UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

Form 10-Q

Quarterly Report Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

For the quarterly period ended: June 30, 2019
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**

Common stock $0.01 par value	**DAN**	**New York Stock Exchange**
(Title of each class)	*(Trading Symbol)*	*(Name of exchange on which registered)*

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

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

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

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

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

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

There were 143,919,574 shares of the registrant’s common stock outstanding at July 19, 2019.

DANA INCORPORATED – FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2019

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PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net sales	$ 2,306	$ 2,054	$ 4,469	$ 4,192
Costs and expenses				
Cost of sales	1,980	1,746	3,843	3,577
Selling, general and administrative expenses	140	134	276	264
Amortization of intangibles	4	2	6	4
Restructuring charges, net	9	7	18	8
Impairment of indefinite-lived intangible asset		(20)		(20)
Adjustment in fair value of disposal group held for sale		3		3
Pension settlement charge	(258)		(258)	
Other expense, net	(10)	(10)	(23)	(10)
Earnings (loss) before interest and income taxes	(95)	138	45	312
Interest income	3	2	5	5
Interest expense	34	23	61	47
Earnings (loss) before income taxes	(126)	117	(11)	270
Income tax expense (benefit)	(52)	(4)	(32)	44
Equity in earnings of affiliates	8	6	14	12
Net income (loss)	(66)	127	35	238
Less: Noncontrolling interests net income	2	3	6	5
Less: Redeemable noncontrolling interests net income (loss)			(1)	1
Net income (loss) attributable to the parent company	$ (68)	$ 124	$ 30	$ 232
Net income (loss) per share available to common stockholders				
Basic	$ (0.47)	$ 0.85	$ 0.21	$ 1.60
Diluted	$ (0.47)	$ 0.85	$ 0.21	$ 1.58
Weighted-average common shares outstanding				
Basic	144.0	145.1	143.9	145.3
Diluted	144.0	146.5	144.8	147.0

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

Dana Incorporated
Consolidated Statement of Comprehensive Income (Unaudited)
(In millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income (loss)	$ (66)	$ 127	$ 35	$ 238
Other comprehensive income (loss), net of tax:				
Currency translation adjustments	3	(56)	30	(46)
Hedging gains and losses	2	(6)	7	(14)
Defined benefit plans	355	6	360	13
Other comprehensive income (loss)	360	(56)	397	(47)
Total comprehensive income	294	71	432	191
Less: Comprehensive (income) loss attributable to noncontrolling interests	(3)	2	(5)	
Less: Comprehensive (income) loss attributable to redeemable noncontrolling interest	1	2	(3)	
Comprehensive income attributable to the parent company	$ 292	$ 75	$ 424	$ 191

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

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

	June 30, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	$ 289	$ 510
Marketable securities	15	21
Accounts receivable		
Trade, less allowance for doubtful accounts of $7 in 2019 and $9 in 2018	1,423	1,065
Other	214	178
Inventories	1,286	1,031
Other current assets	143	102
Total current assets	3,370	2,907
Goodwill	533	264
Intangibles	240	164
Deferred tax assets	534	445
Other noncurrent assets	88	80
Investments in affiliates	170	208
Operating lease assets	179	
Property, plant and equipment, net	2,232	1,850
Total assets	$ 7,346	$ 5,918
Liabilities and equity		
Current liabilities		
Short-term debt	$ 14	$ 8
Current portion of long-term debt	42	20
Accounts payable	1,405	1,217
Accrued payroll and employee benefits	216	186
Taxes on income	64	47
Current portion of operating lease liabilities	41	
Other accrued liabilities	282	269
Total current liabilities	2,064	1,747
Long-term debt, less debt issuance costs of $28 in 2019 and $18 in 2018	2,418	1,755
Noncurrent operating lease liabilities	142	
Pension and postretirement obligations	438	561
Other noncurrent liabilities	365	313
Total liabilities	5,427	4,376
Commitments and contingencies (Note 16)		
Redeemable noncontrolling interests	105	100
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, 143,913,832 and 144,663,403 shares outstanding	2	2
Additional paid-in capital	2,376	2,368
Retained earnings	456	456
Treasury stock, at cost (10,099,912 and 8,342,185 shares)	(150)	(119)
Accumulated other comprehensive loss	(968)	(1,362)
Total parent company stockholders' equity	1,716	1,345
Noncontrolling interests	98	97
Total equity	1,814	1,442
Total liabilities and equity	$ 7,346	$ 5,918

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

Dana Incorporated
Consolidated Statement of Cash Flows (Unaudited)
(In millions)

	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Operating activities		
Net income	$ 35	$ 238
Depreciation	153	124
Amortization	8	5
Amortization of deferred financing charges	3	2
Earnings of affiliates, net of dividends received	3	5
Stock compensation expense	10	9
Deferred income taxes	(105)	(45)
Pension expense, net	207	1
Impairment of indefinite-lived intangible asset		20
Adjustment in fair value of disposal group held for sale		(2)
Change in working capital	(247)	(232)
Other, net	(10)	(12)
Net cash provided by operating activities	57	113
Investing activities		
Purchases of property, plant and equipment	(190)	(145)
Acquisition of businesses, net of cash acquired	(654)	(151)
Proceeds from previous acquisition		9
Purchases of marketable securities	(12)	(29)
Proceeds from sales of marketable securities	6	6
Proceeds from maturities of marketable securities	12	23
Settlements of undesignated derivatives	(19)	
Other, net	(6)	
Net cash used in investing activities	(863)	(287)
Financing activities		
Net change in short-term debt	(3)	(5)
Proceeds from long-term debt	675	
Repayment of long-term debt	(19)	(2)
Deferred financing payments	(12)	
Dividends paid to common stockholders	(29)	(29)
Distributions to noncontrolling interests	(12)	(4)
Contributions from noncontrolling interests	2	
Repurchases of common stock	(25)	(25)
Other, net		(5)
Net cash provided by (used in) financing activities	577	(70)
Net decrease in cash, cash equivalents and restricted cash	(229)	(244)
Cash, cash equivalents and restricted cash – beginning of period	520	610
Effect of exchange rate changes on cash balances	7	(13)
Less: Cash contributed to disposal group		(10)
Cash, cash equivalents and restricted cash – end of period (Note 6)	$ 298	$ 343
Non-cash investing activity		
Purchases of property, plant and equipment held in accounts payable	$ 88	$ 75

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

Dana Incorporated
Index to Notes to 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. As a global provider of high technology driveline (axles, driveshafts and transmissions); sealing and thermal-management products; and motors, power inverters, and control systems for electric vehicles our customer base includes virtually every major vehicle 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 are prepared in accordance with accounting principles generally accepted in the United States (GAAP) for interim financial information. These statements are unaudited, but in the opinion of management include all adjustments (consisting only of normal recurring adjustments) necessary for a fair statement of the results for the interim periods. The results reported in these consolidated financial statements should not necessarily be taken as indicative of results that may be expected for the entire year. The financial information included herein should be read in conjunction with the consolidated financial statements in Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2018 (the 2018 Form 10-K).

Recently adopted accounting pronouncements

On January 1, 2019, we adopted *Accounting Standards Update (ASU) 2016-02, Leases (Topic 842)*, using the modified retrospective approach and an application date of January 1, 2019. Prior period amounts have not been adjusted and continue to be reflected in accordance with our historical accounting. This transition method resulted in the recognition of a right-of-use asset and a lease liability for virtually all leases at the application date with a cumulative-effect adjustment to retained earnings. Short-term leases of less than 12 months have not been recorded on the balance sheet.

We elected the package of practical expedients, which among other things, allowed us to carry forward the historical lease classification. We did not elect the practical expedient that allowed for hindsight to determine the lease term of existing leases. We separated the lease components from the non-lease components of each lease arrangement and, therefore, did not elect the practical expedient that would enable us to not separate them.

We also adopted the following standard during the first half of 2019, which did not have a material impact on our financial statements or financial statement disclosures:

	Standard	Effective Date
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	January 1, 2019

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 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.

Note 2. Acquisitions

Prestolite E-Propulsion Systems (Beijing) Limited — On June 6, 2019, we acquired Prestolite Electric Beijing Limited's (PEBL) 50% ownership interest in Prestolite E-Propulsion Systems (Beijing) Limited (PEPS). PEPS manufactures and distributes electric mobility solutions, including electric motors, inverters, and generators for commercial vehicles and heavy machinery. PEPS has a state-of-the-art facility in China, enabling us to expand motor and inverter manufacturing capabilities in the world's largest electric-mobility market. The acquisition of PEBL's interest in PEPS, along with our existing ownership interest in PEPS through our TM4 subsidiary, provides us with a 100% ownership interest and a controlling financial interest in PEPS. We recognized a $2 gain to other expense, net on the required remeasurement of our previously held equity method investment in PEPS to fair value.

We paid $50 at closing using cash on hand. The purchase consideration and related provisional allocation to the acquisition date fair values of the assets acquired and liabilities assumed are presented in the following table:

Cash consideration	$	50
Fair value of previously held equity method investment		45
Total purchase consideration	$	95
Cash and cash equivalents	$	2
Accounts receivable - Trade		17
Inventories		8
Goodwill		73
Property, plant and equipment		2
Accounts payable		(4)
Other accrued liabilities		(3)
Total purchase consideration allocation	$	95

The fair value of the assets acquired and liabilities assumed, as well as the fair value of our previously held equity method investment, are provisional and could be revised as a result of additional information obtained regarding indemnified matters and liabilities assumed and revisions of provisional estimates of fair values, including but not limited to, the completion of independent appraisals and valuations related to inventories, intangibles and property, plant and equipment. 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. We used a combination of the discounted cash flow, an income approach, and the guideline public company method, a market approach, to value our previously held equity method investment in PEPS.

The results of operations of the business are reported in our Commercial Vehicle operating segment from the date of acquisition. 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. PEPS had an insignificant impact on our consolidated results of operations during the second quarter of 2019.

Oerlikon Drive Systems — On February 28, 2019, we acquired a 100% ownership interest in the Oerlikon Drive Systems (ODS) segment of the Oerlikon Group. ODS 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 acquisition of ODS is expected to deliver significant long-term value by accelerating our commitment to vehicle electrification and strengthening the technology portfolio for each of our end markets while further expanding and balancing the manufacturing presence of our off-highway business in key geographical markets. 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.

We paid $626 at closing which was funded primarily through debt proceeds. See Note 14 for additional information. The purchase consideration and related provisional allocation to the acquisition date fair values of the assets acquired and liabilities assumed are presented in the following table:

Purchase consideration paid at closing	$	626
Less purchase consideration to be recovered for indemnified matters		(4)
Total purchase consideration	$	622
Cash and cash equivalents	$	76
Accounts receivable - Trade		150
Accounts receivable - Other		15
Inventories		191
Other current assets		15
Goodwill		122
Intangibles		58
Deferred tax assets		51
Other noncurrent assets		5
Investments in affiliates		7
Property, plant and equipment		329
Current portion of long-term debt		(2)
Accounts payable		(151)
Accrued payroll and employee benefits		(35)
Other accrued liabilities		(48)
Long-term debt		(8)
Pension and postretirement obligations		(48)
Other noncurrent liabilities		(97)
Noncontrolling interests		(8)
Total purchase consideration allocation	$	622

The purchase consideration and the fair values of the assets acquired and liabilities assumed are provisional and could be revised as a result of additional information obtained regarding indemnified matters and liabilities assumed and revisions of provisional estimates of fair values, including but not limited to, the completion of independent appraisals and valuations related to inventory, intangibles and property, plant and equipment.

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 includes $11 allocated to developed technology, $13 allocated to trademarks and trade names and $34 allocated to customer relationships. We used the relief from royalty method, an income approach, to value developed technology and trademarks and trade names. 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, trademarks and trade names and customer relationship intangible assets are being amortized on a straight-line basis over seven, ten and twelve years, respectively. Property, plant and equipment is being depreciated on a straight-line basis over useful lives ranging from three to twenty-five years.

The results of operations of ODS are reported in our Off-Highway and Commercial Vehicle operating segments. Transaction related expenses associated with completion of the acquisition totaling $13 were charged to other expense, net. During the second quarter and first six months of 2019, the business contributed sales of $211 and $286, respectively.

The following unaudited pro forma information has been prepared as if the ODS acquisition and the related debt financing had occurred on January 1, 2018.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net sales	$ 2,306	$ 2,285	$ 4,614	$ 4,645
Net income (loss)	$ (59)	$ 121	$ 67	$ 208

The unaudited pro forma results include adjustments primarily related to purchase accounting, interest expense related to the debt proceeds used in connection with the acquisition of ODS, and non-recurring strategic transaction expense. The unaudited pro forma financial information is not indicative of the operational results that would have been obtained had the transactions actually occurred as of that date, nor is it necessarily indicative of Dana’s future operational results.

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%. The purchase consideration and the related provisional allocation to the acquisition date fair values of the assets acquired and liabilities assumed are presented in the following table:

Total purchase consideration	$ 88
Accounts receivable - Trade	4
Accounts receivable - Other	1
Inventories	8
Goodwill	68
Intangibles	24
Other noncurrent assets	1
Property, plant and equipment	5
Short-term debt	(8)
Accounts payable	(6)
Accrued payroll and employee benefits	(1)
Other accrued liabilities	(1)
Other noncurrent liabilities	(7)
Total purchase consideration allocation	$ 88

The fair value of the assets acquired and liabilities assumed are provisional and could be revised as a result of additional information obtained regarding liabilities assumed and revisions of provisional estimates of fair values including but not limited to, the completion of independent appraisals and valuations related to intangibles.

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 $15 allocated to developed technology and $9 allocated to customer relationships. 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 twelve and ten years, respectively, and property, plant and equipment is being depreciated on a straight-line basis over useful lives ranging from one to twenty years.

The results of operations of the business are reported in our Off-Highway operating segment from the date of acquisition. 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. During the second quarter and first six months of 2019, the business contributed sales of $6 and $12, respectively.

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 PEPS, a joint venture in China with PEBL, which offers electric mobility solutions throughout China and Asia. See discussion of Dana's subsequent acquisition of PEBL's 50% interest in PEPS above. 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
Investments 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 expense, net in 2018. 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.

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. 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.

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.

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 were 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.

Note 4. Goodwill and Other Intangible Assets

Goodwill — The change in the carrying amount of goodwill in 2019 is due to the acquisitions of PEPS, ODS and SME and currency fluctuation. See Note 2 for additional information on recent acquisitions.

Changes in the carrying amount of goodwill by segment —

	Light Vehicle	Commercial Vehicle	Off-Highway	Power Technologies	Total
Balance, December 31, 2018	$ 3	$ 150	$ 105	$ 6	$ 264
Acquisitions		73	190		263
Currency impact		6			6
Balance, June 30, 2019	$ 3	$ 229	$ 295	$ 6	$ 533

Components of other intangible assets —

	Weighted Average Useful Life (years)	June 30, 2019 Gross Carrying Amount	June 30, 2019 Accumulated Impairment and Amortization	June 30, 2019 Net Carrying Amount	December 31, 2018 Gross Carrying Amount	December 31, 2018 Accumulated Impairment and Amortization	December 31, 2018 Net Carrying Amount
Amortizable intangible assets							
Core technology	8	$ 133	$ (91)	$ 42	$ 107	$ (89)	$ 18
Trademarks and trade names	13	31	(5)	26	16	(4)	12
Customer relationships	9	502	(405)	97	460	(400)	60
Non-amortizable intangible assets							
Trademarks and trade names		75		75	74		74
Used in research and development activities				—	20	(20)	—
		$ 741	$ (501)	$ 240	$ 677	$ (513)	$ 164

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 had 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. 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.

The net carrying amounts of intangible assets, other than goodwill, attributable to each of our operating segments at June 30, 2019 were as follows: Light Vehicle — $26, Commercial Vehicle — $54, Off-Highway — $152 and Power Technologies — $8.

Amortization expense related to amortizable intangible assets —

	Three Months Ended June 30, 2019	Three Months Ended June 30, 2018	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Charged to cost of sales	$ 1	$ —	$ 2	$ 1
Charged to amortization of intangibles	4	2	6	4
Total amortization	$ 5	$ 2	$ 8	$ 5

The following table provides the estimated aggregate pre-tax amortization expense related to intangible assets for each of the next five years based on June 30, 2019 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.

	Remainder of 2019	2020	2021	2022	2023
Amortization expense	$ 8	$ 16	$ 16	$ 16	$ 16

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 been primarily headcount reduction initiatives to reduce operating costs, including actions taken at acquired businesses to rationalize cost structures and achieve operating synergies. Restructuring expense includes costs associated with current and previously announced actions and is comprised of contractual and noncontractual separation costs and exit costs, including certain operating costs of facilities that we are in the process of closing.

Restructuring charges of $9 in the second quarter of 2019 and $18 in the first half of 2019 were comprised of severance and benefit costs related to integration of recent acquisitions, headcount reductions across our operations and exit costs related to previously announced actions.

Restructuring expense of $7 in the second quarter of 2018 and $8 in the first half of 2018 included headcount reductions in our Commercial Vehicle operations and corporate service functions in Brazil, integration of acquisitions and exit costs related to previously announced actions.

In accordance with the transition provisions of the new leasing standard, we reclassified $4 of previously accrued lease cease-use costs as an adjustment to the initial measurement of the related right-of-use operating lease asset.

Accrued restructuring costs and activity —

	Employee Termination Benefits	Exit Costs	Total
Balance, March 31, 2019	$ 26	$ —	$ 26
Charges to restructuring	7	2	9
Cash payments	(10)	(2)	(12)
Balance, June 30, 2019	$ 23	$ —	$ 23
Balance, December 31, 2018	$ 25	$ 4	$ 29
Charges to restructuring	15	3	18
Cash payments	(17)	(3)	(20)
Lease cease-use reclassification		(4)	(4)
Balance, June 30, 2019	$ 23	$ —	$ 23

At June 30, 2019, the accrued employee termination benefits include costs to reduce approximately 300 employees to be completed over the next year.

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 June 30, 2019.

	Expense Recognized			Future Cost to Complete
	Prior to 2019	2019	Total to Date	
Commercial Vehicle	$ 35	$ 2	$ 37	$ 6
Off-Highway	—	1	1	1

The future cost to complete includes estimated separation costs, primarily those associated with one-time benefit programs, and exit costs through 2021, equipment transfers and other costs which are required to be recognized as closures are finalized or as incurred during the closure.

Note 6. Supplemental Balance Sheet and Cash Flow Information

Inventory components at —

	June 30, 2019	December 31, 2018
Raw materials	$ 524	$ 433
Work in process and finished goods	818	649
Inventory reserves	(56)	(51)
Total	$ 1,286	$ 1,031

Cash, cash equivalents and restricted cash at —

	June 30, 2019	December 31, 2018	June 30, 2018	December 31, 2017
Cash and cash equivalents	$ 289	$ 510	$ 339	$ 603
Restricted cash included in other current assets	5	7		3
Restricted cash included in other noncurrent assets	4	3	4	4
Total cash, cash equivalents and restricted cash	$ 298	$ 520	$ 343	$ 610

Note 7. Leases

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. Leases with an initial term of 12 months or less are not recorded on the balance sheet; we recognize lease expense for these leases on a straight-line basis over the lease term. Short-term lease costs were insignificant in the six months ended June 30, 2019. We account for lease components separately from the non-lease components of each lease arrangement.

Our leases generally have remaining lease terms of 1 year to 11 years, some of which include options to extend the leases for up to 7 years. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The following table provides a summary of the location and amounts related to finance leases recognized in the consolidated balance sheet.

	Classification	June 30, 2019
Finance lease right-of-use assets	Property, plant and equipment, net	$ 42
Finance lease liabilities	Current portion of long-term debt	5
Finance lease liabilities	Long-term debt	26

Components of lease expense —

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
Operating lease cost	$ 12	$ 24
Finance lease cost:		
Amortization of right-of-use assets	$ 1	$ 1
Interest on lease liabilities	—	—
Total finance lease cost	$ 1	$ 1

Supplemental cash flow information related to leases —

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 13	$ 25
Operating cash flows from finance leases	—	—
Financing cash flows from finance leases	1	2
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 7	$ 13
Finance leases	2	12

Supplemental balance sheet information related to leases —

	June 30, 2019
Weighted-average remaining lease term (years):	
Operating leases	6
Finance leases	10
Weighted-average discount rate:	
Operating leases	6.0%
Finance leases	4.0%

Maturities —

	Operating Leases	Finance Leases
Remainder of 2019	$ 25	$ 3
2020	46	5
2021	38	5
2022	29	4
2023	21	4
Thereafter	57	15
Total lease payments	216	36
Less: interest	33	5
Present value of lease liabilities	$ 183	$ 31

As of June 30, 2019 we have operating lease payments that have not yet commenced of approximately $8. This lease is expected to commence in July 2019.

Disclosures related to periods prior to adoption of ASU 2016-02 —

Cash obligations under future minimum rental commitments under operating leases as of December 31, 2018 are shown in the table below. Operating lease commitments are primarily related to facilities.

	2019	2020	2021	2022	2023	Thereafter	Total
Lease commitments	$ 57	$ 41	$ 35	$ 27	$ 21	$ 64	$ 245

Note 8. Stockholders' Equity

Common stock — Our Board of Directors declared quarterly a cash dividend of ten cents per share of common stock in the first and second quarters of 2019. 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 1,432,275 shares of our common stock during the first quarter of 2019 through open market transactions. Approximately $150 remained available for future share repurchases as of June 30, 2019.

Changes in equity —

2019	Common Stock	Additional Paid-In Stock	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Non-controlling Interests	Total Equity
	Three Months Ended June 30,						
Balance, March 31, 2019	$ 2	$ 2,372	$ 538	$ (150)	$ (1,328)	$ 105	$ 1,539
Net income (loss)			(68)			2	(66)
Other comprehensive income					360	1	361
Common stock dividends			(14)				(14)
Distributions to noncontrolling interests						(11)	(11)
Increase from business combination						1	1
Stock compensation		4					4
Balance, June 30, 2019	$ 2	$ 2,376	$ 456	$ (150)	$ (968)	$ 98	$ 1,814
2018							
Balance, March 31, 2018	$ 2	$ 2,350	$ 181	$ (93)	$ (1,336)	$ 111	$ 1,215
Net income			124			3	127
Other comprehensive loss					(49)	(5)	(54)
Common stock dividends			(15)				(15)
Distributions to noncontrolling interests						(3)	(3)
Common stock share repurchases				(25)			(25)
Stock compensation		6					6
Balance, June 30, 2018	$ 2	$ 2,356	$ 290	$ (118)	$ (1,385)	$ 106	$ 1,251

	Six Months Ended June 30,						
2019	Common Stock	Additional Paid-In Stock	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Non-controlling Interests	Total Equity
Balance, December 31, 2018	$ 2	$ 2,368	$ 456	$ (119)	$ (1,362)	$ 97	$ 1,442
Adoption of ASU 2016-02 leases, January 1, 2019			(1)				(1)
Net income			30			6	36
Other comprehensive income (loss)					394	(1)	393
Common stock dividends			(29)				(29)
Distributions to noncontrolling interests						(12)	(12)
Increase from business combination						8	8
Common stock share repurchases				(25)			(25)
Stock compensation		8					8
Stock withheld for employee taxes				(6)			(6)
Balance, June 30, 2019	$ 2	$ 2,376	$ 456	$ (150)	$ (968)	$ 98	$ 1,814
2018							
Balance, December 31, 2017	$ 2	$ 2,354	$ 86	$ (87)	$ (1,342)	$ 101	$ 1,114
Adoption of ASU 2016-01 financial instruments adjustment, January 1, 2018			2		(2)		—
Net income			232			5	237
Other comprehensive loss					(41)	(5)	(46)
Common stock dividends			(30)				(30)
Distributions to noncontrolling interests						(4)	(4)
Purchase of noncontrolling interests		(9)				9	—
Common stock share repurchases				(25)			(25)
Stock compensation		11					11
Stock withheld for employee taxes				(6)			(6)
Balance, June 30, 2018	$ 2	$ 2,356	$ 290	$ (118)	$ (1,385)	$ 106	$ 1,251

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.

Changes in each component of accumulated other comprehensive income (AOCI) of the parent —

	Parent Company Stockholders				
	Foreign Currency Translation	Hedging	Investments	Defined Benefit Plans	Total
Balance, March 31, 2019	$ (697)	$ (49)	$ —	$ (582)	$ (1,328)
Other comprehensive income (loss):					
Currency translation adjustments	3				3
Holding gains and losses		(9)			(9)
Reclassification of amount to net income (a)		11			11
Net actuarial gain				104	104
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				269	269
Tax expense				(18)	(18)
Other comprehensive income	3	2	—	355	360
Balance, June 30, 2019	$ (694)	$ (47)	$ —	$ (227)	$ (968)
Balance, March 31, 2018	$ (661)	$ (72)	$ —	$ (603)	$ (1,336)
Other comprehensive income (loss):					
Currency translation adjustments	(54)				(54)
Holding gain on net investment hedge	5				5
Holding gains and losses		58			58
Reclassification of amount to net income (a)		(64)			(64)
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				8	8
Tax expense				(2)	(2)
Other comprehensive income (loss)	(49)	(6)	—	6	(49)
Balance, June 30, 2018	$ (710)	$ (78)	$ —	$ (597)	$ (1,385)

	Parent Company Stockholders				
	Foreign Currency Translation	Hedging	Investments	Defined Benefit Plans	Total
Balance, December 31, 2018	$ (721)	$ (54)	$ —	$ (587)	$ (1,362)
Other comprehensive income (loss):					
Currency translation adjustments	27				27
Holding gains and losses		20			20
Reclassification of amount to net income (a)		(13)			(13)
Net actuarial gain				104	104
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				276	276
Tax expense				(20)	(20)
Other comprehensive income	27	7	—	360	394
Balance, June 30, 2019	$ (694)	$ (47)	$ —	$ (227)	$ (968)
Balance, December 31, 2017	$ (670)	$ (64)	$ 2	$ (610)	$ (1,342)
Other comprehensive income (loss):					
Currency translation adjustments	(40)				(40)
Holding gains and losses		20			20
Reclassification of amount to net income (a)		(35)			(35)
Reclassification adjustment for net actuarial losses included in net periodic benefit cost (b)				17	17
Tax (expense) benefit		1		(4)	(3)
Other comprehensive income (loss)	(40)	(14)	—	13	(41)
Adoption of ASU 2016-01 financial instruments adjustment, January 1, 2018			(2)		(2)
Balance, June 30, 2018	$ (710)	$ (78)	$ —	$ (597)	$ (1,385)

(a) 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.
(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.

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.

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.

Reconciliation of changes in redeemable noncontrolling interests —

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Balance, beginning of period	$ 105	$ 49	$ 100	$ 47
Initial fair value of redeemable noncontrolling interests of acquired businesses		102		102
Cash contributions from redeemable noncontrolling interests	1		2	
Comprehensive income (loss) adjustments:				
Net income (loss) attributable to redeemable noncontrolling interests			(1)	1
Other comprehensive income (loss) attributable to redeemable noncontrolling interests	(1)	(2)	4	(1)
Balance, end of period	$ 105	$ 149	$ 105	$ 149

Note 10. Earnings per Share

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income attributable to the parent company	$ (68)	$ 124	$ 30	$ 232
Less: Redeemable noncontrolling interests adjustment to redemption value	—	—	—	—
Net income available to common stockholders - Numerator basic and diluted	$ (68)	$ 124	$ 30	$ 232
Denominator:				
Weighted-average common shares outstanding - Basic	144.0	145.1	143.9	145.3
Employee compensation-related shares, including stock options	—	1.4	0.9	1.7
Weighted-average common shares outstanding - Diluted	144.0	146.5	144.8	147.0

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 0.3 million and 0.1 million CSEs from the calculation of diluted earnings per share for the second quarters of 2019 and 2018 and excluded 0.4 million and 0.1 million of CSEs for the respective year-to-date periods as the effect of including them would have been anti-dilutive. In addition, we excluded CSEs that satisfied the definition of potentially dilutive shares of 0.8 million for the second quarter of 2019 since there was no net income available to common stockholders for this period.

Note 11. Stock Compensation

The Compensation Committee of our Board of Directors approved the grant of RSUs and performance share units (PSUs) shown in the table below during 2019.

	Granted (In millions)	Grant Date Fair Value*
RSUs	1.0	$ 17.12
PSUs	0.4	$ 16.17

* Weighted-average per share

We calculated the fair value of the RSUs at grant date based on the closing market price of our common stock at the date of grant. The number of PSUs that ultimately vest is contingent on achieving specified return on invested capital targets and specified margin targets, with an even distribution between the two targets. We estimated the fair value of the PSUs 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 awards are not dividend protected.

We paid $2 of cash to settle RSUs. We issued 0.7 million and 0.2 million shares of common stock based on the vesting of RSUs and PSUs during 2019. We recognized stock compensation expense of $5 and $5 during the second quarters of 2019 and 2018 and $10 and $9 during the respective year-to-date periods. At June 30, 2019, the total unrecognized compensation cost related to the nonvested awards granted and expected to vest was $33. This cost is expected to be recognized over a weighted-average period of 2.1 years.

Note 12. Pension and Postretirement Benefit Plans

We have a number of defined contribution and 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.

Components of net periodic benefit cost —

	Pension					
	2019		2018		OPEB - Non-U.S.	
Three Months Ended June 30,	U.S.	Non-U.S.	U.S.	Non-U.S.	2019	2018
Interest cost	$ 17	$ 2	$ 10	$ 2	$ —	$ 1
Expected return on plan assets	(20)	(1)	(17)			
Service cost		2		2		
Settlement charge	258					
Amortization of net actuarial loss	10	1	7	1		
Net periodic benefit cost	$ 265	$ 4	$ —	$ 5	$ —	$ 1
Six Months Ended June 30,						
Interest cost	$ 26	$ 4	$ 21	$ 3	$ 1	$ 2
Expected return on plan assets	(32)	(2)	(35)	(1)		
Service cost		4		4		
Settlement charge	258					
Amortization of net actuarial loss	15	3	14	3		
Net periodic benefit cost	$ 267	$ 9	$ —	$ 9	$ 1	$ 2

The service cost components of net periodic pension and OPEB costs are included in cost of sales and selling, general and administrative expenses as part of compensation cost and are eligible for capitalization in inventory and other assets. The non-service components are reported in other expense, net and are not eligible for capitalization.

Pension expense for 2019 increased versus the same period in 2018 as a result of a lower assumed return on plan assets, higher interest expense and amortization of the net actuarial loss in the U.S., and a pension settlement charge.

Plan termination — In October 2017, upon authorization by the Dana Board of Directors, we commenced the process of terminating one of our U.S. defined benefit pension plans. During the second quarter of 2019, payments were made from plan assets to those plan participants that elected to take the lump-sum payout option. In June 2019, we entered into (a) a definitive commitment agreement by and among Dana, Athene Annuity and Life Company (Athene) and State Street Global Advisors, as independent fiduciary to the plan, and (b) a definitive commitment agreement by and among Dana, Companion Life Insurance Company (Companion) and State Street Global Advisors, as independent fiduciary to the plan. Pursuant to the definitive commitment agreements, the plan purchased group annuity contracts that irrevocably transferred to the insurance companies the remaining future pension benefit obligations of the plan. Plan participant's benefits are unchanged as a result of the termination. We contributed $62 to the plan prior to the purchase of the group annuity contracts. The purchase of group annuity contracts was then funded directly by the assets of the plan in June 2019. By irrevocably transferring the obligations to Athene and Companion, we reduced our unfunded pension obligation by approximately $165 and recognized a pre-tax pension settlement charge of $258 in the second quarter of 2019.

Note 13. Marketable Securities

	June 30, 2019			December 31, 2018		
	Cost	Unrealized Gain (Loss)	Fair Value	Cost	Unrealized Gain (Loss)	Fair Value
U.S. government securities	$ —	$ —	$ —	$ 2	$ —	$ 2
Corporate securities				4		4
Certificates of deposit	15		15	15		15
Total marketable securities	$ 15	$ —	$ 15	$ 21	$ —	$ 21

U.S. government securities include bonds issued by government-sponsored agencies and Treasury notes. Corporate securities are primarily debt securities. Certificates of deposit maturing in one year or less total $15 at June 30, 2019.

Note 14. Financing Agreements

Long-term debt at —

	Interest Rate		June 30, 2019	December 31, 2018
Senior Notes due September 15, 2023	6.000%		$ 300	$ 300
Senior Notes due December 15, 2024	5.500%		425	425
Senior Notes due April 15, 2025	5.750%	*	400	400
Senior Notes due June 1, 2026	6.500%	*	375	375
Term Facility			923	265
Other indebtedness			65	28
Debt issuance costs			(28)	(18)
			2,460	1,775
Less: Current portion of long-term debt			42	20
Long-term debt, less debt issuance costs			$ 2,418	$ 1,755

* In conjunction with the issuance of the April 2025 Notes we entered into 8-year fixed-to-fixed cross-currency swaps which have the effect of economically converting the April 2025 Notes to euro-denominated debt at a fixed rate of 3.850%. In conjunction with the issuance of the June 2026 Notes we entered into 10-year fixed-to-fixed cross-currency swaps which have the effect of economically converting the June 2026 Notes to euro-denominated debt at a fixed rate of 5.140%. See Note 15 for additional information.

Interest on the senior notes is payable semi-annually and interest on the Term Facility is payable quarterly. Other indebtedness includes borrowings from various financial institutions, financing lease obligations and the unamortized fair value adjustment related to a terminated interest rate swap. See Note 15 for additional information on the terminated interest rate swap.

Credit agreement — On February 28, 2019, we entered into an amended credit and guaranty agreement comprised of a $500 term facility (the Term A Facility), a $450 term facility (the Term B Facility and, together with the Term A Facility, the Term Facilities) and a $750 revolving credit facility (the Revolving Facility). The Term A Facility is an expansion of our existing $275 term facility. The Term A Facility and the Revolving Facility mature on August 17, 2022. The Term B Facility matures on February 28, 2026. On February 28, 2019, we drew the $225 available under the Term A Facility and the $450 available under the Term B Facility. Financing costs of $12 were recorded as deferred cost and are being amortized to interest expense over the life of the applicable term facilities. We are required to make equal quarterly installments on the Term A Facility on the last day of each fiscal quarter of $8 beginning March 31, 2019 and 0.25% of the aggregate principal advances of the Term B Facility quarterly commencing on June 30, 2019. We may prepay some or all of the amounts under the term facilities without penalty. The proceeds from the term facilities were used to acquire the Oerlikon Drive Systems segment of the Oerlikon Group and pay for related integration activities. The Revolving Facility amended our previous revolving credit facility. In connection with this amendment, we paid $1 in deferred financing costs to be amortized to interest expense over the life of the facility. Deferred financing costs on our Revolving Facility are included in other noncurrent assets.

The Term Facilities and the Revolving Facility are guaranteed by all of our wholly-owned domestic subsidiaries subject to certain exceptions (the guarantors) and are secured by a first-priority lien on substantially all of the assets of Dana and the guarantors, subject to certain exceptions.

Advances under the Term A Facility and the Revolving Facility bear interest at a floating rate based on, at our option, the base rate or Eurodollar rate (each as described in the credit agreement) plus a margin as set forth below:

	Margin	
Total Net Leverage Ratio	Base Rate	Eurodollar Rate
Less than or equal to 1.00:1.00	0.50%	1.50%
Greater than 1.00:1.00 but less than or equal to 2.00:1.00	0.75%	1.75%
Greater than 2.00:1.00	1.00%	2.00%

The Term B Facility bears interest based on, at our option, the Base Rate plus 1.25% or the Eurodollar rate plus 2.25%. We have elected to pay interest on our advances under the Term Facilities at the Eurodollar Rate. The interest rate on the Term A Facility was 4.152% and the Term B Facility was 4.652%, inclusive of the applicable margins, as of June 30, 2019.

Commitment fees are applied based on the average daily unused portion of the available amounts under the Revolving Facility as set forth below:

Total Net Leverage Ratio	Commitment Fee
Less than or equal to 1.00:1.00	0.250%
Greater than 1.00:1.00 but less than or equal to 2.00:1.00	0.375%
Greater than 2.00:1.00	0.500%

Up to $275 of the Revolving Facility may be applied to letters of credit, which reduces availability. We pay a fee for issued and undrawn letters of credit in an amount per annum equal to the applicable margin for Eurodollar rate advances based on a quarterly average availability under issued and undrawn letters of credit under the Revolving Facility and a per annum fronting fee of 0.125%, payable quarterly.

As of June 30, 2019, we had no outstanding borrowings under the Revolving Facility but we had utilized $21 for letters of credit. We had availability at June 30, 2019 under the Revolving Facility of $729 after deducting the outstanding letters of credit.

Debt covenants — At June 30, 2019, we were in compliance with the covenants of our financing agreements. Under the Term Facilities, Revolving Facility and the senior notes, we are required to comply with certain incurrence-based covenants customary for facilities of these types and, in the case of the Term A Facility and Revolving Facility, a maintenance covenant tested on the last day of each fiscal quarter requiring us to maintain a first lien net leverage ratio not to exceed 2.00 to 1.00.

Note 15. Fair Value Measurements and Derivatives

In measuring the fair value of our assets and liabilities, we use 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.

Fair value measurements on a recurring basis — Assets and liabilities that are carried in our balance sheet at fair value are as follows:

			Fair Value	
Category	Balance Sheet Location	Fair Value Level	June 30, 2019	December 31, 2018
Available-for-sale securities	Marketable securities	2	$ 15	$ 21
Currency forward contracts				
Cash flow hedges	Accounts receivable - Other	2	8	6
Cash flow hedges	Other accrued liabilities	2	2	5
Undesignated	Accounts receivable - Other	2	2	2
Undesignated	Other accrued liabilities	2		1
Interest rate collars	Other accrued liabilities	2	4	
Currency swaps				
Cash flow hedges	Other noncurrent liabilities	2	102	118

Fair Value Level 1 assets and liabilities reflect quoted prices in active markets. Fair Value Level 2 assets and liabilities reflect the use of significant other observable inputs.

Fair value of financial instruments — The financial instruments that are not carried in our balance sheet at fair value are as follows:

		June 30, 2019		December 31, 2018	
	Fair Value Level	Carrying Value	Fair Value	Carrying Value	Fair Value
Senior notes	2	$ 1,500	$ 1,550	$ 1,500	$ 1,442
Term Facility	2	923	921	265	265
Other indebtedness*	2	65	60	28	23
Total		$ 2,488	$ 2,531	$ 1,793	$ 1,730

* The carrying value includes the unamortized portion of a fair value adjustment related to a terminated interest rate swap at both dates.

Interest rate derivatives — Our portfolio of derivative financial instruments periodically includes interest rate swaps and interest rate collars designed to mitigate our interest rate risk. As of June 30, 2019, no fixed-to-floating interest rate swaps remain outstanding. However, a $5 fair value adjustment to the carrying amount of our December 2024 Notes, associated with a fixed-to-floating interest rate swap that had been executed but was subsequently terminated during 2015, remains deferred at June 30, 2019. This amount is being amortized as a reduction of interest expense through the period ending December 2024, the scheduled maturity date of the December 2024 Notes. The amount amortized as a reduction of interest expense was not material during the three months and six months ended June 30, 2019. We have outstanding interest rate collars with a notional value of $425 that will mature in December 2021. For interest rate collars, no payments or receipts are exchanged unless interest rates rise or fall in excess of a predetermined ceiling or floor rate.

Foreign currency derivatives — Our foreign currency derivatives include forward contracts associated with forecasted transactions, primarily involving the purchases and sales of inventory through the next fifteen months, as well as currency swaps associated with certain recorded external notes payable and intercompany loans receivable and payable. Periodically, our foreign currency derivatives also include net investment hedges of certain of our investments in foreign operations.

We have executed fixed-to-fixed cross-currency swaps in conjunction with the issuance of certain notes to eliminate the variability in the functional-currency-equivalent cash flows due to changes in exchange rates associated with the forecasted principal and interest payments. All of the underlying designated financial instruments, and any subsequent replacement debt, have been designated as the hedged items in each respective cash flow hedge relationship, as shown in the table below. Designated as cash flow hedges of the forecasted principal and interest payments of the underlying designated financial instruments, or subsequent replacement debt, all of the swaps economically convert the underlying designated financial instruments into the functional currency of each respective holder. The impact of the interest rate differential between the inflow and outflow rates on all fixed-to-fixed cross-currency swaps is recognized during each period as a component of interest expense.

The following fixed-to-fixed cross-currency swaps were outstanding at June 30, 2019:

Underlying Financial Instrument				Derivative Financial Instrument			
Description	Type	Face Amount	Rate	Designated Notional Amount	Traded Amount	Inflow Rate	Outflow Rate
June 2026 Notes	Payable	$ 375	6.50%	$ 375	€ 338	6.50%	5.14%
April 2025 Notes	Payable	$ 400	5.75%	$ 400	€ 371	5.75%	3.85%
Luxembourg Intercompany Notes	Receivable	€ 281	3.91%	€ 281	$ 300	6.00%	3.91%

All of the swaps are expected to be highly effective in offsetting the corresponding currency-based changes in cash outflows related to the underlying designated financial instruments. Based on our qualitative assessment that the critical terms of all of the underlying designated financial instruments and all of the associated swaps match and that all other required criteria have been met, we do not expect to incur any ineffectiveness. As effective cash flow hedges, changes in the fair value of the swaps will be recorded in OCI during each period. Additionally, to the extent the swaps remain effective, the appropriate portion of AOCI will be reclassified to earnings each period as an offset to the foreign exchange gain or loss resulting from the remeasurement of the underlying designated financial instruments. See Note 14 for additional information about the June 2026 Notes and the April 2025 Notes. To the extent the swaps are no longer effective, changes in their fair values will be recorded in earnings.

The total notional amount of outstanding foreign currency forward contracts, involving the exchange of various currencies, was $517 at June 30, 2019 and $1,007 at December 31, 2018. The total notional amount of outstanding foreign currency swaps, including the fixed-to-fixed cross-currency swaps, was $1,095 at June 30, 2019 and $1,097 at December 31, 2018.

The following currency derivatives were outstanding at June 30, 2019:

		Notional Amount (U.S. Dollar Equivalent)			
Functional Currency	Traded Currency	Designated	Undesignated	Total	Maturity
U.S. dollar	Mexican peso, euro	$ 152	$ 19	$ 171	Sep-20
Euro	U.S. dollar, Canadian dollar, Hungarian forint, British pound, Swiss franc, Indian rupee, Russian ruble, Chinese renminbi, Mexican peso	121	19	140	Jan-24
British pound	U.S. dollar, euro	1	1	2	Nov-19
Swedish krona	euro	7		7	Dec-19
Australian dollar	U.S. dollar		1	1	Jul-19
South African rand	U.S. dollar, euro, Thai baht	7	4	11	May-20
Thai baht	U.S. dollar	18		18	May-20
Canadian dollar	U.S. dollar	18		18	Aug-20
Brazilian real	U.S. dollar, euro	62	21	83	Jun-20
Indian rupee	U.S. dollar, British pound, euro		51	51	Mar-20
Chinese renminbi	U.S. dollar, Canadian dollar, euro		12	12	Aug-19
Taiwan dollar	Chinese renminbi		3	3	Mar-20
Total forward contracts		386	131	517	
U.S. dollar	euro	320		320	Sep-23
Euro	U.S. dollar	775		775	Jun-26
Total currency swaps		1,095	—	1,095	
Total currency derivatives		$ 1,481	$ 131	$ 1,612	

Designated cash flow hedges — With respect to contracts designated as cash flow hedges, changes in fair value during the period in which the contracts remain outstanding are reported in OCI to the extent such contracts remain effective. Effectiveness is measured by using regression analysis to determine the degree of correlation between the change in the fair value of the derivative instrument and the change in the associated foreign currency exchange rates. Changes in fair value of contracts not designated as cash flow hedges or as net investment hedges are recognized in other expense, net in the period in which the changes occur. Realized gains and losses from currency-related forward contracts associated with forecasted transactions or from other derivative instruments, including those that have been designated as cash flow hedges and those that have not been designated, are recognized in the same line item in the consolidated statement of operations in which the underlying forecasted transaction or other hedged item is recorded. Accordingly, amounts are potentially recorded in sales, cost of sales or, in certain circumstances, other expense, net.

The following table provides a summary of deferred gains (losses) reported in AOCI as well as the amount expected to be reclassified to income in one year or less:

	Deferred Gain (Loss) in AOCI		
	June 30, 2019	December 31, 2018	Gain (loss) expected to be reclassified into income in one year or less
Forward Contracts	$ 5	$ 2	$ 5
Collar	(4)		
Cross-Currency Swaps	(52)	(60)	
Total	$ (51)	$ (58)	$ 5

The following table provides a summary of the location and amount of gains or losses recognized in the consolidated statement of operations associated with cash flow hedging relationships:

	Location and Amount of Gain or (Loss) Recognized in Income on Cash Flow Hedging Relationships		
	Three Months Ended June 30, 2019		
Derivatives Designated as Cash Flow Hedges	Net sales	Cost of sales	Other expense, net
Total amounts of income and expense line items presented in the consolidated statement of operations in which the effects of cash flow hedges are recorded	$ 2,306	$ 1,980	$ 10
(Gain) or loss on cash flow hedging relationships			
Foreign currency forwards:			
Amount of (gain) loss reclassified from AOCI into income		(3)	
Cross-currency swaps			
Amount of (gain) loss reclassified from AOCI into income			15

	Six Months Ended June 30, 2019		
	Net sales	Cost of sales	Other expense, net
Total amounts of income and expense line items presented in the consolidated statement of operations in which the effects of cash flow hedges are recorded	$ 4,469	$ 3,843	$ 23
(Gain) or loss on cash flow hedging relationships			
Foreign currency forwards			
Amount of (gain) loss reclassified from AOCI into income		(5)	
Cross-currency swaps			
Amount of (gain) loss reclassified from AOCI into income			(8)

Derivatives Designated as Cash Flow Hedges	Location and Amount of Gain or (Loss) Recognized in Income on Cash Flow Hedging Relationships		
	Three Months Ended June 30, 2018		
	Net sales	Cost of sales	Other expense, net
Total amounts of income and expense line items presented in the consolidated statement of operations in which the effects of cash flow hedges are recorded	$ 2,054	$ 1,746	$ 10
(Gain) or loss on cash flow hedging relationships			
Cross-currency swaps			
Amount of (gain) loss reclassified from AOCI into income			(64)

	Six Months Ended June 30, 2018		
	Net sales	Cost of sales	Other expense, net
Total amounts of income and expense line items presented in the consolidated statement of operations in which the effects of cash flow hedges are recorded	$ 4,192	$ 3,577	$ 10
(Gain) or loss on cash flow hedging relationships			
Foreign currency forwards			
Amount of (gain) loss reclassified from AOCI into income		(2)	
Cross-currency swaps			
Amount of (gain) loss reclassified from AOCI into income			(33)

The amounts reclassified from AOCI into income for the cross-currency swaps represent an offset to a foreign exchange loss on our foreign currency-denominated intercompany and external debt instruments.

Certain of our hedges of forecasted transactions have not formally been designated as cash flow hedges. As undesignated forward contracts, the changes in the fair value of such contracts are included in earnings for the duration of the outstanding forward contract. Any realized gain or loss on the settlement of such contracts is recognized in the same period and in the same line item in the consolidated statement of operations as the underlying transaction. The following table provides a summary of the location and amount of gains or losses recognized in the consolidated statement of operations associated with undesignated hedging relationships.

	Amount of Gain (Loss) Recognized in Income		
Derivatives Not Designated as Hedging Instruments	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019	Location of Gain or (Loss) Recognized in Income
Foreign currency forward contracts	$ (2)	$ —	Cost of sales
Foreign currency forward contracts	$ 1	$ (12)	Other expense, net

During the first quarter of 2019 we settled the outstanding undesignated Swiss franc notional deal contingent forward related to the ODS acquisition for $21, resulting in a realized loss of $13 included in other expense, net in the first quarter of 2019.

Net investment hedges — We periodically designate derivative contracts or underlying non-derivative financial instruments as net investment hedges. With respect to contracts designated as net investment hedges, we apply the forward method, but for non-derivative financial instruments designated as net investment hedges, we apply the spot method. Under both methods, we report changes in fair value in the cumulative translation adjustment (CTA) component of OCI during the period in which the contracts remain outstanding to the extent such contracts and non-derivative financial instruments remain effective.

Note 16. Commitments and Contingencies

Product liabilities — We had accrued $19 for product liability costs at June 30, 2019 and December 31, 2018. We had also recognized $24 as expected amounts recoverable from third parties at both dates. Payments made to claimants have preceded the recovery of amounts from third parties, resulting in a recoverable amount in excess of the total liability at both dates. We estimate these liabilities based on current information and assumptions about the value and likelihood of the claims against us.

Environmental liabilities — Accrued environmental liabilities were $10 at June 30, 2019 and December 31, 2018. We consider the most probable method of remediation, current laws and regulations and existing technology in estimating our environmental liabilities.

Guarantee of lease obligations — 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 Metalsa. Under the terms of the sale agreement, we will 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.

Other legal matters — We are subject to various pending or threatened legal proceedings arising out of the normal course of business or operations. In view of the inherent difficulty of predicting the outcome of such matters, we cannot state what the eventual outcome of these matters will be. However, based on current knowledge and after consultation with legal counsel, we believe that any liabilities that may result from these proceedings will not have a material adverse effect on our liquidity, financial condition or results of operations.

Note 17. Warranty Obligations

We record a liability for estimated warranty obligations at the dates our products are sold. We record the liability based on our estimate of costs to settle future claims. Adjustments to our estimated costs at time of sale are made as claim experience and other new information becomes available. Obligations for service campaigns and other occurrences are recognized as adjustments to prior estimates when the obligation is probable and can be reasonably estimated.

Changes in warranty liabilities —

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Balance, beginning of period	$ 95	$ 76	$ 75	$ 76
Acquisitions	2	1	17	1
Amounts accrued for current period sales	9	8	17	18
Adjustments of prior estimates	(3)		2	
Settlements of warranty claims	(9)	(8)	(16)	(19)
Currency impact	1	(2)		(1)
Balance, end of period	$ 95	$ 75	$ 95	$ 75

Note 18. Income Taxes

We estimate the effective tax rate expected to be applicable for the full fiscal year and use that rate to provide for income taxes in interim reporting periods. We also recognize the tax impact of certain unusual or infrequently occurring items, including changes in judgment about valuation allowances and effects of changes in tax laws or rates, in the interim period in which they occur.

We have generally not recognized tax benefits on losses generated in several entities where the recent history of operating losses does not allow us to satisfy the "more likely than not" criterion for the recognition of deferred tax assets. Consequently, there is no income tax expense or benefit recognized on the pre-tax income or losses in these jurisdictions as valuation allowances are adjusted to offset the associated tax expense or benefit. We believe that it is reasonably possible that valuation allowances of up to $24 related to a subsidiary in Brazil will be released in the next twelve months.

We record interest and penalties related to uncertain tax positions as a component of income tax expense. Net interest expense for the periods presented herein is not significant.

We reported an income tax benefit of $52 and $4 for the second quarters of 2019 and 2018 and income tax benefit of $32 and income tax expense of $44 for the respective year-to-date periods. Our effective tax rates were 291% and 16% for the first six months of 2019 and 2018. During the second quarter of 2019, a pre-tax pension settlement charge of $258 with an associated income tax benefit of $9 was recorded. Also during the second quarter of 2019, we recorded tax benefits of $48 related to tax actions that adjusted federal tax credits and $30 related to the development of a tax planning strategy which reduced valuation allowances on existing federal tax credits. During the first quarter of 2019, we recognized a benefit of $22 related to the reduction of valuation allowances in the U.S. based on increased income projections. Partially offsetting this benefit in the first quarter of 2019 was $6 of expense related to a U.S. state law change. Excluding these items, the effective tax rate would be 29% for the 2019 six-month period. The 2018 tax expense reflected several discrete items in the second quarter, during which we recognized a benefit of $46 related to U.S. state law changes and the development and implementation of a tax planning strategy which adjusted federal tax credits, federal and state net operating losses and the associated valuation allowances. Partially offsetting this benefit was $7 of expense to settle outstanding tax matters in a foreign jurisdiction and foreign taxes related to cash repatriation actions. Excluding these items, the effective tax rate would be 31% for the 2018 six-month period. Our effective income tax rates vary from the U.S. federal statutory rate of 21% due to establishment, release and adjustment of valuation allowances in several countries, nondeductible expenses and 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. The effective income tax rate may vary significantly due to fluctuations in the amounts and sources, both foreign and domestic, of pretax income and changes in the amounts of non-deductible expenses.

Dividends of earnings from non-U.S. operations are generally no longer subjected to U.S. income tax. We continue to analyze and adjust the estimated tax impact of the income and non-U.S. withholding tax liabilities based on the amounts and sources of these earnings.

Note 19. Other Expense, Net

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Non-service cost components of pension and OPEB costs	$ (9)	$ (4)	$ (15)	$ (7)
Government grants and incentives	5	3	8	5
Foreign exchange loss	1	(2)	(10)	(4)
Strategic transaction expenses, net of transaction breakup fee income	(11)	(8)	(24)	(7)
Non-income tax legal judgment			6	
Other, net	4	1	12	3
Other expense, net	$ (10)	$ (10)	$ (23)	$ (10)

Foreign exchange gains and losses on cross-currency intercompany loan balances that are not of a long-term investment nature are included above. Foreign exchange gains and losses on intercompany loans that are permanently invested are reported in OCI. Foreign exchange loss in 2019 included a loss on the undesignated Swiss franc notional deal contingent forward related to the ODS acquisition. See Note 15 for additional information.

Strategic transaction expenses relate primarily to costs incurred in connection with acquisition and divestiture related activities, including costs to complete the transaction and post-closing integration costs. Strategic transaction expenses in 2019 were primarily attributable to the acquisition of ODS. Strategic transaction expenses in 2018 were primarily attributable to our bid to acquire the driveline business of GKN plc. and our acquisition of TM4 and were partially offset by a $40 transaction breakup fee associated with the GKN plc. transaction. See Note 2 for additional information.

During the first quarter of 2019, we won a legal judgment regarding the methodology used to calculate PIS/COFINS tax in Brazil.

Note 20. Revenue from Contracts with Customers

We generate revenue from selling production parts to original equipment manufacturers (OEMs) and service parts to OEMs and aftermarket customers. While we provide production and service parts to certain OEMs under awarded multi-year programs, these multi-year programs do not contain any commitment to volume by the customer. As such, individual customer releases or purchase orders represent the contract with the customer. Our customer contracts do not provide us with an enforceable right to payment for performance completed to date throughout the contract term. As such, we recognize part sales revenue at the point in time when the parts are shipped, and risk of loss has transferred to the customer. We have elected to continue to include shipping and handling fees billed to customers in revenue, while including costs of shipping and handling in costs of sales. Taxes collected from customers are excluded from revenues and credited directly to obligations to the appropriate government agencies. Payment terms with our customers are established based on industry and regional practices and generally do not exceed 180 days.

Certain of our customer contracts include rebate incentives. We estimate expected rebates and accrue the corresponding refund liability, as a reduction of revenue, at the time covered product is sold to the customer based on anticipated customer purchases during the rebate period and contractual rebate percentages. Refund liabilities are included in other accrued liabilities on our consolidated balance sheet. We provide standard fitness for use warranties on the products we sell, accruing for estimated costs related to product warranty obligations at time of sale. See Note 17 for additional information.

Contract liabilities are primarily comprised of cash deposits made by customers with cash in advance payment terms. Generally, our contract liabilities turn over frequently given our relatively short production cycles. Contract liabilities were $19 and $12 at June 30, 2019 and December 31, 2018. Contract liabilities are included in other accrued liabilities on our consolidated balance sheet.

Disaggregation of revenue —

The following table disaggregates revenue for each of our operating segments by geographical market:

Three Months Ended June 30, 2019	Light Vehicle	Commercial Vehicle	Off-Highway	Power Technologies	Total
North America	$ 683	$ 254	$ 98	$ 139	$ 1,174
Europe	85	65	455	108	713
South America	38	85	11	6	140
Asia Pacific	121	33	110	15	279
Total	$ 927	$ 437	$ 674	$ 268	$ 2,306
Six Months Ended June 30, 2019					
North America	$ 1,343	$ 507	$ 156	$ 280	$ 2,286
Europe	176	132	862	221	1,391
South America	71	160	20	11	262
Asia Pacific	243	69	188	30	530
Total	$ 1,833	$ 868	$ 1,226	$ 542	$ 4,469
Three Months Ended June 30, 2018					
North America	$ 598	$ 230	$ 37	$ 148	$ 1,013
Europe	86	72	375	113	646
South America	50	79	7	4	140
Asia Pacific	139	30	66	20	255
Total	$ 873	$ 411	$ 485	$ 285	$ 2,054
Six Months Ended June 30, 2018					
North America	$ 1,264	$ 445	$ 74	$ 301	$ 2,084
Europe	181	144	761	232	1,318
South America	93	161	14	10	278
Asia Pacific	285	61	128	38	512
Total	$ 1,823	$ 811	$ 977	$ 581	$ 4,192

Note 21. Segments

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, tire-management products, transmissions, and motors, power inverters and controls systems for electric vehicles); 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 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, which is the center of excellence for sealing and thermal-management technologies that span all customers in our on-highway and off-highway markets. These operating segments have global responsibility and accountability for business commercial activities and financial performance.

Dana evaluates the performance of its operating segments based on external sales and segment EBITDA. Segment EBITDA is a primary driver of cash flows from operations and a measure of our ability to maintain and continue to invest in our operations and provide shareholder returns. Our segments are charged for corporate and other shared administrative costs. Segment EBITDA may not be comparable to similarly titled measures reported by other companies.

Segment information —

	2019			2018		
Three Months Ended June 30,	External Sales	Inter-Segment Sales	Segment EBITDA	External Sales	Inter-Segment Sales	Segment EBITDA
Light Vehicle	$ 927	$ 33	$ 118	$ 873	$ 36	$ 92
Commercial Vehicle	437	26	41	411	28	41
Off-Highway	674	5	103	485	3	79
Power Technologies	268	4	28	285	6	39
Eliminations and other		(68)			(73)	
Total	$ 2,306	$ —	$ 290	$ 2,054	$ —	$ 251
Six Months Ended June 30,						
Light Vehicle	$ 1,833	$ 69	$ 220	$ 1,823	$ 69	$ 195
Commercial Vehicle	868	53	82	811	54	75
Off-Highway	1,226	10	185	977	5	151
Power Technologies	542	10	62	581	11	84
Eliminations and other		(142)			(139)	
Total	$ 4,469	$ —	$ 549	$ 4,192	$ —	$ 505

Reconciliation of segment EBITDA to consolidated net income (loss) —

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Segment EBITDA	$ 290	$ 251	$ 549	$ 505
Corporate expense and other items, net	(4)	(5)	(6)	(11)
Depreciation	(80)	(60)	(153)	(124)
Amortization	(5)	(2)	(8)	(5)
Non-service cost components of pension and OPEB costs	(9)	(4)	(15)	(7)
Pension settlement charge	(258)		(258)	
Restructuring charges, net	(9)	(7)	(18)	(8)
Stock compensation expense	(5)	(5)	(10)	(9)
Strategic transaction expenses, net of transaction breakup fee income	(11)	(8)	(24)	(7)
Acquisition related inventory adjustments	(5)		(9)	
Non-income tax legal judgment			6	
Other items	1	(5)	(9)	(5)
Impairment of indefinite-lived intangible asset		(20)		(20)
Adjustment in fair value of disposal group held for sale		3		3
Earnings (loss) before interest and income taxes	(95)	138	45	312
Interest expense	34	23	61	47
Interest income	3	2	5	5
Earnings (loss) before income taxes	(126)	117	(11)	270
Income tax expense (benefit)	(52)	(4)	(32)	44
Equity in earnings of affiliates	8	6	14	12
Net income (loss)	$ (66)	$ 127	$ 35	$ 238

Note 22. Equity Affiliates

We have a number of investments in entities that engage in the manufacture and supply of vehicular parts (primarily axles, driveshafts, wheel-end braking systems) and motors for electric vehicles and industrial applications.

The decrease in equity method investments from the prior period is due to our acquisition of PEBL's interest in PEPS. The acquisition of PEBL's interest in PEPS, along with our existing ownership interest in PEPS through our TM4 subsidiary, provides us with a controlling financial interest in PEPS. See Note 2 for additional information.

As part of the ODS acquisition, we acquired an ownership interest in Ashwoods Innovations Ltd. (Ashwoods). The minority shareholders in this entity have substantive participating rights that allow them to effectively participate in the decisions made in the ordinary course of business that are significant to its operations. Due to these factors, we do not have control over this entity and therefore account for this investment under the equity method of accounting. Our equity method investment in Ashwoods is included in the net assets of our Off-Highway operating segment.

Equity method investments exceeding $5 at June 30, 2019 —

	Ownership Percentage	Investment
Dongfeng Dana Axle Co., Ltd. (DDAC)	50%	$ 89
Bendix Spicer Foundation Brake, LLC	20%	49
Axles India Limited	48%	10
Ashwoods Innovations Ltd.	58%	9
Taiway Ltd.	28%	5
All others as a group		6
Investments in equity affiliates		168
Investments in affiliates carried at cost		2
Investments in affiliates		$ 170

Item 2. ***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 this report.

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,” “ongoing” and similar 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.

Management Overview

Dana is headquartered in Maumee, Ohio, and was incorporated in Delaware in 2007. 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. At June 30, 2019, we employed approximately 37,800 people, operated in 33 countries and had 150 major facilities housing manufacturing and distribution operations, service and assembly operations, technical and engineering centers and administrative offices.

External sales by operating segment for the periods ended June 30, 2019 and 2018 are as follows:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2019		2018		2019		2018	
	Dollars	% of Total	Dollars	% of Total	Dollars	% of Total	Dollars	% of Total
Light Vehicle	$ 927	40.2%	$ 873	42.5%	$ 1,833	41.0%	$ 1,823	43.5%
Commercial Vehicle	437	19.0%	411	20.0%	868	19.4%	811	19.3%
Off-Highway	674	29.2%	485	23.6%	1,226	27.5%	977	23.3%
Power Technologies	268	11.6%	285	13.9%	542	12.1%	581	13.9%
Total	$ 2,306		$ 2,054		$ 4,469		$ 4,192	

See Note 21 to our consolidated financial statements in Item 1 of Part I for further financial information about our operating segments.

Our internet address is www.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.

Operational and Strategic Initiatives

Dana has refined the company's enterprise strategy to build on our strong technology foundation and leverage our resources across the organization to position us for a profitable growth trajectory. The strategy is composed of five core pillars.

Central to our strategy is *Leveraging Our Core*, which focuses on utilizing our core capabilities in power conveyance, thermal management, and mechatronics across all three mobility markets to deliver a sustainable competitive advantage. This enables us to accelerate our speed of innovation through knowledge sharing across the enterprise, and to realize cost efficiencies delivered through shared core technologies. It also magnifies our investments by utilizing shared research and development.

The strategy also emphasizes *Driving Customer Centricity*, which has positioned us to win more than our fair share of drive systems business across all three mobility markets. As our OEM customers are faced with redeploying capital toward the emerging megatrends of mobility, autonomous driving, and digitization to remain competitive, our focus on driving customer centricity yields more OEM outsourcing opportunities.

We are also investing in capabilities to drive growth in Asia-Pacific to *Expand Global Markets* in the region with the highest growth rates and earliest electrification adoption. Focusing on Asia Pacific represents a significant opportunity to gain a fair share in the world's largest mobility market.

We continue to focus on *Delivering Innovative Solutions* that allow us to capitalize on secular growth trends, such as engine downsizing, while driveline enhancements offer significant opportunities to expand our addressable market as physical products evolve toward digital solutions. Delivering innovative solutions yields market expansion and higher content per vehicle.

Initiatives to capitalize on evolving hybridization and electrification vehicle trends are a core ingredient of our final enterprise strategy element, *Lead Electric Propulsion*. Our efforts are focused on developing and delivering fully integrated e-Propulsion systems to capture opportunities to double content per vehicle as our core markets shift from internal combustion engines to electric propulsion. In addition to our current technologies in battery cooling and fuel cells, this element of our strategy is leveraging our deep expertise in driveline technology to enable the hybridization and electrification of our core markets. We are working with our customers to develop new solutions for those markets where electrification will be adopted first such as hybrid applications, buses, and urban delivery vehicles. These new solutions, which include advanced electric propulsion systems with fully integrated motors and controls, are included in our 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 SME in January 2019, PEPS in June 2019 and 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. Electrification creates significant opportunity in driveline applications.

The development and implementation of our enterprise strategy is positioning Dana to grow profitably due to our increased customer focus as we leverage our core capabilities, expand into new markets, develop and commercialize new technologies and continue to lead in vehicle electrification.

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. Our Board of Directors authorized a $200 share repurchase program effective in 2018 which expires at the end of 2019. Through the second quarter of 2019, we have used cash of $50 to repurchase common shares under the current program. We declared and paid quarterly common stock dividends in each of the past thirty quarters.

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. During the first quarter of 2019, we expanded our credit and guaranty agreement. We entered into $675 of additional floating rate term loans to fund the ODS acquisition (see Acquisitions section below) and up sized our revolving credit facility to $750. During the second quarter of 2019, we terminated one of our U.S. defined benefit pension plans, settling approximately $165 of previously unfunded pension obligations and eliminating future funding risk associated with interest rate and other market developments.

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.

Acquisitions

Prestolite E-Propulsion Systems (Beijing) Limited — On June 6, 2019, we acquired Prestolite Electric Beijing Limited's (PEBL) 50% ownership interest in Prestolite E-Propulsion Systems (Beijing) Limited (PEPS). PEPS manufactures and distributes electric mobility solutions, including electric motors, inverters, and generators for commercial vehicles and heavy machinery. PEPS has a state-of-the-art facility in China, enabling us to expand motor and inverter manufacturing capabilities in the world's largest electric-mobility market. The acquisition of PEBL's interest in PEPS, along with our existing ownership interest in PEPS through our TM4 subsidiary, provides us with a 100% ownership interest and a controlling financial interest in PEPS. We recognized a $2 gain to other expense, net on the required remeasurement of our previously held equity-method investment in PEPS to fair value. We paid $50 at closing using cash on hand. Reference is made to Note 2 of the consolidated financial statements in Item 1 of Part I for the allocation of purchase consideration to assets acquired and liabilities assumed. The results of operations of PEPS will be reported in our Commercial Vehicle operating segment from the date of acquisition. PEPS had an insignificant impact on our consolidated results of operations during the second quarter of 2019.

Oerlikon Drive Systems — On February 28, 2019, we acquired the Oerlikon Drive Systems (ODS) segment of the Oerlikon Group. ODS 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. We paid $626 at closing, which was primarily funded through debt proceeds. Reference is made to Note 2 of the consolidated financial statements in Item 1 of Part I for the allocation of purchase consideration to assets acquired and liabilities assumed. The results of operations of Oerlikon Drive Systems will be reported in our Off-Highway operating segment from the date of acquisition. The ODS acquisition added $211 of sales and $25 of adjusted EBITDA during the second quarter of 2019 and $286 of sales and $36 of adjusted EBITDA during the first six months of 2019.

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%. Reference is made to Note 2 of the consolidated financial statements in Item 1 of Part I for the allocation of purchase consideration to assets acquired and liabilities assumed.
The SME acquisition added $6 of sales and de minimis adjusted EBITDA during the second quarter of 2019 and $12 of sales and de minimis adjusted EBITDA during the first six months of 2019.

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 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. 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 1 of Part I for the allocation of purchase consideration to assets acquired and liabilities assumed. The results of operations of the TM4 business are reported in our Commercial Vehicle operating segment from the date of acquisition. TM4 had an insignificant impact on our consolidated results of operations during the second quarter and first six months of 2018.

Relationship with Hydro-Québec

On June 22, 2018, we acquired a 55% ownership interest in TM4 from Hydro-Québec. On July 29, 2019, we broadened our relationship with Hydro-Québec, with Hydro-Québec acquiring a 45% redeemable noncontrolling interest in SME and increasing its existing 22.5% noncontrolling interest in PEPS to a 45% redeemable noncontrolling interest. We received $65 at closing, consisting of $53 of cash and a note receivable of $12. The note is payable in five years and bears annual interest of 5%. Dana will continue to consolidate SME and PEPS as the governing documents continue to provide Dana with a controlling financial interest in these subsidiaries. See Acquisitions section above for a discussion of Dana's acquisitions of TM4, SME and PEPS.

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 1 of Part I for additional information. Sales of the divested business approximated $23 in 2017 and $12 in 2018 through the date of sale.

Trends in Our Markets

Global Vehicle Production (Full Year)

(Units in thousands)	Dana 2019 Outlook			Actual 2018	Actual 2017
North America					
Light Truck (Full Frame)	4,350	to	4,650	4,476	4,331
Light Vehicle Engines	14,500	to	14,800	15,332	14,828
Medium Truck (Classes 5-7)	265	to	275	270	246
Heavy Truck (Class 8)	325	to	345	320	255
Agricultural Equipment	50	to	60	56	54
Construction/Mining Equipment	170	to	180	176	157
Europe (including Eastern Europe)					
Light Truck	10,500	to	11,500	10,721	10,276
Light Vehicle Engines	22,750	to	23,250	23,098	24,096
Medium/Heavy Truck	505	to	520	506	486
Agricultural Equipment	200	to	215	204	202
Construction/Mining Equipment	340	to	360	351	309
South America					
Light Truck	1,300	to	1,500	1,313	1,235
Light Vehicle Engines	2,800	to	2,900	2,797	2,412
Medium/Heavy Truck	115	to	125	113	89
Agricultural Equipment	30	to	35	34	33
Construction/Mining Equipment	8	to	12	9	9
Asia-Pacific					
Light Truck	28,800	to	30,000	29,369	29,495
Light Vehicle Engines	50,000	to	51,000	52,293	52,543
Medium/Heavy Truck	1,900	to	2,100	2,004	2,039
Agricultural Equipment	640	to	670	653	653
Construction/Mining Equipment	480	to	500	495	441

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. To date, these effects have been most notable in passenger car sales which declined about 9% in 2017 and another 11% in 2018. Light vehicle sales for the first half 2019 declined 3% compared to the first half of 2018, with passenger car sales down 10% and flat light truck sales. In the full frame light truck segment where many of our programs are focused, sales increased 3% in 2017 and another 3% in 2018. Full frame truck sales for the first half of 2019 were flat compared to the first half of 2018. Production levels have generally been reflective of light vehicle sales. Light vehicle production of 17.1 million units in 2017 was down 4% from 2016. Light vehicle production of 17.0 million units in 2018 was comparable to 2017. After being down 7% in 2017, light vehicle engine production increased 3% in 2018. Light vehicle engine production in this year's first half was down 5% compared with the first half of 2018. In the key full frame light truck segment, production levels in 2018 increased about 3% compared to 2017 following an increase of 3% in 2017 from the preceding year. First-half 2019 full frame light truck production was up 2% from the same period of 2018. Days' supply of total light vehicles in the U.S. at the end of June 30, 2019 was around 67 days, up from 61 days at the end of December 2018 and comparable with the end of June 2018. In the full frame light truck segment, inventory levels were 82 days at the end of June 2019, up from 72 days at the end of December 2018 and 80 days at the end of June 2018.

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 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 full year outlook for full frame light truck production is up slightly from February 2019. Our outlook for 2019 has full frame light truck production at 4.4 to 4.7 million vehicles, up 4% to down 3% compared to 2018. Our full year outlook for light vehicle engine is down slightly from our February 2019 outlook, driven primarily by continued softness in the passenger car market. Our outlook for 2019 has light vehicle engine production at 14.5 to 14.8 million units, down 3 to 5% 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. Strong demand continued into 2018, with Class 8 production up 25% and medium-duty truck production being up 10% compared to 2017. As expected, strong demand has continued into 2019, with first-half 2019 Class 8 production being up 20% and medium-duty truck production being up 4% compared to the same period of 2018.

Our full year 2019 production outlook for Class 8 trucks is unchanged at 325,000 to 345,000 vehicles, up 2 to 8% from 2018. In the medium duty segment, our outlook of 265,000 to 275,000 units is also unchanged, up 2% to down 2% compared to 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. Light vehicle engine production was down 4% and light truck production was down 2% from last year's first half. At present, while we continue to expect overall stable to improving economic conditions across the entire region in 2019, we have lowered our 2019 outlook for light vehicle engine production. Our current full year 2019 outlook expects light vehicle engine production to be flat to down 2%. Our full year 2019 production outlook for light truck is unchanged, with production up 7% to down 2%. 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 6%, respectively. This year's first half light vehicle engine production was up 6% and light truck production was flat compared with last year. Our outlook is unchanged from April 2019, with light truck production flat to up 14% from 2018 and light vehicle engine production flat to up 4% compared to 2018. 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. First-half 2019 light vehicle engine and light truck production were down 6% and 4%, respectively, reflecting a potential weakening of China's economy. We have reduced our full year 2019 outlook for the Asia Pacific light vehicle markets, with light truck production now being down 2% to up 2% and light engine production being down 2 to 4% from 2018.

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. First-half 2019 production increased 8% over the same period of 2018. Our 2019 full year outlook anticipates continued strong production at levels relatively comparable with 2018 and is unchanged from February 2019. 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. First-half 2019 production was up 10% from 2018. We continue to expect economic conditions to be relatively stable to modestly improved in 2019. Our full year 2019 outlook is unchanged with medium/heavy truck production being up 2 to 11% 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 having occurred during the second half of 2017 as a result of the China regulatory actions, 2018 medium/heavy truck production was down 2% from 2017. Production in this year's first half was up 1% from the first half of 2018, indicating the anticipated production decline resulting from modal transportation shifts and technology advances putting downward pressure on medium/heavy truck demand in 2019 may be somewhat more modest than originally anticipated. Our full-year 2019 outlook remains unchanged from April 2019, continuing to reflect a relatively stable market with medium/heavy truck production being down 5% to up 5% from 2018.

Off-Highway Markets — Our off-highway business has a large presence outside of North America, with 70% of its first-half 2019 sales coming from Europe and 17% 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 economic conditions in all regions, continued strong demand is expected in 2019. With the North American and European construction/mining segments showing signs of slowing, we have lowered our outlook for those regions. Our current 2019 outlook, inclusive of the lower outlook for the North American and European regions, has production in the construction/mining segment down 3% to up 2% and the agriculture segment being down 3% to up 3% from 2018.

Foreign Currency

With 54% of our first-half 2019 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 49% and 8% of our first-half 2019 non-U.S. sales, respectively, while Thailand, India and China each accounted for approximately 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. 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. Weaker international currencies for this year's first six months as compared to exchange rates in the first six months of 2018 decreased sales by $134, with the euro and Brazilian real accounting for $70 and $24 of the decrease, respectively. 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 $125. A 5% change on the Brazilian real, Thai baht, Mexican peso, Chinese renminbi, 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.

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 18% of this segment's first-half 2019 sales. Our medium/heavy truck sales in Brazil account for approximately 80% of our first-half 2019 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. 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. In this year's first half, medium/heavy truck production was 12% higher than the same period of 2018 and light truck production was up about 6% from last year.

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 the first six months of 2019 of approximately $44 are less than 1% of our consolidated sales and our net asset exposure related to Argentina was approximately $25, including $7 of net fixed assets, at June 30, 2019.

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 and the first six months of 2019, commodity prices have been impacted by recently imposed tariffs. As suppliers paying the tariffs attempt to pass through the cost of the tariffs, we are likewise in discussions with our customers to absorb that cost. As suppliers not subject to the tariffs advantage themselves by raising prices, these price increases are generally reflected in the published commodity indexes. 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 second-quarter and six-months earnings in 2019 by approximately $19 and $44, as compared to year-over-year earnings reductions of $24 and $42 from higher commodity prices in the same periods last year. Material recovery and other pricing actions increased second quarter and first-half 2019 earnings by $14 and $22 compared to the same periods last year, whereas pricing and recovery actions increased year-over-year second-quarter and first-half 2018 earnings by $18 and $22.

Sales, Earnings and Cash Flow Outlook

	2019 Outlook	2018	2017
Sales	$8,950 - $9,350	$ 8,143	$ 7,209
Adjusted EBITDA	$1,085 - $1,165	$ 957	$ 835
Net cash provided by operating activities	~7.0% of Sales	$ 568	$ 554
Discretionary pension contribution	~0.7% of Sales	$ —	$ —
Purchases of property, plant and equipment	~4.7% of Sales	$ 325	$ 393
Adjusted Free Cash Flow	~3.0% of Sales	$ 243	$ 161

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, unchanged from our February 2019 outlook, 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. Both our 2019 adjusted EBITDA and adjusted EBITDA margin outlook are unchanged from our February 2019 outlook.

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 4.7% of sales, slightly higher than 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. Both our 2019 adjusted free cash flow and capital spending outlook are unchanged from our February 2019 outlook.

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.

Summary Consolidated Results of Operations (Second Quarter, 2019 versus 2018)

	Three Months Ended June 30,				
	2019		2018		
	Dollars	% of Net Sales	Dollars	% of Net Sales	Increase/ (Decrease)
Net sales	$ 2,306		$ 2,054		$ 252
Cost of sales	1,980	85.9%	1,746	85.0%	234
Gross margin	326	14.1%	308	15.0%	18
Selling, general and administrative expenses	140	6.1%	134	6.5%	6
Amortization of intangibles	4		2		2
Restructuring charges, net	9		7		2
Impairment of indefinite-lived intangible asset			(20)		20
Adjustment in fair value of disposal group held for sale			3		(3)
Pension settlement charge	(258)				(258)
Other expense, net	(10)		(10)		—
Earnings (loss) before interest and income taxes	(95)		138		(233)
Interest income	3		2		1
Interest expense	34		23		11
Earnings (loss) before income taxes	(126)		117		(243)
Income tax benefit	(52)		(4)		(48)
Equity in earnings of affiliates	8		6		2
Net income (loss)	(66)		127		(193)
Less: Noncontrolling interests net income	2		3		(1)
Less: Redeemable noncontrolling interests net income					—
Net income (loss) attributable to the parent company	$ (68)		$ 124		$ (192)

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

	Three Months Ended June 30,			Amount of Change Due To		
	2019	2018	Increase/(Decrease)	Currency Effects	Acquisitions (Divestitures)	Organic Change
North America	$ 1,174	$ 1,013	$ 161	$ (1)	$ 68	$ 94
Europe	713	646	67	(38)	102	3
South America	140	140	—	(10)	(6)	16
Asia Pacific	279	255	24	(7)	50	(19)
Total	$ 2,306	$ 2,054	$ 252	$ (56)	$ 214	$ 94

Sales in 2019 were $252 higher than in 2018. Weaker international currencies decreased sales by $56, principally due to a weaker euro, Brazilian real, South African rand, Chinese renminbi and Indian rupee. The acquisitions of ODS and SME in this year's first quarter, PEPS in this year's second quarter and TM4 in last year's second quarter, net of the divestiture of the Brazil suspension components business in last year's third quarter, generated a year-over-year increase in sales of $214. The organic sales increase of $94, or 5%, resulted from increased full frame truck production in North America, stronger global medium/heavy truck markets and the conversion of sales backlog. Pricing actions, including material commodity price and inflationary cost recovery, added sales of $14.

The North America organic sales increase of 9% was driven principally by stronger light truck and medium/heavy truck production volumes and the conversion of sales backlog. Second-quarter 2019 full frame light truck production was up 6% while production of Class 8 and Classes 5-7 trucks were up 18% and 1%, respectively.

A weaker euro was the primary driver of the decreased sales in Europe due to currency effects. Excluding currency and acquisition effects, sales in Europe were comparable with 2018. With our significant Off-Highway presence in the region, overall stable market demand in this segment was a major factor. Organic sales in this operating segment were flat compared with the second quarter of 2018.

A weaker Brazilian real reduced South America sales in this year's second quarter. Excluding currency and divestiture effects, second quarter sales in South America increased 11% over 2018. The region overall experienced improving markets, with medium/heavy truck production up about 20% and light truck production up about 6%.

A weaker Indian rupee and Chinese renminbi were the primary drivers of the decreased sales in Asia Pacific due to currency effects. Excluding currency and acquisition effects, sales decreased about 7% as China's economy showed signs of weakening. Light truck and light vehicle engine were both down from the second quarter of 2018, while medium/heavy truck production was up 4%.

Cost of sales and gross margin — Cost of sales for the second quarter of 2019 increased $234, or 13% when compared to 2018. Similar to the factors affecting sales, the increase was primarily due to the inclusion of acquired businesses. Cost of sales as a percent of sales in 2019 was 90 basis points higher than in the previous year. Cost of sales attributed to net acquisitions, which included $5 of incremental cost assigned to inventory as part of business combination accounting, was approximately $192. Excluding the effects of acquisitions and divestitures, cost of sales as a percent of sales was 85.5%, 50 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 increased material costs by about $19, higher depreciation expense of $7, other cost increases and operational inefficiencies. Partially offsetting these higher costs were continued material cost savings of approximately $19.

Gross margin of $326 for 2019 increased $18 from 2018. Gross margin as a percent of sales was 14.1% in 2019, 90 basis points lower than in 2018. 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 2019 were $140 (6.1% of sales) as compared to $134 (6.5% of sales) in 2018. SG&A attributed to net acquisitions was $18. Excluding the increase associated with net acquisitions, SG&A expenses were 70 basis points lower than the same period of 2018. The year-over-year decrease of $12 exclusive of net acquisitions was primarily due to lower salaries and benefits expenses resulting from the voluntary retirement program and other headcount reduction actions taken in the fourth quarter of 2018.

Amortization of intangibles — The increase of $2 in amortization expense in 2019 was attributable to intangible assets obtained through the TM4, ODS and SME acquisitions, partially offset by certain core technology assets becoming fully amortized. See Note 2 for additional information on recent acquisitions.

Restructuring charges — Restructuring charges of $9 in 2019 were comprised of severance and benefit costs primarily related to integration of recent acquisitions, and headcount reductions across our operations and costs related to previously announced actions. Restructuring charges of $7 in 2018, included headcount reductions in our Commercial Vehicle operations and Corporate service functions in Brazil, integration of recent acquisitions and we continued to execute our previously announced actions.

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. Reference is made to the Management Overview & Initiatives section in Item 2 of Part I and Note 4 of the consolidated financial statements in Item 1 of Part I for additional information.

Adjustment in fair value of disposal group held for sale — See Note 3 of the consolidated financial statements in Item 1 of Part I for a discussion of the divestiture of our Brazil suspension components business.

Pension settlement charge — See Note 12 of the consolidated financial statements in Item 1 of Part I for a discussion of the termination of one of our U.S. defined benefit pension plans.

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

	Three Months Ended June 30,	
	2019	2018
Non-service cost components of pension and OPEB costs	$ (9)	$ (4)
Government grants and incentives	5	3
Foreign exchange loss	1	(2)
Strategic transaction expenses	(11)	(8)
Other, net	4	1
Other expense, net	$ (10)	$ (10)

Strategic transaction expenses in 2019 were primarily attributable to the acquisition of ODS. Strategic transaction expenses in 2018 relate primarily to the TM4 acquisition. See Note 2 of the consolidated financial statements in Item 1 of Part I for additional information.

Interest income and interest expense — Interest income was $3 in 2019 and $2 in 2018. Interest expense increased from $23 in 2018 to $34 in 2019, primarily due to an increase in borrowings to finance the ODS acquisition in the first quarter of 2019. Average effective interest rates, inclusive of amortization of debt issuance costs, approximated 5.4% and 5.2% in 2019 and 2018.

Income tax expense — Income tax benefit for the second quarter was $52 in 2019 and $4 in 2018. During the second quarter of 2019, a pre-tax pension settlement charge of $258 with an associated income tax benefit of $9 was recorded. We also recorded tax benefits of $48 related to tax actions that adjusted federal tax credits and $30 related to the development of a tax planning strategy which reduced valuation allowances on existing federal tax credits in the second quarter. Excluding these items, the effective tax rate would be 27% for the 2019 three-month period. Our effective income tax rates vary from the U.S. federal statutory rate of 21% due to establishment, release and adjustment of valuation allowances in several countries, nondeductible expenses and 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. The effective income tax rate may vary significantly due to fluctuations in the amounts and sources, both foreign and domestic, of pretax income and changes in the amounts of non-deductible expenses.

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. Consequently, there is no income tax expense or benefit recognized on the pre-tax income or losses in these jurisdictions as valuation allowances are adjusted to offset the associated tax expense or benefit. We believe that it is reasonably possible that valuation allowances 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 $8 in 2019 and $6 in 2018. Equity in earnings from DDAC was $6 in 2019 and $4 in 2018. Equity in earnings from BSFB was $2 in both 2019 and 2018.

Summary Consolidated Results of Operations (Year-to-Date, 2019 versus 2018)

	Six Months Ended June 30,				
	2019		2018		
	Dollars	% of Net Sales	Dollars	% of Net Sales	Increase/ (Decrease)
Net sales	$ 4,469		$ 4,192		$ 277
Cost of sales	3,843	86.0%	3,577	85.3%	266
Gross margin	626	14.0%	615	14.7%	11
Selling, general and administrative expenses	276	6.2%	264	6.3%	12
Amortization of intangibles	6		4		2
Restructuring charges, net	18		8		10
Impairment of indefinite-lived intangible asset			(20)		20
Adjustment in fair value of disposal group held for sale			3		(3)
Pension settlement charge	(258)				(258)
Other expense, net	(23)		(10)		(13)
Earnings before interest and income taxes	45		312		(267)
Interest income	5		5		—
Interest expense	61		47		14
Earnings (loss) before income taxes	(11)		270		(281)
Income tax expense (benefit)	(32)		44		(76)
Equity in earnings of affiliates	14		12		2
Net income	35		238		(203)
Less: Noncontrolling interests net income	6		5		1
Less: Redeemable noncontrolling interests net income (loss)	(1)		1		(2)
Net income attributable to the parent company	$ 30		$ 232		$ (202)

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

	Six Months Ended June 30,			Amount of Change Due To		
	2019	2018	Increase/ (Decrease)	Currency Effects	Acquisitions (Divestitures)	Organic Change
North America	$ 2,286	$ 2,084	$ 202	$ (3)	$ 96	$ 109
Europe	1,391	1,318	73	(88)	138	23
South America	262	278	(16)	(24)	(12)	20
Asia Pacific	530	512	18	(19)	73	(36)
Total	$ 4,469	$ 4,192	$ 277	$ (134)	$ 295	$ 116

Sales in 2019 were $277 higher than in 2018. Weaker international currencies decreased sales by $134, principally due to a weaker euro, Brazilian real, South African rand, Indian rupee and Chinese renminbi. The acquisitions of ODS and SME in this year's first quarter, PEPS in this year's second quarter and TM4 in last year's second quarter, net of the divestiture of the Brazil suspension components business in last year's third quarter, generated a year-over-year increase in sales of $295. The organic sales increase of $116, or 3%, resulted from stronger global medium/heavy truck markets, increased full frame truck production in North America and marginally higher global off-highway demand. Pricing actions, including material commodity price and inflationary cost recovery, added sales of $22.

The North America organic sales increase of 5% was driven principally by stronger light truck and medium/heavy truck production volumes and the conversion of sales backlog. First-half 2019 full frame light truck production was up 2% while production of Class 8 and Classes 5-7 trucks were up 20% and 4%, respectively. In addition, realization of light truck sales backlog help to offset the year-over-year first-half sales volume-related decline attributable to one of our largest light vehicle customer programs for which production continued on the outgoing model, concurrent with production of the new model vehicle, during last year's first quarter.

A weaker euro was the primary driver of the decreased sales in Europe due to currency effects. Excluding currency and acquisition effects, sales in Europe were 2% higher than in 2018. 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 2% compared with the first half of 2018.

A weaker Brazilian real reduced South America sales in this year's first half. The region overall experienced stable to improving markets, with medium/heavy truck production up about 11% and light truck production flat compared to the first half of 2018.

A weaker Indian rupee and Chinese renminbi were the primary drivers of the decreased sales in Asia Pacific due to currency effects. Excluding currency and acquisition effects, sales decreased about 7% as China's economy showed signs of weakening. Light truck and light vehicle engine were both down from the first half of 2018, while medium/heavy truck production was up 1%.

Cost of sales and gross margin — Cost of sales for the first six months of 2019 increased $266, or 7% when compared to 2018. Similar to the factors affecting sales, the increase was primarily due to the inclusion of acquired businesses. Cost of sales as a percent of sales in 2019 was 70 basis points higher than in the previous year. Cost of sales attributed to net acquisitions, which included $9 of incremental cost assigned to inventory as part of business combination accounting, was approximately $257. Excluding the effects of acquisitions and divestitures, cost of sales as a percent of sales was 85.9%, 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 increased material costs by about $44, an increase in engineering and development cost of $10 and higher depreciation expense of $12. Partially offsetting these higher costs were continued material cost savings of approximately $39 and lower start-up and launch costs.

Gross margin of $626 for 2019 increased $11 from 2018. Gross margin as a percent of sales was 14.0% in 2019, 70 basis points lower than in 2018. 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 2019 were $276 (6.2% of sales) as compared to $264 (6.3% of sales) in 2018. SG&A attributed to net acquisitions was $28. Excluding the increase associated with net acquisitions, SG&A expenses were 40 basis points lower than the same period of 2018. The year-over-year decrease of $16 exclusive of net acquisitions was primarily due to lower salaries and benefits expenses resulting from the voluntary retirement program and other headcount reduction actions taken in the fourth quarter of 2018.

Amortization of intangibles — The increase of $2 in amortization expense in 2019 was attributable to intangible assets obtained through the TM4, ODS and SME acquisitions, partially offset by certain core technology assets becoming fully amortized. See Note 2 for additional information on recent acquisitions.

Restructuring charges — Restructuring charges of $18 in 2019 were comprised of severance and benefit costs primarily related to integration of recent acquisitions, and headcount reductions across our operations and costs related to previously announced actions. Restructuring charges of $8 in 2018, included headcount reductions in our Commercial Vehicle operations and Corporate service functions in Brazil, integration of recent acquisitions and we continued to execute our previously announced actions.

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. Reference is made to the Management Overview & Initiatives section in Item 2 of Part I and Note 4 of the consolidated financial statements in Item 1 of Part I for additional information.

Adjustment in fair value of disposal group held for sale — See Note 3 of the consolidated financial statements in Item 1 of Part I for a discussion of the divestiture of our Brazil suspension components business.

Pension settlement charge — See Note 12 of the consolidated financial statements in Item 1 of Part I for a discussion of the termination of one of our U.S. defined benefit pension plans.

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

	Six Months Ended June 30, 2019	Six Months Ended June 30, 2018
Non-service cost components of pension and OPEB costs	$ (15)	$ (7)
Government grants and incentives	8	5
Foreign exchange loss	(10)	(4)
Strategic transaction expenses, net of transaction breakup fee income	(24)	(7)
Non-income tax legal judgment	6	
Other, net	12	3
Other expense, net	$ (23)	$ (10)

Foreign exchange loss in 2019 included a loss on the undesignated Swiss franc notional deal contingent forward related to the ODS acquisition. See Note 15 of the consolidated financial statements in Item 1 of Part I for additional information. Strategic transaction expenses in 2019 were primarily attributable to the acquisition of ODS. Strategic transaction expenses in 2018 were more than offset by a $40 transaction breakup fee associated with the GKN plc. transaction. See Note 2 of the consolidated financial statements in Item 1 of Part I for additional information. During the first quarter of 2019, we won a legal judgment regarding the methodology used to calculate PIS/COFINS tax in Brazil.

Interest income and interest expense — Interest income was $5 in both 2019 and 2018. Interest expense increased from $47 in 2018 to $61 in 2019, primarily due to an increase in borrowings to finance the ODS acquisition in the first quarter of 2019. Average effective interest rates, inclusive of amortization of debt issuance costs, approximated 5.2% in both 2019 and 2018.

Income tax expense — Income tax for the first six months was $32 of benefit in 2019 and $44 of expense in 2018. During the second quarter of 2019, a pre-tax pension settlement charge of $258 with an associated income tax benefit of $9 was recorded. We also recorded tax benefits of $48 related to tax actions that adjusted federal tax credits and $30 related to the development of a tax planning strategy which reduced valuation allowances on existing federal tax credits in the second quarter. During the first quarter of 2019, we recognized a benefit of $22 related to the reduction of valuation allowances in the U.S. based on increased income projections. Partially offsetting this benefit in the first quarter of 2019 was $6 of expense related to a U.S. state law change. Excluding these items, the effective tax rate would be 29% for the 2019 six-month period. Our effective income tax rates vary from the U.S. federal statutory rate of 21% due to establishment, release and adjustment of valuation allowances in several countries, nondeductible expenses and 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. The effective income tax rate may vary significantly due to fluctuations in the amounts and sources, both foreign and domestic, of pretax income and changes in the amounts of non-deductible expenses.

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. Consequently, there is no income tax expense or benefit recognized on the pre-tax income or losses in these jurisdictions as valuation allowances are adjusted to offset the associated tax expense or benefit. We believe that it is reasonably possible that valuation allowances 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 $14 in 2019 and $12 in 2018. Equity in earnings from DDAC was $10 in 2019 and $6 in 2018. Equity in earnings from BSFB was $4 in both 2019 and 2018.

Segment Results of Operations (2019 versus 2018)

Light Vehicle

	Three Months			Six Months		
	Sales	Segment EBITDA	Segment EBITDA Margin	Sales	Segment EBITDA	Segment EBITDA Margin
2018	$ 873	$ 92	10.5%	$ 1,823	$ 195	10.7%
Volume and mix	59	11		28	3	
Performance	4	16		5	25	
Currency effects	(9)	(1)		(23)	(3)	
2019	$ 927	$ 118	12.7%	$ 1,833	$ 220	12.0%

Light Vehicle sales in the second quarter and first half of 2019, exclusive of currency effects, were 7% and 2% higher than the same period of 2018. Improved North American full frame truck production of 6% in this year's second quarter and 2% in the first half more than offset lower full frame truck production in Asia Pacific and Europe. In addition, conversion of sales backlog help to offset the year-over-year first half sales volume-related decline attributable to one of our largest customer programs for which production continued on the outgoing model, concurrent with production of the new model vehicle, during last year's first quarter. Customer pricing and cost recovery impacts provided a year-over-year increase of $6 in both the second quarter and first six months.

Light Vehicle second-quarter segment EBITDA increased by $26 from last year, with first-half earnings higher by $25. Higher sales volumes provide a year-over-year second-quarter benefit of $11 and six-month benefit of $3. The year-over-year performance-related earnings increase in the second quarter was driven by material cost savings of $8 and net pricing and material recovery of $6. Improved operational efficiencies and lower premium freight contributed $6. Commodity cost increase of $4 reduced second quarter 2019 performance. The six-month performance-related earnings improvement was driven by material cost savings of $17, lower new program start-up and launch-related costs of $9 and net pricing and material recovery of $6. Improved operational efficiencies and lower premium freight contributed $19. Commodity cost increases of $16, increased engineering spend of $7 and higher warranty costs of $3 reduced first half 2019 performance.

Commercial Vehicle

	Three Months			Six Months		
	Sales	Segment EBITDA	Segment EBITDA Margin	Sales	Segment EBITDA	Segment EBITDA Margin
2018	$ 411	$ 41	10.0%	$ 811	$ 75	9.2%
Volume and mix	30	6		65	12	
Acquisition / Divestiture	2	(2)		7	(1)	
Performance	7	(2)		18	—	
Currency effects	(13)	(2)		(33)	(4)	
2019	$ 437	$ 41	9.4%	$ 868	$ 82	9.4%

Excluding currency effects and the net impact of acquisitions and divestitures, second-quarter and first-half 2019 sales in our Commercial Vehicle segment increased 9% and 10% compared to last year. The volume-related increase was primarily attributable to higher production levels in North America where Class 8 production in this year's second quarter and first half was up about 18% and 20% from 2018, and Classes 5-7 production was up 1% and 4%. With the improving economy in Brazil, our sale volume in 2019 benefited from year-over-year higher production levels in that country of around 22% for the second quarter and 12% for the first half. Also contributing to the higher sales volume was higher second-quarter and first-half production in Europe and Asia Pacific. Customer pricing and cost recovery actions increased year-over-year second-quarter and first-half sales by $4 and $9.

Commercial Vehicle segment EBITDA in this year's second quarter was flat with the same period last year, while first-half earnings increased by $7. Higher sales volumes increased second-quarter earnings by $6 and six-month earnings by $12. The performance-related earnings decrease in this year's second quarter resulted from higher commodity costs of $8 and increased engineering spend of $5. Material costs savings of $5, net pricing and material recovery of $4 and lower premium freight of $2 provided a partial offset. Performance for the first six months of 2019 was flat with the prior year. Net pricing and material recovery of $9, material cost savings of $8, net foreign currency transaction gains of $4 and improved operational efficiencies of $1 were offset by higher commodity costs of $17 and increased engineering spend of $5.

Off-Highway

	Three Months			Six Months		
	Sales	Segment EBITDA	Segment EBITDA Margin	Sales	Segment EBITDA	Segment EBITDA Margin
2018	$ 485	$ 79	16.3%	$ 977	$ 151	15.5%
Volume and mix	(1)	—		14	1	
Acquisitions	212	26		288	37	
Performance	4	1		4	2	
Currency effects	(26)	(3)		(57)	(6)	
2019	$ 674	$ 103	15.3%	$ 1,226	$ 185	15.1%

Excluding currency effects, primarily due to a weaker euro, and the impact of the ODS and SME acquisitions, second-quarter and first-half 2019 sales in our Off-Highway segment increased 1% and 2% compared to last year. Volume related sales growth, while marginal, was seen across each of our key markets.

Off-Highway segment EBITDA increased by $24 in this year's second quarter and $34 in this year's first half when compared with the same periods of 2018. Marginally higher market demand was the primary driver of the volume and mix earnings improvement during the first half of 2019. The performance-related improvement in second quarter 2019 earnings was due primarily to material cost savings of $5 and net pricing and material recovery of $4. Partially offsetting these performance-related earnings increases where higher commodity costs of $3 and other cost increases and operational inefficiencies of $5. The performance-related improvement in 2019 first half earnings was due primarily to material cost savings of $11 and net pricing and material recoveries of $7. Higher commodity costs of $4 and other cost increases and operational inefficiencies of $12 partially offset the earning increases.

Power Technologies

	Three Months			Six Months		
	Sales	Segment EBITDA	Segment EBITDA Margin	Sales	Segment EBITDA	Segment EBITDA Margin
2018	$ 285	$ 39	13.7%	$ 581	$ 84	14.5%
Volume and mix	(9)	(2)		(17)	(5)	
Performance	—	(8)		(1)	(15)	
Currency effects	(8)	(1)		(21)	(2)	
2019	$ 268	$ 28	10.4%	$ 542	$ 62	11.4%

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, sales for the second quarter and first half of 2019 were 3% lower than the same periods of 2018, primarily due to program roll offs and lower market demand. Light vehicle engine production declined in North America, Europe and China compared to last year's second quarter and first half.

Power Technologies segment EBITDA in this year's second quarter was lower by $11 when compared to the same period of 2018, while comparative six-month earnings were lower by $22. The performance deterioration of $8 in the second quarter of 2019 resulted from higher commodity costs of $4 and operational inefficiencies and other cost increases of $4. The performance deterioration of $15 in the first half of 2019 resulted from higher commodity costs of $7 and operational inefficiencies and other cost increases of $8.

Non-GAAP Financial Measures

Adjusted EBITDA

We have defined adjusted EBITDA as net income (loss) 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.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income (loss)	$ (66)	$ 127	$ 35	$ 238
Equity in earnings of affiliates	8	6	14	12
Income tax expense (benefit)	(52)	(4)	(32)	44
Earnings (loss) before income taxes	(126)	117	(11)	270
Depreciation and amortization	85	62	161	129
Restructuring	9	7	18	8
Interest expense, net	31	21	56	42
Pension settlement charge	258		258	
Acquisition related inventory adjustments	5		9	
Impairment of indefinite-lived intangible asset		20		20
Other*	24	19	52	25
Adjusted EBITDA	$ 286	$ 246	$ 543	$ 494

* Other includes non-service cost components of pension and OPEB costs, stock compensation expense, strategic transaction expenses, net of transaction breakup fees and other items. See Note 21 to our consolidated financial statements in Item 1 of Part I for additional details.

Free Cash Flow and Adjusted Free Cash Flow

We have defined free cash flow as cash provided by (used in) operating activities less purchases of property, plant and equipment. We have defined adjusted free cash flow as cash provided by (used in) 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 (used in) 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 (used in) operating activities to adjusted free cash flow.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net cash provided by operating activities	$ 73	$ 141	$ 57	$ 113
Purchases of property, plant and equipment	(92)	(80)	(190)	(145)
Free cash flow	(19)	61	(133)	(32)
Discretionary pension contribution	62	—	62	—
Adjusted free cash flow	$ 43	$ 61	$ (71)	$ (32)

Liquidity

The following table provides a reconciliation of cash and cash equivalents to liquidity, a non-GAAP measure, at June 30, 2019:

Cash and cash equivalents	$ 289
Less: Deposits supporting obligations	(5)
Available cash	284
Additional cash availability from Revolving Facility	729
Marketable securities	15
Total liquidity	$ 1,028

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 June 30, 2019 consolidated cash balance were as follows:

	U.S.	Non-U.S.	Total
Cash and cash equivalents	$ 13	$ 187	$ 200
Cash and cash equivalents held as deposits		5	5
Cash and cash equivalents held at less than wholly-owned subsidiaries	1	83	84
Consolidated cash balance	$ 14	$ 275	$ 289

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.

On February 28, 2019, we entered into an amended credit and guaranty agreement comprised of a $500 term facility (the Term A Facility), a $450 term facility (the Term B Facility and, together with the Term A Facility, the Term Facilities) and a $750 revolving credit facility (the Revolving Facility). The Term A Facility is an expansion of our existing $275 Term Facility. The Term A Facility and the Revolving Facility mature on August 17, 2022. The Term B Facility matures on February 28, 2026. On February 28, 2019, we drew the $225 available under the Term A Facility and the $450 available under the Term B Facility. The proceeds from the draws on the term facilities were used to fund the ODS acquisition. We are required to make equal quarterly installments on the Term A Facility on the last day of each fiscal quarter of $8 beginning March 31, 2019 and 0.25% of the aggregate principal advances of the Term B Facility quarterly commencing on June 30, 2019.

On June 6, 2019, we acquired PEBL's 50% ownership interest in PEPS paying $50 at closing. On February 28, 2019, we acquired ODS paying $626 at closing. 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%.

On June 22, 2018, we acquired a 55% ownership interest in TM4 from Hydro-Québec. On July 29, 2019, we broadened our relationship with Hydro-Québec, with Hydro-Québec acquiring a 45% redeemable noncontrolling interest in SME and increasing its existing 22.5% noncontrolling interest in PEPS to a 45% redeemable noncontrolling interest. We received $65 at closing, consisting of $53 of cash and a note receivable of $12. The note is payable in five years and bears annual interest of 5%.

During the second quarter of 2019, we terminated one of our U.S. defined benefit pension plans. We contributed $62 to the plan prior to the plan's purchase of group annuity contracts from two insurance carriers. The purchase of the group annuity contracts irrevocably transferred the plans future pension benefit obligations to the insurance carriers.

At June 30, 2019, we had no outstanding borrowings under the Revolving Facility but we had utilized $21 for letters of credit. We had availability at June 30, 2019 under the Revolving Facility of $729 after deducting the outstanding letters of credit.

At June 30, 2019, we were in compliance with the covenants of our financing agreements. Under the Term Facilities, 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 Term Facilities and 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, tested on the last day of each fiscal quarter. 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 Term A Facility and the Revolving Facility are 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 the first six months of 2019, we paid $25 to acquire 1,432,275 shares of common stock in the open market.

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

	Six Months Ended June 30,	
	2019	2018
Cash used for changes in working capital	$ (247)	$ (232)
Other cash provided by operations	304	345
Net cash provided by operating activities	57	113
Net cash used in investing activities	(863)	(287)
Net cash provided by (used in) financing activities	577	(70)
Net decrease in cash, cash equivalents and restricted cash	$ (229)	$ (244)

The table above summarizes our consolidated statement of cash flows.

Operating activities — Exclusive of working capital, other cash provided by operations was $304 and $345 in 2019 and 2018. The year-over-year improvement attributable to operating earnings was more than offset by a $62 discretionary pension contribution made to one of our U.S. defined benefit pension plans. Reference is made to Note 12 of the consolidated financial statements in Item 1 of Part I for a discussion of the settlement of this U.S. defined benefit pension plan.

Working capital used cash of $247 and $232 in 2019 and 2018. Cash of $193 and $256 was used to finance increased receivables in 2019 and 2018. The lower level of cash required for receivables in 2019 was due primarily to a shift in sales mix to customers with relatively shorter payment terms. Cash of $47 and $111 was used to fund higher inventory levels in 2019 and 2018. Cash of $7 was used to reduce accounts payable and other net liabilities in 2019, while increases in accounts payable and other net liabilities provided cash of $135 in 2018. The year-over-year reduction in cash provided by accounts payable and other net liabilities is primarily attributable to higher year-over-year cash paid for strategic transaction expenses, income taxes, interest expense and restructuring in 2019.

Investing activities — Expenditures for property, plant and equipment were $190 and $145 during 2019 and 2018. The elevated level of capital spend during 2019 is primarily in support of new customer programs and information systems upgrades. During 2019, we paid $545, net of cash and restricted cash acquired, to purchase ODS, we paid $61 to acquire SME and we paid $48, net of cash acquired, to purchase PEPS. During 2019, we paid $21 to settle the undesignated Swiss franc notional deal contingent forward related to the ODS acquisition. During 2018, we paid $122, net of cash acquired, to purchase 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 owned by the seller. During 2019 and 2018, purchases of marketable securities were funded by proceeds from sales and maturities of marketable securities.

Financing activities — During 2019, we entered into an amended credit and guaranty agreement comprised of a $500 term facility (the Term A Facility), a $450 term facility (the Term B Facility) and a $750 revolving credit facility. The Term A Facility is an expansion of our existing $275 term facility. We drew the $225 available under the Term A Facility and the $450 available under the Term B Facility. We paid financing costs of $12 to amend the credit and guaranty agreement. During 2019, we made combined principle payments of $17 on the Term A Facility and the Term B Facility. We used $29 for dividend payments to common stockholders during both 2019 and 2018. We used cash of $25 to repurchase 1,432,275 shares of our common stock during 2019 and $25 to repurchase 1,055,000 shares of our common stock during 2018.

Off-Balance Sheet Arrangements

There have been no material changes at June 30, 2019 in our off-balance sheet arrangements from those reported or estimated in the disclosures in Item 7 of our 2018 Form 10-K.

Contractual Obligations

The SME acquisition purchase consideration included 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%. See Note 2 to our consolidated financial statements in Item 1 of Part I for additional information.

During the first quarter of 2019, we expanded our credit and guaranty agreement. We entered into $675 of additional floating rate term loans to fund the ODS acquisition and up sized our revolving credit facility to $750. See Note 14 to our consolidated financial statements in Item 1 of Part I for additional information.

Contingencies

For a summary of litigation and other contingencies, see Note 16 to our consolidated financial statements in Item 1 of Part I. 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 that affect the reported amounts of assets, liabilities, revenue and expenses and the related disclosures. See Item 7 in our 2018 Form 10-K for a description of our critical accounting estimates and Note 1 to our consolidated financial statements in Item 8 of our 2018 Form 10-K for our significant accounting policies. There were no changes to our critical accounting estimates in the six months ended June 30, 2019. See Note 1 to our consolidated financial statements in this Form 10-Q for a discussion of new accounting guidance adopted in the first quarter of 2019.

Item 3. *Quantitative and Qualitative Disclosures About Market Risk*

There have been no material changes to market risk exposures related to changes in currency exchange rates, interest rates or commodity costs from those discussed in Item 7A of our 2018 Form 10-K.

Item 4. ***Controls and Procedures***

Disclosure controls and procedures — We maintain disclosure controls and procedures that are designed to ensure that the information disclosed in the reports we file with the SEC under the Securities Exchange Act of 1934, as amended (the Exchange Act), is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate, to allow timely decisions regarding required disclosure.

Our management, with the participation of our CEO and CFO, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Report on Form 10-Q. Our CEO and CFO have concluded that, as of the end of the period covered by this Report on Form 10-Q, our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective.

Changes in internal control over financial reporting — There was no change in our internal control over financial reporting that occurred during our fiscal quarter ended June 30, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. During the quarter ended March 31, 2019, we acquired a 100% interest in Oerlikon Drive Systems segment of the Oerlikon Group and a 100% ownership interest in S.M.E. S.p.A. During the quarter ended June 30, 2019, we increased our ownership interest in Prestolite E-Propulsion Systems (Beijing) Limited (PEPS) to 100%, thereby obtaining a controlling financial interest in PEPS. We are currently integrating these acquisitions into our operations, compliance programs and internal control processes. As permitted by SEC guidance, management intends to exclude them from its assessment of internal controls over financial reporting as of December 31, 2019.

CEO and CFO certifications — The certifications of our CEO and CFO that are attached to this report as Exhibits 31.1 and 31.2 include information about our disclosure controls and procedures and internal control over financial reporting. These certifications should be read in conjunction with the information contained in this Item 4 and in Item 9A of Part II of our 2018 Form 10-K for a more complete understanding of the matters covered by the certifications.

PART II – OTHER INFORMATION

Item 1. ***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 1 of Part I of this Form 10-Q.

Item 1A. ***Risk Factors***

There have been no material changes in our risk factors disclosed in Item 1A of our 2018 Form 10-K.

Item 2. ***Unregistered Sales of Equity Securities and Use of Proceeds***

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 share repurchase 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, available growth opportunities and other considerations. No shares of our common stock were repurchased under the program during the second quarter of 2019.

Item 6. ***Exhibits***

Exhibit No.	Description
31.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer. Filed with this Report.
31.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer. Filed with this Report.
32	Section 1350 Certifications (pursuant to Section 906 of the Sarbanes-Oxley Act of 2002). Filed with this Report.
101	The following materials from Dana Incorporated’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, formatted in iXBRL (Inline Extensible Business Reporting Language): (i) the Consolidated Statement of Operations, (ii) the Consolidated Statement of Comprehensive Income, (iii) the Consolidated Balance Sheet, (iv) the Consolidated Statement of Cash Flows and (v) Notes to the Consolidated Financial Statements. Filed with this Report.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, hereunto duly authorized.

DANA INCORPORATED

Date:	July 31, 2019	By:	/s/ Jonathan M. Collins
			Jonathan M. Collins
			Executive Vice President and
			Chief Financial Officer

EXHIBIT 31.1

Certification of Chief Executive Officer

I, James K. Kamsickas, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Dana Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 31, 2019

/s/ James K. Kamsickas

James K. Kamsickas
President and Chief Executive Officer

EXHIBIT 31.2

Certification of Chief Financial Officer

I, Jonathan M. Collins, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Dana Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 31, 2019

/s/ Jonathan M. Collins

Jonathan M. Collins

Executive Vice President and Chief Financial Officer

EXHIBIT 32

Certifications Pursuant to 18 U.S.C. Section 1350

In connection with the Quarterly Report of Dana Incorporated (Dana) on Form 10-Q for the three months ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the Report), each of the undersigned officers of Dana certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to such officer's knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Dana as of the dates and for the periods expressed in the Report.

Date: July 31, 2019

/s/ James K. Kamsickas
James K. Kamsickas
President and Chief Executive Officer

/s/ Jonathan M. Collins
Jonathan M. Collins
Executive Vice President and Chief Financial Officer