refer to Segment Results of Operations in Item 7 and Note 21 to our consolidated financial statements in Item 8 for further financial information about our operating segments.

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Our business is diversified across end-markets, products and customers. The following table summarizes the markets, products and largest customers of each of our operating segments as of December 31, 2018:

Segment	Markets	Products	Largest Customers
Light Vehicle	Light vehicle market: Light trucks (full frame) Sport utility vehicles Crossover utility vehicles Vans Passenger cars	Front drive steer rigid axles Rear drive rigid axles Front / rear drive units Driveshafts / propshafts AWD systems Power transfer units Electromechanical propulsion systems EV gearboxes Differentials	Ford Motor Company Fiat Chrysler Automobiles* Renault-Nissan Alliance Toyota Motor Company General Motors Company Tata Motors
Commercial Vehicle	Medium/heavy vehicle market: Medium duty trucks Heavy duty trucks Buses Specialty vehicles	Steer axles Drive axles Driveshafts Tire inflation systems	PACCAR Inc AB Volvo Volkswagen AG** Daimler AG Ford Motor Company
Off-Highway	Off-Highway market: Construction Earth moving Agricultural Mining Forestry Material handling Industrial stationary	Front axles Rear axles Driveshafts Transmissions Torque converters Wheel, track and winch planetary drives Industrial gear boxes Tire inflation systems Electronic controls Hydraulic valves, pumps and motors	Deere & Company Manitou Group AGCO Corporation Oshkosh Corporation Linamar Corporation Sandvik AB
Power Technologies	Light vehicle market Medium/heavy vehicle market Off-Highway market	Gaskets Cover modules Heat shields Engine sealing systems Cooling Heat transfer products	Ford Motor Company General Motors Company Cummins Inc. Volkswagen AG** Caterpillar Inc. Fiat Chrysler Automobiles

* Via a directed supply relationship
** Includes MAN AG, a majority-owned subsidiary of Volkswagen AG

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Geographic Operations

We maintain administrative and operational organizations in North America, Europe, South America and Asia Pacific to support our operating segments, assist with the management of affiliate relations and facilitate financial and statutory reporting and tax compliance on a worldwide basis. Our operations are located in the following countries:

North America	Europe		South America	Asia Pacific
Canada	Belgium	Norway	Argentina	Australia
Mexico	Denmark	Russia	Brazil	China
United States	Finland	South Africa	Colombia	India
	France	Spain	Ecuador	Japan
	Germany	Sweden		New Zealand
	Hungary	Switzerland		Singapore
	Ireland	Turkey		South Korea
	Italy	United Kingdom		Taiwan
	Netherlands			Thailand

Our non-U.S. subsidiaries and affiliates manufacture and sell products similar to those we produce in the United States. Operations outside the U.S. may be subject to a greater risk of changing political, economic and social environments, changing governmental laws and regulations, currency revaluations and market fluctuations than our domestic operations. See the discussion of risk factors in Item 1A.

Sales reported by our non-U.S. subsidiaries comprised $4,530 of our 2018 consolidated sales of $8,143. A summary of sales and long-lived assets by geographic region can be found in Note 21 to our consolidated financial statements in Item 8.

Customer Dependence

We are largely dependent on light vehicle, medium- and heavy-duty vehicle and off-highway original equipment manufacturer (OEM) customers. Ford Motor Company (Ford) and Fiat Chrysler Automobiles (FCA) were the only individual customers accounting for 10% or more of our consolidated sales in 2018. As a percentage of total sales from operations, our sales to Ford were approximately 20% in 2018, 22% in 2017 and 22% in 2016, and our sales to FCA (via a directed supply relationship), our second largest customer, were approximately 11% in 2018, 9% in 2017 and 9% in 2016. PACCAR Inc, General Motors Company and Renault-Nissan Alliance were our third, fourth and fifth largest customers in 2018. Our 10 largest customers collectively accounted for approximately 58% of our sales in 2018.

Loss of all or a substantial portion of our sales to Ford, FCA or other large volume customers would have a significant adverse effect on our financial results until such lost sales volume could be replaced and there is no assurance that any such lost volume would be replaced.

Sources and Availability of Raw Materials

We use a variety of raw materials in the production of our products, including steel and products containing steel, stainless steel, forgings, castings and bearings. Other commodity purchases include aluminum, brass, copper and plastics. These materials are typically available from multiple qualified sources in quantities sufficient for our needs. However, some of our operations remain dependent on single sources for certain raw materials.

While our suppliers have generally been able to support our needs, our operations may experience shortages and delays in the supply of raw material from time to time due to strong demand, capacity limitations, short lead times, production schedule increases from our customers and other problems experienced by the suppliers. A significant or prolonged shortage of critical components from any of our suppliers could adversely impact our ability to meet our production schedules and to deliver our products to our customers in a timely manner.

Seasonality

Our businesses are generally not seasonal. However, in the light vehicle market, our sales are closely related to the production schedules of our OEM customers and those schedules have historically been weakest in the third quarter of the year due to a large number of model year change-overs that occur during this period. Additionally, third-quarter production schedules in Europe are typically impacted by the summer vacation schedules and fourth-quarter production is affected globally by year-end holidays.

Backlog

A substantial amount of the new business we are awarded by OEMs is granted well in advance of a program launch. These awards typically extend through the life of the given program. This backlog of new business does not represent firm orders. We estimate future sales from new business using the projected volume under these programs.

Competition

Within each of our markets, we compete with a variety of independent suppliers and distributors, as well as with the in-house operations of certain OEMs. With a focus on product innovation, we differentiate ourselves through efficiency and performance, reliability, materials and processes, sustainability and product extension.

The following table summarizes our principal competitors by operating segment as of December 31, 2018:

Segment	Principal Competitors	
Light Vehicle	ZF Friedrichshafen AG	Wanxiang Group Corporation
	GKN plc	IFA ROTORION Holding GmbH
	American Axle & Manufacturing Holdings, Inc.	Vertically integrated OEM operations
	Magna International Inc.	
Commercial Vehicle	Meritor, Inc.	Klein Products Inc.
	American Axle & Manufacturing Holdings, Inc.	Tirsan Kardan
	Hendrickson (a Boler Company)	Vertically integrated OEM operations
Off-Highway	Carraro Group	Sew-Eurodrive
	ZF Friedrichshafen AG	Siemens
	Kessler + Co.	GKN plc
	Comer Industries	Bosch Rexroth AG
	Bonfiglioli	Danfoss
	Oerlikon Fairfield	Vertically integrated OEM operations
	Reggiana Riduttori	
Power Technologies	ElringKlinger AG	Modine Manufacturing Company
	Tenneco Inc.	Valeo Group
	Freudenberg NOK Group	YinLun Co., LTD
	MAHLE GmbH	Denso Corporation

Intellectual Property

Our proprietary driveline and power technologies product lines have strong identities in the markets we serve. Throughout these product lines, we manufacture and sell our products under a number of patents that have been obtained over a period of years and expire at various times. We consider each of these patents to be of value and aggressively protect our rights throughout the world against infringement. We are involved with many product lines and the loss or expiration of any particular patent would not materially affect our sales and profits.

We own or have licensed numerous trademarks that are registered in many countries, enabling us to market our products worldwide. For example, our Spicer®, Victor Reinz® and Long® trademarks are widely recognized in their market segments.

Engineering and Research and Development

Since our introduction of the automotive universal joint in 1904, we have been focused on technological innovation. Our objective is to be an essential partner to our customers and we remain highly focused on offering superior product quality, technologically advanced products, world-class service and competitive prices. To enhance quality and reduce costs, we use statistical process control, cellular manufacturing, flexible regional production and assembly, global sourcing and extensive employee training.

We engage in ongoing engineering and research and development activities to improve the reliability, performance and cost-effectiveness of our existing products and to design and develop innovative products that meet customer requirements for new applications. We are integrating related operations to create a more innovative environment, speed product development, maximize efficiency and improve communication and information sharing among our research and development operations. At December 31, 2018, we had seven stand-alone technical and engineering centers and twelve additional sites at which we conduct research and development activities. Our research and development costs were $103 in 2018, $102 in 2017 and $81 in 2016. Total engineering expenses including research and development were $252 in 2018, $220 in 2017 and $196 in 2016.

Our research and development activities continue to improve customer value. For all of our markets, this means drivelines with higher torque capacity, reduced weight and improved efficiency. End-use customers benefit by having vehicles with better fuel economy and reduced cost of ownership. We are also developing a number of power technologies products for vehicular and other applications that will assist fuel cell, battery and hybrid vehicle manufacturers in making their technologies commercially viable in mass production.

Employees

The following table summarizes our employees by operating segment as of December 31, 2018:

Segment	Employees
Light Vehicle	12,200
Commercial Vehicle	6,300
Off-Highway	5,600
Power Technologies	5,400
Technical and administrative	1,400
Total	30,900

Environmental Compliance

We make capital expenditures in the normal course of business as necessary to ensure that our facilities are in compliance with applicable environmental laws and regulations. The cost of environmental compliance has not been a material part of capital expenditures and did not have a material adverse effect on our earnings or competitive position in 2018.

Available Information

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 as amended (Exchange Act) are available, free of charge, on or through our Internet website at http://www.dana.com/investors as soon as reasonably practicable after we electronically file such materials with, or furnish them to, the SEC. Copies of any materials we file with the SEC can also be obtained free of charge through the SEC’s website at http://www.sec.gov. We also post our Corporate Governance Guidelines, Standards of Business Conduct for Members of the Board of Directors, Board Committee membership lists and charters, Standards of Business Conduct and other corporate governance materials on our Internet website. Copies of these posted materials are also available in print, free of charge, to any stockholder upon request from: Dana Incorporated, Investor Relations, P.O. Box 1000, Maumee, Ohio

43537, or via telephone in the U.S. at 800-537-8823 or e-mail at InvestorRelations@dana.com. The inclusion of our website address in this report is an inactive textual reference only and is not intended to include or incorporate by reference the information on our website into this report.

Item 1A. Risk Factors

We are impacted by events and conditions that affect the light vehicle, medium/heavy vehicle and off-highway markets that we serve, as well as by factors specific to Dana. Among the risks that could materially adversely affect our business, financial condition or results of operations are the following, many of which are interrelated.

Risk Factors Related to the Markets We Serve

A downturn in the global economy could have a substantial adverse effect on our business.

Our business is tied to general economic and industry conditions as demand for vehicles depends largely on the strength of the economy, employment levels, consumer confidence levels, the availability and cost of credit and the cost of fuel. These factors have had and could continue to have a substantial impact on our business.

We expect global market conditions in 2019 to result in overall sales that are comparable to 2018. We expect the North America economic climate will be down modestly from its 2018 peak. The medium/heavy truck market in North America is expected to be mixed in 2019 with Class 8 demand stable to modestly up and Classes 5-7 down compared to 2018. In the light vehicle market, light truck demand is expected to be comparable to slightly weaker than 2018. The economy in Europe is expected to improve modestly, with both off-highway and on-highway market demand showing modest improvement compared to this past year. Continued economic improvement in Brazil is expected to provide stable to improving production levels in our key South America market segments in 2019. We expect the rate of growth in Asia Pacific to be modest in 2019, with the off-highway and light truck markets being comparable to up slightly compared to 2018, while the 2019 medium/heavy truck market is expected to be somewhat weaker. Adverse developments in the economic conditions of any of these markets could reduce demand for new vehicles, causing our customers to reduce their vehicle production and, as a result, demand for our products would be adversely affected.

Certain political developments occurring the past three years have provided increased economic uncertainty. The United Kingdom's decision in 2016 to exit the European Union has not had significant economic ramifications to date; however, transition details continue to develop and could have potential economic implications in the United Kingdom and elsewhere. Political climate changes in the U.S., including tax reform legislation, easing of regulatory requirements and potential trade policy actions, are likely to impact economic conditions in the U.S. and various countries, the cost of importing into the U.S. and the competitive landscape of our customers, suppliers and competitors.

Adverse global economic conditions could also cause our customers and suppliers to experience severe economic constraints in the future, including bankruptcy, which could have a material adverse impact on our financial position and results of operations.

Rising interest rates could have a substantial adverse effect on our business

In a number of markets, including the U.S., we have seen interest rates rise after years of historically low rates. Rising interest rates could have a dampening effect on overall economic activity, the financial condition of our customers and the financial condition of the end customers who ultimately create demand for the products we supply, all of which could negatively affect demand for our products. An increase in interest rates could also make it difficult for us to obtain financing at attractive rates, impacting our ability to execute on our growth strategies or future acquisitions.

The proposed phase out of the London Interbank Offer Rate (LIBOR) could have an adverse effect on our business

Our revolving credit facility, current term loan and committed financing associated with our acquisition of the Drive Systems segment of the Oerlikon Group utilize LIBOR to set the interest rate on any outstanding borrowings. In July 2017, the head of the United Kingdom Financial Conduct Authority announced the desire to phase out the use of LIBOR by the end of 2021. There is currently no definitive information regarding the future utilization of LIBOR or of any particular replacement rate. As such, the potential effect of any such event on our cost of capital cannot yet be determined. In addition, any further changes or reforms to the determination or supervision of LIBOR may result in a sudden or prolonged increase or decrease in reported LIBOR, which could have an adverse impact on extensions of credit held by us and could have a material adverse effect on our business, financial condition and results of operations.

We could be adversely impacted by the loss of any of our significant customers, changes in their requirements for our products or changes in their financial condition.

We are reliant upon sales to several significant customers. Sales to our ten largest customers accounted for 58% of our overall sales in 2018. Changes in our business relationships with any of our large customers or in the timing, size and continuation of their various programs could have a material adverse impact on us.

The loss of any of these customers, the loss of business with respect to one or more of their vehicle models on which we have high component content, or a significant decline in the production levels of such vehicles would negatively impact our business, results of operations and financial condition. Pricing pressure from our customers also poses certain risks. Inability on our part to offset pricing concessions with cost reductions would adversely affect our profitability. We are continually bidding on new business with these customers, as well as seeking to diversify our customer base, but there is no assurance that our efforts will be successful. Further, to the extent that the financial condition of our largest customers deteriorates, including possible bankruptcies, mergers or liquidations, or their sales otherwise decline, our financial position and results of operations could be adversely affected.

We may be adversely impacted by changes in international legislative and political conditions.

We operate in 33 countries around the world and we depend on significant foreign suppliers and customers. Further, we have several growth initiatives that are targeting emerging markets like China and India. Legislative and political activities within the countries where we conduct business, particularly in emerging markets and less developed countries, could adversely impact our ability to operate in those countries. The political situation in a number of countries in which we operate could create instability in our contractual relationships with no effective legal safeguards for resolution of these issues, or potentially result in the seizure of our assets. We operate in Argentina, where trade-related initiatives and other government restrictions limit our ability to optimize operating effectiveness. At December 31, 2018, our net asset exposure related to Argentina was approximately $20, including $7 of net fixed assets.

We may be adversely impacted by changes in trade policies and proposed or imposed tariffs, including but not limited to, the imposition of new tariffs by the U.S. government on imports to the U.S. and/or the imposition of retaliatory tariffs by foreign countries.

Section 232 of the Trade Expansion Act of 1962, as amended (the Trade Act), gives the executive branch of the U.S. government broad authority to restrict imports in the interest of national security by imposing tariffs. During 2018, the U.S. government concluded that imported steel and aluminum threaten to impair the national security and imposed tariffs on steel and aluminum imported from certain countries. Certain foreign countries have responded with retaliatory tariffs. The U.S. government is currently investigating imported passenger vehicles and automotive parts to determine if they are weakening our internal economy and may impair national security. Section 301 of the Trade Act gives the executive branch broad authority to impose tariffs against countries that make unjustified, unreasonable, or discriminatory trade actions. During 2018, the U.S. government concluded that China's trade policies harm U.S. business and workers and threaten the long-term competitiveness of the U.S. and has imposed tariffs on numerous Chinese imports. China has responded with retaliatory tariffs. In November 2018, the U.S., Mexico and Canada executed the U.S.-Mexico-Canada Agreement (USMCA), the successor agreement to the North American Free Trade Agreement (NAFTA). The agreement submitted for ratification includes the imposition of tariffs on vehicles that do not meet regional raw material (steel and aluminum), part and labor content requirements.

Tariffs imposed on imported steel and aluminum could raise the costs associated with manufacturing our products. We continue to work with our customers to recover a portion of our increased costs, and with our suppliers to defray costs, associated with these tariffs. While we have been successful in the past recovering a significant portion of costs increases, there is no assurance that cost increases resulting from trade policies and tariffs will not adversely impact our profitability. Our sales may also be adversely impacted if tariffs are assessed directly on the products we produce or on our customers' products containing content sourced from us.

We may be adversely impacted by the strength of the U.S. dollar relative to the currencies in the other countries in which we do business.

Approximately 56% of our sales in 2018 were from operations located in countries other than the U.S. Currency variations can have an impact on our results (expressed in U.S. dollars). Currency variations can also adversely affect margins on sales of our products in countries outside of the U.S. and margins on sales of products that include components obtained from affiliates or other suppliers located outside of the U.S. Strengthening of the U.S. dollar against the euro and currencies of other countries in which we have operations has had and could continue to have an adverse effect on our results reported in U.S. dollars. We use a combination of natural hedging techniques and financial derivatives to mitigate foreign currency exchange rate risks. Such hedging activities may be ineffective or may not offset more than a portion of the adverse financial impact resulting from currency variations.

We may be adversely impacted by new laws, regulations or policies of governmental organizations related to increased fuel economy standards and reduced greenhouse gas emissions, or changes in existing ones.

The markets and customers we serve are subject to substantial government regulation, which often differs by state, region and country. These regulations, and proposals for additional regulation, are advanced primarily out of concern for the environment (including concerns about global climate change and its impact) and energy independence. We anticipate that the number and extent of these regulations, and the costs to comply with them, will increase significantly in the future.

In the U.S., vehicle fuel economy and greenhouse gas emissions are regulated under a harmonized national program administered by the National Highway Traffic Safety Administration and the Environmental Protection Agency (EPA). Other governments in the markets we serve are also creating new policies to address these same issues, including the European Union, Brazil, China and India. These government regulatory requirements could significantly affect our customers by altering their global product development plans and substantially increasing their costs, which could result in limitations on the types of vehicles they sell and the geographical markets they serve. Any of these outcomes could adversely affect our financial position and results of operations.

Company-Specific Risk Factors

We have taken, and continue to take, cost-reduction actions. Although our process includes planning for potential negative consequences, the cost-reduction actions may expose us to additional production risk and could adversely affect our sales, profitability and ability to retain and attract employees.

We have been reducing costs in all of our businesses and have discontinued product lines, exited businesses, consolidated manufacturing operations and positioned operations in lower cost locations. The impact of these cost-reduction actions on our sales and profitability may be influenced by many factors including our ability to successfully complete these ongoing efforts, our ability to generate the level of cost savings we expect or that are necessary to enable us to effectively compete, delays in implementation of anticipated workforce reductions, decline in employee morale and the potential inability to meet operational targets due to our inability to retain or recruit key employees.

We depend on our subsidiaries for cash to satisfy the obligations of the company.

Our subsidiaries conduct all of our operations and own substantially all of our assets. Our cash flow and our ability to meet our obligations depend on the cash flow of our subsidiaries. In addition, the payment of funds in the form of dividends, intercompany payments, tax sharing payments and otherwise may be subject to restrictions under the laws of the countries of incorporation of our subsidiaries or the by-laws of the subsidiary.

Labor stoppages or work slowdowns at Dana, key suppliers or our customers could result in a disruption in our operations and have a material adverse effect on our businesses.

We and our customers rely on our respective suppliers to provide parts needed to maintain production levels. We all rely on workforces represented by labor unions. Workforce disputes that result in work stoppages or slowdowns could disrupt operations of all of these businesses, which in turn could have a material adverse effect on the supply of, or demand for, the products we supply our customers.

We could be adversely affected if we are unable to recover portions of commodity costs (including costs of steel, other raw materials and energy) from our customers.

We continue to work with our customers to recover a portion of our material cost increases. While we have been successful in the past recovering a significant portion of such cost increases, there is no assurance that increases in commodity costs, which can be impacted by a variety of factors, including changes in trade laws and tariffs, will not adversely impact our profitability in the future.

We could be adversely affected if we experience shortages of components from our suppliers or if disruptions in the supply chain lead to parts shortages for our customers.

A substantial portion of our annual cost of sales is driven by the purchase of goods and services. To manage and minimize these costs, we have been consolidating our supplier base. As a result, we are dependent on single sources of supply for some components of our products. We select our suppliers based on total value (including price, delivery and quality), taking into consideration their production capacities and financial condition, and we expect that they will be able to support our needs. However, there is no assurance that adverse financial conditions, including bankruptcies of our suppliers, reduced levels of production, natural disasters or other problems experienced by our suppliers will not result in shortages or delays in their supply of components to us or even in the financial collapse of one or more such suppliers. If we were to experience a significant or prolonged shortage of critical components from any of our suppliers, particularly those who are sole sources, and were unable to procure the components from other sources, we would be unable to meet our production schedules for some of our key products and to ship such products to our customers in a timely fashion, which would adversely affect our sales, profitability and customer relations.

Adverse economic conditions, natural disasters and other factors can similarly lead to financial distress or production problems for other suppliers to our customers which can create disruptions to our production levels. Any such supply-chain induced disruptions to our production are likely to create operating inefficiencies that will adversely affect our sales, profitability and customer relations.

Our profitability and results of operations may be adversely affected by program launch difficulties.

The launch of new business is a complex process, the success of which depends on a wide range of factors, including the production readiness of our manufacturing facilities and manufacturing processes and those of our suppliers, as well as factors related to tooling, equipment, employees, initial product quality and other factors. Our failure to successfully launch material new or takeover business could have an adverse effect on our profitability and results of operations.

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 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 protection 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 these rights, could have a material adverse impact on our business and our competitive position.

We could encounter unexpected difficulties integrating acquisitions and joint ventures.

We acquired businesses in recent years, and we expect to complete additional acquisitions and investments in the future that complement or expand our businesses. The success of this strategy will depend on our ability to successfully complete these transactions or arrangements, to integrate the businesses acquired in these transactions and to develop satisfactory working arrangements with our strategic partners in the joint ventures. We could encounter unexpected difficulties in completing these transactions and integrating the acquisitions with our existing operations. We also may not realize the degree or timing of benefits anticipated when we entered into a transaction.

Several of our joint ventures operate pursuant to established agreements and, as such, we do not unilaterally control the joint venture. There is a risk that the partners’ objectives for the joint venture may not be aligned with ours, leading to potential differences over management of the joint venture that could adversely impact its financial performance and consequent contribution to our earnings. Additionally, inability on the part of our partners to satisfy their contractual obligations under the agreements could adversely impact our results of operations and financial position.

We could be adversely impacted by the costs of environmental, health, safety and product liability compliance.

Our operations are subject to environmental laws and regulations in the U.S. and other countries that govern emissions to the air; discharges to water; the generation, handling, storage, transportation, treatment and disposal of waste materials; and the cleanup of contaminated properties. Historically, environmental costs related to our former and existing operations have not been material. However, there is no assurance that the costs of complying with current environmental laws and regulations, or those that may be adopted in the future, will not increase and adversely impact us.

There is also no assurance that the costs of complying with current laws and regulations, or those that may be adopted in the future, that relate to health, safety and product liability matters will not adversely impact us. There is also a risk of warranty and product liability claims, as well as product recalls, if our products fail to perform to specifications or cause property damage, injury or death. (See Notes 16 and 17 to our consolidated financial statements in Item 8 for additional information on product liabilities and warranties.)

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

We recognize the increasing volume of cyber attacks and employ commercially practical efforts to provide reasonable assurance that the risks of such attacks are appropriately mitigated. Each year, we evaluate the threat profile of our industry to stay abreast of trends and to provide reasonable assurance our existing countermeasures will address any new threats identified. Despite our implementation of security measures, our IT systems and those of our service providers are vulnerable to circumstances beyond our reasonable control including acts of terror, acts of government, natural disasters, civil unrest and denial of service attacks which may lead to the theft of our intellectual property, trade secrets or business disruption. To the extent that any disruption or security breach results in a loss or damage to our data or an inappropriate disclosure of confidential information, it could cause significant damage to our reputation, affect our relationships with our customers, suppliers and employees, lead to claims against the company and ultimately harm our business. Additionally, we may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

We participate in certain multi-employer pension plans which are not fully funded.

We contribute to certain multi-employer defined benefit pension plans for our union-represented employees in the U.S. in accordance with our collective bargaining agreements. Contributions are based on hours worked except in cases of layoff or leave where we generally contribute based on 40 hours per week for a maximum of one year. The plans are not fully funded as of December 31, 2018. We could be held liable to the plans for our obligation, as well as those of other employers, due to our participation in the plans. Contribution rates could increase if the plans are required to adopt a funding improvement plan, if the performance of plan assets does not meet expectations or as a result of future collectively bargained wage and benefit agreements. (See Note 12 to our consolidated financial statements in Item 8 for additional information on multi-employer pension plans.)

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. A material increase in the unfunded obligations of these plans could also result in a significant increase in our pension expense in the future.

We may incur additional tax expense or become subject to additional tax exposure.

Our provision for income taxes and the cash outlays required to satisfy our income tax obligations in the future could be adversely affected by numerous factors. These factors include changes in the level of earnings in the tax jurisdictions in which we operate, changes in the valuation of deferred tax assets and liabilities, changes in our plans to repatriate the earnings of our non-U.S. operations to the U.S. and changes in tax laws and regulations.

In December 2017, the U.S. introduced broad ranging tax reform with the passage of the Tax Cuts and Jobs Act ("Act") legislation. Among the tax reforms was a reduction of the corporate tax rate from 35% to 21%. Although the tax reform in the U.S. reduced the statutory tax rate to 21% for 2018, the effects of the lower rate were offset in part by the effects of increased nondeductible expenses and the global intangible low taxed income (“GILTI”) provisions which result in a certain amount of foreign earnings being subjected to U.S. tax. Considering the exclusion of foreign subsidiary dividends from taxation in the U.S., we believe the Act will provide some greater flexibility to repatriate future earnings of our foreign operations.

Our income tax returns are subject to examination by federal, state and local tax authorities in the U.S. and tax authorities outside the U.S. The results of these examinations and the ongoing assessments of our tax exposures could also have an adverse effect on our provision for income taxes and the cash outlays required to satisfy our income tax obligations.

Our ability to utilize our net operating loss carryforwards may be limited.

Net operating loss carryforwards (NOLs) approximating $362 were available at December 31, 2018 to reduce future U.S. income tax liabilities. Our ability to utilize these NOLs may be limited as a result of certain change of control provisions of the U.S. Internal Revenue Code of 1986, as amended (Code). The NOLs are treated as losses incurred before the change of control upon emergence from Chapter 11 and are limited to annual utilization of $84. There can be no assurance that trading in our shares will not effect another change in control under the Code, which could further limit our ability to utilize our available NOLs. Such limitations may cause us to pay income taxes earlier and in greater amounts than would be the case if the NOLs were not subject to limitation.

An inability to provide products with the technology required to satisfy customer requirements would adversely impact our ability to successfully compete in our markets.

The vehicular markets in which we operate are undergoing significant technological change, with increasing focus on electrified and autonomous vehicles. These and other technological advances could render certain of our products obsolete. Maintaining our competitive position is dependent on our ability to develop commercially-viable products and services that support the future technologies embraced by our customers.

Failure to appropriately anticipate and react to the cyclical and volatile nature of production rates and customer demands in our business can adversely impact our results of operations.

Our financial performance is directly related to production levels of our customers. In several of our markets, customer production levels are prone to significant cyclicality, influenced by general economic conditions, changing consumer preferences, regulatory changes, and other factors. Oftentimes the rapidity of the downcycles and upcycles can be severe. Successfully executing operationally during periods of extreme downward and upward demand pressures can be challenging. Our inability to recognize and react appropriately to the production cycles inherent in our markets can adversely impact our operating results.

Our continued success is dependent on being able to retain and attract requisite talent.

Sustaining and growing our business requires that we continue to retain, develop and attract people with the requisite skills. With the vehicles of the future expected to undergo significant technological change, having qualified people savvy in the right technologies will be a key factor in our ability to develop the products necessary to successfully compete in the future. As a global organization, we are also dependent on our ability to attract and maintain a diverse work force that is fully engaged supporting our company’s objectives and initiatives.

Failure to maintain effective internal controls could adversely impact our business, financial condition and results of operations.

Regulatory provisions governing the financial reporting of U.S. public companies require that we maintain effective disclosure controls and internal controls over financial reporting across our operations in 33 countries. Effective internal controls are designed to provide reasonable assurance of compliance, and, as such, they can be susceptible to human error, circumvention or override, and fraud. Failure to maintain adequate, effective internal controls could result in potential financial misstatements or other forms of noncompliance that have an adverse impact on our results of operations, financial condition or organizational reputation. Our 2018 acquisition was exempt from certain regulatory internal control compliance requirements this past year, but is required to be compliant in 2019.

Developments in the financial markets or downgrades to Dana's credit rating could restrict our access to capital and increase financing costs.

At December 31, 2018, Dana had consolidated debt obligations of $1,801, with cash and marketable securities of $531 and unused revolving credit capacity of $579. Our ability to grow the business and satisfy debt service obligations is dependent, in part, on our ability to gain access to capital at competitive costs. External factors beyond our control can adversely affect capital markets – either tightening availability of capital or increasing the cost of available capital. Failure on our part to maintain adequate financial performance and appropriate credit metrics can also affect our ability to access capital at competitive prices.

Risk Factors Related to our Securities

Provisions in our Restated Certificate of Incorporation and Bylaws may discourage a takeover attempt.

Certain provisions of our Restated Certificate of Incorporation and Bylaws, as well as the General Corporation Law of the State of Delaware, may have the effect of delaying, deferring or preventing a change in control of Dana. Such provisions, including those governing the nomination of directors, limiting who may call special stockholders' meetings and eliminating stockholder action by written consent, may make it more difficult for other persons, without the approval of our board of directors, to make a tender offer or otherwise acquire substantial amounts of common stock or to launch other takeover attempts that a stockholder might consider to be in such stockholder's best interest.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Type of Facility	North America	Europe	South America	Asia Pacific	Total
Light Vehicle					
Manufacturing/Distribution	12	4	4	10	30
Service/Assembly	2			1	3
Administrative Offices	1				1
Technical and Engineering Centers				1	1
Commercial Vehicle					
Manufacturing/Distribution	7	5	3	7	22
Service/Assembly	1				1
Technical and Engineering Centers	1				1
Off-Highway					
Manufacturing/Distribution	2	13		2	17
Service/Assembly	3	17	1	7	28
Administrative Offices		1		1	2
Technical and Engineering Centers		1			1
Power Technologies					
Manufacturing/Distribution	10	4		2	16
Technical and Engineering Centers	2				2
Corporate and other					
Administrative Offices	3	1	1	3	8
Technical and Engineering Centers - Multiple Segments				2	2
	44	46	9	36	135

As of December 31, 2018, we operated in 33 countries and had 135 major facilities housing manufacturing and distribution operations, service and assembly operations, technical and engineering centers and administrative offices. In addition to the seven stand-alone technical and engineering centers in the table above, we have twelve technical and engineering centers housed within manufacturing sites. We lease 65 of these facilities and own the remainder. We believe that all of our property and equipment is properly maintained.

Our world headquarters is located in Maumee, Ohio. This facility and other facilities in the greater Detroit, Michigan and Maumee, Ohio areas house functions that have global or North American regional responsibility for finance and accounting, treasury, risk management, legal, human resources, procurement and supply chain management, communications and information technology.

Item 3. Legal Proceedings

We are a party to various pending judicial and administrative proceedings that arose in the ordinary course of business. After reviewing the currently pending lawsuits and proceedings (including the probable outcomes, reasonably anticipated costs and expenses and our established reserves for uninsured liabilities), we do not believe that any liabilities that may result from these proceedings are reasonably likely to have a material adverse effect on our liquidity, financial condition or results of operations. Legal proceedings are also discussed in Note 16 to our consolidated financial statements in Item 8.

PART II

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

Market information — Our common stock trades on the New York Stock Exchange (NYSE) under the symbol "DAN."

Holders of common stock — Based on reports by our transfer agent, there were approximately 2,945 registered holders of our common stock on January 31, 2019.

Reference is made to the Equity Compensation Plan Information section of Item 12 for certain information regarding our equity compensation plans.

Stockholder return — The following graph shows the cumulative total shareholder return for our common stock since December 31, 2013. The graph compares our performance to that of the Standard & Poor's 500 Stock Index (S&P 500) and the Dow Jones US Auto Parts Index. The comparison assumes $100 was invested at the closing price on December 31, 2013. Each of the returns shown assumes that all dividends paid were reinvested.

Performance chart

Index	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018
Dana Incorporated	$ 100.00	$ 111.60	$ 73.05	$ 100.15	$ 166.50	$ 76.60
S&P 500	100.00	113.69	115.26	129.05	157.22	150.33
Dow Jones US Auto Parts Index	100.00	110.63	106.53	112.29	145.74	101.11

Issuer's purchases of equity securities — Our Board of Directors approved an expansion of our existing common stock share repurchase program from $100 to $200 on March 24, 2018. The program expires on December 31, 2019. We repurchase shares utilizing available excess cash either in the open market or through privately negotiated transactions. The stock repurchases are subject to prevailing market conditions and other considerations. No shares of our common stock were repurchased under the program during the fourth quarter of 2018. Approximately $175 remained available under the program for further share repurchases as of December 31, 2018.

Annual meeting — We will hold an annual meeting of shareholders on May 1, 2019.

Item 6. Selected Financial Data

	Year Ended December 31,				
	2018	2017	2016	2015	2014
Operating Results					
Net sales	$8,143	$7,209	$5,826	$6,060	$6,617
Earnings from continuing operations before income taxes	494	380	215	292	260
Income from continuing operations	440	116	653	176	343
Income (loss) from discontinued operations	—	—	—	4	(15)
Net income	440	116	653	180	328
Net income attributable to the parent company	$427	$111	$640	$159	$319
Redeemable noncontrolling interests adjustment to redemption value	—	6	—	—	—
Preferred stock dividend requirements	—	—	—	—	7
Net income available to common stockholders	$427	$105	$640	$159	$312
Net income per share available to common stockholders					
Basic					
Income from continuing operations	$2.94	$0.72	$4.38	$0.98	$2.07
Income (loss) from discontinued operations	—	—	—	0.02	(0.10)
Net income	2.94	0.72	4.38	1.00	1.97
Diluted					
Income from continuing operations	$2.91	$0.71	$4.36	$0.97	$1.93
Income (loss) from discontinued operations	—	—	—	0.02	(0.09)
Net income	2.91	0.71	4.36	0.99	1.84
Depreciation and amortization of intangibles	$270	$233	$182	$174	$213
Net cash provided by operating activities	568	554	384	406	510
Purchases of property, plant and equipment	325	393	322	260	234
Financial Position					
Cash and cash equivalents and marketable securities	$531	$643	$737	$953	$1,290
Total assets	5,918	5,644	4,860	4,301	4,893
Long-term debt, less debt issuance costs	1,755	1,759	1,595	1,553	1,588
Total debt	1,783	1,799	1,664	1,575	1,653
Common stock and additional paid-in capital	2,370	2,356	2,329	2,313	2,642
Treasury stock	(119)	(87)	(83)	(1)	(33)
Total parent company stockholders' equity	1,345	1,013	1,157	728	1,080
Book value per share	$9.27	$6.98	$7.92	$4.58	$6.83
Common Share Information					
Dividends declared per common share	$0.40	$0.24	$0.24	$0.23	$0.20
Weighted-average common shares outstanding					
Basic	145.0	145.1	146.0	159.0	158.0
Diluted	146.5	146.9	146.8	160.0	173.5

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Dollars in millions)

Management's discussion and analysis of financial condition and results of operations should be read in conjunction with the financial statements and accompanying notes in Item 8.

Management Overview

We are a global provider of high-technology products to virtually every major vehicle and engine manufacturer in the world. We also serve the stationary industrial market. Our technologies include drive and motion products (axles, driveshafts, planetary hub drives, power-transmission products, transmissions, electric motors, inverters, controls and tire-management products); sealing solutions (gaskets, seals, heat shields and fuel-cell plates); thermal-management technologies (transmission and engine oil cooling, battery and electronics cooling and exhaust-gas heat recovery); and fluid-power products (pumps, valves, motors and controls). We serve our global light vehicle, medium/heavy vehicle and off-highway markets through four business units – Light Vehicle Driveline Technologies (Light Vehicle), Commercial Vehicle Driveline Technologies (Commercial Vehicle), Off-Highway Drive and Motion Technologies (Off-Highway) and Power Technologies, which is the center of excellence for sealing and thermal-management technologies that span all customers in our on-highway and off-highway markets. We have a diverse customer base and geographic footprint which minimizes our exposure to individual market and segment declines. In 2018, 50% of our sales came from North American operations and 50% from operations throughout the rest of the world. Our sales by operating segment were Light Vehicle – 44%, Commercial Vehicle – 20%, Off-Highway – 22% and Power Technologies – 14%.

Operational and Strategic Initiatives

Our enterprise strategy builds on our strong technology foundation and leverages our resources across the organization while maintaining a customer centric focus, expanding our global markets, and accelerating the commercialization of new technology as we evolve into the era of vehicle electrification.

Central to our strategy is leveraging our core operations by sharing our capabilities, technology, assets and knowledge across the enterprise, leading to improved execution and increased customer satisfaction. Through streamlining and rationalizing our manufacturing activities we have significantly improved our profitability and margins, and we believe additional opportunities remain to further optimize our manufacturing footprint and improve our cost performance. Leveraging investments across multiple end markets and making disciplined, value enhancing acquisitions will allow us to bring product to market faster, grow our top-line sales and enhance financial returns.

Strengthening customer centricity and expanding global markets are key elements of our strategy that focus on market penetration. Foundational to growing the business is directing the entire organization to putting the customer at the center of our value system and shifting from transactional to relationship-based interactions. These relationships are built on a foundation of providing unparalleled technology with exceptional quality, delivery and value. With even stronger relationships we will be better positioned to support our customers' most important global and flagship programs and capitalize on future growth opportunities.

We continue to enhance and expand our global footprint, optimizing it to capture growth across all of our end markets. Specifically, our manufacturing and technology center footprint positions us to support customers globally – an important factor as many of our customers are increasingly focused on common solutions for global platforms. Our acquisition of the Brevini operations in 2017 (see Acquisitions section below) provided us with operational presence in eight additional countries, while also providing us with additional opportunities to leverage our global footprint to support the needs across all our businesses. Shortly following the acquisition, we were able to consolidate certain Brevini activities in China, allowing us to utilize an acquired facility to support our Power Technologies business in

China.

While growth opportunities are present in each region of the world, we have a primary focus on building our presence and local capability in the Asia Pacific region. Over the last few years, we have opened two new engineering facilities in the region, gear manufacturing facilities in India and Thailand, and are currently developing a new light vehicle assembly facility in China that is scheduled to commence operations in 2019.

In addition to Asia, we see further growth opportunity in Eastern Europe. A new gear manufacturing facility in Hungary commenced operations in 2018. This is our third facility in the country and will give us the capability to cost effectively manufacture gears, one of our core technologies, and efficiently service our customers within the region.

The final two elements of our enterprise strategy, commercializing new technology and accelerating hybridization and electrification, focus on opportunities for product expansion. Bringing new innovations to market as industry leading products will drive growth as our new products and technology provide our customers with cutting-edge solutions, address end user needs and capitalize on key market trends. An example is our industry leading electronically disconnecting all-wheel drive technology, which we believe is the most fuel efficient rapidly disconnecting system in the market, which will be utilized on a Ford Motor Company global vehicle platform – opening up new commercial channels for us in the passenger car, crossover and sport utility vehicle markets. The above-referenced new assembly facility in China will support this new program. We are continuing to re-purpose our internal resources to focus additional efforts on advancing technologies that will support our electrification initiatives, while also advancing additive manufacturing and other disruptive technologies.

Initiatives to capitalize on evolving hybridization and electrification vehicle trends are a core ingredient of our current strategy. In addition to our current technologies in battery cooling and fuel cells, this element of our strategy is leveraging our electronics controls expertise across all our business units and applications such as advanced vehicle hybridization and electrification initiatives. We are working with customers to develop new solutions for those markets where electrification will be adopted first such as hybrids, buses and urban delivery vehicles. These new solutions, which include advanced electric propulsion systems with fully integrated motors and controls, are included in our recently launched Spicer® Electrified™ portfolio of products. Working with our joint venture partner, our latest integrated e-axle was launched during the first quarter
of 2018 in a bus application in China. Our investment in TM4 Inc. (TM4) in June 2018 (see Acquisitions section below) adds electric motors, power inverters and control systems to our product portfolio enhancing our range of hybrid and electric vehicle solutions for customers across all three of our end markets.

The development and implementation of our enterprise strategy is positioning Dana to grow profitably due to increased customer focus as we leverage our core capabilities, expand into new markets, develop and commercialize new technologies including for hybrid and electric vehicles.

Capital Structure Initiatives

In addition to investing in our business, we plan to continue prioritizing the allocation of capital to reduce debt and maintain a strong financial position. In January 2018, we announced our intention to drive toward investment grade metrics as part of a balanced approach to our capital allocation priorities and our goal of further strengthening our balance sheet.

Shareholder return actions — When evaluating capital structure initiatives, we balance our growth opportunities and shareholder value initiatives with maintaining a strong balance sheet and access to capital. Our strong financial position has enabled us to simplify our capital structure while providing returns to our shareholders in the form of cash dividends and a reduction in the number of shares outstanding. From program inception in 2012 through December 31, 2017, we returned $1,481 of cash to shareholders by redeeming all of our preferred stock and repurchasing common shares. We repurchased approximately 74 million shares, inclusive of the common share equivalent reduction resulting from redemption of preferred shares. With the availability under the previous authorization having expired, our Board of Directors authorized a new $200 share repurchase program effective in 2018 which expires at the end of 2019. During 2018, we used cash of $25 to repurchase common shares under the current program. We declared and paid quarterly common stock dividends over the past five and a half years, raising the dividend from five cents to six cents per share in the second quarter of 2015. In recognition of our strong financial performance and confidence in our financial outlook, our Board approved an additional four cents per share increase in the quarterly dividend to ten cents per share in 2018.

Financing actions — We have taken advantage of the lower interest rate environment to complete refinancing transactions that resulted in lower effective interest rates while extending maturities. In 2017, we completed a $400 2025 note offering and entered into a $275 floating rate term loan. The proceeds of these issuances were used to repay higher cost international debt and to repay $450 of 2021 notes. In connection with amending our credit agreement to effectuate the term loan, we also increased our revolving credit facility by $100, providing us with $600 of back-up liquidity through 2022. Additionally, in 2017 we commenced the process of terminating one of our U.S. pension plans. This action allows us to effectively eliminate pension obligations for the terminated plan and the associated future funding risk associated with interest rate and other market developments. We expect the termination action to be completed in 2019.

Other Initiatives

Aftermarket opportunities — We have a global group dedicated to identifying and developing aftermarket growth opportunities that leverage the capabilities within our existing businesses – targeting increased future aftermarket sales. In January 2016, we completed the acquisition of Magnum® Gaskets' (Magnum) aftermarket distribution business, providing us access to new customers for sealing products and an additional aftermarket channel for other products. Powered by recognized brands such as

Dana®, Spicer®, Victor Reinz®, Glaser®, GWB®, Thompson®, Tru-Cool®, SVL®, and Transejes™, Dana delivers a broad range of aftermarket solutions – including genuine, all makes, and value lines – servicing passenger, commercial and off-highway vehicles across the globe.

Selective acquisitions — Although transformational opportunities like the GKN plc driveline business transaction that we pursued in 2018 will be considered when strategically and economically attractive, our acquisition focus is principally directed at “bolt-on” or adjacent acquisition opportunities that have a strategic fit with our existing core businesses, particularly opportunities that support our enterprise strategy and enhance the value proposition of our product offerings. Any potential acquisition will be evaluated in the same manner we currently consider customer program opportunities and other uses of capital – with a disciplined financial approach designed to ensure profitable growth and increased shareholder value.

Re-focusing advanced technology resources — When we obtained Variglide® planetary variator technology through an acquisition in 2012, the intended market focus was continuously variable transmissions for combustion engine vehicle applications. With potential key customers for this technology shifting their focus to electrification and other areas, we determined that it was appropriate to fully impair the related $20 in-process research and development intangible asset that was recorded as part of the 2012 acquisition.

Acquisitions

SME — On January 11, 2019, we acquired a 100% ownership interest in the S.M.E. S.p.A. (SME). SME designs, engineers, and manufactures low-voltage AC induction and synchronous reluctance motors, inverters, and controls for a wide range of off-highway electric vehicle applications, including material handling, agriculture, construction, and automated-guided vehicles. The addition of SME's low-voltage motors and inverters, which are primarily designed to meet the evolution of electrification in off-highway equipment, significantly expands Dana's electrified product portfolio.

We paid $88 at closing, consisting of $62 in cash on hand and a note payable of $26 which allows for net settlement of potential contingencies as defined in the purchase agreement. The note is payable in five years and bears annual interest of 5%.

Oerlikon Drive Systems — On July 30, 2018, we entered into a definitive agreement to purchase the Drive Systems segment of the Oerlikon Group (Oerlikon Drive Systems). Oerlikon Drive Systems is a global manufacturer of high-precision gears, planetary hub drives for wheeled and tracked vehicles, and products, controls, and software that support vehicle electrification across the mobility industry. The business employs approximately 5,900 people and operates 10 manufacturing and engineering facilities in China, India, Italy, the United Kingdom, and the United States, with two additional facilities under construction in China. The results of operations of Oerlikon Drive Systems will be reported in our Off-Highway operating segment from the date of acquisition.

Under the terms of the agreement, we will acquire Oerlikon Drive Systems for approximately 625 Swiss francs, inclusive of required settlements of outstanding debt obligations Oerlikon Drive Systems has with Oerlikon Group. Committed financing has been arranged to complete the transaction. We entered into a Swiss franc notional deal contingent forward to economically hedge the purchase price. Subject to customary regulatory approval, the acquisition is expected to close in the first quarter of 2019.

TM4 — On June 22, 2018, we acquired a 55% ownership interest in TM4 from Hydro-Québec. TM4 designs and manufactures motors, power inverters and control systems for electric vehicles, offering a complementary portfolio to Dana's electric gearboxes and thermal-management technologies for batteries, motors and inverters. The transaction establishes Dana as the only supplier with full e-Drive design, engineering and manufacturing capabilities – offering electro mechanical propulsion solutions to each of our end markets. TM4's technology and advanced manufacturing facility in Boucherville, Quebec will add to our global technical centers, and their 50% interest in a China joint venture provides an opportunity to enhance our position in the fastest growing market for electric vehicles. Inclusive of the joint venture, TM4 has approximately 140 employees. Dana is consolidating TM4 as the governing documents provide Dana with a controlling financial interest. The TM4 acquisition added $11 of sales and de minimis adjusted EBITDA in 2018. The results of operations of the TM4 business are reported in our Commercial Vehicle operating segment from the date of acquisition.

Cash on hand of $125 was used to acquire the interest in TM4. Reference is made to Note 2 of the consolidated financial statements in Item 8 for the allocation of purchase consideration to assets acquired and liabilities assumed.

USM – Warren — On March 1, 2017, we completed the purchase of Warren Manufacturing LLC (USM – Warren), which holds certain assets and liabilities of the former Warren, Michigan production unit of U.S. Manufacturing Corporation (USM). With this transaction, we acquired proprietary tube-manufacturing processes and light-weighting intellectual property for axle tubes and shafts. Significant content was previously purchased from USM. Vertically integrating this content strengthens the supply chain for several of our most strategic customers. The new product and process technologies for light-weighting will assist our customers in achieving their sustainability and fuel efficiency goals. The USM – Warren acquisition added $96 of sales and $12 of adjusted EBITDA in 2017. The results of operations of the USM – Warren business are reported within our Light Vehicle operating segment.

We paid $104 for this business at closing, including $25 to effectively settle trade payable obligations originating from product purchases Dana made from USM prior to the acquisition. No debt was assumed with this transaction which was funded using cash on hand. Post-closing purchase price adjustments for working capital and other items, which totaled less than $1, were received in last year's third quarter. Reference is made to Note 2 of the consolidated financial statements in Item 8 for the allocation of purchase consideration to assets acquired and liabilities assumed.

BFP and BPT — On February 1, 2017, we acquired 80% ownership interests in Brevini Fluid Power S.p.A. (BFP) and Brevini Power Transmission S.p.A. (BPT) from Brevini Group S.p.A. (Brevini). The acquisition expands our Off-Highway operating segment product portfolio to include technologies for tracked vehicles, doubling our addressable market for off-highway driveline systems and establishing Dana as the only off-highway solutions provider that can manage the power to both move the equipment and perform its critical work functions. This acquisition also brings a platform of technologies that can be leveraged in our light and commercial vehicle end markets, helping to accelerate our hybridization and electrification initiatives. The BFP and BPT acquisitions added $401 of sales and $40 of adjusted EBITDA in 2017. The results of operations of these businesses are reported within our Off-Highway operating segment.

We paid $181 at closing using cash on hand and assumed debt of $181 as part of the transaction. In December 2017, a purchase price reduction of $9 was agreed under the sale and purchase agreement provisions for determination of the net indebtedness and net working capital levels of BFP and BPT as of the closing date. In connection with the acquisition of BFP and BPT, Dana agreed to purchase certain real estate being leased by BPT from a Brevini affiliate for €25. Completion of the real estate purchase and receipt of the purchase price adjustment occurred in this year's second quarter with a net cash payment of $20. Reference is made to Note 2 of the consolidated financial statements in Item 8 for the allocation of purchase consideration to assets acquired and liabilities assumed.

On August 8, 2018, we entered into an agreement to acquire Interfind S.p.A.'s, formerly Brevini Group S.p.A., remaining 20% ownership interests in BFP and BPT and to settle all claims between the parties. We paid $43 to acquire Interfind S.p.A.'s remaining ownership interests and received $10 in settlement of all pending and future claims.

SIFCO — On December 23, 2016, we acquired strategic assets of the commercial vehicle steer axle systems and related forged components businesses of SIFCO. The acquisition enables us to enhance our vertically integrated supply chain, which will further improve our cost structure and customer satisfaction by leveraging SIFCO's extensive experience and knowledge of sophisticated forged components. In addition to strengthening our position as a central source for products that use forged and machined parts throughout the region, this acquisition enables us to better accommodate the local content requirements of our customers, which reduces their import and other region-specific costs.

As part of the acquisition, we added two manufacturing facilities and approximately 1,400 employees. The strategic assets were acquired by Dana free and clear of any liens, claims or encumbrances and without assumption of any legacy liabilities of SIFCO. We had sales of $86 in 2016 resulting from business conducted under the previous supply agreement with SIFCO. The additional business relationships obtained as a result of the acquisition generated incremental sales of $44 in 2017. The results of operations of the SIFCO related business are reported within our Commercial Vehicle operating segment.

The SIFCO purchase price was $70, with the payment of $10 of the purchase price deferred until December 2017 pending any claims under indemnification provisions of the purchase agreement. In December 2017, the parties to the SIFCO transaction entered into a settlement agreement. Under this agreement, $3 was paid to the seller with the remaining deferred purchase price of $7 being retained by Dana to settle indemnification claims. During 2018, claim settlements reduced the retained purchase price by $3. After the settlement of all indemnification claims, any remaining deferred purchase price will be paid to the seller.

Magnum — On January 29, 2016, we acquired the aftermarket distribution business of Magnum, a U.S.-based supplier of gaskets and sealing products for automotive and commercial vehicle applications, for a cash payment of $18. Assets acquired included trademarks and trade names, customer relationships and goodwill. The results of operations of Magnum are reported within our Power Technologies operating segment.

Divestitures

Brazil Suspension Components Operations — In December 2017, we entered into an agreement to divest our Brazil suspension components business (the disposal group). This business was non-core to our enterprise strategy and under-performing financially. As such, we agreed to divest the business for no consideration and contribute $10 of additional cash to the business prior to closing. We classified the disposal group as held for sale at December 31, 2017, recognizing a $27 loss to adjust the carrying value of the net assets to fair value and to recognize the liability for the additional cash required to be contributed to the business prior to closing. During the first quarter of 2018, we made the required cash contribution to the disposal group. After being unable to complete the transaction with the counterparty to the December 2017 agreement, we entered into an agreement with another third party in June 2018. The transaction with the new counterparty closed in July 2018 and we received cash proceeds of $2. We reversed $3 of the previously recognized $27 pre-tax loss, inclusive of the proceeds received in July 2018, during the second quarter of 2018. Reference is made to Note 3 of our consolidated financial statements in Item 8 for additional information. Sales of the divested business approximated $23 in 2017 and $12 in 2018 through the date of sale.

Nippon Reinz — On November 30, 2016, we sold our 53.7% interest in Nippon Reinz Co. Ltd. (Nippon Reinz) to Nichias Corporation. Dana received net cash proceeds of $5 and recognized a pre-tax loss of $3 on the divestiture of Nippon Reinz, inclusive of the derecognition of the related noncontrolling interest. Nippon Reinz had sales of $42 in 2016 through the transaction date.

Dana Companies — On December 30, 2016, we completed the divestiture of Dana Companies, LLC (DCLLC), a consolidated wholly-owned limited liability company that was established as part of our reorganization in 2008 to hold and manage personal injury asbestos claims retained by the reorganized Dana Corporation, which was merged into DCLLC. The assets of DCLLC at time of sale included cash and marketable securities along with the rights to insurance coverage in place to satisfy a significant portion of its liabilities. We received net cash proceeds of $29 at closing on December 30, 2016, with $3 retained by the purchaser subject to the satisfaction of certain future conditions. We recognized a pre-tax loss of $77 in 2016 upon completion of the transaction. We received payment of the retained $3 in the second quarter of 2017 and recognized such amount as income. Following completion of the sale, Dana has no obligation with respect to current or future asbestos claims. The sale of this business also enhanced our available liquidity since the net proceeds from the sale are available for use in our core businesses.

Segments

We manage our operations globally through four operating segments. Our Light Vehicle and Power Technologies segments primarily support light vehicle original equipment manufacturers (OEMs) with products for light trucks, SUVs, CUVs, vans and passenger cars. The Commercial Vehicle segment supports the OEMs of on-highway commercial vehicles (primarily trucks and buses), while our Off-Highway segment supports OEMs of off-highway vehicles (primarily wheeled vehicles used in construction, mining and agricultural applications).

Trends in Our Markets

Global Vehicle Production

(Units in thousands)	Dana 2019 Outlook			Actual 2018	2017	2016
North America						
Light Truck (Full Frame)	4,275	to	4,575	4,493	4,331	4,220
Light Vehicle Engines	14,700	to	15,000	15,332	14,828	15,913
Medium Truck (Classes 5-7)	255	to	265	270	246	233
Heavy Truck (Class 8)	325	to	345	320	255	228
Agricultural Equipment	50	to	60	56	54	53
Construction/Mining Equipment	175	to	185	176	157	150
Europe (including Eastern Europe)						
Light Truck	11,200	to	11,500	10,727	10,276	9,306
Light Vehicle Engines	23,700	to	24,200	23,098	24,096	23,287
Medium/Heavy Truck	505	to	520	506	486	463
Agricultural Equipment	200	to	215	204	202	193
Construction/Mining Equipment	350	to	370	351	309	290
South America						
Light Truck	1,300	to	1,500	1,320	1,235	980
Light Vehicle Engines	3,000	to	3,100	2,797	2,412	2,112
Medium/Heavy Truck	105	to	115	113	89	70
Agricultural Equipment	30	to	35	34	33	29
Construction/Mining Equipment	8	to	12	9	9	10
Asia-Pacific						
Light Truck	30,800	to	32,000	29,783	29,495	27,465
Light Vehicle Engines	54,700	to	55,700	52,293	52,543	50,533
Medium/Heavy Truck	1,700	to	1,900	2,004	2,039	1,661
Agricultural Equipment	650	to	680	653	653	648
Construction/Mining Equipment	490	to	510	495	441	396

North America

Light vehicle markets — Improving economic conditions during the past few years have contributed to strong light vehicle sales and production levels in North America. Overall economic conditions in North America have been relatively favorable with improving employment levels, strong consumer confidence levels and comparatively low/stable fuel prices. Strong sales levels the past few years have significantly reduced the built-up demand to replace older vehicles. As such, the overall North America light vehicle market began to show signs of weakening demand levels in 2017, with total light vehicle sales declining about 2% from 2016. To date, these effects have been most notable in passenger car sales which declined about 5% in 2016 and another 9% in 2017. Light vehicle sales in 2018 were down slightly compared with 2017, with higher light truck sales being offset by lower passenger car sales. Helped by continued low fuel prices, light truck market demand has been relatively strong. In the full frame light truck segment where many of our programs are focused, sales increased about 6% in 2016 and another 3% in 2017. Full frame light truck sales for 2018 were about 3% higher than 2017. Production levels have generally been reflective of light vehicle sales. Production of approximately 17.8 million light vehicles in 2016 declined about 4% to 17.1 million units in 2017. Light vehicle production of 17.0 million units in 2018 was comparable with 2017. Light vehicle engine production was impacted more by the developments in the passenger car segment, with production in 2017 declining about 7% versus 2016 after increasing 3% year-over-year in 2016. Light vehicle engine production increased about

3% in 2018 compared to 2017. In the key full frame light truck segment, production levels in 2017 increased about 3% compared to 2016 following an increase of 7% in 2016 from the preceding year. 2018 full frame truck production was about 4% higher compared to 2017. Days' supply of total light vehicles in the U.S. at the end of December the past three years has been around 61 to 62 days. In the full frame light truck segment, days supply in inventory at December 31, 2018 approximated 72 days, up from 64 days at December 31, 2017 and 65 days at the end of December 2016.

The North America light truck markets are expected to decline in 2019, with the effect of stable manufacturing and construction environments being offset by the impact of rising interest rates, less pent-up demand, increasing demand for used vehicles and higher levels of consumer debt. We expect Dana sales to continue to benefit from our net new business backlog as additional key customer programs commence production in 2019, more than offsetting lower overall light truck demand. Our current outlook for 2019 has full frame light truck production at 4.3 to 4.6 million vehicles, up 2% to down 5% compared with 2018 production of about 4.5 million vehicles. We expect light vehicle engine production in 2019 to be 14.7 to 15.0 million units, down 2 to 4% compared to 2018.

Medium/heavy vehicle markets — The commercial vehicle market is similarly impacted by many of the same macroeconomic developments impacting the light vehicle market. Production levels in the heavy truck segment were scaled back in 2016 in response to there being more trucks in service than required for freight demand. Class 8 production in 2016 declined 29% from 2015 while medium duty Classes 5-7 production was relatively stable. With the improving economic conditions in 2017 and scaled down build in 2016, there was increased freight-hauling demand and a strengthening order book for new trucks. Class 8 unit production was up about 12% from 2016 while medium-duty production was about 6% higher. As expected, strong demand has continued into 2018, with Class 8 production up 25% and medium-duty truck production being up 10% compared to 2017.

Class 8 order levels continue to be solid, positioning 2019 to be a strong production year. With the strong Class 8 order book and an expectation that the North America economic environment will continue to be strong in 2019, our outlook for 2019 Class 8 production in North America is 325,000 to 345,000 trucks, a level which is up about 2 to 8% compared with the 2018 build level. After two years of consecutive growth in the medium duty segment, we expect full year 2019 production to be in the range of 255,000 to 265,000 vehicles, down 2 to 6% from 2018.

Markets Outside of North America

Light vehicle markets — Signs of an improved overall European economy have been evident, albeit mixed at times, during the past few years. Reflective of a modestly improved economy, light vehicle production levels have increased with light vehicle engine production being up about 3% in both 2016 and 2017, and light truck production being higher by 9 to 10% in 2016 and 2017. Overall market stability continued in 2018 as light vehicle engine production was down 4% and light truck production was up 4%. The United Kingdom's decision to withdraw from the European Union, along with political developments in other European countries, continues to cast an element of uncertainty around continued economic improvement in the region. At present, we expect overall stable to improving economic conditions across the entire region in 2019. Our full year 2019 outlook expects an increase in light truck and light vehicle engine production of around 3 to 7% from 2018. The economic climate in many South American markets the past few years has been weak, volatile and challenging. After significant production declines in 2014 and 2015, there were signs that demand levels had bottomed out in 2016. Production levels in 2017 and 2018 were reflective of an improving market, with light vehicle engine production up 14% and 16% and light truck production up 26% and 7%, respectively. At present, we expect further economic recovery in the region in 2019. Our full year 2019 outlook has light truck production down 2% to up 14% from 2018, with light vehicle engine production up 7 to 11% compared to this past year. The Asia Pacific markets have been relatively strong the past few years. Light truck production increased 14% in 2016 and was up another 7% in 2017, while light vehicle engine production increased 7% in 2016 and another 4% in 2017. Production leveled off in 2018, with both light truck and light vehicle engine production being flat compared to 2017 levels. Our full year 2019 outlook for the Asia Pacific light vehicle markets is for continued strong production levels, with the light truck segment up 3 to 7% from 2018 and light engine production being up 5 to 7%.

Medium/heavy vehicle markets — Some of the same factors referenced above that affected light vehicle markets outside of North America similarly affected the medium/heavy markets. A strengthening European market the past three years contributed to medium/heavy truck production increasing 7% in 2016, 5% in 2017 and another 4% in 2018. Our 2019 full year outlook anticipates continued strong production at levels relatively comparable with 2018. A weakening South America economic climate beginning in 2014 led to a significant decline in medium/heavy truck production in 2015 and 2016. As with the light vehicle markets, improving economic conditions in the region led to medium/heavy truck production increasing 27% in 2017 and an additional 27% in 2018. We expect economic conditions to be relatively stable in 2019, with medium/heavy truck production being down 7% to up 2% compared to 2018. A stronger than expected China market and an improving India market contributed to increases in medium/heavy truck production in the Asia Pacific region of about 20% in 2016 and another 23% in 2017. Production levels in 2017 were driven partly by regulatory changes in China limiting axle load and weight. With some pre-buy in 2017 having likely occurred during the second half of 2017 as a result of the China regulatory actions and some weakening in this past year's China market, 2018 medium/heavy truck production was down 2% from 2017. Our full year 2019 outlook reflects a continued downward trend with medium/heavy truck production being down 5 to 15% from 2018, reflecting modal transportation shifts and technology advances putting downward pressure on medium/heavy truck demand.

Off-Highway Markets — Our off-highway business has a large presence outside of North America, with more than 75% of its sales coming from Europe and more than 10% from South America and Asia Pacific combined. We serve several segments of the diverse off-highway market, including construction, agriculture, mining and material handling. Our largest markets are the construction/mining and agricultural equipment segments which had been relatively weak for several years until beginning to rebound in 2017. Global demand in the agriculture market was down about 11% in 2014, 7% in 2015 and 5% in 2016. The construction/mining segment weakened about 4% in 2014, 11% in 2015 and 3% in 2016. These markets began to rebound in 2017 along with general economic recovery in several global markets, and in particular the European markets where this segment has a significant presence. During 2017, global production levels in the construction/mining and agriculture segments increased by about 8% and 2%. The uplift in market demand continued in 2018 with global production levels in the construction/mining and agriculture segments increasing an additional 13% and 1%, respectively. With generally stable to improving economic conditions in all regions, further strengthening of demand is expected in 2019. Our 2019 outlook has production in the construction/mining segment flat to up 4% and the agriculture segment being down 2% to up 5% from 2018.

Foreign Currency

With 56% of our sales coming from outside the U.S., international currency movements can have a significant effect on our sales and results of operations. The euro zone countries and Brazil accounted for 46% and 9% of our 2018 non-U.S. sales, respectively, while Thailand, Mexico and China each accounted for 7%. Although sales in Argentina and South Africa are each less than 5% of our non-U.S. sales, exchange rate movements of those countries have been volatile and significantly impacted sales from time to time. Translation of our international activities at average exchange rates in 2016 as compared to average rates in 2015 reduced sales by $173. A weaker Argentine peso, British pound, Mexican peso, South African rand and Brazilian real reduced sales by $70, $23, $19, $18 and $11, while the euro was relatively stable in 2016. International currencies strengthened against the U.S. dollar in 2017, increasing 2017 sales by $54. A stronger euro, Brazilian real, Thai baht and South African rand more than offset a weaker Argentine peso. Overall international currencies continued to strengthen against the U.S. dollar in 2018, with sales increasing by $16 principally due to a stronger euro, Thai baht and Chinese renminbi, partially offset by a weaker Brazilian real, Argentine peso and Indian rupee. Based on our current sales and exchange rate outlook for 2019, we expect overall stability in international currencies with a modest reduction to sales. At sales levels in our current outlook for 2019, a 5% movement on the euro would impact our annual sales by approximately $110. A 5% change on the Brazilian real, Thai baht, Mexican peso, Chinese yuan, British pound and Indian rupee rates would impact our annual sales in each of those countries by approximately $10 to $20.

During the second quarter of 2018, we determined that Argentina's economy met the GAAP definition of a highly inflationary economy. In assessing Argentina's economy as highly inflationary we considered its three-year cumulative inflation rate along with other factors. As a result, effective July 1, 2018, the U.S. dollar is the functional currency for our Argentine operations, rather than the Argentine peso. Beginning July 1, 2018, peso-denominated monetary assets and liabilities are remeasured into U.S. dollars using current Argentine peso exchange rates with resulting translation gains or losses included in results of operations. Nonmonetary assets and liabilities are remeasured into U.S. dollar using historic Argentine peso exchange rates. Reference is made to Note 1 of our consolidated financial statements in Item 8 for additional information.

International Markets

Trade actions initiated by the U.S. imposing tariffs on imports have been met with retaliatory tariffs by other countries, adding a level of tension and uncertainty to the global economic environment. In November 2018, the U.S., Mexico and Canada executed the U.S.-Mexico-Canada Agreement (USMCA), the successor agreement to the North American Free Trade Agreement. The draft agreement submitted for ratification includes the imposition of tariffs on vehicles that do not meet regional raw material (steel and aluminum), part and labor content requirements. These and other actions are likely to impact trade policies with other countries and the overall global economy. The United Kingdom's decision to exit the European Union ("Brexit") continues to provide some uncertainty and potential volatility around European currencies, along with uncertain effects of future trade and other cross-border activities of the United Kingdom with the European Union and other countries.

The Brazil market is an important market for our Commercial Vehicle segment, representing about 19% of this segment's 2018 sales. Our medium/heavy truck sales in Brazil account for approximately 79% of our total sales in the country. Reduced market demand resulting from the weak economic environment in Brazil in 2015 led to production levels in the light vehicle and medium/heavy duty truck markets that were lower by about 22% and 44% from 2014. Continued weakness in 2016 resulted in further reductions in medium/heavy truck production of about 20% and a light vehicle production decline of around 10%. As a consequence, sales by our operations in Brazil for 2016 approximated $200, down from about $500 in 2014. In response to the challenging economic conditions in this country, we implemented restructuring and other cost reduction actions and reduced costs to the extent practicable. As discussed in Note 2 to our consolidated financial statements in Item 8, we completed a transaction in December 2016 that provided us with the underlying assets and personnel supporting our pre-existing business with a supplier along with some incremental business. With this transaction, we have enhanced our competitive position in the market and should benefit as the Brazilian markets continue to recover. The Brazilian economy rebounded in 2017, leading to increased medium/heavy truck and light truck production of more than 25% from 2016 in each of those segments. Economic improvement and increased production continued in 2018. Sales in 2018 were up 15% from 2017 as medium/heavy truck production was 27% higher than 2017 and light truck production was up about 7% from last year. Further economic improvement and increased production is expected in 2019.

As indicated above, Argentina has experienced significant inflationary pressures the past few years, contributing to significant devaluation of its currency among other economic challenges. Our Argentine operation supports our Light Vehicle operating segment. Our sales in Argentina for 2018 of approximately $125 are less than 2% of our consolidated sales and our net asset exposure related to Argentina was approximately $20, including $7 of net fixed assets, at December 31, 2018.

Commodity Costs

The cost of our products may be significantly impacted by changes in raw material commodity prices, the most important to us being those of various grades of steel, aluminum, copper and brass. The effects of changes in commodity prices are reflected directly in our purchases of commodities and indirectly through our purchases of products such as castings, forgings, bearings and component parts that include commodities. During 2018, commodity prices have been impacted by recently imposed tariffs. Suppliers directly impacted by the tariffs are attempting to pass through the cost of the tariffs while suppliers not subject to the tariffs are advantaging themselves by raising prices. Most of our major customer agreements provide for the sharing of significant commodity price changes with those customers based on the movement in various published commodity indexes. Where such formal agreements are not present, we have historically been successful implementing price adjustments that largely compensate for the inflationary impact of material costs. Material cost changes will customarily have some impact on our financial results as customer pricing adjustments typically lag commodity price changes.

Prices for commodities such as steel and aluminum have risen over the past year, in part due to strong global demand and more recently due to imposition of tariffs on these products. Higher commodity prices reduced year-over-year earnings in 2018 by approximately $115, as compared to year-over-year earnings reductions of $70 from higher commodity prices in 2017. Material recovery and other pricing actions increased earnings $80 compared to last year, whereas pricing and recovery actions increased year-over-year earnings in 2017 by $11.

U.S. Tax Reform

In December 2017, the U.S. introduced broad ranging tax reform with the passage of the Tax Cuts and Jobs Act ("Act") legislation. Among the tax reforms was a reduction of the corporate tax rate from 35% to 21%. Historically, we've recognized a net deferred tax asset in the U.S. for items providing future net reductions of taxable income. These deferred tax assets are valued based on the corporate tax rate expected to be available when the deductions are taken. With enactment of the lower corporate tax rate in the U.S. in 2017, we recorded a charge to tax expense in the fourth quarter of 2017 to reduce the value of these net deferred tax assets. The effect of the rate reduction on net deferred tax assets in combination with other provisions of the Act resulted in a net non-cash increase in 2017 income tax expense of $186. Among the tax reform provisions was a transitional U.S. tax assessed on undistributed earnings of foreign operations. Since we were able to utilize existing tax attributes to offset this transitional tax liability, adoption of the Act's provisions did not give rise to any cash taxes.

Although the tax reform in the U.S. reduced the statutory tax rate to 21% beginning in 2018, the effects of the lower rate are offset in part by the effects of increased nondeductible expenses and the global intangible low taxed income (“GILTI”) provisions which result in a certain amount of foreign earnings being subjected to U.S. tax. Considering the exclusion of foreign subsidiary dividends from taxation in the U.S., we believe the Act will provide some greater flexibility to repatriate future earnings of our foreign operations.

Sales, Earnings and Cash Flow Outlook

	2019 Outlook*	2018	2017	2016
Sales	$8,950 - $9,350	$8,143	$7,209	$5,826
Adjusted EBITDA	$1,085 - $1,165	$957	$835	$660
Net cash provided by operating activities	~5.5% of Sales	$568	$554	$384
Discretionary pension contribution	~1.5% of Sales	$—	$—	$—
Purchases of property, plant and equipment	~4% of Sales	$325	$393	$322
Adjusted Free Cash Flow	~3% of Sales	$243	$161	$62

* Assumes Oerlikon Drive Systems acquisition transaction closes during the first quarter of 2019.

Adjusted EBITDA and adjusted free cash flow are non-GAAP financial measures. See the Non-GAAP Financial Measures discussion below for definitions of our non-GAAP financial measures and reconciliations to the most directly comparable U.S. generally accepted accounting principles (GAAP) measures. We have not provided a reconciliation of our adjusted EBITDA outlook to the most comparable GAAP measure of net income. Providing net income guidance is potentially misleading and not practical given the difficulty of projecting event driven transactional and other non-core operating items that are included in net income, including restructuring actions, asset impairments and certain income tax adjustments. The accompanying reconciliations of these non-GAAP measures with the most comparable GAAP measures for the historical periods presented are indicative of the reconciliations that will be prepared upon completion of the periods covered by the non-GAAP guidance.

We experienced declines in total sales in 2016 due to weaker international currencies relative to the U.S. dollar. Adjusted for currency, sales in 2016 were relatively comparable to the prior year, with new customer programs largely offsetting the impacts of overall weaker end user demand across our global businesses. We experienced uneven end user markets, with some being relatively strong and others somewhat weak, and the conditions across the regions of the world differing quite dramatically. The 24% increase in sales during 2017 was driven primarily by acquisitions and stronger market demand. Acquisitions, net of divestitures, added $500 of sales, while stronger market demand and contributions from new customer programs increased sales by $829 – an organic increase of 14%. In 2017, international currencies were relatively stable, providing a $54 benefit to sales. Sales increased an additional $934, or 13%, in 2018, reflecting continued strong market demand and the contribution of net new business backlog. Strong off-highway, commercial vehicle and light truck demand combined with net new business of about $300, drove 2018 organic growth of $861, or 12%. International currencies and acquisition and divestiture activities had a negligible impact on 2018 sales. Our 2019 sales outlook is $8,950 to $9,350, with sales growth coming principally from our anticipated acquisition of Oerlikon Drive Systems and the realization of $350 of net new business backlog. We expect impact of international currencies to be negligible, consistent with this past year.

Adjusted EBITDA margin as a percent of sales remained relatively constant at around 11% in 2016 despite certain markets being weak and volatile. We continue to focus on margin improvement through right sizing and rationalizing our manufacturing operations, leveraging resources across the global organization, implementing other cost reduction initiatives and ensuring that customer programs are competitively priced. We achieved adjusted EBITDA margin growth in 2017 as we benefited from the operating leverage attributable to increased sales volumes, while at the same time integrating several acquisitions. Increased commodity prices adversely impacted 2018 earnings and adjusted EBITDA margin. Although we recovered a substantial share of the increased cost, with the customary lag from incurrence of the higher cost to recovery, approximately $35 was not recovered by the end of 2018. Much of the adverse earnings impact of higher commodity costs and supply chain pressures of operating at strong levels of market demand were offset with material cost savings, acquisition synergies and other cost reductions. As such, our adjusted EBITDA margin for 2018 was 11.8%, a 20 basis point improvement over 2017. At our current sales outlook for 2019, we expect full year 2019 adjusted EBITDA to approximate $1,085 to $1,165. Adjusted EBITDA Margin is expected to exceed 12%, as we benefit from higher margin net new business and synergies related to our acquisition of Oerlikon Drive Systems more than offsetting higher commodity costs and increased investment we expect to make in 2019 to support our electrification strategy.

We have generated positive adjusted free cash flow in recent years while increasing capital spending to support organic business growth through launching new business with customers. Reduced adjusted free cash flow in 2016 was primarily attributable to our continued success in being awarded significant new customer programs. Although many of the program wins were not scheduled to begin production until 2018, certain of these programs required capital investment beginning in 2016. As such, cash used for capital investments in 2016 was $62 higher than in 2015. As planned, an elevated level of capital spending at around 5.5% of sales continued into 2017 to support new customer programs. Despite an increase in capital spending of $71 in 2017, free cash increased by $99, primarily from a stronger earnings performance which contributed to increased operating cash flows of $170. Adjusted free cash flow increased $82 in 2018, with benefits from increased operating earnings and lower required capital investment being partially offset by higher working capital requirements associated with increased sales and production levels. We expect to generate adjusted free cash flow of approximately $275, or 3% of sales for 2019. The benefit of continued growth in adjusted EBITDA in 2019 will be partially offset by higher integration costs associated with our anticipated acquisition of Oerlikon Drive Systems. We expect capital spending in 2019 to be around 4% of sales, consistent with 2018. While required capital spending to support new customer programs has begun to dissipate, we are expecting additional capital investment associated with the Oerlikon Drive Systems acquisition.

Among our operational and strategic initiatives are increased focus on and investment in product technology – delivering products and technology that are key to bringing solutions to issues of paramount importance to our customers. Our success on this front is measured, in part, by our sales backlog – net new business received that will be launching in the future and adding to our base annual sales. This backlog excludes replacement business and represents incremental sales associated with new programs for which we have received formal customer awards. At December 31, 2018, our sales backlog of net new business for the 2019 through 2021 period was $700. We expect to realize $350 of our sales backlog in 2019, with incremental sales backlog of $200 and $150 being realized in 2020 and 2021, respectively. Our three-year sales backlog at December 31, 2018 reflects continued new business wins, as the expected impact of revised market volumes and currency effects were minimal.

Consolidated Results of Operations

Summary Consolidated Results of Operations (2018 versus 2017)

	2018		2017		
	Dollars	% of Net Sales	Dollars	% of Net Sales	Increase/ (Decrease)
Net sales	$8,143		$7,209		$ 934
Cost of sales	6,986	85.8%	6,143	85.2%	843
Gross margin	1,157	14.2%	1,066	14.8%	91
Selling, general and administrative expenses	499	6.1 %	508	7.0 %	(9)
Amortization of intangibles	8		11		(3)
Restructuring charges, net	25		14		11
Impairment of indefinite-lived intangible asset	(20)				(20)
Gain (loss) on disposal group held for sale	3		(27)		30
Other expense, net	(29)		(16)		(13)
Earnings before interest and income taxes	579		490		89
Loss on extinguishment of debt			(19)		19
Interest income	11		11		—
Interest expense	96		102		(6)
Earnings before income taxes	494		380		114
Income tax expense	78		283		(205)
Equity in earnings of affiliates	24		19		5
Net income	440		116		324
Less: Noncontrolling interests net income	13		10		3
Less: Redeemable noncontrolling interests net loss			(5)		5
Net income attributable to the parent company	$427		$111		$ 316

Sales — The following table shows changes in our sales by geographic region.

				Amount of Change Due To		
	2018	2017	Increase/ (Decrease)	Currency Effects	Acquisitions (Divestitures)	Organic Change
North America	$4,106	$3,688	$ 418	$(1)	$ 32	$ 387
Europe	2,484	2,154	330	85	27	218
South America	546	500	46	(74)	(9)	129
Asia Pacific	1,007	867	140	6	7	127
Total	$8,143	$7,209	$ 934	$16	$ 57	$ 861

Sales in 2018 were $934 higher than in 2017. Stronger international currencies increased sales by $16, principally due to a stronger euro, Thai baht and Chinese renminbi, partially offset by a weaker Brazilian real, Argentine peso and Indian rupee. The acquisitions of the Brevini and USM operations which occurred in the first quarter of 2017 and TM4 which occurred in the second quarter of 2018, net of the divestiture of the Brazil suspension components business in the third quarter of 2018, generated a year-over-year increase in sales of $57. The organic sales increase of $861, or 12%, resulted from stronger light truck markets, strengthening global off-highway demand, stronger medium/heavy truck markets and contributions from new business. Pricing actions, including material commodity price and inflationary cost recovery added sales of $80.

The North America organic sales increase of 10% was driven principally by stronger production levels on certain of our key light truck programs. Overall full-frame light truck production was up 4% compared with last year. In addition, certain of our key programs had higher production levels, with one of these programs producing outgoing model vehicles along with new model vehicles during this year's first quarter. Stronger medium/heavy truck production in 2018 of about 18%, with Class 8 trucks up more than 25% and Classes 5-7 up about 10%, also contributed to higher organic sales.

A stronger euro increased sales in Europe due to currency effects. Excluding currency and acquisition effects, sales in Europe were 10% higher than in 2017. With our significant Off-Highway presence in the region, increased market demand in this segment was a major contributor. Organic sales in this operating segment were up about 16% compared with 2017.

A weaker Brazilian real and Argentina peso reduced South America sales in 2018. However, more than offsetting this reduction was an organic increase in sales of 26%. Continued economic recovery in the Brazilian market was a major factor. The region overall experienced stronger production levels, with light truck production up about 7% and medium/heavy truck production higher by about 27%.

Asia Pacific sales in 2018 were 16% higher than last year. Currency translation increased sales by $6, driven by a stronger Thai baht and Chinese renminbi, partially offset by a weaker Indian rupee. Excluding currency and acquisition effects, sales increased 15% due primarily to stronger light truck production levels, off-highway market demand and contributions from new customer programs.

Cost of sales and gross margin — Cost of sales for 2018 increased $843, or 14%, when compared to 2017. Similar to the factors affecting sales, the increase was primarily due to higher overall sales volumes and inclusion of a full twelve months of the businesses acquired in the first quarter of 2017. Cost of sales as a percent of 2018 sales was 60 basis points higher than in the previous year. The increased cost of sales as a percent of sales was largely attributable to higher commodity prices which increase material costs by about $115, an increase in engineering and development expense of $32, higher depreciation expense of $39 attributable to increased capital spending over the past few years in support of significant new customer programs which launched this year and premium supply chain costs and other manufacturing inefficiencies associated with higher demand levels. Partially offsetting these higher costs were continued material cost savings of $70, incremental costs of $14 in 2017 resulting from recognizing acquired inventory at fair value as part of business combination accounting, cost attributable to acquisition cost synergies from acquisition integration, and overall better cost absorption on higher production volumes.

Gross margin of $1,157 for 2018 increased $91 from 2017. Gross margin as a percent of sales was 14.2% in 2018, 60 basis points lower than in 2017. The decline in margin as a percent of sales was driven principally by the cost of sales factors referenced above.

Selling, general and administrative expenses (SG&A) — SG&A expenses in 2018 were $499 (6.1% of sales) as compared to $508 (7.0% of sales) in 2017. Inclusion of a full twelve months of the businesses acquired in the first quarter of 2017 and six months of TM4 acquired in second quarter of 2018 contributed $9 of expense. Salaries and benefits expense decreased by $32, with of lower year-over-year incentive compensation partially offset by higher salary expense. Higher discretionary spending was $14, in part due to increased software technology investments and customer support related costs. Contributing to lower SG&A as a percent of sales were acquisition synergies along with disciplined cost performance despite higher sales volumes.

Amortization of intangibles — The reduction of $3 in amortization expense was primarily attributable to certain customer related intangibles becoming fully amortized.

Restructuring charges, net — During 2018, we initiated headcount and cost reduction initiatives across our operating segments and corporate functions. Restructuring charges of $25 in 2018 include charges of $14 related to a voluntary retirement program in North America, $5 associated with headcount reduction actions in our operations and corporate functions in Brazil, $9 of severance and benefits costs related to SG&A cost reduction initiatives primarily in Europe and North America and $4 related to previously announced actions. In response to continued market recovery in our Off-Highway business in Europe, management re-evaluated the economic conditions of our global Off-Highway business and determined that $7 of the previously approved restructuring actions were no longer economically prudent. During 2017, we approved plans to implement certain headcount reduction initiatives in our Off-Highway business as part of the BPT and BFP acquisition integration, resulting in the recognition of $14, primarily for severance and benefits costs. Including costs associated with the actions approved during 2017 and costs associated with previously announced initiatives, net of the reversal described below, restructuring expense during 2017 was $14. During the fourth quarter of 2017, in response to better-than-expected market recovery in our Off-Highway business in Europe, management re-evaluated the economic conditions of our global Off-Highway business and determined that a portion of the previously approved 2016 restructuring program was no longer economically prudent. This change in facts and circumstances led to the decision to reverse $8 of previously accrued liabilities.

Impairment of indefinite-lived intangible asset — During the second quarter of 2018, we wrote off the in-process research and development intangible asset recognized as part of a 2012 acquisition. Refer to the Other Initiatives section in Item 7 and Note 4 of the consolidated financial statements in Item 8 for additional information.

Gain (loss) on disposal group held for sale — See Note 3 of the consolidated financial statements in Item 8 for a discussion of the divestiture of our Brazil suspension components business.

Other expense, net — The following table shows the major components of other expense, net.

	2018	2017
Non-service cost components of pension and OPEB costs	$(15)	$(7)
Government grants and incentives	12	7
Foreign exchange loss	(12)	(3)
Strategic transaction expenses, net of transaction breakup fee income	(18)	(25)
Amounts attributable to previously divested/closed operations		3
Other, net	4	9
Other expense, net	(29)	(16)

Strategic transaction expenses in 2018 were primarily attributable to our bid to acquire the driveline business of GKN plc., our acquisition of an ownership interest in TM4, our pending acquisition of Oerlikon Drive Systems and integration costs associated with our acquisitions of BFP and BPT, and were partially offset by a $40 transaction breakup fee associated with the GKN plc. transaction. Strategic transaction expenses in 2017 are primarily attributable to our acquisitions of USM - Warren, BFP and BPT.

As described in Note 1 to our consolidated financial statements in Item 8, in connection with the adoption of new accounting and reporting requirements for defined employee benefit plans, non-service cost components are now classified as other expense, net. Such amounts were previously classified as cost of sales or SG&A expense. The comparative 2017 statement of operations has been revised to reflect the new classification of these costs.

Loss on extinguishment of debt — As discussed in Note 14 to our consolidated financial statements in Item 8, we redeemed $100 of our September 2021 Notes, repaid indebtedness of our BPT and BFP subsidiaries and repaid certain bank debt in Brazil during the second quarter of 2017, and we redeemed the remaining $350 of our September 2021 Notes in the third quarter of 2017. We incurred redemption premiums of $15 in connection with these repayments and wrote off $4 of previously deferred financing costs associated with the debt that was extinguished.

Interest income and interest expense — Interest income was $11 in 2018 and 2017. Interest expense decreased from $102 in 2017 to $96 in 2018 primarily due to a lower average interest rate on borrowings. During 2017, through debt refinancing and cross-currency swaps, we achieved lower overall interest rates. Average effective interest rates, inclusive of amortization of debt issuance costs, approximated 5.2% and 5.5% in 2018 and 2017.

Income tax expense — Income taxes were an expense of $78 in 2018 and $283 in 2017. During 2018, we recognized a benefit of $44 related to U.S. state law changes and the development and implementation of a tax planning strategy which adjusted federal tax credits, along with federal and state net operating losses and the associated valuation allowances. We also recognized benefits of $11 relating to the reversal of a provision for an uncertain tax position, $5 relating to the release of valuation allowances in the US based on improved income projections and $7 due to permanent reinvestment assertions. Partially offsetting these benefits was $5 of expense to settle outstanding tax matters in a foreign jurisdiction. With the enactment of the Tax Cuts and Jobs Act occurring in December 2017 in the U.S., provisions of this tax reform legislation were required to be recognized in 2017. The most significant 2017 impact of this legislation was the reduction of net deferred tax assets to reflect expected realization at the lower U.S. corporate tax rate of 21% rather than the previous rate of 35%. The net impact of recognizing the required elements of the new tax reform legislation was an increase in tax expense of $186 in 2017. During 2017, continued improvement in our profit outlook enabled us to release $27 of valuation allowances on state deferred tax assets. See Note 18 to our consolidated financial statements in Item 8 of Part II for further disclosures around these items.

Excluding the effects of the items referenced in the preceding paragraph, our effective tax rates were 28% in 2018 and 33% in 2017. These rates vary from the applicable U.S. federal statutory rate of 21% and 35% in these periods primarily due to establishment, release and adjustment of valuation allowances in several countries, nondeductible expenses, deemed income, local tax incentives in several countries outside the U.S., different statutory tax rates outside the U.S. and withholding taxes related to repatriations of international earnings.

In countries where our history of operating losses does not allow us to satisfy the “more likely than not” criterion for recognition of deferred tax assets, we have generally recognized no income tax on the pre-tax income or losses as valuation allowance adjustments offset the associated tax effects. We believe that it is reasonably possible that a valuation allowance of up to $24 related to a subsidiary in Brazil will be released in the next twelve months.

Equity in earnings of affiliates — Net earnings from equity investments was $24 in 2018 compared with $19 in 2017. Equity in earnings from Bendix Spicer Foundation Break, LLC (BSFB) was $7 in 2018 and $9 in 2017. Equity in earnings from Dongfeng Dana Axle Co., Ltd. (DDAC) was $15 in 2018 and $9 in 2017, inclusive of a $4 charge for asset transfer and conversion of certain assets.

Segment Results of Operations (2018 versus 2017)

Light Vehicle

	Sales	Segment EBITDA	Segment EBITDA Margin
2017	$3,172	$ 359	11.3 %
Volume and mix	376	83	
Performance	36	(43)	
Currency effects	(9)	(1)	
2018	$3,575	$ 398	11.1 %

Light Vehicle sales in 2018, exclusive of currency effects and increased sales of $18 from the acquisition of USM - Warren on March 1, 2017, were 12% higher than 2017. While North America full frame truck production was up 4% compared with 2017, we experienced a significant volume-related sales increase from one of our largest customer programs for which production continued on the outgoing model during the first quarter of 2018 concurrent with production of the new model vehicle. Stronger light truck production levels in Europe, South America and Asia Pacific also contributed to higher sales volumes. Customer pricing and cost recovery impacts provided year-over-year increase in sales of $36.

Light Vehicle segment EBITDA increased by $39 in 2018. Higher sales volumes provided a year-over-year benefit of $83. The year-over-year performance-related earnings reduction resulted from increased commodity costs of $40, higher engineering and development costs of $15, with premium freight, cost performance, operating inefficiencies and other items reducing segment earnings by $64. Net pricing and material recovery of $36, material cost savings of $31 and lower new program start-up and launch-related costs of $9 provided a partial offset.

Commercial Vehicle

	Sales	Segment EBITDA	Segment EBITDA Margin
2017	$1,412	$ 116	8.2 %
Volume and mix	219	35	
Performance	20	(1)	
Currency effects	(39)	(4)	
2018	$1,612	$ 146	9.1 %

Excluding currency effects, Commercial Vehicle sales increased 17% compared to 2017. The volume-related increase was primarily attributable to higher production levels in North America where Class 8 production was up about 26% and Classes 5-7 production was up 10%. With the improving economy in Brazil, our sales volumes in 2018 benefited from higher year-over-year production levels in that country of around 27%. Also contributing to the higher sales volume was higher production in Europe during 2018. Customer pricing and cost recovery actions increased year-over-year sales by $20.

Commercial Vehicle segment EBITDA increased by $30 in 2018. Higher sales volumes increased 2018 earnings by $35. Higher commodity costs decreased performance-related earnings by $35, with net pricing and material recovery actions providing a partial offset of $20. Higher year-over-year material cost savings of $14 and cost performance and improved operating efficiency of $11 were partially offset by increased engineering and development costs of $11.

Off-Highway

	Sales	Segment EBITDA	Segment EBITDA Margin
2017	$1,521	$ 212	13.9 %
Volume and mix	251	57	
Performance	26	11	
Currency effects	46	5	
2018	$1,844	$ 285	15.5 %

Off-Highway sales in 2018, exclusive of currency effects and increased sales of $38 from the acquisition of the Brevini BFP and BPT operations on February 1, 2017, were 16% higher than 2017, primarily from higher global end-market demand. Customer pricing and cost recovery actions increased year-over-year sales by $26.

Off-Highway segment EBITDA increased by $73 in 2017. Increased market demand was the primary driver of the volume and mix earnings improvement. The performance-related improvement was due primarily to net pricing and material recovery of $26, material cost savings of $17 and lower warranty costs of $5, partially offset by higher commodity costs of $25, increased engineering and development costs of $6 and cost performance and operating inefficiencies of $6.

Power Technologies

	Sales	Segment EBITDA	Segment EBITDA Margin
2017	$1,104	$ 168	15.2 %
Volume and mix	(8)	(3)	
Performance	(2)	(18)	
Currency effects	18	2	
2018	$1,112	$ 149	13.4 %

Power Technologies primarily serves the light vehicle market but also sells product to the medium/heavy truck and off-highway markets. Net of currency effects, 2018 sales were 1% lower than 2017, primarily due to programs that were scheduled to roll off in this year, along with weaker passenger car demand.

Segment EBITDA decreased by $19 compared to 2017. The performance-related deterioration resulted from higher commodity costs of $15, increased engineering spend of $3 and cost performance and operating inefficiencies of $8, partially offset by material cost savings of $8.

Summary Consolidated Results of Operations (2017 versus 2016)

	2017		2016		
	Dollars	% of Net Sales	Dollars	% of Net Sales	Increase/ (Decrease)
Net sales	$7,209		$5,826		$ 1,383
Cost of sales	6,143	85.2%	4,991	85.7%	1,152
Gross margin	1,066	14.8%	835	14.3%	231
Selling, general and administrative expenses	508	7.0 %	401	6.9 %	107
Amortization of intangibles	11		8		3
Restructuring charges, net	14		36		(22)
Loss on disposal group held for sale	(27)				(27)
Loss on sale of subsidiaries			(80)		80
Other income (expense), net	(16)		22		(38)
Earnings before interest and income taxes	490		332		158
Loss on extinguishment of debt	(19)		(17)		(2)
Interest income	11		13		(2)
Interest expense	102		113		(11)
Earnings before income taxes	380		215		165
Income tax expense (benefit)	283		(424)		707
Equity in earnings of affiliates	19		14		5
Net income	116		653		(537)
Less: Noncontrolling interests net income	10		13		(3)
Less: Redeemable noncontrolling interests net loss	(5)				(5)
Net income attributable to the parent company	$111		$640		$ (529)

As described in Note 1 to our consolidated financial statements in Item 8, in connection with the adoption of new accounting and reporting requirements for defined employee benefit plans, non-service cost components are now classified as other income (expense), net. Such amounts were previously classified as cost of sales or selling, general and administrative expenses. The comparative 2017 and 2016 statement of operations have been revised to reflect the new classification of these costs.

Sales — The following table shows changes in our sales by geographic region.

				Amount of Change Due To		
	2017	2016	Increase/ (Decrease)	Currency Effects	Acquisitions (Divestitures)	Organic Change
North America	$3,688	$3,128	$ 560	$(1)	$ 127	$ 434
Europe	2,154	1,616	538	35	294	209
South America	500	338	162	3	54	105
Asia Pacific	867	744	123	17	25	81
Total	$7,209	$5,826	$ 1,383	$54	$ 500	$ 829

Sales in 2017 were $1,383 higher than in 2016. Stronger international currencies increased sales by $54. The acquisitions of BFP, BPT, SIFCO, USM – Warren and Magnum in 2016 and 2017 generated a year-over-year increase in sales of $542, with the divestiture of Nippon Reinz resulting in a reduction of $42. The organic sales increase of $829 resulted primarily from stronger light truck markets, strengthening global off-highway demand, stronger medium/heavy truck markets in Europe and South America, and contributions from new business.

The North America sales increase from acquisitions in 2017 relates primarily to the USM – Warren purchase, with a lesser amount being added by the BFP, BPT and Magnum transactions. The organic sales increase of 14% was driven principally by stronger production levels on certain of our key light truck programs, with stronger medium/heavy truck production and off-highway demand levels also providing some contribution.

Excluding currency effects and the increase in sales of $294 attributable to the BFP and BPT acquisitions, 2017 sales in Europe were 13% higher than in 2016. Stronger off-highway market demands were a primary driver of the organic sales increase, although each of our operating segments experienced increased organic sales, primarily from higher production/demand levels.

In South America, 2017 sales benefited from a stronger Brazil real, however, that was largely offset by a weaker Argentina peso. The acquisition-related sales increase resulted from the SIFCO and BPT acquisitions. Excluding these effects, sales were up 31% from 2016. The organic sales increase in the region was driven largely by stronger 2017 production levels, with light truck and medium/heavy truck production each up more than 25% from the preceding year.

Asia Pacific sales in 2017 were 17% higher than 2016. Sales increased by $67 from the BPT and BFP acquisitions, more than offsetting the $42 reduction attributable to the Nippon-Reinz divestiture. Sales in this region also benefited from a stronger India rupee and Thailand baht. The organic sales increase of 11% in this region was due primarily to stronger light vehicle production levels and off-highway market demand, along with contributions from new customer programs.

Cost of sales and gross margin — Cost of sales for 2017 increased $1,152, or 23%, when compared to 2016. Similar to the factors affecting sales, the increase was primarily due to higher overall sales volumes and the inclusion of acquired businesses. Cost of sales attributed to net acquisitions, which included $14 of incremental cost assigned to inventory as part of business combination accounting, amounted to $423, or 84.8% of the sales of those businesses. Excluding the effects of acquisitions and divestitures, cost of sales as a percent of sales declined from 85.7% of sales in 2016 to 85.2% of sales in 2017 – a reduction of 50 basis points. This reduction in cost of sales as a percent of sales was largely attributable to better fixed cost absorption on the higher production volume. Cost of sales also benefited from material cost savings of approximately $67 and a reduction in warranty expense of $8. The benefit from higher production levels and other items was partially offset by increased material commodity prices of $70, start-up/launch costs of $30 and engineering and development expense of $24.

Gross margin of $1,066 for 2017 increased $231 from 2016. Gross margin as a percent of sales was 14.8% in 2017, 50 basis points higher than in 2016. Acquisitions net of divestitures added $76 of gross margin. The margin improvement as a percent of sales was driven principally by the cost of sales factors referenced above.

Selling, general and administrative expenses (SG&A) — SG&A expenses in 2017 were $508 (7.0% of sales) as compared to $401 (6.9% of sales) in 2016. SG&A attributed to net acquisitions was $73. Excluding the increase associated with acquisitions and divestitures, SG&A expenses as a percent of sales were 6.5% of sales, 40 basis points lower than the same period of 2016. The $34 year-over-year increase exclusive of net acquisitions was principally due to an increase in salary and benefits expenses of $43 primarily relating to increased compensation expense resulting from better performance in relation to incentive targets in 2017. Selling costs and other discretionary spending were $9 lower than in 2016.

Amortization of intangibles — The increase of $3 in amortization expense was primarily attributable to amortization of the intangibles acquired in the acquisitions completed in late 2016 and the first quarter of 2017.

Restructuring charges, net — During 2017, we approved additional plans to implement certain headcount reduction initiatives in our Off-Highway business as part of the BPT and BFP acquisition integration, resulting in the recognition of $14, primarily for severance and benefits costs, during 2017. Including costs associated with the newly approved actions during 2017 and costs associated with previously announced initiatives, net of the reversal described below, restructuring expense during 2017 was $14. During the fourth quarter of 2017, in response to better-than-expected market recovery in our Off-Highway business in Europe, management re-evaluated the economic conditions of our global Off-Highway business and determined that a portion of the previously approved 2016 restructuring program is no longer economically prudent. This change in facts and circumstances led to the decision to reverse $8 of previously accrued liabilities. Restructuring charges of $36 in 2016 included $14 of costs attributable to headcount reductions in our Off-Highway segment and $10 for headcount reductions in our Brazil Commercial Vehicle business that were taken in connection with our acquisition of the SIFCO business. The remaining amount was attributable to the planned closure of our Commercial Vehicle manufacturing facility in Glasgow, Kentucky, headcount reduction actions at our corporate facilities in the U.S. and employee separation and exit costs associated with previously announced actions.

Loss on disposal group held for sale — Reference is made to Note 3 of the consolidated financial statements in Item 8 for a discussion of the pending divestiture of our Brazil suspension components business.

Loss on sale of subsidiaries — Reference is made to Note 3 of the consolidated financial statements in Item 8 for a discussion of the 2016 divestitures of DCLLC and Nippon Reinz.

Other income (expense), net — The following table shows the major components of other income (expense), net.

	2017	2016
Non-service cost components of pension and OPEB costs	$ (7)	$ 4
Government grants and incentives	7	8
Foreign exchange loss	(3)	(3)
Strategic transaction expenses	(25)	(13)
Insurance and other recoveries		10
Gain on sale of marketable securities		7
Amounts attributable to previously divested/closed operations	3	
Other, net	9	9
Other income (expense), net	(16)	22

The higher level of strategic transaction expenses in 2017 is primarily attributable to costs incurred in connection with acquiring and integrating the BFP, BPT and USM businesses beginning in the first quarter of 2017. Amounts attributable to previously divested/closed operations in 2017 includes the receipt of the remaining proceeds on our December 2016 divestiture of DCLLC. See Note 19 to our consolidated financial statements in Item 8 for additional information. In 2016, DCLLC received a recovery of $8 of costs previously incurred on behalf of other participants in a consortium that existed to administer certain legacy personal injury claims and realized gains of $7 from the sale of portfolio investments.

Loss on extinguishment of debt — As discussed in Note 14 to our consolidated financial statements in Item 8, we redeemed $100 of our September 2021 Notes, repaid indebtedness of our BPT and BFP subsidiaries and repaid certain bank debt in Brazil during the second quarter of 2017, and we redeemed the remaining $350 of our September 2021 Notes in the third quarter of 2017. We incurred redemption premiums of $15 in connection with these repayments and wrote off $4 of previously deferred financing costs associated with the debt that was extinguished. In the second quarter of 2016, we redeemed our February 2021 Notes, incurring a redemption premium of $12, and also restructured our domestic revolving credit facility. In connection with these transactions, we wrote off $5 of previously deferred financing costs.

Interest income and interest expense — Interest income was $11 in 2017 and $13 in 2016. Interest expense was $102 in 2017 and $113 in 2016. A lower average interest rate on borrowings was partially offset by higher average debt levels in 2017. Average debt levels were higher in 2017 in part due to debt of $181 assumed in connection with the acquisition of BFP and BPT. As discussed in Note 14 to our consolidated financial statements in Item 8, we completed several financing transactions since May 2016 which in combination with cross-currency swaps effectively resulted in euro-denominated obligations at lower interest rates. Average effective interest rates, inclusive of amortization of debt issuance costs, approximated 5.5% and 6.5% in 2017 and 2016.

Income tax expense (benefit) — Income taxes were an expense of $283 in 2017 and a benefit of $424 in 2016. With the enactment of the Tax Cuts and Jobs Act occurring in December 2017 in the U.S., provisions of this tax reform legislation were required to be recognized in 2017. The most significant 2017 impact of this legislation was the reduction of net deferred tax assets to reflect expected realization at the lower U.S. corporate tax rate of 21% rather than the previous rate of 35%. The net impact of recognizing the required elements of the new tax reform legislation was an increase in tax expense of $186 in 2017. During 2017, continued improvement in our profit outlook enabled us to release $27 of valuation allowances on state deferred tax assets. In 2016, we determined that most of the valuation allowances against U.S. deferred taxes were no longer required. Release of these valuation allowances resulted in a $501 income tax benefit. Additionally, developments in Brazil led to our assessment that an allowance against certain deferred taxes in that country was appropriate, and we recognized tax expense of $25 to establish this valuation allowance. See Note 18 to our consolidated financial statements in Item 8 of Part II for further disclosures around these items.

Excluding the effects of the items referenced in the preceding paragraph, our effective tax rates were 33% in 2017 and 24% in 2016. These rates vary from the applicable U.S. federal statutory rate of 35% in these periods primarily due to valuation allowances in several countries and lower statutory tax rates outside the U.S. In 2016, a benefit of $58 for a reduction of accrued taxes on earnings of foreign operations resulting from legal entity restructuring and a revised determination as to permanent reinvestment contributed to a lower effective tax rate. These benefits were offset by tax expense of $17 on dividends and other income attributable to foreign operations, $30 of expense recognized to establish provisions associated with uncertain tax positions and $11 of amortization of a prepaid tax asset that was written off to retained earnings on January 1, 2017 in connection with the adoption of new guidance relating to intra-entity transfers.

In countries where our history of operating losses does not allow us to satisfy the “more likely than not” criterion for recognition of deferred tax assets, we have generally recognized no income tax on the pre-tax income or losses as valuation allowance adjustments offset the associated tax effects. Following the release of valuation allowances on our U.S. deferred tax assets in the fourth quarter of 2016, tax effects relating to U.S. income in 2017 are no longer being offset by adjustments to the valuation allowance.

Equity in earnings of affiliates — Net earnings from equity investments was $19 in 2017 compared with $14 in 2016. Equity in earnings from BSFB was $9 in 2017 and $7 in 2016. Equity in earnings from DDAC was $9 in 2017, inclusive of a $4 charge for asset transfer and conversion of certain assets, and $7 in 2016.

Segment Results of Operations (2017 versus 2016)

Light Vehicle

	Sales	Segment EBITDA	Segment EBITDA Margin
2016	$2,607	$ 279	10.7 %
Volume and mix	452	92	
Acquisition	96	12	
Performance	14	(22)	
Currency effects	3	(2)	
2017	$3,172	$ 359	11.3 %

Light Vehicle sales in 2017, exclusive of currency and the increased sales from the acquisition of USM – Warren on March 1, 2017, were 18% higher than 2016. The volume-related sales increase was driven primarily by stronger production levels, content increases and favorable model mix on certain of our significant full frame light truck programs in North America, resulting in sales growth that exceeded overall higher 2017 North America full frame light truck production of 3%. Sales in this segment also benefited from increased production levels in Europe, South America and Asia Pacific and new customer programs, including the transfer of a program previously supported by our Commercial Vehicle segment that moved to Light Vehicle in mid-2016 when the axle used to support the program was replaced with an axle produced by the Light Vehicle segment. This program increased Light Vehicle 2017 sales by approximately $50. Customer pricing and cost recovery impacts increased sales by $14.

Light Vehicle segment EBITDA increased by $80 in 2017. Higher sales volumes provided a benefit of $92, while the acquisition of USM – Warren contributed $12. The year-over-year performance-related earnings reduction in 2017 was driven by $37 of increased commodity costs and $30 of incremental new program start-up and launch-related costs. Partially offsetting these higher costs were pricing and material recovery actions that increased segment EBITDA by $14 and material cost initiatives that provided increased savings of $32. The remaining performance-related reduction of $1 was attributable to higher engineering investment and increased incentive compensation net of other earnings improvement actions.

Commercial Vehicle

	Sales	Segment EBITDA	Segment EBITDA Margin
2016	$1,254	$ 96	7.7 %
Volume and mix	81	20	
Acquisition	44	1	
Performance	12	6	

Currency effects	21	(7	)	
2017	$1,412	$ 116	8.2	%

Currency effects which increased sales in 2017 were primarily due to a stronger euro and Brazilian real. The increased sales from acquisition in 2017 relate to the purchase of SIFCO business late in 2016, as described above. After adjusting for the effects of currency and acquisitions, sales in our Commercial Vehicle segment increased 7% in 2017. The volume-related increase was primarily attributable to higher production levels in North America, where Class 8 production was up 12% and Classes 5-7 production was up 6%. Also contributing to the higher sales volume were production increases of 28% in South

America and 5% in Europe. Partially offsetting the increased production levels was the transfer of a program having sales of about $50 to the Light Vehicle segment which began supplying the axle for the program in mid-2016.

Commercial Vehicle segment EBITDA increased by $20 in 2017. Although sales benefited from currency translation, segment EBITDA was negatively impacted by currency transaction losses. Higher sales volumes increased 2017 earnings by $20. The performance-related improvement in segment EBITDA resulted primarily from pricing and material recovery actions which provided a benefit of $12, a reduction in warranty expense of $8 and material cost savings actions of $12, more than offsetting increases in material commodity costs of $14 and in incentive compensation and other costs of $12.

Off-Highway

	Sales	Segment EBITDA	Segment EBITDA Margin
2016	$909	$ 129	14.2 %
Volume and mix	202	41	
Acquisition	401	40	
Performance	(10)	(1)	
Currency effects	19	3	
2017	$1,521	$ 212	13.9 %

The operations of the BFP and BPT businesses acquired on February 1, 2017 added $401 to this segment's sales in 2017. Currency effects provided higher sales of $19, principally due to a stronger euro compared to 2016. After adjusting for these two items, sales in 2017 were higher by 21%, reflecting significantly higher global end-market demand.

Off-Highway 2017 segment EBITDA increased by $83, with the BFP and BPT operations contributing $40 and higher sales volumes providing an increase of $41. Year-over-year performance-related earnings in 2017 were reduced by increased engineering and development expenses of $14, lower pricing, net of material recovery, of $10, and higher commodity costs of $6. Substantially offsetting these reductions to earnings were material cost savings of $13 and improved earnings from restructuring and other cost savings actions.

Power Technologies

	Sales	Segment EBITDA	Segment EBITDA Margin
2016	$1,056	$ 158	15.0 %
Volume and mix	83	26	
Divestiture	(41)	(5)	
Performance	(5)	(12)	
Currency effects	11	1	
2017	$1,104	$ 168	15.2 %

Power Technologies primarily serves the light vehicle market but also sells product to the medium/heavy truck and off-highway markets. Net of currency effects and the reduction in sales resulting from the Nippon Reinz divestiture in the fourth quarter of 2016, sales in 2017 increased 7%, primarily due to overall stronger market demand and new customer programs.

Segment EBITDA increased by $10 in 2017, with higher sales volumes providing an earnings benefit of $26 and the divestiture of Nippon Reinz reducing earnings by $5. A reduction of $12 in year-over-year third performance-related earnings was driven by higher commodity costs of $13, customer pricing reductions of $5 and other net cost increases of $4. Partially offsetting these reductions to earnings was savings from material cost reduction initiatives of $10.

Non-GAAP Financial Measures

Adjusted EBITDA

We have defined adjusted EBITDA as net income before interest, taxes, depreciation, amortization, equity grant expense, restructuring expense, non-service cost components of pension and other postretirement benefits (OPEB) costs and other adjustments not related to our core operations (gain/loss on debt extinguishment, pension settlements, divestitures, impairment, etc.). Adjusted EBITDA is a measure of our ability to maintain and continue to invest in our operations and provide shareholder returns. We use adjusted EBITDA in assessing the effectiveness of our business strategies, evaluating and pricing potential acquisitions and as a factor in making incentive compensation decisions. In addition to its use by management, we also believe adjusted EBITDA is a measure widely used by securities analysts, investors and others to evaluate financial performance of our company relative to other Tier 1 automotive suppliers. Adjusted EBITDA should not be considered a substitute for earnings before income taxes, net income or other results reported in accordance with GAAP. Adjusted EBITDA may not be comparable to similarly titled measures reported by other companies.

The following table provides a reconciliation of net income to adjusted EBITDA.

	2018	2017	2016
Net income	$440	$116	$653
Equity in earnings of affiliates	24	19	14
Income tax expense (benefit)	78	283	(424)
Earnings before income taxes	494	380	215
Depreciation and amortization	270	233	182
Restructuring charges, net	25	14	36
Interest expense, net	85	91	100
Other*	83	117	127
Adjusted EBITDA	$957	$835	$660

* Other includes stock compensation expense, non-service cost components of pension and OPEB costs, strategic transaction expenses, net of transaction breakup fees, acquisition related inventory adjustments, impairment of indefinite-lived intangible asset, loss on extinguishment of debt, loss on sale of subsidiaries and other items. See Note 21 to our consolidated financial statements in Item 8 for additional details. Non-service cost components of pension and OPEB costs were excluded from adjusted EBITDA in 2018 concurrent with adoption of ASU 2017-07 which required such cost to be classified outside of operating income. While prior period amounts have been reclassified on our consolidated statement of operations for U.S. GAAP reporting purposes, we did not adjust prior period adjusted EBITDA on the basis of materiality. Had we conformed adjusted EBITDA for 2017 and 2016, adjusted EBITDA would have been $842 and $656, respectively.

Free Cash Flow and Adjusted Free Cash Flow

We have defined free cash flow as cash provided by operating activities less purchases of property, plant and equipment. We have defined adjusted free cash flow as cash provided by operating activities excluding discretionary pension contributions less purchases of property, plant and equipment. We believe these measures are useful to investors in evaluating the operational cash flow of the company inclusive of the spending required to maintain the operations. Free cash flow and adjusted free cash flow are not intended to represent nor be an alternative to the measure of net cash provided by operating activities reported under GAAP. Free cash flow and adjusted free cash flow may not be comparable to similarly titled measures reported by other companies.

The following table reconciles net cash flows provided by operating activities to adjusted free cash flow.

	2018	2017	2016

Net cash provided by operating activities	$568	$554	$384
Purchases of property, plant and equipment	(325)	(393)	(322)
Free cash flow	243	161	62
Discretionary pension contribution	—	—	—
Adjusted free cash flow	$243	$161	$62

Liquidity

The following table provides a reconciliation of cash and cash equivalents to liquidity, a non-GAAP measure, at December 31, 2018:

Cash and cash equivalents	$510
Less: Deposits supporting obligations	(5)
Available cash	505
Additional cash availability from Revolving Facility	579
Marketable securities	21
Total liquidity	$1,105

Cash deposits are maintained to provide credit enhancement for certain agreements and are reported as part of cash and cash equivalents. For most of these deposits, the cash may be withdrawn if a comparable security is provided in the form of letters of credit. Accordingly, these deposits are not considered to be restricted.

Marketable securities are included as a component of liquidity as these investments can be readily liquidated at our discretion.

The components of our December 31, 2018 consolidated cash balance were as follows:

	U.S.	Non-U.S.	Total
Cash and cash equivalents	$175	$ 201	$376
Cash and cash equivalents held as deposits		5	5
Cash and cash equivalents held at less than wholly-owned subsidiaries	3	126	129
Consolidated cash balance	$178	$ 332	$510

A portion of the non-U.S. cash and cash equivalents is utilized for working capital and other operating purposes. Several countries have local regulatory requirements that restrict the ability of our operations to repatriate this cash. Beyond these restrictions, there are practical limitations on repatriation of cash from certain subsidiaries because of the resulting tax withholdings and subsidiary by-law restrictions which could limit our ability to access cash and other assets.

The principal sources of liquidity available for our future cash requirements are expected to be (i) cash flows from operations, (ii) cash and cash equivalents on hand and (iii) borrowings from our Revolving Facility. We believe that our overall liquidity and operating cash flow will be sufficient to meet our anticipated cash requirements for capital expenditures, working capital, debt obligations, common stock repurchases and other commitments during the next twelve months. While uncertainty surrounding the current economic environment could adversely impact our business, based on our current financial position, we believe it is unlikely that any such effects would preclude us from maintaining sufficient liquidity.

At December 31, 2018, we had no outstanding borrowings under the Revolving Facility but we had utilized $21 for letters of credit. We had availability at December 31, 2018 under the Revolving Facility of $579 after deducting the outstanding letters of credit.

At December 31, 2018, we were in compliance with the covenants of our financing agreements. Under the Revolving Facility and our senior notes, we are required to comply with certain incurrence-based covenants customary for facilities of these types. The incurrence-based covenants in the Revolving Facility permit us to, among other things, (i) issue foreign subsidiary indebtedness, (ii) incur general secured indebtedness subject to a pro forma first lien net leverage ratio not to exceed 1.50:1.00 in the case of first lien debt and a pro forma secured net leverage ratio of 2.50:1.00 in the case of other secured debt and (iii) incur additional unsecured debt subject to a pro forma total net leverage ratio not to exceed 3.50:1.00. We may also make dividend payments in respect of our common stock as well as certain investments and acquisitions subject to a pro forma total net leverage ratio of 2.75:1.00. In addition, the Revolving Facility is subject to a financial covenant requiring us to maintain a first lien net leverage ratio not to exceed 2.00:1.00. The indentures governing the senior notes include other incurrence-based covenants that may subject us to additional specified limitations.

Our Board of Directors approved an expansion of our existing common stock share repurchase program from $100 to $200 on March 24, 2018. The share repurchase program expires on December 31, 2019. We plan to repurchase shares utilizing available excess cash either in the open market or through privately negotiated transactions. The stock repurchases are subject to prevailing market conditions, available growth opportunities and other considerations. During 2018, we paid $25 to acquire 1,055,000 shares of common stock in the open market.

On July 30, 2018, we entered into a definitive agreement to purchase Oerlikon Drive Systems for approximately 625 Swiss francs, inclusive of required settlements of outstanding debt obligations Oerlikon Drive Systems has with Oerlikon Group. Committed financing has been arranged to complete the transaction. Subject to customary regulatory approval, the acquisition is expected to close in the first quarter of 2019.

On January 11, 2019, we acquired a 100% ownership interest in SME. We paid $88 at closing, consisting of $62 in cash on hand and a note payable of $26. The note is payable in five years and bears annual interest at 5%.

From time to time, depending upon market, pricing and other conditions, as well as our cash balances and liquidity, we may seek to acquire our senior notes or other indebtedness or our common stock through open market purchases, privately negotiated transactions, tender offers, exchange offers or otherwise, upon such terms and at such prices as we may determine (or as may be provided for in the indentures governing the notes), for cash, securities or other consideration. There can be no assurance that we will pursue any such transactions in the future, as the pursuit of any alternative will depend upon numerous factors such as market conditions, our financial performance and the limitations applicable to such transactions under our financing and governance documents.

Cash Flow

	2018	2017	2016
Cash used for changes in working capital	$(113)	$(8)	$(51)
Other cash provided by operations	681	562	435
Net cash provided by operating activities	568	554	384
Net cash used in investing activities	(462)	(583)	(365)
Net cash used in financing activities	(180)	(120)	(88)
Net decrease in cash, cash equivalents and restricted cash	$(74)	$(149)	$(69)

The table above summarizes our consolidated statement of cash flows.

Operating activities — Exclusive of working capital, other cash provided by operations was $681 during 2018 compared to $562 during 2017 and $435 during 2016. The increase in 2018 is principally due to an increased level of operating earnings, lower year-over-year cash paid for interest of $14 and cash paid for strategic transaction expenses of $15, partially offset by higher year-over-year cash paid for income taxes of $58. The increase in 2017 is principally due to an increased level of operating earnings in 2017. Partially offsetting the higher operating earnings was an increased cash use of $20 for acquisition-related costs, including costs incurred to complete the transactions and post-acquisition related integration costs.

Working capital used cash of $113 in 2018, $8 in 2017 and $51 in 2016. Cash of $113 in 2018, $141 in 2017 and $86 in 2016 was used to finance increased receivables. The higher level of cash required for receivables in 2018 and 2017 was primarily due to higher year-over-year sales. Higher inventories consumed cash of $110 in 2018, $146 in 2017 and $13 in 2016. The higher use of cash in 2018 is reflective of higher material costs and increased safety stock of certain materials to satisfy customer requirements. The higher level of cash used to finance increased inventory in 2017 was due primarily to the stronger year-over-year volume levels. Increases in accounts payable and other net liabilities provided cash of $110 in 2018, $279 in 2017 and $48 in 2016. Cash provided by accounts payable and other liabilities in 2018 was reduced by the payment of higher incentive compensation accrued in 2017. In addition to higher volume levels, the cash generated in 2017 from increased levels of accounts payable and other liabilities was also reflective of changes in payment practices and lengthening of payment terms with suppliers. The use of cash in 2016 for receivables reflected increased sales levels in November and December compared to 2015. Except for this increase in receivables in 2016, there were no significant uses or sources of cash from working capital components in 2016 and 2015 as organic sales levels were relatively comparable with the preceding years.

Investing activities — Expenditures for property plant and equipment were $325, $393 and $322 in 2018, 2017 and 2016. Higher levels of capital spending in 2016 and 2017 resulted from our increased new business sales backlog, including the launch of two of our largest customer programs which both required new investment. Although still at elevated levels, capital expenditures have decreased from the 2017 peak, with lower requirements to support new business launches with customers. In 2018, we paid $125 to acquire a 55% ownership interest in TM4 and, pursuant to our purchase and sale agreement for the BFP and BPT acquisitions in 2017, we made a net payment of $20 to complete a required purchase of real estate and settle purchase price adjustment amounts owed by the seller. During 2018, we completed the sale of our Brazil suspension components business resulting in a net cash outflow of $6, as the cash transferred to the buyer in the transaction exceeded the proceeds received from the buyer. During 2017, we paid $106, net of cash acquired, to purchase an 80% ownership interest in BFP and BPT, and we used cash of $78 to acquire the USM – Warren business. During 2016, we paid $18 to acquire the aftermarket distribution business of Magnum and $60 to acquire the strategic assets of SIFCO's commercial vehicle steer axle systems and related forged components businesses. In 2016, we received net proceeds of $5 and $29 related to the sale of our Nippon Reinz and DCLLC subsidiaries. During all three years, purchases of marketable securities were largely funded by proceeds from sales and maturities of marketable securities.

Financing activities — During 2018, we paid $43 to acquire Brevini's remaining 20% ownership interests in BFP and BPT. Also during 2018, Yulon Motor Co., Ltd. (Yulon) paid $22 to acquire a direct ownership interest in two of our consolidated operating subsidiaries. Yulon's ownership interest in the two consolidated operating subsidiaries did not change as a result of the transactions, as it previously owned the same percentages indirectly through a series of consolidated holding companies. The $22, less withholding taxes, was returned to Yulon in the form of a dividend in 2018. During 2017, our European subsidiary, Dana Financing Luxembourg S.à r.l., completed the issuance of $400 of its April 2025 Notes and paid financing costs of $6 related to the notes. We paid financing costs of $3 related to our Term Facility and Revolving Facility and drew the entire $275 available under the Term Facility. We redeemed all $450 of our September 2021 Notes at a $14 premium, repaid indebtedness of a wholly-owned subsidiary in Brazil at a premium of $1 and repaid indebtedness of our BPT and BFP subsidiaries. In 2016, Dana Financing Luxembourg S.à r.l. completed the issuance of $375 of its June 2026 Notes and paid financing costs of $7 related to the notes. We paid financing costs of $3 to enter our Revolving Facility and a premium of $12 to redeem all of our February 2021 Notes. Also during 2016, we made scheduled repayments of $32 and took out $66 of additional long-term debt at international locations. We used cash of $25 and $81 to repurchase common shares under share repurchase programs in 2018 and 2016. We used $58, $35 and $35 for dividend payments to common stockholders in 2018, 2017 and 2016. The increase in dividends paid to common stockholders in 2018 was due to our Board approving an additional four cents per share increase in the quarterly dividend. Distributions to noncontrolling interests totaled $42, $12 and $17 in 2018, 2017 and 2016. Distributions to noncontrolling interest in 2018 includes the dividend to Yulon discussed above.

Off-Balance Sheet Arrangements

In connection with the divestiture of our Structural Products business in 2010, leases covering three U.S. facilities were assigned to a U.S. affiliate of the new owner, Metalsa S.A. de C.V. (Metalsa). Under the terms of the sale agreement, we guarantee the affiliate's performance under the leases, which run through June 2025, including approximately $6 of annual payments. In the event of a required payment by Dana as guarantor, we are entitled to pursue full recovery from Metalsa of the amounts paid under the guarantee and to take possession of the leased property.

Contractual Obligations

We are obligated to make future cash payments in fixed amounts under various agreements. The following table summarizes our significant contractual obligations as of December 31, 2018.

	Payments Due by Period				
Contractual Cash Obligations	Total	2019	2020 - 2021	2022 - 2023	After 2023
Long-term debt[1]	$1,788	$20	$38	$517	$1,213
Interest payments[2]	591	98	193	182	118
Leases[3]	245	57	76	48	64
Unconditional purchase obligations[4]	138	135	2	1	

Pension contribution[5]	16	16			
Retiree health care benefits[6]	83	5	10	10	58
Uncertain income tax positions[7]	—				
Acquisition pending regulatory approval[8]	635	635			
Total contractual cash obligations	$3,496	$966	$319	$758	$1,453

Notes:

(1) Principal payments on long-term debt and capital lease obligations in place at December 31, 2018.

(2) Interest payments are based on long-term debt and capital leases in place at December 31, 2018 and the interest rates applicable to such obligations.

(3) Operating leases related to real estate, manufacturing and material handling equipment, vehicles and other assets.

(4) Unconditional purchase obligations are comprised of commitments for the procurement of fixed assets, the purchase of raw materials and the fulfillment of other contractual obligations.

(5) This amount represents estimated 2019 minimum required contributions to our global defined benefit pension plans. We have not estimated pension contributions beyond 2019 due to the significant impact that return on plan assets and changes in discount rates might have on such amounts.

(6) This amount represents estimated payments under our non-U.S. retiree health care programs. Obligations under the non-U.S. retiree health care programs are not fixed commitments and will vary depending on various factors, including the level of participant utilization and inflation. Our estimates of the payments to be made in the future consider recent payment trends and certain of our actuarial assumptions.

(7) We are not able to reasonably estimate the timing of payments related to uncertain tax positions because the timing of settlement is uncertain. The above table does not reflect unrecognized tax benefits at December 31, 2018 of $107. See Note 18 to our consolidated financial statements in Item 8 for additional discussion.

(8) On July 30, 2018, we entered into a definitive agreement to purchase Oerlikon Drive Systems. Subject to customary regulatory approvals, the acquisition is expected to close in the first quarter of 2019. The amount presented has not been reduced by the amount of cash and cash equivalents expected to be on Oerlikon Drive Systems' balance sheet on the date of acquisition.

At December 31, 2018, we maintained cash balances of $5 on deposit with financial institutions primarily to support property insurance policy deductibles, certain employee retirement obligations and specific government approved environmental remediation efforts.

Contingencies

For a summary of litigation and other contingencies, see Note 16 to our consolidated financial statements in Item 8. Based on information available to us at the present time, we do not believe that any liabilities beyond the amounts already accrued that may result from these contingencies will have a material adverse effect on our liquidity, financial condition or results of operations.

Critical Accounting Estimates

The preparation of our consolidated financial statements in accordance with GAAP requires us to use estimates and make judgments and assumptions about future events that affect the reported amounts of assets, liabilities, revenue, expenses and the related disclosures. Considerable judgment is often involved in making these determinations. Critical estimates are those that require the most difficult, subjective or complex judgments in the preparation of the financial statements and the accompanying notes. We evaluate these estimates and judgments on a regular basis. We believe our assumptions and estimates are reasonable and appropriate. However, the use of different assumptions could result in significantly different results and actual results could differ from those estimates. The following discussion of accounting estimates is intended to supplement the Summary of Significant Accounting Policies presented as Note 1 to our consolidated financial statements in Item 8.

Income taxes — Accounting for income taxes is complex, in part because we conduct business globally and therefore file income tax returns in numerous tax jurisdictions. Significant judgment is required in determining the income tax provision, uncertain tax positions, deferred tax assets and liabilities and the valuation allowances recorded against our net deferred tax assets. A valuation allowance is provided when, in our judgment based upon available information, it is more likely than not that a portion of such deferred tax assets will not be realized. To make this assessment, we consider the historical and projected future taxable income or loss by tax jurisdiction. We consider all components of comprehensive income and weigh the positive and negative evidence, putting greater reliance on objectively verifiable historical evidence than on projections of future profitability that are dependent on actions that have not taken place as of the assessment date. We also consider changes to historical profitability of actions that occurred through the date of assessment and objectively verifiable effects of material forecasted events that would have a sustained effect on future profitability, as well as the effect on historical profits of nonrecurring events. We also incorporate the changes to historical and prospective income from tax planning strategies expected to be implemented.

Tax reform legislation in the U.S. was signed into law in December 2017 with enactment of the Tax Cuts and Jobs Act ("Act"). This legislation represents a fundamental and dramatic shift in U.S. taxation, with many provisions of the Act differing significantly from previous U.S. tax law. With enactment occurring late in 2017, companies with calendar reporting years did not have extensive time to analyze the impacts of the legislation. Applying the effects of a lower corporate tax rate to deferred tax assets and liabilities, evaluating the one-time transition tax on undistributed earnings of foreign operations, examining the implications of changes to net operating loss and other credit carryforwards and considering other provisions of the Act in a relatively compressed time frame necessitated significant estimation and judgment. Following the guidance of the U.S. Securities and Exchange Commission's Staff Accounting Bulletin No. 118, we made reasonable estimates of the Act's provisions and recorded a non-cash charge to the fourth quarter 2017 tax expense of $186 to reflect these effects. This provisional estimate was impacted based on further analysis of the Act's requirements. Given the Act's broad and complex changes, further clarification, interpretation and regulatory guidance affected the assumptions we used in making our reasonable estimate.

In the ordinary course of business, there are many transactions and calculations where the ultimate tax determination is less than certain. We are regularly under audit by the various applicable tax authorities. Although the outcome of tax audits is always uncertain, we believe that we have appropriate support for the positions taken on our tax returns and that our annual tax provisions include amounts sufficient to pay assessments, if any, upon final determination by the taxing authorities. 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. See additional discussion of our deferred tax assets and liabilities in Note 18 to our consolidated financial statements in Item 8.

Retiree benefits — Accounting for pension benefits and other postretirement benefits (OPEB) involves estimating the cost of benefits to be provided well into the future and attributing that cost to the time period each employee works. These plan expenses and obligations are dependent on assumptions developed by us in consultation with our outside advisers such as actuaries and other consultants and are generally calculated independently of funding requirements. The assumptions used, including inflation, discount rates, investment returns, life expectancies, turnover rates, retirement rates, future compensation levels and health care cost trend rates, have a significant impact on plan expenses and obligations. These assumptions are regularly reviewed and modified when appropriate based on historical experience, current trends and the future outlook. Changes in one or more of the underlying assumptions could result in a material impact to our consolidated financial statements in any given period. If actual experience differs from expectations, our financial position and results of operations in future periods could be affected.

Mortality rates are based in part on the company's plan experience and actuarial estimates. The inflation assumption is based on an evaluation of external market indicators, while retirement and turnover rates are based primarily on actual plan experience. Health care cost trend rates are developed based on our actual historical claims experience, the near-term outlook and an assessment of likely long-term trends. For our largest plans, discount rates are based upon the construction of a yield curve which is developed based on a subset of high-quality fixed-income investments (those with yields between the 40th and 90th percentiles). The projected cash flows are matched to this yield curve and a present value developed which is then calibrated to develop a single equivalent discount rate. Pension benefits are funded through deposits with trustees that satisfy, at a minimum, the applicable funding regulations. For our largest defined benefit pension plans, expected investment rates of return are based on input from the plans’ investment advisers and actuary regarding our expected investment portfolio mix, historical rates of return on those assets, projected future asset class returns, the impact of active management and long-term market conditions and inflation expectations. We believe that the long-term asset allocation on average will approximate the targeted allocation and we regularly review the actual asset allocation to periodically re-balance the investments to the targeted allocation when appropriate. OPEB and the majority of our non-U.S. pension benefits are funded as they become due.

Actuarial gains or losses may result from changes in assumptions or when actual experience is different from that which was expected. Under the applicable standards, those gains and losses are not required to be immediately recognized in our results of operations as income or expense, but instead are deferred as part of AOCI and amortized into our results of operations over future periods.

U.S. retirement plans — Our U.S. defined benefit pension plans comprise 80% of our consolidated defined benefit pension obligations at December 31, 2018. These plans are frozen and no service-related costs are being incurred. Changes in our net obligations are principally attributable to changing discount rates and the performance of plan assets. In part to reduce our exposure to fluctuations in unfunded pension obligations, our Board of Directors approved in October 2017 the termination of a U.S. defined benefit pension plan. At December 31, 2018, this plan had benefit obligations of $938 and assets of $773. The benefit obligations have been valued at the amount expected to be required to settle the obligations utilizing assumptions regarding the portion of obligations expected to be settled through participant acceptance of lump sum payments or annuities and the cost to purchase annuities. Increasing the plan's obligations to reflect the expected settlement value resulted in an actuarial loss of $69 that was charged to OCI in 2017. Ultimate plan termination is subject to prevailing market conditions and other considerations, including interest rates and annuity pricing. In the event that approvals are received and we proceed with effecting termination of the plan, settlement of the obligations is expected to occur in the first half of 2019. For our other pension plans, benefit obligations are valued using discount rates established annually in consultation with our outside actuarial advisers using the same yield curve approach described above. Rising discount rates decrease the present value of future pension obligations – a 25 basis point increase in the discount rate would decrease our U.S. pension liability by about $33. As indicated above, when establishing the expected long-term rate of return on our U.S. pension plan assets, we consider historical performance and forward looking return estimates reflective of our portfolio mix and investment strategy. Based on the most recent analysis of projected portfolio returns, we concluded that the use of a 6.0% expected return in 2018 is appropriate for our U.S. pension plans where termination is not anticipated. With the asset portfolio of the plan being terminated having a larger proportion of cash and fixed income investments, a rate of return of 3.8% through the expected settlement date in the first half of 2019 was considered appropriate. See Note 12 to the consolidated financial statements in Item 8 for information about the investing and allocation objectives related to our U.S. pension plan assets.

During 2018, we adopted a custom mortality table using historical mortality experience for our U.S. pension plans. These custom mortality tables are projected generationally from 2015 using the Society of Actuaries (SOA) projection scale, MP-2018, modified to use a 0.75% long-term improvement rate (LTIR) being achieved by 2027. Using the plan-specific mortality tables did not have a material effect on our pension obligations as we have been modifying the SOA tables for several years.

In 2016, we began using a full yield curve approach to estimate the service (where applicable) and interest components of the annual cost of our pension and other postretirement benefit plans. The new method estimates interest and service expense using the specific spot rates, from the yield curve, that relate to projected cash flows. Prior to 2016, we had estimated interest and service expense using the discount rate underlying the calculation of the related projected benefit obligation at the end of the preceding year. That rate was a weighted-average rate derived from the corresponding yield curve. The full yield curve approach, which we believe is more precise, reduced interest expense for our pension plans in the U.S. by approximately $14 in 2016 and $11 in 2017. The determination of the projected benefit obligation at year end is unchanged, however, so the actuarial gain or loss is affected by the amount of the change in interest and service expense.

At December 31, 2018, we have $542 of unrecognized losses relating to our U.S. pension plans. Actuarial gains and losses, which are primarily the result of changes in the discount rate and other assumptions and differences between actual and expected asset returns, are deferred in AOCI and amortized to expense following the corridor approach. We use the average remaining service period of active participants unless almost all of the plan's participants are inactive, in which case we use the average remaining life expectancy of inactive participants. The plan being terminated has deferred actuarial losses of $370 at December 31, 2018. The unrecognized actuarial losses of this plan that remain when the obligations are settled in 2019 will be recognized as expense at that time.

Actuarial gains and losses can also impact required cash contributions. Based on the current funded status of our U.S. plans, there are no minimum contribution requirements for 2018. For the U.S. plan being terminated, to effectuate the expected settlement in 2019, Dana will be required to fund any plan obligations in excess of assets. Based on the plan obligation settlement assumptions and asset values at December 31, 2018, the unfunded plan obligations are $165. The actual cash requirement at settlement will vary from this amount based on the actual cost of annuities and participant settlement elections relative to those assumed for year-end 2018 valuation and the actual return on assets compared to the 3.8% expected annual rate of return.

See Note 12 to our consolidated financial statements in Item 8 for additional discussion of our pension and OPEB obligations.

Goodwill and other indefinite-lived intangible assets — Our goodwill and other indefinite-lived intangible assets are tested for impairment annually as of October 31 for all of our reporting units, and more frequently if events or circumstances warrant such a review. We make significant assumptions and estimates about the extent and timing of future cash flows, growth rates and discount rates. The cash flows are estimated over a significant future period of time, which makes those estimates and assumptions subject to a high degree of uncertainty. We also utilize market valuation models which require us to make certain assumptions and estimates regarding the applicability of those models to our assets and businesses. We use our internal forecasts, which we update quarterly, to make our cash flow projections. These forecasts are based on our knowledge of our customers' production forecasts, our assessment of market growth rates, net new business, material and labor cost estimates, cost recovery agreements with customers and our estimate of savings expected from our restructuring activities.

The most likely factors that would significantly impact our forecasts are changes in customer production levels and loss of significant portions of our business. We believe that the assumptions and estimates used in the assessment of the goodwill and other indefinite-lived intangible assets as of October 31, 2018 were reasonable.

Long-lived assets with definite lives — We perform impairment assessments on our property, plant and equipment and our definite-lived intangible assets whenever events and circumstances indicate that the carrying amounts of the assets may not be recoverable. When indications are present, we compare the estimated future undiscounted net cash flows of the operations to which the assets relate to the carrying amounts of such assets. We utilize the cash flow projections discussed above for property, plant and equipment and amortizable intangibles. We group the assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the undiscounted future cash flows using the life of the primary assets. If the carrying amounts of the long-lived assets are not recoverable from future cash flows and exceed their fair value, an impairment loss is recognized to reduce the carrying amounts of the long-lived assets to their fair value. Fair value is determined based on discounted cash flows, third party appraisals or other methods that provide appropriate estimates of value. Determining whether a triggering event has occurred, performing the impairment analysis and estimating the fair value of the assets require numerous assumptions and a considerable amount of management judgment.

Investments in affiliates — We had aggregate investments in affiliates of $208 at December 31, 2018 and $163 at December 31, 2017. We monitor our investments in affiliates for indicators of other-than-temporary declines in value on an ongoing basis in accordance with GAAP. If we determine that an other-than temporary decline in value has occurred, we recognize an impairment loss, which is measured as the difference between the recorded carrying value and the fair value of the investment. Fair value is generally determined using the discounted cash flows (an income approach) or guideline public company (a market approach) methods.

Warranty — Costs related to product warranty obligations are estimated and accrued at the time of sale with a charge against cost of sales. Warranty accruals are evaluated and adjusted as appropriate based on occurrences giving rise to potential warranty exposure and associated experience. Warranty accruals and adjustments require significant judgment, including a determination of our involvement in the matter giving rise to the potential warranty issue or claim, our contractual requirements, estimates of units requiring repair and estimates of repair costs. If actual experience differs from expectations, our financial position and results of operations in future periods could be affected.

Contingency reserves — We have numerous other loss exposures, such as product liability and warranty claims and matters involving litigation. Establishing loss reserves for these matters requires the use of estimates and judgment regarding risk of exposure and ultimate liability. Product liability and warranty claims are generally estimated based on historical experience and the estimated costs associated with specific events giving rise to potential field campaigns or recalls. In the case of legal contingencies, estimates are made of the likely outcome of legal proceedings and potential exposure where reasonably determinable based on the information presently known to us. New information and other developments in these matters could materially affect our recorded liabilities.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to fluctuations in foreign currency exchange rates, commodity prices for products we use in our manufacturing and interest rates. To reduce our exposure to these risks, we maintain risk management controls to monitor these risks and take appropriate actions to attempt to mitigate such forms of market risks.

Foreign currency exchange rate risk — Our foreign currency exposures are primarily associated with intercompany and third party sales and purchase transactions, cross-currency intercompany loans and external debt. We use forward contracts to manage our foreign currency exchange rate risk associated with a portion of our forecasted foreign currency-denominated sales and purchase transactions and with certain foreign currency-denominated assets and liabilities. We also use currency swaps, including fixed-to-fixed cross-currency interest rate swaps, to manage foreign currency exchange rate risk associated with our intercompany loans and external debt. Foreign currency exposures are reviewed quarterly, at a minimum, and natural offsets are considered prior to entering into derivative instruments.

Changes in the fair value of derivative instruments treated as cash flow hedges are reported in other comprehensive income (loss) (OCI). Deferred gains and losses are reclassified to earnings in the same period in which the underlying transactions affect earnings. Specifically, with respect to the cross-currency interest rate swap, to the extent we recognize an exchange gain or loss on the underlying external debt, we reclassify an offsetting portion from OCI to earnings in the same period.

Changes in the fair value of derivative instruments not treated as cash flow hedges are recognized in earnings in the period in which those changes occur. Changes in the fair value of derivative instruments associated with product-related transactions are recorded in cost of sales, while those associated with non-product transactions are recorded in other income (expense), net. See Note 15 to our consolidated financial statements in Item 8.

The following table summarizes the sensitivity of the fair value of our derivative instruments, including forward contracts and currency swaps, at December 31, 2018 to a 10% change in foreign exchange rates.

	10% Increase in Rates Gain (Loss)	10% Decrease in Rates Gain (Loss)
Foreign currency rate sensitivity:		
Currency swaps	$ (127)	$ 113
Forward contracts	$ (17)	$ 20

At December 31, 2018, of the $2,104 total notional amount of foreign currency derivatives, approximately 52% represents the aggregate of three fixed-to-fixed cross-currency interest rate swaps associated with recorded foreign currency-denominated external debt and certain foreign currency-denominated intercompany loans while the remaining 48% primarily represents forward contracts associated with our forecasted foreign currency-denominated sales and purchase transactions.

To manage our global liquidity objectives, we periodically execute intercompany loans, some of which are foreign currency-denominated. With respect to such intercompany loans, the total notional amount outstanding at December 31, 2018 is approximately $550. Depending on the specific objective of each intercompany loan arrangement, certain intercompany loans may be hedged while others remain unhedged for strategic reasons. The decision to hedge the loan, to designate the loan itself as a hedge or not to hedge the loan is dependent on management's underlying strategy. Of the approximately $550 of foreign currency-denominated intercompany loans outstanding at December 31, 2018, approximately two-thirds, or $322, has been hedged by one of our fixed-to-fixed cross-currency swaps whereby we have protected the income statement from exchange rate risk. Of the remaining one-third of such outstanding intercompany loans, none has been hedged. A significant portion of this remaining one-third is deemed to be permanent in nature while the remainder of this one-third portion has been designated as a net investment hedge to protect the USD-equivalent value of the corresponding amount of the underlying investment in our Mexican operations. The remeasurement of foreign currency-denominated intercompany loans that have been designated as net investment hedges or characterized as permanent in nature is recognized as an adjustment to the cumulative translation adjustment component of OCI.

To align our cash requirements with availability by currency, we also periodically issue external debt that is denominated in a currency other than the functional currency of the issuing entity. As of December 31, 2018, we had $775 of external U.S. dollar debt, issued by a euro-functional entity, all of which has been hedged by our fixed-to-fixed cross-currency interest rate swaps. Such swaps are treated as cash flow hedges whereby the changes in fair value are recorded in OCI to the extent the hedges remain effective.

At December 31, 2017, the total notional amount of our currency derivative portfolio was $1,408 and included fixed-to-fixed cross-currency interest rate swaps associated with $775 of external debt. The remaining $643 represents currency swaps and forward contracts associated with certain foreign currency-denominated intercompany loans and forecasted sales and purchase transactions.

Commodity price risk — We do not utilize derivative contracts to manage commodity price risk. Our overall strategy is to pass through commodity risk to our customers in our pricing agreements. A substantial portion of our customer agreements include contractual provisions for the pass-through of commodity price movements. In instances where the risk is not covered contractually, we have generally been able to adjust customer pricing to recover commodity cost increases.

Interest rate risk — Our long-term debt portfolio consists mostly of fixed-rate instruments. On occasion we enter into interest rate swaps to convert fixed-rate debt to floating-rate debt. As described in Note 15 to our consolidated financial statements in Item 8, we entered into a fixed-to-floating interest rate swap during 2015 but terminated that swap prior to the end of 2015. At December 31, 2018, we do not hold any fixed-to-floating interest rate swaps. Our three fixed-to-fixed cross-currency interest rate swaps remain outstanding at December 31, 2018 and act as hedges of the currency risk of certain external and intercompany debt instruments. See Note 15 to our consolidated financial statements in Item 8 for additional information.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Dana Incorporated

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Dana Incorporated and its subsidiaries (the “Company”) as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, stockholders’ equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and schedule of valuation and qualifying accounts and reserves for each of the three years in the period ended December 31, 2018 appearing under Item 15(a)(3) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with 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, 2018, 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 TM4 Inc. (TM4) from its assessment of internal control over financial reporting as of December 31, 2018 because it was acquired by the Company in a purchase business combination during 2018. We have also excluded TM4 from our audit of internal control over financial reporting. TM4 is a subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent approximately 1.2% and approximately 0.1%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

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
Toledo, Ohio
February 15, 2019

We have served as the Company’s auditor since 1916.

Dana Incorporated
Consolidated Statement of Operations
(In millions, except per share amounts)

	2018	2017	2016
Net sales	$8,143	$7,209	$5,826
Costs and expenses			
Cost of sales	6,986	6,143	4,991
Selling, general and administrative expenses	499	508	401
Amortization of intangibles	8	11	8
Restructuring charges, net	25	14	36
Impairment of indefinite-lived intangible asset	(20)		
Gain (loss) on disposal group held for sale	3	(27)	
Loss on sale of subsidiaries			(80)
Other income (expense), net	(29)	(16)	22
Earnings before interest and income taxes	579	490	332
Loss on extinguishment of debt		(19)	(17)
Interest income	11	11	13
Interest expense	96	102	113
Earnings before income taxes	494	380	215
Income tax expense (benefit)	78	283	(424)
Equity in earnings of affiliates	24	19	14
Net income	440	116	653
Less: Noncontrolling interests net income	13	10	13
Less: Redeemable noncontrolling interests net loss		(5)	
Net income attributable to the parent company	$427	$111	$640
Net income per share available to common stockholders			
Basic	$2.94	$0.72	$4.38
Diluted	$2.91	$0.71	$4.36
Weighted-average common shares outstanding			
Basic	145.0	145.1	146.0
Diluted	146.5	146.9	146.8

The accompanying notes are an integral part of the consolidated financial statements.

Dana Incorporated
Consolidated Statement of Comprehensive Income
(In millions)

	2018	2017	2016
Net income	$440	$116	$653
Other comprehensive income (loss), net of tax:			
Currency translation adjustments	(63)	(14)	(41)
Hedging gains and losses	10	(30)	(30)
Investment and other gains and losses		2	(2)
Defined benefit plans	23	(6)	(39)
Other comprehensive loss	(30)	(48)	(112)
Total comprehensive income	410	68	541
Less: Comprehensive income attributable to noncontrolling interests	(7)	(17)	(11)
Less: Comprehensive loss attributable to redeemable noncontrolling interests	6	2	
Comprehensive income attributable to the parent company	$409	$53	$530

The accompanying notes are an integral part of the consolidated financial statements.

Dana Incorporated
Consolidated Balance Sheet
(In millions, except share and per share amounts)

	2018	2017
Assets		
Current assets		
Cash and cash equivalents	$510	$603
Marketable securities	21	40
Accounts receivable		
Trade, less allowance for doubtful accounts of $9 in 2018 and $8 in 2017	1,065	994
Other	178	172
Inventories	1,031	969
Other current assets	102	97
Current assets of disposal group held for sale		7
Total current assets	2,907	2,882
Goodwill	264	127
Intangibles	164	174
Deferred tax assets	445	420
Other noncurrent assets	80	71
Investments in affiliates	208	163
Property, plant and equipment, net	1,850	1,807
Total assets	$5,918	$5,644
Liabilities and equity		
Current liabilities		
Short-term debt	$8	$17
Current portion of long-term debt	20	23
Accounts payable	1,217	1,165
Accrued payroll and employee benefits	186	219
Taxes on income	47	53
Other accrued liabilities	269	220
Current liabilities of disposal group held for sale		5
Total current liabilities	1,747	1,702
Long-term debt, less debt issuance costs of $18 in 2018 and $22 in 2017	1,755	1,759
Pension and postretirement obligations	561	607
Other noncurrent liabilities	313	413
Noncurrent liabilities of disposal group held for sale		2
Total liabilities	4,376	4,483
Commitments and contingencies (Note 16)		
Redeemable noncontrolling interests	100	47
Parent company stockholders' equity		
Preferred stock, 50,000,000 shares authorized, $0.01 par value, no shares outstanding	—	—
Common stock, 450,000,000 shares authorized, $0.01 par value, 144,663,403 and 144,984,050 shares outstanding	2	2
Additional paid-in capital	2,368	2,354
Retained earnings	456	86
Treasury stock, at cost (8,342,185 and 7,001,017 shares)	(119)	(87)
Accumulated other comprehensive loss	(1,362)	(1,342)
Total parent company stockholders' equity	1,345	1,013

Noncontrolling interests	97	101
Total equity	1,442	1,114
Total liabilities and equity	$5,918	$5,644

The accompanying notes are an integral part of the consolidated financial statements.

Dana Incorporated
Consolidated Statement of Cash Flows
(In millions)

	2018	2017	2016
Operating activities			
Net income	$440	$116	$653
Depreciation	260	220	173
Amortization of intangibles	10	13	9
Amortization of deferred financing charges	4	5	5
Call premium on debt		15	12
Write-off of deferred financing costs		4	5
Earnings of affiliates, net of dividends received	(4)	(3)	(3)
Stock compensation expense	16	23	17
Deferred income taxes	(64)	179	(480)
Pension contributions, net	3	(6)	(16)
Impairment of indefinite-lived intangible asset	20		
(Gain) loss on sale of subsidiaries		(3)	80
(Gain) loss on disposal group held for sale	(2)	27	
Change in working capital	(113)	(8)	(51)
Change in other noncurrent assets and liabilities	(12)	(9)	(1)
Other, net	10	(19)	(19)
Net cash provided by operating activities	568	554	384
Investing activities			
Purchases of property, plant and equipment	(325)	(393)	(322)
Acquisition of businesses, net of cash acquired	(153)	(185)	(78)
Proceeds from previous acquisition	9		
Purchases of marketable securities	(37)	(35)	(93)
Proceeds from sales of marketable securities	15	1	47
Proceeds from maturities of marketable securities	37	27	47
Proceeds from sale of subsidiaries, net of cash disposed	(6)	3	34
Other, net	(2)	(1)	
Net cash used in investing activities	(462)	(583)	(365)
Financing activities			
Net change in short-term debt	(21)	(90)	9
Proceeds from long-term debt		676	441
Repayment of long-term debt	(13)	(640)	(382)
Call premium on debt		(15)	(12)
Deferred financing payments	(1)	(9)	(11)
Dividends paid to common stockholders	(58)	(35)	(35)
Distributions to noncontrolling interests	(42)	(12)	(17)
Contributions from noncontrolling interests	25		
Payments to acquire redeemable noncontrolling interests	(43)		
Repurchases of common stock	(25)		(81)
Other, net	(2)	5	
Net cash used in financing activities	(180)	(120)	(88)
Net decrease in cash, cash equivalents and restricted cash	(74)	(149)	(69)
Cash, cash equivalents and restricted cash - beginning of period	610	716	800
Effect of exchange rate changes on cash balances	(16)	43	(15)
Cash, cash equivalents and restricted cash - end of period	$520	$610	$716

The accompanying notes are an integral part of the consolidated financial statements.

Dana Incorporated
Consolidated Statement of Stockholders' Equity
(In millions)

	Parent Company Stockholders'								
	Preferred Stock	Common Stock	Additional Paid-In Capital	Retained Earnings (Accumulated Deficit)	Treasury Stock	Accumulated Other Compre-hensive Loss	Parent Company Stockholders' Equity	Non-controlling Interests	Total Equity
Balance, December 31, 2015	$—	$ 2	$ 2,311	$ (410)	$ (1)	$ (1,174)	$ 728	$ 103	$ 831
Net income				640			640	13	653
Other comprehensive loss						(110)	(110)	(2)	(112)
Common stock dividends ($0.24 per share)				(35)			(35)		(35)
Distributions to noncontrolling interests							—	(17)	(17)
Derecognition of noncontrolling interest							—	(12)	(12)
Common stock share repurchases					(81)		(81)		(81)
Stock compensation			16				16		16
Stock withheld for employees taxes					(1)		(1)		(1)
Balance, December 31, 2016	—	2	2,327	195	(83)	(1,284)	1,157	85	1,242
Adoption of ASU 2016-16 tax adjustment, January 1, 2017				(179)			(179)		(179)
Net income				111			111	10	121
Other comprehensive loss						(58)	(58)	7	(51)
Common stock dividends ($0.24 per share)				(35)			(35)		(35)
Distributions to noncontrolling interests							—	(12)	(12)
Increase from business combination							—	12	12
Redeemable noncontrolling interests adjustment to redemption value				(6)			(6)		(6)
Purchase of noncontrolling interests							—	(1)	(1)
Stock compensation			27				27		27
Stock withheld for employees taxes					(4)		(4)		(4)
Balance, December 31, 2017	—	2	2,354	86	(87)	(1,342)	1,013	101	1,114
Adoption of ASU 2016-01 financial instruments adjustment, January 1, 2018				2		(2)	—		—
Net income				427			427	13	440
Other comprehensive loss						(18)	(18)	(6)	(24)
Common stock dividends ($0.40 per share)			1	(59)			(58)		(58)

Distributions to noncontrolling interests							—	(42)	(42)
Purchase of noncontrolling interests			(9)				(9)	9	—
Purchase of redeemable noncontrolling interests			2				2		2
Contribution from noncontrolling interest							—	22	22
Common stock share repurchases					(25)		(25)		(25)
Stock compensation			20				20		20
Stock withheld for employees taxes					(7)		(7)		(7)
Balance, December 31, 2018	$—	$ 2	$ 2,368	$ 456	$ (119)	$ (1,362)	$ 1,345	$ 97	$ 1,442

The accompanying notes are an integral part of the consolidated financial statements.

Dana Incorporated
Index to Notes to the Consolidated
Financial Statements

Notes to the Consolidated Financial Statements
(In millions, except share and per share amounts)

Note 1. Organization and Summary of Significant Accounting Policies

General

Dana Incorporated (Dana) is headquartered in Maumee, Ohio and was incorporated in Delaware in 2007. We are a global provider of high technology drive and motion products, sealing solutions, thermal-management technologies and fluid-power products and our customer base includes virtually every major vehicle and engine manufacturer in the global light vehicle, medium/heavy vehicle and off-highway markets.

The terms "Dana," "we," "our" and "us," when used in this report are references to Dana. These references include the subsidiaries of Dana unless otherwise indicated or the context requires otherwise.

Summary of significant accounting policies

Basis of presentation — Our consolidated financial statements include the accounts of all subsidiaries where we hold a controlling financial interest. All significant intercompany balances and transactions have been eliminated in consolidation. Investments in 20 to 50%-owned affiliates, which are not required to be consolidated, are generally accounted for under the equity method. Equity in earnings of these investments is presented separately in the consolidated statement of operations, net of tax. Investments in less-than-20%-owned companies are generally included in the financial statements at the cost of our investment. Dividends, royalties and fees from these cost basis affiliates are recorded in income when received.

In the fourth quarter of 2017, we identified an error in the classification of a third-party ownership interest in a subsidiary of Brevini Power Transmission S.p.A. Based on put and call provisions provided for in the agreement between the parties, the third-party ownership interest should have been classified as a redeemable noncontrolling interest. This balance sheet error was corrected in December 2017 by increasing redeemable noncontrolling interests and reducing noncontrolling interests by $3. The purchase consideration allocation presented in Note 2 and the initial fair value of redeemable noncontrolling interests of acquired businesses presented in Note 9 include this correction.

Held for sale — We classify long-lived assets or disposal groups as held for sale in the period: management commits to a plan to sell; the long-lived asset or disposal group is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such long-lived assets or disposal groups; an active program to locate a buyer and other actions required to complete the plan to sell have been initiated; the sale is probable within one year; the asset or disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. Long-lived assets and disposal groups classified as held for sale are measured at the lower of their carrying amount or fair value less costs to sell.

Discontinued operations — The results of operations of a component or a group of components that either has been disposed of or is classified as held for sale is reported in discontinued operations if the disposal represents a strategic shift that has (or will have) a major effect on operations and financial results.

Estimates — Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States (GAAP), which require the use of estimates, judgments and assumptions that affect the amounts reported in the consolidated financial statements and accompanying disclosures. We believe our assumptions and estimates are reasonable and appropriate. However, due to the inherent uncertainties in making estimates, actual results could differ from those estimates.

Fair value measurements — A three-tier fair value hierarchy is used to prioritize the inputs to valuation techniques used to measure fair value. The three levels of inputs are as follows: Level 1 inputs (highest priority) include unadjusted quoted prices in active markets for identical instruments. Level 2 inputs include quoted prices for similar instruments that are observable either directly or indirectly. Level 3 inputs (lowest priority) include unobservable inputs in which there is little or no market data, which require management to develop its own assumptions. Classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The inputs we use in our valuation techniques include market data or assumptions that we believe market participants would use in pricing an asset or liability, including assumptions about risk when appropriate. Our valuation techniques include a combination of observable and unobservable inputs. When available, we use quoted market prices to determine the fair value (market approach). In the absence of active markets for the identical assets or liabilities, such measurements involve developing assumptions based on market observable data and, in the absence of such data, we consider the amount and timing of estimated future cash flows and assumed discount rates reflecting varying degrees of credit risk that is consistent with what market participants would use in a hypothetical transaction that occurs at the measurement date (income approach). Fair values may not represent actual values of the financial instruments that could be realized as of the balance sheet date or that will be realized in the future.

Cash and cash equivalents — Cash and cash equivalents includes cash on hand, demand deposits and short-term cash investments that are highly liquid in nature and have maturities of three months or less when purchased.

Marketable securities — Our investments in marketable securities reported in the accompanying balance sheet are classified as available for sale and carried at fair value. We recorded unrealized gains and losses in accumulated other comprehensive income (loss) (AOCI) through the end of 2017 but recorded them in net income beginning in 2018 to comply with new accounting guidance. Realized gains and losses are recorded using the specific identification method.

Inventories — Inventories are valued at the lower of cost or net realizable value. Cost is determined using the average or first-in, first-out (FIFO) cost method.

Property, plant and equipment — Property, plant and equipment are recorded at cost. Depreciation is recognized over the estimated useful lives using primarily the straight-line method for financial reporting purposes and accelerated depreciation methods for federal income tax purposes. Useful lives of newly acquired assets are generally twenty to thirty years for buildings and building improvements, five to ten years for machinery and equipment, three to five years for tooling and office equipment and three to ten years for furniture and fixtures. If assets are impaired, their value is reduced via an increase in accumulated depreciation.

Pre-production costs related to long-term supply arrangements — The costs of tooling used to make products sold under long-term supply arrangements are capitalized as part of property, plant and equipment and amortized over their useful lives if we own the tooling or if we fund the purchase but our customer owns the tooling and grants us the irrevocable right to use the tooling over the contract period. If we have a contractual right to bill our customers, costs incurred in connection with the design and development of tooling are carried as a component of other accounts receivable until invoiced. Design and development costs related to customer products are deferred if we have an agreement to collect such costs from the customer; otherwise, they are expensed when incurred. At December 31, 2018, the machinery and equipment component of property, plant and equipment includes $31 of our tooling related to long-term supply arrangements. The increase during 2018 reflects the start of production for our recently awarded customer contracts. Also at December 31, 2018, trade and other accounts receivable includes $53 of costs related to tooling that we have a contractual right to collect from our customers.

Goodwill — We test goodwill for impairment annually as of October 31 and more frequently if events occur or circumstances change that would warrant an interim review. Goodwill impairment testing is performed at the reporting unit level, which is the operating segment in the case of our Off-Highway and Commercial Vehicle goodwill. We estimate the fair value of the reporting unit in the first step using various valuation methodologies, including projected future cash flows and multiples of current earnings. If the estimated fair value of the reporting unit exceeds its carrying value, the goodwill is considered not impaired. If the carrying value of the reporting unit exceeds its estimated fair value, then the second step of the test would be required to determine the implied fair value of the goodwill and any resulting impairment. The estimated fair value of our reporting units were greater than their carrying values at October 31, 2018. No impairment of goodwill occurred during the three years ended December 31, 2018.

Intangible assets — Intangible assets include the value of core technology, trademarks and trade names, customer relationships and intangible assets used in research and development activities. Core technology and customer relationships have definite lives while intangible assets used in research and development activities and substantially all of our trademarks and trade names have indefinite lives. Definite-lived intangible assets are amortized over their useful life using the straight-line method of amortization and are periodically reviewed for impairment indicators. Amortization of core technology is charged to cost of sales. Amortization of trademarks and trade names and customer relationships is charged to amortization of intangibles. Intangible assets used in research and development activities have an indefinite life until completion of the associated research and development efforts. Upon completion of development, the assets are amortized over their useful life; if the project is abandoned, the assets are written off immediately. Indefinite-lived intangible assets are tested for impairment annually and more frequently if impairment indicators exist. See Note 4 for more information about intangible assets.

Investments in affiliates — Investments in affiliates include investments accounted for under the equity and cost methods. We monitor our investments in affiliates for indicators of other-than-temporary declines in value on an ongoing basis in accordance with GAAP. Indicators include, but are not limited to, current economic and market conditions, operating performance of the affiliate, including current earnings trends and undiscounted cash flows, and other affiliate-specific information. If we determine that an other-than-temporary decline in value has occurred, we recognize an impairment loss, which is measured as the excess of the investment's recorded carrying value over its fair value. The fair value determination, particularly for investments in privately-held companies, requires significant judgment to determine appropriate estimates and assumptions. Changes in these estimates and assumptions could affect the calculation of the fair value of the investments and determination of whether any identified impairment is other than temporary. See Note 22 for further information about our investment in affiliates.

Tangible asset impairments — We review the carrying value of amortizable long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to the undiscounted future net cash flows expected to be generated by the assets. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds their fair value. Assets to be disposed of are reported at the lower of their carrying amount or fair value less costs to sell and are no longer depreciated.

Other long-lived assets and liabilities — We discount our workers' compensation obligations by applying blended risk-free rates that are appropriate for the duration of the projected cash flows. The use of risk-free rates is considered appropriate given that other risks affecting the volume and timing of payments have been considered in developing the probability-weighted projected cash flows. The blended risk-free rates are revised annually to consider incremental cash flow projections.

Financial instruments — The carrying values of cash and cash equivalents, trade receivables and short-term borrowings approximate fair value. Notes receivable are carried at fair value, which considers the contractual call or selling price, if applicable. Borrowings under our credit facilities are carried at historical cost and adjusted for principal payments and foreign currency fluctuations.

Derivatives — Foreign currency forward contracts and currency swaps are carried at fair value. We enter into these contracts to manage our exposure to the impact of currency fluctuations on certain foreign currency-denominated assets and liabilities and on a portion of our forecasted purchase and sale transactions. On occasion, we also enter into net investment hedges to protect the translated U.S. dollar value of our investment in certain foreign subsidiaries. We also periodically enter into fixed-to-fixed cross-currency swaps on foreign currency-denominated external or intercompany debt instruments to reduce our exposure to foreign currency exchange rate risk. Such fixed-to-fixed cross-currency swaps are designated as cash flow hedges. We do not use derivatives for trading or speculative purposes and we do not hedge all of our exposures.

For derivative instruments designated as cash flow hedges, at the cash flow hedge's inception and on an ongoing basis, the company formally assesses whether the cash flow hedging instruments have been highly effective in offsetting changes in the cash flows of the hedged transactions and whether those cash flow hedging instruments may be expected to remain highly effective in future periods. Changes in the fair value of currency-related contracts treated as cash flow hedges are deferred and included as a component of other comprehensive income (loss) (OCI). For our fixed-to-fixed cross-currency swaps, a review of critical terms is performed each period to establish that an assumption of effectiveness remains appropriate. Deferred gains and losses are reclassified to earnings in the same periods in which the underlying transactions affect earnings.

Changes in the fair value of contracts not treated as cash flow hedges or as net investment hedges are recognized in other income (expense), net in the period in which those changes occur. Changes in the fair value of contracts treated as net investment hedges are recorded in the cumulative translation adjustment (CTA) component of OCI. Amounts recorded in CTA are deferred until such time as the investment in the associated subsidiary is substantially liquidated.

We may also use fixed-to-floating or floating-to-fixed interest rate swaps to manage exposure to fluctuations in interest rates and to adjust the mix of our fixed-rate and variable-rate debt. As a fair value hedge of the underlying debt, changes in the fair values of the swap and the underlying debt are recorded in interest expense. No such fixed-to-floating or floating-to-fixed swaps were outstanding at December 31, 2018. See Note 15 for additional information.

Cash flows associated with designated derivatives are classified within the same category as the item being hedged on the consolidated statement of cash flows. Cash flows associated with undesignated derivatives are included in the investing category on the consolidated statement of cash flows.

Warranty — Costs related to product warranty obligations are estimated and accrued at the time of sale with a charge against cost of sales. Warranty accruals are evaluated and adjusted as appropriate based on occurrences giving rise to potential warranty exposure and associated experience. Warranty accruals and adjustments require significant judgment, including a determination of our involvement in the matter giving rise to the potential warranty issue or claim, our contractual requirements, estimates of units requiring repair and estimates of repair costs.

Environmental compliance and remediation — Environmental expenditures that relate to current operations are expensed or capitalized as appropriate. Expenditures that relate to existing conditions caused by past operations that do not contribute to our current or future revenue generation are expensed. Liabilities are recorded when environmental assessments and/or remedial efforts are probable and the costs can be reasonably estimated. We consider the most probable method of remediation, current laws and regulations and existing technology in determining our environmental liabilities.

Pension and other postretirement defined benefits — Net pension and postretirement benefits expenses and the related liabilities are determined on an actuarial basis. These plan expenses and obligations are dependent on management’s assumptions developed in consultation with our actuaries. We review these actuarial assumptions at least annually and make modifications when appropriate. With the input of independent actuaries and other relevant sources, we believe that the assumptions used are reasonable; however, changes in these assumptions, or experience different from that assumed, could impact our financial position, results of operations or cash flows.

Postemployment benefits — Costs to provide postemployment benefits to employees are accounted for on an accrual basis. Obligations that do not accumulate or vest are recorded when payment is probable and the amount can be reasonably estimated. For those obligations that accumulate or vest and the amount can be reasonably estimated, expense and the related liability are recorded as service is rendered.

Equity-based compensation — We measure compensation cost arising from the grant of share-based awards to employees at fair value. We recognize such costs in income over the period during which the requisite service is provided, usually the vesting period. The grant date fair value is estimated using valuation techniques that require the input of management estimates and assumptions.

Revenue recognition — Sales are recognized when products are shipped and risk of loss has transferred to the customer. See Recently adopted accounting pronouncements in this note for a description of the current practice and Note 20 for additional information regarding the related impact on our segment reporting. We accrue for warranty costs, sales returns and other allowances based on experience and other relevant factors when sales are recognized. Adjustments are made as new information becomes available. Shipping and handling fees billed to customers are included in sales, while costs of shipping and handling are included in cost of sales. Taxes collected from customers are excluded from revenues and credited directly to obligations to the appropriate governmental agencies.

Foreign currency translation — The financial statements of subsidiaries and equity affiliates outside the U.S. located in non-highly inflationary economies are measured using the currency of the primary economic environment in which they operate as the functional currency, which typically is the local currency. Transaction gains and losses resulting from translating assets and liabilities of these entities into the functional currency are included in other income (expense), net or in equity in earnings of affiliates. When translating into U.S. dollars, income and expense items are translated at average monthly rates of exchange, while assets and liabilities are translated at the rates of exchange at the balance sheet date. Translation adjustments resulting from translating the functional currency into U.S. dollars are deferred and included as a component of AOCI in stockholders’ equity. For operations whose functional currency is the U.S. dollar, nonmonetary assets are translated into U.S. dollars at historical exchange rates and monetary assets are translated at current exchange rates.

We believe that Argentina's economy met the GAAP definition of a highly inflationary economy during the second quarter of 2018. As such, effective July 1, 2018 we began to remeasure the financial statements of our Argentine subsidiaries as if their functional currency was the U.S. dollar. In assessing Argentina's economy as highly inflationary we considered its three-year cumulative inflation rate along with other factors. We believe the National Wholesale Price Index (WPI) provides the most reliable calculation of cumulative inflation for Argentina as the WPI has consistently provided national coverage and historically has been viewed as the most relevant and reliable measure by practitioners. Argentina's three-year cumulative inflation rate through May 2018 based on the WPI was 109%. In addition, management considered the Central Bank of Argentina increasing annual interest rates to 30% in April 2018 and further increasing them to 40% in May 2018, the Argentine government requesting financial assistance from the International Monetary Fund and the significant depreciation of the Argentine peso against the U.S. dollar during the second quarter of 2018.

Income taxes — In the ordinary course of business there is inherent uncertainty in quantifying our income tax positions. We assess our income tax positions and record tax assets or liabilities for all years subject to examination based upon management’s evaluation of the facts and circumstances and information available at the reporting dates. For those tax positions where it is more likely than not that a tax benefit will be sustained, we have recorded the largest amount of tax benefit with a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit has been recognized in the financial statements. Where applicable, the related interest cost has also been recognized as a component of the income tax provision.

Research and development — Research and development costs include expenditures for research activities relating to product development and improvement. Salaries, fringes and occupancy costs, including building, utility and overhead costs, comprise the vast majority of these expenses and are expensed as incurred. Research and development expenses were $103, $102 and $81 in 2018, 2017 and 2016.

Recently adopted accounting pronouncements

On January 1, 2018, we adopted Accounting Standard Update (ASU) 2017-12, Derivatives and Hedging – Targeted Improvements to Accounting for Hedging Activities, guidance that addresses effectiveness testing requirements, income statement presentation and disclosure and hedge accounting qualification criteria. Adoption of this standard results in a prospective change to the presentation of certain hedging-related gains and losses in our consolidated statement of operations. Effective with our permitted early adoption of this standard on January 1, 2018, realized gains and losses on forecasted transactions are recorded in the financial statement line item to which the underlying forecasted transaction relates (e.g., sales or cost of sales). Adoption also simplifies our ongoing effectiveness testing and reduces the complexity of hedge accounting requirements for new hedging contracts. The adoption of this standard, including the change in presentation within the consolidated statement of operations, did not have a material impact.

On January 1, 2018, we adopted ASU 2017-07, Retirement Benefits – Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost, guidance that changed the reporting of pension and other postretirement benefits (OPEB) costs in the income statement. The service cost components of net periodic pension and OPEB costs continue to be included in cost of sales and selling, general and administrative expenses as part of compensation cost and remain eligible for capitalization in inventory and other assets. The non-service components are now reported in other income (expense), net and are not eligible for capitalization. The impact of the new guidance on inventory at December 31, 2018 was not material. For 2017, we reclassified net pension and OPEB costs of $4 from cost of sales and $3 from selling, general and administrative expenses to other income (expense), net to conform to the 2018 presentation. For 2016, we reclassified net pension and OPEB income of $9 from cost of sales and net pension and OPEB costs of $5 from selling, general and administrative expenses to other income (expense), net. We used the practical expedient in the guidance to quantify these impacts, which disregards the potential change in capitalized costs during the period. See Note 20 for information regarding the related impact on our segment reporting.

On January 1, 2018, we adopted ASU 2016-18, Statement of Cash Flows – Restricted Cash, guidance that requires the statement of cash flows to explain the change during the period in the total cash, cash equivalents and amounts generally described as restricted cash. Amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning and ending total amounts shown on the statement of cash flows. Retrospective presentation is required. For 2016 and 2017, this change resulted in a $9 and $9 increase in cash, cash equivalents and restricted cash at the beginning of the period and a $7 increase at the end of 2017 as presented on our consolidated statement of cash flow. In addition, removing the change in restricted cash from the consolidated statement of cash flows resulted in a change of $2 in our net cash used in investing activities for 2017. See Note 7 for additional information.

On January 1, 2018, we adopted ASU 2016-01, Financial Instruments – Recognition and Measurement of Financial Assets and Financial Liabilities, an amendment that addresses the recognition, measurement, presentation and disclosure of certain financial instruments. Investments in equity securities that were classified as available-for-sale and carried at fair value, with changes in fair value reported in OCI, are now carried at fair value determined on an exit price notion and changes in fair value are now reported in net income. The new guidance also affects the assessment of deferred tax assets related to available-for-sale securities, the accounting for liabilities for which the fair value option is elected and the disclosures of financial assets and financial liabilities in the notes to the financial statements. The adoption resulted in a release of the deferred gain in AOCI directly to retained earnings of $2.

Effective January 1, 2018, we adopted ASU 2014-09, Revenue – Revenue from Contracts with Customers, which requires companies to recognize revenue in a manner that depicts the transfer of promised goods or services to customers in amounts that reflect the consideration a company expects to be entitled to in exchange for those goods or services. We have elected to use the modified retrospective approach to transition to the new standard. Comparative prior periods have not been restated. We assessed our products in combination with the provisions of our current customer contracts to determine the cumulative effect of initially applying ASU 2014-09. Based on our assessment, the adoption date financial statement impact was limited to balance sheet reclassifications required to establish the refund asset, refund liability and contract liability concepts provided for in ASU 2014-09. There was no cumulative effect adjustment required to be recorded to retained earnings. The cumulative effects of the changes made to our January 1, 2018 consolidated balance sheet for the adoption of ASU 2014-09 were as follows:

	Balance at December 31, 2017	Adjustments Due to ASU 2014-09	Balance at January 1, 2018
Assets			
Current assets			
Accounts receivable - Trade	$ 994	$ 15	$ 1,009
Other current assets	97	1	98
Liabilities			
Current liabilities			
Other accrued liabilities	$ 220	$ 16	$ 236

The following table shows the impact adopting ASC 606 had on our consolidated balance sheet as of December 31, 2018:

	December 31, 2018		
	Balances Without Adoption of ASU 2014-09	Adjustments Due to ASU 2014-09	As Reported
Assets			
Current assets			
Accounts receivable - Trade	$ 1,049	$ 16	$ 1,065
Other current assets	100	2	102
Liabilities			
Current liabilities			
Other accrued liabilities	$ 251	$ 18	$ 269

See Note 20 for additional information.

During the third quarter of 2018, we early adopted ASU 2018-02, Income Statement - Reporting Comprehensive Income, Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income. This guidance allows entities the option of reclassifying stranded income tax effects resulting from the Tax Cuts and Jobs Act (the “Act”) from AOCI to retained earnings in their consolidated financial statements. As a result of the Act, deferred taxes were adjusted to reflect the reduction of the historical corporate income tax rate to the newly enacted corporate income tax rate by means of a credit or charge to income from continuing operations, leaving the tax effects of items within AOCI stranded at historical tax rates. This guidance would have been effective January 1, 2019 without early adoption. The guidance is to be applied either in the period of adoption or retrospectively to each period that was affected by the change in the corporate tax rate under the Act. Due to the immaterial amount of the stranded tax effects, we have elected not to reclassify the income tax effects from AOCI to retained earnings.

We also adopted the following standards during 2018, none of which had a material impact on our financial statements or financial statement disclosures:

Standard		Effective Date
2017-09	Stock Compensation – Scope of Modification Accounting	January 1, 2018
2017-01	Business Combinations – Clarifying the Definition of a Business	January 1, 2018
2016-15	Statement of Cash Flows – Classification of Certain Cash Receipts and Cash Payments	January 1, 2018

Recently issued accounting pronouncements

In August 2018, the FASB issued ASU 2018-15, Intangibles – Goodwill and Other – Internal-Use Software, Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. This guidance allows for capitalization of implementation costs associated with certain cloud computing arrangements. This guidance becomes effective January 1, 2020 and early adoption is permitted. The guidance is to be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. We do not expect the adoption of this guidance to impact our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-14, Compensation – Retirement Benefits – Defined Benefit Plans – General, Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans. The guidance eliminated certain disclosures about defined benefit plans, added new disclosures, and clarified other requirements. This guidance becomes effective January 1, 2020 and early adoption is permitted. There were no changes to interim disclosure requirements. Adoption of this guidance will not have a material effect on our annual financial statement disclosures.

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement, Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement. The guidance removed or modified some disclosures while others were added. The removal and amendment of certain disclosures can be adopted immediately with retrospective application. The additional disclosure guidance becomes effective January 1, 2020. Adoption of this guidance will not have a material effect on our financial statement disclosures.

In July 2017, the FASB issued ASU 2017-11, Earnings Per Share, Distinguishing Liabilities from Equity, Derivatives and Hedging – (Part I) Accounting for Certain Financial Instruments with Down Round Features, (Part II) Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception. This guidance is intended to reduce the complexity associated with accounting for certain financial instruments with characteristics of liabilities and equity. Specifically, a down round feature would no longer cause a freestanding equity-linked financial instrument (or an embedded conversion option) to be considered "not indexed to an entity's own stock" and therefore accounted for as a derivative liability at fair value with changes in fair value recognized in current earnings. Down round features are most often found in warrants and conversion options embedded in debt or preferred equity instruments. In addition, the guidance re-characterized the indefinite deferral of certain provisions on distinguishing liabilities from equity to a scope exception with no accounting effect. This guidance becomes effective January 1, 2019 and early adoption is permitted. We do not presently issue any equity-linked financial instruments and therefore this guidance has no impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, Goodwill – Simplifying the Test for Goodwill Impairment, guidance that simplifies how an entity is required to test goodwill for impairment by eliminating Step 2 of the goodwill impairment test. The new guidance quantifies goodwill impairment as the amount by which the carrying amount of a reporting unit, including goodwill, exceeds its fair value, with the impairment loss limited to the total amount of goodwill allocated to that reporting unit. This guidance becomes effective January 1, 2020 and will be applied on a prospective basis. Early adoption is permitted for impairment tests performed after January 1, 2017. We do not expect the adoption of this guidance to impact our consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Credit Losses – Measurement of Credit Losses on Financial Instruments, new guidance for the accounting for credit losses on certain financial instruments. This guidance introduces a new approach to estimating credit losses on certain types of financial instruments and modifies the impairment model for available-for-sale debt securities. This guidance, which becomes effective January 1, 2020, is not expected to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases, its new lease accounting standard. The primary focus of the standard is on the accounting by lessees. This standard requires lessees to recognize a right-of-use asset and a lease liability for virtually all leases (other than leases that meet the definition of a short-term lease) on the balance sheet. The recognition, measurement and presentation of expenses and cash flows arising from a lease by a lessee have not significantly changed from current GAAP. Operating leases will result in straight-line expense while finance leases will result in a front-loaded expense pattern in the income statement. Quantitative and qualitative disclosures are required to provide insight into the extent of revenue and expense recognized and expected to be recognized from leasing arrangements. Approximately three-fourths of our global lease portfolio represents leases of real estate, including manufacturing, assembly and office facilities, while the remainder represents leases of personal property, including manufacturing, material handling and IT equipment.

We expect the adoption of this new standard will result in the recording of leased assets and lease liabilities for our operating leases of approximately $190 as of January 1, 2019. We expect to take advantage of the transition relief provided by the amendment to ASU 2016-02 which allows us to elect not to restate 2017 and 2018 comparative periods upon adoption and continue to apply ASC 840 to such periods. With respect to the available practical expedients, we expect to elect the primary package of expedients whereby we will reassess neither the existence, nor the classification nor the amount and treatment of initial direct costs of existing leases. We do not expect to apply hindsight to the evaluation of lease options (e.g., renewal) and, accordingly, do not expect to utilize the practical expedient that would allow such an approach. Finally, we plan to separate the lease components from the non-lease components of each lease arrangement and, therefore, do not expect to elect the expedient that would enable us not to separate them. This guidance becomes effective January 1, 2019 with early adoption permitted.

Note 2. Acquisitions

SME — On January 11, 2019, we acquired a 100% ownership interest in the S.M.E. S.p.A. (SME). SME designs, engineers, and manufactures low-voltage AC induction and synchronous reluctance motors, inverters, and controls for a wide range of off-highway electric vehicle applications, including material handling, agriculture, construction, and automated-guided vehicles. The addition of SME's low-voltage motors and inverters, which are primarily designed to meet the evolution of electrification in off-highway equipment, significantly expands Dana's electrified product portfolio.

We paid $88 at closing, consisting of $62 in cash on hand and a note payable of $26 which allows for net settlement of potential contingencies as defined in the purchase agreement. The note is payable in five years and bears annual interest of 5%. Due to the recentness of the transaction, we are currently not able to provide an allocation of the purchase price to the fair value of the assets acquired and liabilities assumed.

TM4 — On June 22, 2018, we acquired a 55% ownership interest in TM4 Inc. (TM4) from Hydro-Québec. TM4 designs and manufactures motors, power inverters, and control systems for electric vehicles, offering a complementary portfolio to Dana's electric gearboxes and thermal-management technologies for batteries, motors, and inverters. The transaction establishes Dana as the only supplier with full e-Drive design, engineering, and manufacturing capabilities – offering electro-mechanical propulsion solutions to each of its end markets. The transaction further strengthens Dana's position in China, the world's fastest-growing market for electric vehicles. TM4 owns a 50% interest in Prestolite E-Propulsion Systems Limited (PEPS), a joint venture in China with Prestolite Electric Beijing Limited, which offers electric mobility solutions throughout China and Asia. The terms of the agreement provide Hydro-Québec with the right to put all, and not less than all, of its shares in TM4 to Dana at fair value any time after June 22, 2021.

We paid $125 at closing, using cash on hand. The purchase consideration and the related allocation to the acquisition date fair values of the assets acquired and liabilities assumed are presented in the following table:

Total purchase consideration	$125
Cash and cash equivalents	$3
Accounts receivable - Trade	3
Accounts receivable - Other	1
Inventories	4
Goodwill	148
Intangibles	24
Investment in affiliates	49
Property, plant and equipment	5
Accounts payable	(2)

Accrued payroll and employee benefits	(1)
Other accrued liabilities	(7)
Redeemable noncontrolling interest	(102)
Total purchase consideration allocation	$125

Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce and is not deductible for tax purposes. The provisional fair values assigned to intangibles include $14 allocated to developed technology and $10 allocated to trademarks and trade names. We used the relief from royalty method, an income approach, to value developed technology and the trademarks and trade names. We used a replacement cost method to value fixed assets. We used a combination of the discounted cash flow, an income approach, and the guideline public company method, a market approach, to value the equity method investment in PEPS. The developed technology intangible assets are being amortized on a straight-line basis over ten years, and property, plant and equipment is being depreciated on a straight-line basis over useful lives ranging from five to six years. The trademarks and trade names are considered indefinite-lived intangible assets.

Dana is consolidating TM4 as the governing documents provide Dana with a controlling financial interest. The results of operations of the business are reported in our Commercial Vehicle operating segment from the date of acquisition. Transaction related expenses associated with completion of the acquisition totaling $5 were charged to other income (expense), net. The pro forma effects of this acquisition would not materially impact our reported results for any period presented, and as a result no pro forma financial statements are presented. During 2018, the business contributed sales of $11.

USM – Warren — On March 1, 2017, we acquired certain assets and liabilities relating to the Warren, Michigan production unit of U.S. Manufacturing Corporation (USM). The production unit acquired is in the business of manufacturing axle housings, extruded tubular products and machined components for the automotive industry. The acquisition will increase Dana's revenue from light and commercial vehicle manufacturers and will vertically integrate a significant element of Dana's supply chain. It also provides Dana with new lightweight product and process technologies.

USM contributed certain assets and liabilities relating to its Warren, Michigan production unit to Warren Manufacturing LLC (USM – Warren), a newly created legal entity, and Dana acquired all of the company units of USM – Warren. The company units were acquired by Dana free and clear of any liens. We paid $104 at closing, including $25 to effectively settle trade payable obligations originating from product purchases Dana made from USM prior to the acquisition, and received $1 in the third quarter of 2017 for purchase price adjustments determined under the terms of the agreement. The acquisition has been accounted for as a business combination. The purchase consideration and the related allocation to the acquisition date fair values of the assets acquired and liabilities assumed are presented in the following table:

Total purchase consideration	$78
Accounts receivable - Trade	$17
Accounts receivable - Other	3
Inventories	9
Goodwill	3
Intangibles	33
Property, plant and equipment	50
Accounts payable	(34)
Accrued payroll and employee benefits	(2)
Other accrued liabilities	(1)
Total purchase consideration allocation	$78

Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce and is deductible for tax purposes. Intangibles includes $30 allocated to customer relationships and $3 allocated to developed technology. We used the relief from royalty method, an income approach, to value developed technology. We used the multi-period excess earnings method, an income approach, to value customer relationships. We used a replacement cost method to value fixed assets. The developed technology and customer relationship intangible assets are being amortized on a straight-line basis over eighteen and eleven years, respectively, and property, plant and equipment is being depreciated on a straight-line basis over useful lives ranging from one to seventeen years.

The results of operations of the business are reported in our Light Vehicle operating segment from the date of acquisition. We incurred transaction related expenses to complete the acquisition in 2017 totaling $5, which were charged to other income (expense), net. The pro forma effects of this acquisition would not materially impact our reported results for any period presented, and as a result no pro forma financial statements are presented. During 2017, the business contributed sales of $96.

BFP and BPT — On February 1, 2017, we acquired 80% ownership interests in Brevini Fluid Power S.p.A. (BFP) and Brevini Power Transmission S.p.A. (BPT) from Brevini Group S.p.A. (Brevini). The acquisition expands our Off-Highway operating segment product portfolio to include technologies for tracked vehicles, doubling our addressable market for off-highway driveline systems and establishing Dana as the only off-highway solutions provider that can manage the power to both move the equipment and perform its critical work functions. This acquisition also brings a platform of technologies that can be leveraged in our light and commercial-vehicle end markets, helping to accelerate our hybridization and electrification initiatives.

We paid $181 at closing, using cash on hand, and refinanced a significant portion of the debt assumed in the transaction during the first half of 2017. In December 2017, a purchase price reduction of $9 was agreed under the sale and purchase agreement provisions for determination of the net indebtedness and net working capital levels of BFP and BPT as of the closing date. The terms of the agreement provided Dana the right to call half of Brevini's noncontrolling interests in BFP and BPT, and Brevini the right to put half of its noncontrolling interests in BFP and BPT to Dana, assuming Dana did not exercise its call right, after the 2017 BFP and BPT financial statements had been approved by the board of directors. Further, Dana had the right to call Brevini's remaining noncontrolling interests in BFP and BPT, and Brevini the right to put its remaining noncontrolling interests in BFP and BPT to Dana, assuming Dana does not exercise its call right, after the 2019 BFP and BPT financial statements had been approved by the board of directors. The call and put prices were based on the amount Dana paid to acquire its initial 80% interest in BFP and BPT subject to adjustment based on the actual EBITDA and free cash flows, as defined in the agreement, of BFP and BPT. In connection with the acquisition of BFP and BPT, Dana agreed to purchase certain real estate being leased by BPT from a Brevini affiliate for €25. Completion of the real estate purchase and receipt of the purchase price adjustment occurred in the second quarter of 2018 with a net cash payment of $20. The purchase consideration and the related allocation to the acquisition date fair values of the assets acquired and liabilities assumed are presented in the following table:

Total purchase consideration	$201
Cash and cash equivalents	$75
Accounts receivable - Trade	78
Accounts receivable - Other	18
Inventories	134
Other current assets	9
Goodwill	20
Intangibles	41
Deferred tax assets	3
Other noncurrent assets	4
Property, plant and equipment	174
Notes payable, including current portion of long-term debt	(130)
Accounts payable	(51)
Accrued payroll and employee benefits	(14)
Taxes on income	(1)
Other accrued liabilities	(19)
Long-term debt	(51)
Pension and postretirement obligations	(11)
Other noncurrent liabilities	(22)
Redeemable noncontrolling interest	(44)
Noncontrolling interests	(12)
Total purchase consideration allocation	$201

Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce and is not deductible for tax purposes. Intangibles includes $29 allocated to customer relationships and $12 allocated to trademarks and trade names. We used the multi-period excess earnings method, an income approach, to value the customer relationships. We used the relief from royalty method, an income approach, to value trademarks and trade names. We used a replacement cost method to value fixed assets. We used a discounted cash flow approach to value the redeemable noncontrolling interests, inclusive of the put and call provisions. We used both discounted cash flow and cost approaches to value the noncontrolling interests. The customer relationships and trademarks and trade names intangible assets are being amortized on a straight-line basis over seventeen years, and property, plant and equipment is being depreciated on a straight-line basis over useful lives ranging from three to thirty years.

The results of operations of the businesses are reported in our Off-Highway operating segment from the date of acquisition. Transaction related expenses in 2017 associated with completion of the acquisition totaling $7 were charged to other income (expense), net. The pro forma effects of this acquisition would not materially impact our reported results for any period presented, and as a result no pro forma financial statements are presented. During 2017, the businesses contributed sales of $401.

On August 8, 2018, we entered into an agreement to acquire Interfind S.p.A.'s, formerly Brevini Group S.p.A., remaining 20% ownership interests in BFP and BPT and to settle all claims between the parties. We paid $43 to acquire Interfind S.p.A.'s remaining ownership interests and received $10 in settlement of all pending and future claims. See Note 9 for additional information.

SIFCO — On December 23, 2016, we acquired strategic assets of SIFCO S.A.'s (SIFCO) commercial vehicle steer axle systems and related forged components businesses. The acquisition enables us to enhance our vertically integrated supply chain, which will further improve our cost structure and customer satisfaction by leveraging SIFCO's extensive experience and knowledge of sophisticated forged components. In addition to strengthening our position as a central source for products that use forged and machined parts throughout the region, this acquisition enables us to better accommodate the local content requirements of our customers, which reduces their import and other region-specific costs.

SIFCO contributed the strategic assets to SJT Forjaria Ltda., a newly created legal entity, and Dana acquired all of the issued and outstanding quotas of SJT Forjaria Ltda. The strategic assets were acquired by Dana free and clear of any liens, claims or encumbrances. The acquisition was funded using cash on hand and has been accounted for as a business combination. Dana paid $60 at closing and paid $3 of previously deferred consideration during the fourth quarter of 2017. On December 19, 2017, Dana and SIFCO reached an agreement providing for Dana to retain the remaining $7 of deferred consideration to satisfy indemnification claims as they arise. During 2018, claim settlements reduced the retained purchase price by $2. Once all indemnification claims have been satisfied, any remaining deferred consideration will be paid to SIFCO. The purchase consideration and the related allocation to the acquisition date fair values of the assets acquired are presented in the following table:

Total purchase consideration	$70
Accounts receivable - Trade	$1
Accounts receivable - Other	1
Inventories	10
Goodwill	7
Intangibles	3
Property, plant and equipment	59
Accounts payable	(2)
Accrued payroll and employee benefits	(9)
Total purchase consideration allocation	$70

Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce, and is deductible for tax purposes. Intangibles includes $2 allocated to developed technology and $1 allocated to trade names. We used the relief from royalty method, an income approach, to value developed technology and trade names. We used a replacement cost method to value fixed assets. The developed technology and trade name intangible assets are being amortized on a straight-line basis over seven and five years, respectively, and property, plant and equipment is being depreciated on a straight-line basis over useful lives ranging from three to ten years.

The results of operations of the business are reported in our Commercial Vehicle operating segment from the date of acquisition. As a result of the acquisition, we incurred transaction related expenses totaling $5, which were charged to other income (expense), net. The pro forma effects of this acquisition would not materially impact our reported results for any period presented, and as a result no pro forma financial statements were presented.

Magnum — On January 29, 2016, we acquired the aftermarket distribution business of Magnum® Gaskets (Magnum), a U.S.-based supplier of gaskets and sealing products for automotive and commercial-vehicle applications, for a cash payment of $18. Assets acquired included trademarks and trade names, customer relationships and goodwill. The results of operations of Magnum are reported within our Power Technologies operating segment. We acquired Magnum using cash on hand. The pro forma effects of this acquisition would not materially impact our reported results for any period presented, and as a result no pro forma financial statements were presented.

Note 3. Disposal Groups and Divestitures

Disposal group held for sale — In December 2017, we entered into an agreement to divest our Brazil suspension components business (the disposal group) for no consideration to an unaffiliated company. The results of operations of the Brazil suspension components business are reported within our Commercial Vehicle operating segment. To effectuate the sale, Dana was obligated to contribute $10 of additional cash to the business prior to closing. We classified the disposal group as held for sale at December 31, 2017, recognizing a $27 loss to adjust the carrying value of the net assets to fair value and to recognize the liability for the additional cash required to be contributed to the business prior to closing. During the first quarter of 2018, we made the required cash contribution to the disposal group. After being unable to complete the transaction with the counterparty to the December 2017 agreement, we entered into an agreement with another third party in June 2018. The transaction with the new counterparty closed in July 2018 and we received cash proceeds of $2. We reversed $3 of the previously recognized $27 pre-tax loss, inclusive of the proceeds received in July 2018, during the second quarter of 2018. The carrying amounts of the major classes of assets and liabilities of our Brazil suspension components business were as follows:

	December 31, 2017	
Accounts receivable - Trade	$	3
Inventories	4	
Current assets classified as held for sale	$	7
Accounts payable	$	3
Accrued payroll and employee benefits	1	
Other accrued liabilities	1	
Current liabilities classified as held for sale	$	5
Other noncurrent liabilities	$	2
Noncurrent liabilities classified as held for sale	$	2

Divestiture of Dana Companies — On December 30, 2016, we completed the divestiture of Dana Companies, LLC (DCLLC), a consolidated wholly-owned limited liability company that was established as part of our reorganization in 2008 to hold and manage personal injury asbestos claims retained by the reorganized Dana Corporation which was merged into DCLLC. DCLLC had net assets of $165 at the time of sale including cash and cash equivalents, marketable securities and rights to insurance coverage in place to satisfy a significant portion of its liabilities. We received cash proceeds of $88 – $29 net of cash divested – with $3 retained by the purchaser subject to the satisfaction of certain future conditions. We recognized a pre-tax loss of $77 in 2016 upon completion of the transaction. During the second quarter of 2017 the conditions associated with the retained purchase price were satisfied. Dana received the remaining proceeds and recognized $3 of income in other income (expense), net. Following completion of the sale, Dana has no obligation with respect to current or future asbestos claims.

Divestiture of Nippon Reinz — On November 30, 2016, we sold our 53.7% interest in Nippon Reinz Co. Ltd. (Nippon Reinz) to Nichias Corporation. Dana received net cash proceeds of $5 and recognized a pre-tax loss of $3 on the divestiture of Nippon Reinz, inclusive of the $12 gain on derecognition of the noncontrolling interest. Nippon Reinz had sales of $42 in 2016 through the transaction date.

Note 4. Goodwill and Other Intangible Assets

Goodwill —The change in the carrying amount of goodwill in 2018 was due to the acquisition of a 55% interest in TM4 and currency fluctuation. The change in the carrying amount of goodwill in 2017 was primarily due to the acquisitions of USM – Warren and 80% interests in BFP and BPT and currency fluctuation. See Note 2 for additional information on recent acquisitions. Based on our October 31, 2018 impairment assessment, the fair value of our reporting units are higher than their carrying values, indicating no impairment.

Changes in the carrying amount of goodwill by segment —

	Light Vehicle	Commercial Vehicle	Off-Highway	Power Technologies	Total
Balance, December 31, 2016	$ —	$ 6	$ 78	$ 6	$90
Acquisitions	3		20		23
Purchase accounting adjustments		1			1
Currency impact		1	12		13
Balance, December 31, 2017	3	8	110	6	127
Acquisition		148			148
Currency impact		(6)	(5)		(11)
Balance, December 31, 2018	$ 3	$ 150	$ 105	$ 6	$264

Non-amortizable intangible assets — Our non-amortizable intangible assets include trademarks and trade names. Trademarks and trade names consist of the Dana®, Spicer® and TM4® trademarks and trade names utilized in our Commercial Vehicle and Off-Highway segments. We value trademarks and trade names using a relief from royalty method which is based on revenue streams. No impairment was recorded during the three years ended December 31, 2018 in connection with the required annual assessment for trademarks and trade names.

During the third quarter of 2012, we entered a strategic alliance with Fallbrook Technologies Inc. (Fallbrook). The transaction with Fallbrook was accounted for as a business combination and the original purchase price allocation included $20 of intangible assets used in research and development activities, which had been classified as indefinite-lived. Since the third quarter of 2012, we have been working with several customers to commercialize the continuously variable planetary (CVP) technology primarily in combustion engine applications. During the second quarter of 2018 key customers notified us of their intention to redirect their development efforts to electrification and cease further development efforts of the CVP technology in combustion engine applications. While we have not abandoned the CVP technology, we determined that it was more likely than not that the fair value of the related intangible assets was less than their carrying amount. We used the multi-period excess earnings method, an income approach, to fair value the assets used in research and development activities. Given the lack of adequate identifiable future revenue streams, it was determined that the $20 of intangible assets used in research and development activities was fully impaired during the second quarter of 2018.

Amortizable intangible assets — Our amortizable intangible assets include core technology, customer relationships and a portion of our trademarks and trade names. Trademarks and trade names includes the Brevini® trademark and trade name utilized in our Off-Highway segment. Core technology includes the proprietary know-how and expertise that is inherent in our products and manufacturing processes. Customer relationships include the established relationships with our customers and the related ability of these customers to continue to generate future recurring revenue and income.

These assets are tested for impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. We group the assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the undiscounted future cash flows. We use our internal forecasts, which we update quarterly, to develop our cash flow projections. These forecasts are based on our knowledge of our customers' production forecasts, our assessment of market growth rates, net new business, material and labor cost estimates, cost recovery agreements with customers and our estimate of savings expected from our restructuring activities. The most likely factors that would significantly impact our forecasts are changes in customer production levels and loss of significant portions of our business. Our valuation is applied over the life of the primary assets within the asset groups. If the undiscounted cash flows do not indicate that the carrying amount of the asset group is recoverable, an impairment charge is recorded if the carrying amount of the asset group exceeds its fair value based on discounted cash flow analyses or appraisals. There were no impairments recorded during the three years ended December 31, 2018.

Components of other intangible assets —

		December 31, 2018			December 31, 2017		
	Weighted Average Useful Life (years)	Gross Carrying Amount	Accumulated Impairment and Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Impairment and Amortization	Net Carrying Amount
Amortizable intangible assets							
Core technology	8	$107	$ (89)	$ 18	$95	$ (88)	$ 7
Trademarks and trade names	16	16	(4)	12	17	(2)	15
Customer relationships	8	460	(400)	60	470	(403)	67
Non-amortizable intangible assets							
Trademarks and trade names		74		74	65		65
Used in research and development activities		20	(20)	—	20		20
		$677	$ (513)	$ 164	$667	$ (493)	$ 174

The net carrying amounts of intangible assets, other than goodwill, attributable to each of our operating segments at December 31, 2018 were as follows: Light Vehicle Driveline (Light Vehicle) – $28, Commercial Vehicle – $54, Off-Highway – $73 and Power Technologies – $9.

Amortization expense related to amortizable intangible assets —

	2018	2017	2016
Charged to cost of sales	$ 2	$ 2	$ 1
Charged to amortization of intangibles	8	11	8
Total amortization	$ 10	$ 13	$ 9

The following table provides the estimated aggregate pre-tax amortization expense related to intangible assets for each of the next five years based on December 31, 2018 exchange rates. Actual amounts may differ from these estimates due to such factors as currency translation, customer turnover, impairments, additional intangible asset acquisitions and other events.

	2019	2020	2021	2022	2023
Amortization expense	$ 9	$ 8	$ 8	$ 8	$ 8

Note 5. Restructuring of Operations

Our restructuring activities have historically included rationalizing our operating footprint by consolidating facilities, positioning operations in lower cost locations and reducing overhead costs. In recent years, our focus has primarily been headcount reduction initiatives to reduce operating costs. Restructuring expense includes costs associated with current and previously announced actions and is comprised of contractual and noncontractual separation costs and exit costs, including costs associated with lease continuation obligations and certain operating costs of facilities that we are in the process of closing.

During 2018, we implemented headcount and cost reduction initiatives across our operating segments and corporate functions. Restructuring charges of $25 in 2018 were primarily comprised of severance and benefit costs related to a voluntary retirement program in North America, headcount reduction actions in our operations and corporate functions in Brazil and administrative cost reduction initiatives primarily in Europe and North America. In response to continued market recovery in our Off-Highway business in Europe, management re-evaluated the economic conditions of our global Off-Highway business and determined that $7 of the previously approved restructuring actions are no longer economically prudent.

During 2017, we approved plans to implement certain headcount reduction initiatives in our Off-Highway business as part of the BFP and BPT acquisition integration, resulting in the recognition of $14, primarily for severance and benefits costs, during 2017. Including costs associated with the newly approved actions during 2017 and costs associated with previously announced initiatives, net of the reversal described below, restructuring expense during 2017 was $14, including $8 of severance and benefits costs and $6 of exit costs. During the fourth quarter of 2017, in response to better-than-expected market recovery in our Off-Highway business in Europe, management re-evaluated the economic conditions of our global Off-

Highway business and determined that a portion of the previously approved 2016 restructuring program is no longer economically prudent. This change in facts and circumstances led to the decision to reverse $8 of previously accrued liabilities.

During 2016, we implemented various headcount reduction initiatives across our businesses, including the first-quarter 2016 announcement of the planned closure of our Commercial Vehicle manufacturing facility in Glasgow, Kentucky. During the second half of 2016, we also approved and began to implement other headcount reduction initiatives, the most significant of which were associated with our Off-Highway business in Europe and our Commercial Vehicle and Light Vehicle businesses in Brazil, in response to continued market weakness in those businesses at that time. Additionally, in conjunction with the SJT Forjaria Ltda. acquisition in December 2016, we approved plans to eliminate certain redundant positions as one of our initial steps toward the integration of the SJT Forjaria Ltda. operations into our Commercial Vehicle business in that region. Including costs associated with these actions and with other previously announced initiatives, total restructuring expense during 2016 was $36, including $33 of severance and benefits costs and $3 of exit costs.

Accrued restructuring costs and activity, including noncurrent portion —

	Employee Termination Benefits	Exit Costs	Total
Balance, December 31, 2015	$ 9	$ 8	$ 17
Charges to restructuring	35	3	38
Adjustments of accruals	(2)		(2)
Cash payments	(10)	(5)	(15)
Balance, December 31, 2016	32	6	38
Charges to restructuring	16	6	22
Adjustments of accruals	(8)		(8)
Cash payments	(21)	(7)	(28)
Currency impact	2		2
Balance, December 31, 2017	21	5	26
Charges to restructuring	28	4	32
Adjustments of accruals	(7)		(7)
Cash payments	(16)	(5)	(21)
Currency impact	(1)		(1)
Balance, December 31, 2018	$ 25	$ 4	$ 29

At December 31, 2018, accrued employee termination benefits include costs to reduce approximately 300 employees over the next year. The exit costs relate primarily to lease continuation obligations.

Cost to complete — The following table provides project-to-date and estimated future restructuring expenses for completion of our approved restructuring initiatives for our business segments at December 31, 2018.

	Expense Recognized Prior to 2018	2018	Total to Date	Future Cost to Complete
Commercial Vehicle	35	3	38	8

The future cost to complete primarily includes exit costs through 2021, including lease continuation costs, equipment transfers and other costs which are required to be recognized as closures are finalized or as incurred during the closure.

Note 6. Inventories

Inventory components at December 31 —

	2018	2017
Raw materials	$433	$442
Work in process and finished goods	649	580
Inventory reserves	(51)	(53)
Total	$1,031	$969

Note 7. Supplemental Balance Sheet and Cash Flow Information

Supplemental balance sheet information at December 31 —

	2018	2017
Other current assets:		
Prepaid expenses	$76	$83
Other	26	14
Total	$102	$97
Other noncurrent assets:		
Contract asset	$25	$—
Prepaid expenses	3	17
Deferred financing costs	4	5
Pension assets, net of related obligations	3	3
Other	45	46
Total	$80	$71
Property, plant and equipment, net:		
Land and improvements to land	$207	$210
Buildings and building fixtures	552	518
Machinery and equipment	2,817	2,635
Total cost	3,576	3,363
Less: accumulated depreciation	(1,726)	(1,556)
Net	$1,850	$1,807
Other accrued liabilities (current):		
Non-income taxes payable	$53	$43
Accrued interest	13	14
Warranty reserves	34	29
Deferred income	6	12
Work place injury costs	5	6
Restructuring costs	26	22
Payable under forward contracts	11	9
Environmental	5	3
Other expense accruals	116	82
Total	$269	$220
Other noncurrent liabilities:		
Income tax liability	$48	$48
Interest rate swap market valuation	118	177
Deferred income tax liability	28	59
Work place injury costs	19	22
Warranty reserves	41	47
Restructuring costs	3	4
Other noncurrent liabilities	56	56
Total	$313	$413

Cash, cash equivalents and restricted cash at —

	December 31, 2018	December 31, 2017	December 31, 2016	December 31, 2015
Cash and cash equivalents	$ 510	$ 603	$ 707	$ 791
Restricted cash included in other current assets	7	3	5	6
Restricted cash included in other noncurrent assets	3	4	4	3
Total cash, cash equivalents and restricted cash	$ 520	$ 610	$ 716	$ 800

Supplemental cash flow information —

	2018	2017	2016
Change in working capital:			
Change in accounts receivable	$(113)	$(141)	$(86)
Change in inventories	(110)	(146)	(13)
Change in accounts payable	97	234	70
Change in accrued payroll and employee benefits	(28)	53	5
Change in accrued income taxes	(3)	26	(13)
Change in other current assets and liabilities	44	(34)	(14)
Net	$(113)	$(8)	$(51)
Cash paid during the period for:			
Interest	$90	$104	$111
Income taxes	145	87	89
Noncash investing and financing activities:			
Purchases of property, plant and equipment held in accounts payable	$91	$86	$113
Stock compensation plans	18	17	14
Noncash dividends declared	1		

Note 8. Stockholders' Equity

Preferred Stock

We are authorized to issue 50,000,000 of Dana preferred stock, par value $0.01 per share. There were no preferred shares outstanding at December 31, 2018 or 2017.

Common Stock

We are authorized to issue 450,000,000 shares of Dana common stock, par value $0.01 per share. At December 31, 2018, there were 153,005,588 shares of our common stock issued and 144,663,403 shares outstanding, net of 8,342,185 in treasury shares. Treasury shares include those shares withheld at cost to satisfy tax obligations from stock awards issued under our stock compensation plan in addition to share repurchases noted below.

Our Board of Directors declared a quarterly cash dividend of ten cents per share of common stock in each quarter of 2018. Aggregate 2018 declared dividends total $59 and paid cash dividends total $58. Dividends accrue on restricted stock units (RSUs) granted under our stock compensation program and will be paid in cash or additional units when the underlying units vest.

Share repurchase program — On March 24, 2018 our Board of Directors approved an expansion of our existing common stock share repurchase program to $200. The program expires on December 31, 2019. Under the program, we spent $25 to repurchase 1,055,000 shares of our common stock during the second quarter of 2018 through open market transactions. Approximately $175 remained available under the program for future share repurchases as of December 31, 2018. Our common stock share repurchase program of up to $1,700 approved in 2016 expired on December 31, 2017.

Changes in equity —

During the first quarter of 2018, a wholly-owned subsidiary of Dana purchased the ownership interest in Dana Spicer (Thailand) Limited (a non wholly-owned consolidated subsidiary of Dana) held by ROC Spicer, Ltd. (a non wholly-owned consolidated subsidiary of Dana). Dana maintained its controlling financial interest in Dana Spicer (Thailand) Limited and accordingly accounted for the purchase as an equity transaction. The excess of the fair value of the consideration paid over the carrying value of the investment attributable to the noncontrolling interest in ROC Spicer, Ltd. was recognized as additional noncontrolling interest with a corresponding reduction of the additional paid-in capital of Dana. During the third quarter of 2018, Yulon Motor Co., Ltd. (Yulon) purchased a direct ownership interest in two of our consolidated operating subsidiaries. Yulon's ownership interest in the two consolidated operating subsidiaries did not change as a result of the transactions, as it previously owned the same percentages indirectly through a series of consolidated holding companies. The cash received from Yulon was recognized as additional noncontrolling interest. The amount received, less withholding taxes, was returned to Yulon in the form of a dividend in the fourth quarter of 2018.

Changes in each component of AOCI of the parent —

	Parent Company Stockholders				
	Foreign Currency Translation	Hedging	Investments	Defined Benefit Plans	Accumulated Other Comprehensive Loss
Balance, December 31, 2015	$(608)	$(4)	$ 2	$(564)	$ (1,174)
Other comprehensive income (loss):					
Currency translation adjustments	(43)				(43)
Holding gains and losses		(16)	3		(13)
Reclassification of amount to net income (a)		(14)	(7)		(21)
Net actuarial losses				(88)	(88)
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				26	26
Elimination due to sale of subsidiary	2		2	1	5
Tax benefit	3			21	24
Other comprehensive loss	(38)	(30)	(2)	(40)	(110)
Balance, December 31, 2016	(646)	(34)	—	(604)	(1,284)
Other comprehensive income (loss):					
Currency translation adjustments	(22)				(22)
Holding loss on net investment hedge	(2)				(2)
Holding gains and losses		(162)	1		(161)
Reclassification of amount to net income (a)		128			128
Net actuarial losses				(28)	(28)
Curtailment gain				1	1
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				30	30
Tax (expense) benefit		4	1	(9)	(4)
Other comprehensive income (loss)	(24)	(30)	2	(6)	(58)
Balance, December 31, 2017	(670)	(64)	2	(610)	(1,342)
Other comprehensive income (loss):					
Currency translation adjustments	(48)				(48)
Holding loss on net investment hedge	(3)				(3)
Holding gains and losses		66			66
Reclassification of amount to net income (a)		(56)			(56)
Net actuarial losses				(8)	(8)
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				34	34
Other				2	2
Tax expense				(5)	(5)
Other comprehensive income (loss)	(51)	10	—	23	(18)
Adoption of ASU 2016-01 financial instruments adjustment, January 1, 2018			(2)		(2)
Balance, December 31, 2018	$(721)	$(54)	$ —	$(587)	$ (1,362)

Notes:

(a) For 2018, realized gains and losses from currency-related forward contracts associated with forecasted transactions or from other derivative instruments treated as cash flow hedges are reclassified from AOCI into the same line item in the consolidated statement of operations in which the underlying forecasted transaction or other hedged item is recorded. See Note 15 for additional details. For 2017 and 2016, reclassifications from AOCI were included in other income (expense), net.

(b) See Note 12 for additional details.

Note 9. Redeemable Noncontrolling Interests

In connection with the acquisition of a controlling interest in TM4 from Hydro-Québec on June 22, 2018, we recognized $102 for Hydro-Québec's 45% redeemable noncontrolling interest. The terms of the agreement provide Hydro-Québec with the right to put all, and not less than all, of its shares to Dana at fair value any time after June 22, 2021. See Note 2 for additional information.

In connection with the acquisition of a controlling interest in BFP and BPT from Brevini on February 1, 2017, we recognized $44 for Brevini's 20% redeemable noncontrolling interests. The terms of the agreement provided Dana the right to call Brevini's noncontrolling interests in BFP and BPT, and Brevini the right to put its noncontrolling interests in BFP and BPT to Dana, assuming Dana did not exercise its call rights, at dates and prices defined in the agreement. The call and put prices were based on the amount Dana paid to acquire its initial ownership interest in BFP and BPT subject to adjustment based on the actual EBITDA and free cash flows, as defined in the agreement, of BFP and BPT.

On August 8, 2018, we entered into an agreement to acquire Brevini's remaining 20% ownership interests in BFP and BPT and to settle all claims between the parties. We paid $43 to acquire Brevini's remaining ownership interests and received $10 in settlement of all pending and future claims. AOCI attributable to Brevini's redeemable noncontrolling interests was reclassified to AOCI of the parent company. The difference between the carrying value of Brevini's redeemable noncontrolling interests and the cash paid was recorded to additional paid-in capital of the parent company. See Note 2 for additional information.

Redeemable noncontrolling interests reflected as of the balance sheet date are the greater of the redeemable noncontrolling interest balances adjusted for comprehensive income items and distributions or the redemption values. Redeemable noncontrolling interest adjustments of redemption value are recorded in retained earnings. During 2017 there was a $6 adjustment to reflect a redemption value in excess of carrying value. See Note 10 for additional information.

Reconciliation of changes in redeemable noncontrolling interests —

	2018	2017
Balance, beginning of period	$47	$—
Initial fair value of redeemable noncontrolling interests of acquired businesses	102	44
Capital contribution from redeemable noncontrolling interest	3	
Purchase of redeemable noncontrolling interest	(46)	(1)
Comprehensive income (loss) adjustments:		
Net income (loss) attributable to redeemable noncontrolling interests		(5)
Other comprehensive income (loss) attributable to redeemable noncontrolling interests	(6)	3
Retained earnings adjustments:		
Adjustment to redemption value		6
Balance, end of period	$100	$47

Note 10. Earnings per Share

Reconciliation of the numerators and denominators of the earnings per share calculations —

	2018	2017	2016
Net income attributable to the parent company	$427	$111	$640
Less: Redeemable noncontrolling interests adjustment to redemption value		(6)	
Net income available to common stockholders - Numerator basic and diluted	$427	$105	$640
Denominator:			
Weighted-average common shares outstanding - Basic	145.0	145.1	146.0
Employee compensation-related shares, including stock options	1.5	1.8	0.8
Weighted-average common shares outstanding - Diluted	146.5	146.9	146.8

The share count for diluted earnings per share is computed on the basis of the weighted-average number of common shares outstanding plus the effects of dilutive common stock equivalents (CSEs) outstanding during the period. We excluded 0.2 million, 0.1 million and 1.7 million CSEs from the calculations of diluted earnings per share for the years 2018, 2017 and 2016 as the effect of including them would have been anti-dilutive.

Note 11. Stock Compensation

2017 Omnibus Incentive Plan

The 2017 Omnibus Incentive Plan (the Plan) authorizes the grant of stock options, stock appreciation rights (SARs), RSUs and performance share units (PSUs) through April 2027. Cash-settled awards do not count against the maximum aggregate number. At December 31, 2018, there were 5.6 million shares available for future grants. Shares of common stock to be issued under the Plan are made available from authorized and unissued Dana common stock.

Award activity — (shares in millions)

	Options		SARs		RSUs		PSUs	
	Shares	Exercise Price*	Shares	Exercise Price*	Shares	Grant-Date Fair Value*	Shares	Grant-Date Fair Value*
December 31, 2017	0.8	$ 14.58	0.1	$ 14.83	1.8	$ 17.38	0.6	$ 15.70
Granted					0.7	26.93	0.2	27.13
Exercised or vested	(0.1)	10.95			(0.6)	20.45	(0.2)	12.90
Forfeited or expired					(0.1)	20.77	(0.1)	17.55
December 31, 2018	0.7	15.33	0.1		1.8	20.06	0.5	22.45

* Weighted-average per share

	2018	2017	2016
Total stock compensation expense	$ 16	$ 23	$ 17
Total grant-date fair value of awards vested	16	17	11
Cash received from exercise of stock options	2	10	2
Cash paid to settle SARs and RSUs	2	4	1
Intrinsic value of stock options and SARs exercised	3	8	1
Intrinsic value of RSUs and PSUs vested	18	20	7

Compensation expense is generally measured based on the fair value at the date of grant and is recognized on a straight-line basis over the vesting period. For options and SARs, we use an option-pricing model to estimate fair value. For RSUs and PSUs, the fair value is based on the closing market price of our common stock at the date of grant. Awards that are settled in cash are subject to liability accounting. Accordingly, the fair value of such awards is remeasured at the end of each reporting period until settled or expired. We had accrued $2 and $7 for cash-settled awards at December 31, 2018 and 2017. We issued 0.7 million and 0.2 million shares of common stock based on vesting of RSUs and PSUs during 2018. At December 31, 2018, the total unrecognized compensation cost related to the nonvested awards granted and expected to vest was $20. This cost is expected to be recognized over a weighted-average period of 1.7 years.

Stock options and stock appreciation rights — The exercise price of each option or SAR equals the closing market price of our common stock on the date of grant. Options and SARs generally vest over three years and their maximum term is ten years. Shares issued upon the exercise of options are recorded as common stock and additional paid-in capital at the option price. SARs are settled in cash for the difference between the market price on the date of exercise and the exercise price. We have not granted stock options or SARs since 2013. All outstanding awards are fully vested and exercisable. At December 31, 2018, the outstanding awards have an aggregate intrinsic value of $1 and a weighted-average remaining contractual life of 3.1 years.

Restricted stock units and performance shares units — Each RSU or PSU granted represents the right to receive one share of Dana common stock or, at the election of Dana (for units awarded to board members) or for employees located outside the U.S. (for employee awarded units), cash equal to the market value per share. All RSUs contain dividend equivalent rights. RSUs granted to non-employee directors vest on the first anniversary date of the grant and those granted to employees generally cliff vest fully after three years. PSUs granted to employees vest if specified performance goals are achieved during the respective performance period, generally three years.

The number of PSUs that ultimately vest is contingent on achieving specified return on invested capital targets, specified total shareholder return targets relative to peer companies or specified margin targets. For the portion of the PSU award based on the return on invested capital performance or margin metric, we estimated the fair value at grant date based on the closing market price of our common stock at the date of grant adjusted for the value of assumed dividends over the period because the award is not dividend protected. The estimated grant date value is accrued over the performance period and adjusted as appropriate based on performance relative to the target. For the portion of the PSU award based on shareholder returns, we estimated the fair value at grant date using various assumptions as part of a Monte Carlo simulation. The expected term represents the period from the grant date to the end of the performance period. The risk-free interest rate was based on U.S. Treasury constant maturity rates at the grant date. The dividend yield was calculated by dividing the expected annual dividend by the average stock price over the prior year. The expected volatility was based on historical volatility using daily stock price observations.

	PSUs
	2016
Expected term (in years)	3.0
Risk-free interest rate	1.00%
Dividend yield	1.40%
Expected volatility	33.4%

Cash incentive awards — Our 2017 Omnibus Incentive Plan provides for cash incentive awards. We make awards annually to certain eligible employees designated by Dana, including certain executive officers. Awards under the plan are based on achieving certain financial performance goals. The performance goals of the plan are established annually by the Board of Directors.

Under the 2018 and 2017 annual incentive programs, participants were eligible to receive cash awards based on achieving earnings and cash flow performance goals. The 2016 annual incentive program is based on earnings and working capital performance goals. Our 2017 and 2016 long-term incentive programs each have a three-year contractual vesting period and include a performance-based cash component. For the 2017 and 2016 long-term incentive programs the vesting of the performance-based cash component is based on achieving a return on invested capital target measured on an average basis over the contractual period. The 2017 award also has a component that is based on achieving a margin target in the third year of the program that was established at the grant date. We accrued $33, $77 and $41 of expense in 2018, 2017 and 2016 for the expected cash payments under these programs.

Note 12. Pension and Postretirement Benefit Plans

We sponsor various defined benefit, qualified and nonqualified, pension plans covering eligible employees. Other postretirement benefits (OPEB), including medical and life insurance, are provided for certain employees upon retirement.

We also sponsor various defined contribution plans that cover the majority of our employees. Under the terms of the qualified defined contribution retirement plans, employee and employer contributions may be directed into a number of diverse investments. None of these qualified defined contribution plans allow direct investment in our stock.

Components of net periodic benefit cost (credit) and other amounts recognized in OCI —

	Pension Benefits					
	2018		2017		2016	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Interest cost	$43	$ 7	$51	$ 7	$53	$ 7
Expected return on plan assets	(71)	(3)	(82)	(3)	(92)	(2)
Service cost		7		7		