Allison Transmission Holdings Inc
Form 10-Q
October 31, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 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 September 30, 2017

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File No. 001-35456

ALLISON TRANSMISSION HOLDINGS, INC.

(Exact Name of Registrant as Specified In Its Charter)

Delaware	**26-0414014**

(State of Incorporation)	**(I.R.S. Employer Identification Number)**
One Allison Way	
Indianapolis, IN	**46222**
(Address of Principal Executive Offices)	**(Zip Code)**

(317) 242-5000

(Registrant s Telephone Number, Including Area Code)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller reporting company
		Emerging growth company

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

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

As of October 17, 2017, there were 141,760,746 shares of Common Stock outstanding.

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PART I. FINANCIAL INFORMATION

ITEM 1. Financial Statements

Allison Transmission Holdings, Inc.

Condensed Consolidated Balance Sheets

(unaudited, dollars in millions, except per share data)

	September 30, 2017	December 31, 2016
ASSETS		
Current Assets		
Cash and cash equivalents	**$ 210**	$ 205
Accounts receivable	**271**	197
Inventories	**156**	126
Other current assets	**28**	20
Total Current Assets	**665**	548
Property, plant and equipment, net	**456**	464
Intangible assets, net	**1,175**	1,242
Goodwill	**1,941**	1,941
Other non-current assets	**24**	24
TOTAL ASSETS	**$ 4,261**	$ 4,219
LIABILITIES		
Current Liabilities		
Accounts payable	**$ 184**	$ 128
Product warranty liability	**22**	25
Current portion of long-term debt	**12**	12
Deferred revenue	**33**	27
Other current liabilities	**193**	150
Total Current Liabilities	**444**	342
Product warranty liability	**27**	38
Deferred revenue	**75**	66
Long-term debt	**2,536**	2,147

Deferred income taxes		**393**		312
Other non-current liabilities		**231**		233
TOTAL LIABILITIES		**3,706**		3,138
Commitments and contingencies (see NOTE N)				
STOCKHOLDERS EQUITY				
Common stock, $0.01 par value, 1,880,000,000 shares authorized, 142,735,480 shares issued and outstanding and 163,795,604 shares issued and outstanding, respectively		**1**		2
Non-voting common stock, $0.01 par value, 20,000,000 shares authorized, none issued and outstanding				
Preferred stock, $0.01 par value, 100,000,000 shares authorized, none issued and outstanding				
Paid in capital		**1,750**		1,728
Accumulated deficit		**(1,144)**		(586)
Accumulated other comprehensive loss, net of tax		**(52)**		(63)
TOTAL STOCKHOLDERS EQUITY		**555**		1,081
TOTAL LIABILITIES & STOCKHOLDERS EQUITY	**$**	**4,261**	$	4,219

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

Allison Transmission Holdings, Inc.

Condensed Consolidated Statements of Comprehensive Income

(unaudited, dollars in millions, except per share data)

	Three months ended September 30,		Nine months ended September 30,	
	2017	**2016**	**2017**	**2016**
Net sales	**$ 595**	$ 434	**$ 1,674**	$ 1,371
Cost of sales	**293**	230	**831**	725
Gross profit	**302**	204	**843**	646
Selling, general and administrative	**78**	79	**245**	240
Engineering research and development	**26**	21	**74**	64
Operating income	**198**	104	**524**	342
Interest expense, net	**(26)**	(22)	**(78)**	(84)
Expenses related to long-term debt refinancing		(12)		(12)
Other (expense) income, net	**(2)**	1	**(3)**	1
Income before income taxes	**170**	71	**443**	247
Income tax expense	**(59)**	(26)	**(154)**	(93)
Net income	**$ 111**	$ 45	**$ 289**	$ 154
Basic earnings per share attributable to common stockholders	**$ 0.75**	$ 0.27	**$ 1.91**	$ 0.91
Diluted earnings per share attributable to common stockholders	**$ 0.75**	$ 0.27	**$ 1.90**	$ 0.91
Dividends declared per common share	**$ 0.15**	$ 0.15	**$ 0.45**	$ 0.45
Comprehensive income, net of tax	**$ 116**	$ 45	**$ 300**	$ 156

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

Allison Transmission Holdings, Inc.

Condensed Consolidated Statements of Cash Flows

(unaudited, dollars in millions)

	Nine months ended September 30,	
	2017	**2016**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	**$ 289**	$ 154
Adjustments to reconcile net income to net cash provided by operating activities:		
Deferred income taxes	**72**	80
Amortization of intangible assets	**67**	69
Depreciation of property, plant and equipment	**60**	63
Unrealized (gain) loss on derivatives	**(10)**	10
Stock-based compensation	**8**	6
Amortization of deferred financing costs	**4**	6
Expenses related to long-term debt refinancing		11
Excess tax benefit from stock-based compensation		(2)
Other	**5**	2
Changes in assets and liabilities:		
Accounts receivable	**(71)**	(5)
Inventories	**(28)**	(12)
Accounts payable	**56**	8
Other assets and liabilities	**40**	26
Net cash provided by operating activities	**492**	416
CASH FLOWS FROM INVESTING ACTIVITIES:		
Additions of long-lived assets	**(40)**	(36)
Investments in technology-related initiatives	**(3)**	(1)
Net cash used for investing activities	**(43)**	(37)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Repurchases of common stock	**(778)**	(169)
Borrowings on revolving credit facility	**415**	
Repayments on revolving credit facility	**(415)**	
Issuance of long-term debt	**400**	1,000
Dividend payments	**(68)**	(76)
Proceeds from exercise of stock options	**14**	9
Payments on long-term debt	**(9)**	(1,212)
Debt financing fees	**(5)**	(19)
Taxes paid related to net share settlement of equity awards	**(1)**	(1)
Excess tax benefit from stock-based compensation		2
Net cash used for financing activities	**(447)**	(466)
Effect of exchange rate changes on cash	**3**	

Net increase (decrease) in cash and cash equivalents	**5**	(87)
Cash and cash equivalents at beginning of period	**205**	252
Cash and cash equivalents at end of period	**$ 210**	$ 165
Supplemental disclosures:		
Interest paid	**$ 71**	$ 64
Income taxes paid	**$ 65**	$ 10

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

Allison Transmission Holdings, Inc.

Notes to Condensed Consolidated Financial Statements

(UNAUDITED)

NOTE A. OVERVIEW

Overview

Allison Transmission Holdings, Inc. and its subsidiaries (Allison or the Company) design and manufacture commercial and defense fully-automatic transmissions. The business was founded in 1915 and has been headquartered in Indianapolis, Indiana since inception. Allison was an operating unit of General Motors Corporation from 1929 until 2007, when Allison once again became a stand-alone company. In March 2012, Allison began trading on the New York Stock Exchange under the symbol, ALSN .

The Company has approximately 2,600 employees and 13 different transmission product lines. Although approximately 78% of revenues were generated in North America in 2016, the Company has a global presence by serving customers in Europe, Asia, South America and Africa. The Company serves customers through an independent network of approximately 1,400 independent distributor and dealer locations worldwide.

NOTE B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Principles of Consolidation

The condensed consolidated financial statements have been prepared in accordance with accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, the condensed consolidated financial statements do not include all information and footnotes required by accounting principles generally accepted in the United States of America (GAAP) for complete financial statements. The information herein reflects all normal recurring material adjustments, which are, in the opinion of management, necessary for the fair statement of the results for the periods presented. The condensed consolidated financial statements herein consist of all wholly-owned domestic and foreign subsidiaries with all significant intercompany transactions eliminated.

These condensed consolidated financial statements present the financial position, results of comprehensive income and cash flows of the Company. The condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements included in the Company s Form 10-K for the year ended December 31, 2016 as filed with the Securities and Exchange Commission (SEC) on February 24, 2017. The presentation of certain prior year disclosures has been modified to conform to the current year presentation, as commencing in the first quarter of 2017, the Company elected to report financial data in whole millions of dollars, except as otherwise noted. The interim period financial results for the three and nine month periods presented are not necessarily indicative of results to be expected for any other interim period or for the entire year.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities and the reported amounts of revenue and expenses. Estimates include, but are not limited to, sales allowances, government

price adjustments, fair market values and future cash flows associated with goodwill, indefinite life intangibles, long-lived asset impairment tests, useful lives for depreciation and amortization, warranty liabilities, environmental liabilities, determination of discount and other assumptions for pension and other postretirement benefit expense, income taxes and deferred tax valuation allowances, derivative valuation, and contingencies. The Company s accounting policies involve the application of judgments and assumptions made by management that include inherent risks and uncertainties. Actual results could differ materially from these estimates. Changes in estimates are recorded in results of operations in the period that the events or circumstances giving rise to such changes occur.

Impairment of Assets

During the fourth quarter of every year, the Company performs additional reviews of its goodwill, other intangible assets and long-lived assets to determine whether the carrying value of an asset may not be recoverable. The Company has recorded impairments to both its Trade name and long-lived assets in prior periods with the most recent impairments recorded in 2015.

The Company performs its annual goodwill and intangible assets impairment analysis on October 31 of every year. Events or circumstances that could unfavorably impact the key assumptions in the impairment test include lower net sales, the Company s inability to execute on marketing programs and/or delay in the introduction of new products, lower gross margins or failure to obtain forecasted cost reductions, or a higher discount rate as a result of market conditions.

The carrying value of long-lived assets is evaluated when events or circumstances indicate that there has been a significant change in the use of an asset, or the planned sale or disposal of an asset. The asset would be considered impaired when there is no future use planned for the asset or the future net undiscounted cash flows generated by the asset or asset group are less than its carrying value. An impairment loss would be recognized based on the amount by which the carrying value exceeds fair value. Assumptions and estimates used to determine cash flows in the evaluation of impairment and the fair values used to determine the impairment are subject to a degree of judgment and complexity. Any changes to the assumptions and estimates resulting from changes in actual results or market conditions from those anticipated may affect the carrying value of long-lived assets and could result in an impairment charge.

Recently Adopted Accounting Pronouncements

In January 2017, the Financial Accounting Standards Board (FASB) issued authoritative accounting guidance on evaluation of goodwill for impairment. The guidance modifies the approach to assessing impairment from testing the implied fair value goodwill to testing the fair value of the reporting unit carrying the goodwill, which eliminates Step 2 of the current evaluation guidance. The intent of this amendment is to reduce the cost and complexity of evaluating goodwill. The guidance was early adopted by the Company effective July 1, 2017. The adoption of this guidance did not have an impact on the Company s consolidated financial statements.

In March 2016, the FASB issued authoritative accounting guidance on share-based payment awards to employees. The guidance involves several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The guidance was adopted by the Company effective January 1, 2017. Management recorded an excess tax benefit of $5 million and $16 million to income tax expense and as a component of operating cash flows for the three months and nine months ended September 30, 2017, respectively, and made the accounting policy election to account for forfeitures as they occur.

In July 2015, the FASB issued authoritative accounting guidance to simplify the measurement of inventory. The guidance requires that inventory be measured at the lower of cost and net realizable value. When evidence exists that the net realizable value of inventory is lower than its cost, the difference shall be recognized as a loss in earnings in the period in which it occurs. Inventory measured using last-in, first-out and the retail inventory method are not impacted by the new guidance. The guidance was adopted by the Company effective January 1, 2017. The adoption of this guidance did not have a material impact on the Company s consolidated financial statements.

Recently Issued Accounting Pronouncements

In May 2017, the FASB issued authoritative accounting guidance on accounting for modifications to the terms of employee stock compensation. The guidance clarifies which changes to terms or conditions of share-based payment awards require the entity to apply modification accounting. The guidance will be effective for the Company in fiscal year 2018, but early adoption is permitted. Management is currently evaluating the impact of this guidance on the Company s consolidated financial statements.

In March 2017, the FASB issued authoritative accounting guidance on the presentation of net periodic pension costs and net periodic postretirement benefit costs. The guidance clarifies the presentation of component costs within an employer s financial statements and restricts component costs eligible for capitalization to the service cost component. The Company did not early adopt, therefore the guidance will be effective for the Company in fiscal year 2018. Management is currently evaluating the impact of this guidance on the Company s consolidated financial statements.

In October 2016, the FASB issued authoritative accounting guidance on the income tax consequences of intra-company transfers other than inventory. This guidance addresses the timing of the recognition of current and deferred income taxes. Under this guidance, the recognition of current or deferred income taxes will occur at the time of the transfer of the asset. The Company did not early adopt; therefore, the guidance will be effective for the Company in fiscal year 2018. Management is currently evaluating the impact of this guidance on the Company s consolidated financial statements.

In August 2016, the FASB issued authoritative accounting guidance on the presentation and classification of certain cash receipts and cash payments on the statement of cash flows. The guidance specifically addresses cash flow issues with the objective of reducing the diversity in practice. The Company did not early adopt; therefore, the guidance will be effective for the Company in fiscal year 2018. Management is currently evaluating the impact of this guidance on the Company s consolidated financial statements.

In February 2016, the FASB issued authoritative accounting guidance on lease accounting. The guidance requires lessees to present right-of-use assets and lease liabilities on the balance sheet for all leases not considered short-term leases. Short-term leases are leases with a lease term of 12 months or less as long as the leases do not include options to purchase the underlying assets that the lessee is reasonably certain to exercise. The new guidance also introduces new disclosure requirements for leasing arrangements. The guidance will be effective for the Company in fiscal year 2019, and the Company does not plan to early adopt. Management is currently evaluating the impact of this guidance on the Company s consolidated financial statements.

In January 2016, the FASB issued authoritative accounting guidance on the classification of equity securities with readily determinable fair values into different categories (e.g. trading or available-for-sale) and the requirement for equity securities to be measured at fair value with changes in fair value recognized in net income. The Company did not early adopt; therefore, the guidance will be effective prospectively for the Company in fiscal year 2018. Upon adoption, a cumulative-effect adjustment to retained earnings in the consolidated balance sheets will be reclassified to beginning retained earnings. Management has evaluated the impact of this guidance and expects the unrealized gains and losses for fair value measurement of the Company s available-for-sale securities to be recognized in net income upon adoption.

In May 2014, the FASB issued authoritative accounting guidance on a company s accounting for revenue from contracts with customers, which guidance has subsequently been amended. The guidance applies to all companies that enter into contracts with customers to transfer goods, services or nonfinancial assets. The guidance requires these companies to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The guidance also requires disclosures regarding the nature, timing, amount and uncertainty of revenue that is recognized. The guidance allows either full or modified retrospective adoption. The Company did not early adopt; therefore, the guidance will be effective for the Company for the annual and interim periods beginning in fiscal year 2018. The Company will implement the guidance using the modified retrospective approach. Management has determined that the revenue streams that will be impacted by the guidance relate to non-standard transmission coverages. Certain contracts are also being reviewed individually for the potential impact. No significant changes or additions to our internal controls over financial reporting are expected as a result of implementing this guidance.

NOTE C. INVENTORIES

Inventories consisted of the following components (dollars in millions):

	September 30, 2017	**December 31, 2016**
Purchased parts and raw materials	**$ 72**	$ 57
Work in progress	**8**	5
Service parts	**46**	43
Finished goods	**30**	21

Total inventories	**$**	**156**	$	126

Inventory components shipped to third parties, primarily cores, parts to re-manufacturers, and parts to contract manufacturers, which the Company has an obligation to buy back, are included in purchased parts and raw materials, with an offsetting liability in Other current liabilities. See NOTE J, Other Current Liabilities for more information.

NOTE D. GOODWILL AND OTHER INTANGIBLE ASSETS

As of September 30, 2017 and December 31, 2016, the carrying amount of the Company s Goodwill was $1,941 million. The following presents a summary of other intangible assets (dollars in millions):

	September 30, 2017			December 31, 2016		
	Intangible assets, gross	**Accumulated amortization**	**Intangible assets, net**	**Intangible assets, gross**	**Accumulated amortization**	**Intangible assets, net**
Other intangible assets:						
Trade name	**$ 790**	**$**	**$ 790**	$ 790	$	$ 790
Customer relationships defense	**62**	**(37)**	**25**	62	(35)	27
Customer relationships commercial	**832**	**(562)**	**270**	832	(526)	306
Proprietary technology	**476**	**(386)**	**90**	476	(358)	118
Non-compete agreement	**17**	**(17)**		17	(16)	1
Patented technology defense	**28**	**(28)**		28	(28)	
Tooling rights	**5**	**(5)**		5	(5)	
Total	**$ 2,210**	**$ (1,035)**	**$ 1,175**	$ 2,210	$ (968)	$ 1,242

As of September 30, 2017 and December 31, 2016, the net carrying value of our Goodwill and other intangible assets was $3,116 million and $3,183 million, respectively.

Amortization expense related to other intangible assets for the next five fiscal years is expected to be (dollars in millions):

	2018	**2019**	**2020**	**2021**	**2022**
Amortization expense	$ 87	$ 86	$ 50	$ 45	$ 43

NOTE E. FAIR VALUE OF FINANCIAL INSTRUMENTS

In accordance with the FASB s authoritative accounting guidance on fair value measurements, fair value is the price (exit price) that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company utilizes market data or assumptions that market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs can be readily observable, market corroborated, or generally unobservable. The Company primarily applies the market approach for recurring fair value measurements and utilizes the best available information that maximizes the use of observable inputs and minimizes the use of unobservable inputs. The Company is able to classify fair value balances based on the observability of those inputs. The accounting guidance establishes a fair value hierarchy that prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement). The three levels of the fair value hierarchy defined by the relevant guidance are as follows:

Level 1 Quoted prices are available in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis. Level 1 primarily consists of financial instruments such as exchange-traded

derivatives, listed equities and publicly traded bonds.

Level 2 Pricing inputs are other than quoted prices in active markets included in Level 1, which are either directly or indirectly observable as of the reported date. Level 2 includes financial instruments that are valued using quoted prices in markets that are not active and those financial instruments that are valued using models or other valuation methodologies. These models are primarily industry standard models that consider various assumptions, including quoted forward prices for commodities, time value, volatility factors, and current market and contractual prices for the underlying instruments, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Level 3 Pricing inputs include significant inputs that are generally less observable from objective sources. These inputs may be used with internally developed methodologies that result in management s best estimate of fair value. At each balance sheet date, the Company performs an analysis of all instruments subject to authoritative accounting guidance and includes, in Level 3, all of those whose fair value is based on significant unobservable inputs. As of September 30, 2017 and December 31, 2016, the Company did not have any Level 3 financial assets or liabilities.

The Company s assets and liabilities that are measured at fair value include cash equivalents, available-for-sale securities, derivative instruments, assets held in a rabbi trust and a deferred compensation obligation. The Company s cash equivalents consist of short-term U.S. government backed securities. The Company s available-for-sale securities consist of ordinary shares of Torotrak plc (Torotrak) associated with a license and exclusivity agreement with Torotrak. Torotrak s listed shares are traded on the London Stock Exchange under the ticker symbol TRK. The Company s derivative instruments consist of interest rate swaps. The Company s assets held in the rabbi trust consist principally of publicly available mutual funds and target date retirement funds. The Company s deferred compensation obligation is directly related to the fair value of assets held in the rabbi trust.

The Company s valuation techniques used to calculate the fair value of cash and cash equivalents, available-for-sale securities, assets held in the rabbi trust and the deferred compensation obligation represent a market approach in active markets for identical assets that qualify as Level 1 in the fair value hierarchy. The Company s valuation techniques used to calculate the fair value of derivative instruments represent a market approach with observable inputs that qualify as Level 2 in the fair value hierarchy.

The Company uses valuations from the issuing financial institution for the fair value measurement of interest rate derivatives. The Company corroborates the valuation through the use of third-party valuation services using a standard replacement valuation model. The floating-to-fixed interest rate swaps are based on the London Interbank Offered Rate (LIBOR) which is observable at commonly quoted intervals. The fair values are included in other current and non-current assets and liabilities in the Condensed Consolidated Balance Sheets. The Company has not qualified for hedge accounting treatment for the interest rate swaps and, as a result, fair value adjustments are charged directly to Interest expense, net in the Condensed Consolidated Statements of Comprehensive Income.

The following table summarizes the fair value of the Company s financial assets and (liabilities) as of September 30, 2017 and December 31, 2016 (dollars in millions):

	Fair Value Measurements Using					
	Quoted Prices in Active Markets for Identical Assets (Level 1)		**Significant Other Observable Inputs (Level 2)**		**TOTAL**	
	September 30, 2017	**December 31, 2016**	**September 30, 2017**	**December 31, 2016**	**September 30, 2017**	**December 31, 2016**
Rabbi trust assets	**$ 8**	$ 5	**$**	$	**$ 8**	$ 5
Deferred compensation obligation	**(8)**	(5)			**(8)**	(5)
Cash equivalents		81				81
Available-for-sale securities		2				2
Derivative liabilities, net			**(19)**	(29)	**(19)**	(29)
Total	**$**	$ 83	**$ (19)**	$ (29)	**$ (19)**	$ 54

NOTE F. DEBT

Long-term debt and maturities are as follows (dollars in millions):

	September 30, 2017	December 31, 2016
Long-term debt:		
Senior Secured Credit Facility Term B-3 Loan, variable, due 2022	**$ 1,179**	$ 1,188
Senior Notes, fixed 5.0%, due 2024	**1,000**	1,000
Senior Notes, fixed 4.75%, due 2027	**400**	
Total long-term debt	**$ 2,579**	$ 2,188
Less: current maturities of long-term debt	**12**	12
deferred financing costs, net	**31**	29
Total long-term debt, net	**$ 2,536**	$ 2,147

As of September 30, 2017, the Company had $2,579 million of indebtedness associated with Allison Transmission, Inc. s (ATI), the Company s wholly-owned subsidiary, 5.0% Senior Notes due September 2024 (5.0% Senior Notes), ATI s 4.75% Senior Notes due October 2027 (4.75% Senior Notes) and ATI s Senior Secured Credit Facility (Senior Secured Credit Facility), which consists of the Senior Secured Credit Facility Term B-3 Loan due 2022 (Term B-3 Loan) and the Senior Secured Credit Facility revolving credit facility due 2021 (Revolving Credit Facility).

The fair value of the Company s long-term debt obligations as of September 30, 2017 was $2,623 million. The fair value is based on quoted Level 2 market prices of the Company s debt as of September 30, 2017. It is not expected that the Company would be able to repurchase a significant amount of its debt at these levels. The difference between the fair value and carrying value of the long-term debt is driven primarily by trends in the financial markets.

Senior Secured Credit Facility

In March 2017, ATI entered into an amendment with the term loan lenders under its Senior Secured Credit Facility to lower the applicable margins on the Term B-3 Loan by 0.5%. The amendment also eliminated the minimum LIBOR floor and reduced the minimum floor applicable to the base rate from 1.75% to 1.00% on the Term B-3 Loan. The March 2017 amendment was treated as a modification to the Senior Secured Credit Facility under GAAP, and thus the Company recorded $1 million as new deferred financing fees.

In September 2017, ATI entered into a joinder agreement with the lenders under its Senior Secured Credit Facility to increase the available commitments under the Revolving Credit Facility from $450 million to $550 million. The joinder agreement was treated as a modification to the Revolving Credit Facility under GAAP.

The Senior Secured Credit Facility is collateralized by a lien on substantially all assets of the Company including all of ATI s capital stock and all of the capital stock or other equity interest held by the Company, ATI and each of the Company s existing and future U.S. subsidiary guarantors (subject to certain limitations for equity interests of foreign subsidiaries and other exceptions set forth in the terms of the Senior Secured Credit Facility). Interest on the Term B-3 Loan, as of September 30, 2017, is either (a) 2.00% over the LIBOR or (b) 1.00% over the greater of the prime lending rate as quoted by the administrative agent and the federal funds effective rate published by the Federal Reserve Bank of New York plus 0.5%, provided that neither is below 1.00%. As of September 30, 2017, the Company elected to pay the lowest all-in rate of LIBOR plus the applicable margin, or 3.24%, on the Term B-3 Loan. The

Senior Secured Credit Facility requires minimum quarterly principal payments on the Term B-3 Loan as well as prepayments from certain net cash proceeds of non-ordinary course asset sales and casualty and condemnation events and from a percentage of excess cash flow, if applicable. The minimum required quarterly principal payment on the Term B-3 Loan through its maturity date of September 2022 is $3 million. As of September 30, 2017, there had been no payments required for certain net cash proceeds of non-ordinary course asset sales and casualty and condemnation events. The remaining principal balance is due upon maturity.

The Senior Secured Credit Facility also provides a Revolving Credit Facility, net of an allowance for up to $75 million in outstanding letters of credit commitments. Throughout the nine months ended September 30, 2017, the Company made periodic withdrawals and payments on the Revolving Credit Facility as part of its debt management plans. The maximum amount outstanding at any time during the nine months ended September 30, 2017 on the Revolving Credit Facility was $300 million. As of September 30, 2017, the Company had $533 million available under the Revolving Credit Facility, net of $17 million in letters of credit. Revolving credit borrowings bear interest at a variable base rate plus an applicable margin based on the Company s total leverage ratio. Interest on the Revolving Credit Facility is either (a) 1.75% over the LIBOR or (b) 0.75% over the greater of the prime lending rate in effect on such day and the federal funds effective rate published by the Federal Reserve Bank of New York plus 0.5%, provided that neither

is below 1.75%. In addition, there is an annual commitment fee, based on the Company s total leverage ratio, on the average unused revolving credit borrowings available under the Revolving Credit Facility. Revolving credit borrowings are payable at the option of the Company throughout the term of the Senior Secured Credit Facility with the balance due in September 2021.

The Senior Secured Credit Facility requires the Company to maintain a specified maximum total senior secured leverage ratio of 5.50x when revolving loan commitments remain outstanding on the Revolving Credit Facility at the end of a fiscal quarter. As of September 30, 2017, the Company had no revolving loans outstanding; however the Company would have been in compliance with the maximum total senior secured leverage ratio, achieving a 1.19x ratio. Additionally, within the terms of the Senior Secured Credit Facility, a senior secured leverage ratio at or below 4.00x results in the elimination of excess cash flow payments on the Senior Secured Credit Facility for the applicable year. The Senior Secured Credit Facility also provides certain financial incentives based on our total leverage ratio. A total leverage ratio at or below 4.00x results in a 25 basis point reduction to the applicable margin on the Revolving Credit Facility, and a total leverage ratio at or below 3.50x results in a 12.5 basis point reduction to the Revolving Credit Facility commitment fee and an additional 25 basis point reduction to the applicable margin on the Revolving Credit Facility. These reductions would remain in effect as long as the Company achieves a total leverage ratio at or below the related threshold. As of September 30, 2017, the total leverage ratio was 2.90x.

In addition, the Senior Secured Credit Facility, among other things, includes customary restrictions (subject to certain exceptions) on the Company s ability to incur certain indebtedness, grant certain liens, make certain investments, declare or pay certain dividends, or repurchase shares of the Company s common stock. As of September 30, 2017, the Company is in compliance with all covenants under the Senior Secured Credit Facility.

5.0% Senior Notes

The 5.0% Senior Notes are unsecured and are guaranteed by each of ATI s domestic subsidiaries that is a borrower under or guarantees the Senior Secured Credit Facility and are unconditionally guaranteed, jointly and severally, by any of ATI s future domestic subsidiaries that are borrowers under or guarantee the Senior Secured Credit Facility. None of ATI s domestic subsidiaries currently guarantee its obligations under the Senior Secured Credit Facility, and therefore none of ATI s domestic subsidiaries currently guarantee the 5.0% Senior Notes. The indenture governing the 5.0% Senior Notes contains negative covenants restricting or limiting the Company s ability to, among other things: incur or guarantee additional indebtedness, incur liens, pay dividends on, redeem or repurchase the Company s capital stock, make certain investments, permit payment or dividend restrictions on certain of the Company s subsidiaries, sell assets, engage in certain transactions with affiliates, and consolidate or merge or sell all or substantially all of the Company s assets. As of September 30, 2017, the Company is in compliance with all covenants under the indenture governing the 5.0% Senior Notes.

4.75% Senior Notes

In September 2017, ATI completed an offering of $400 million of 4.75% Senior Notes. The 4.75% Senior Notes were offered in a private placement exempt from registration under the Securities Act of 1933, as amended. The proceeds from the offering were used for general corporate purposes and to pay related transaction fees and expenses. As a result of the offering, the Company recorded approximately $5 million as deferred financing fees in the Condensed Consolidated Balance Sheets.

The 4.75% Senior Notes are unsecured and are guaranteed by each of ATI s domestic subsidiaries that is a borrower under or guarantees the Senior Secured Credit Facility and are unconditionally guaranteed, jointly and severally, by any of ATI s future domestic subsidiaries that are borrowers under or guarantee the Senior Secured Credit Facility. None of ATI s domestic subsidiaries currently guarantee its obligations under the Senior Secured Credit Facility, and therefore none of ATI s domestic subsidiaries currently guarantee the 4.75% Senior Notes. The indenture governing

the 4.75% Senior Notes contains negative covenants restricting or limiting the Company s ability to, among other things: incur or guarantee additional indebtedness, incur liens, pay dividends on, redeem or repurchase the Company s capital stock, make certain investments, permit payment or dividend restrictions on certain of the Company s subsidiaries, sell assets, engage in certain transactions with affiliates, and consolidate or merge or sell all or substantially all of the Company s assets. As of September 30, 2017, the Company is in compliance with all covenants under the indenture governing the 4.75% Senior Notes.

NOTE G. DERIVATIVES

The Company is exposed to certain financial risk from volatility in interest rates, foreign exchange rates and commodity prices. The risk is managed through the use of financial derivative instruments including interest rate swaps, foreign currency swaps and commodity swaps, when appropriate. The Company s current derivative instruments are used strictly as an economic hedge and not for speculative purposes. As necessary, the Company adjusts the values of the derivative instruments for counter-party or credit risk.

Interest Rate

The Company is subject to interest rate risk related to the Senior Secured Credit Facility and enters into interest rate swap contracts that are based on the LIBOR to manage a portion of this exposure. The Company has not elected hedge accounting treatment for these derivatives, and as a result, fair value adjustments are charged directly to Interest expense, net in the Condensed Consolidated Statements of Comprehensive Income.

A summary of the Company s interest rate derivatives as of September 30, 2017 and December 31, 2016 follows (dollars in millions):

	September 30, 2017		December 31, 2016	
	Notional Amount	**Fair Value**	**Notional Amount**	**Fair Value**
3.44% Interest Rate Swap L, Aug 2016 Aug 2019*	**$ 75**	**$ (2)**	$ 75	$ (4)
3.43% Interest Rate Swap M, Aug 2016 Aug 2019*	**100**	**(3)**	100	(5)
3.37% Interest Rate Swap N, Aug 2016 Aug 2019*	**75**	**(2)**	75	(3)
3.19% Interest Rate Swap O, Aug 2016 Aug 2019*	**75**	**(2)**	75	(3)
3.08% Interest Rate Swap P, Aug 2016 Aug 2019*	**75**	**(2)**	75	(3)
2.99% Interest Rate Swap Q, Aug 2016 Aug 2019*	**50**	**(1)**	50	(2)
2.98% Interest Rate Swap R, Aug 2016 Aug 2019*	**50**	**(1)**	50	(2)
2.73% Interest Rate Swap S, Aug 2016 Aug 2019*	**50**	**(1)**	50	(1)
2.74% Interest Rate Swap T, Aug 2016 Aug 2019*	**75**	**(2)**	75	(2)
2.66% Interest Rate Swap U, Aug 2016 Aug 2019*	**50**	**(1)**	50	(1)
2.60% Interest Rate Swap V, Aug 2016 Aug 2019*	**50**	**(1)**	50	(1)
2.40% Interest Rate Swap W, Aug 2016 Aug 2019*	**25**		25	(1)
2.25% Interest Rate Swap X, Aug 2016 Aug 2019*	**50**	**(1)**	50	(1)
* includes LIBOR floor of 1.00%	**$ 800**	**$ (19)**	$ 800	$ (29)

The following tabular disclosures further describe the Company s interest rate derivative instruments and their impact on the financial condition of the Company (dollars in millions):

	September 30, 2017		December 31, 2016	
	Balance Sheet Location	**Fair Value**	**Balance Sheet Location**	**Fair Value**
Derivatives not designated as hedging instruments:				
Interest rate swaps	**Other current liabilities**	**$ (10)**	Other current liabilities	$ (11)

	Other non-current liabilities	**(9)**	Other non-current liabilities	(18)
Total derivatives not designated as hedging instruments		**$ (19)**		$ (29)

The following tabular disclosure describes the location and impact on the Company s results of operations related to unrealized gain (loss) on interest rate derivatives (dollars in millions):

	Three months ended September 30,		**Nine months ended September 30,**	
	2017	**2016**	**2017**	**2016**
Location of impact on results of operations				
Interest expense, net	**$ 4**	$ 3	**$ 9**	$ (12)

NOTE H. PRODUCT WARRANTY LIABILITIES

Product warranty liability activities consist of the following (dollars in millions):

	Three months ended September 30,		Nine months ended September 30,	
	2017	**2016**	**2017**	**2016**
Beginning balance	**$ 55**	$ 70	**$ 63**	$ 78
Payments	**(8)**	(7)	**(23)**	(26)
Increase in liability (warranty issued during period)	**4**	4	**13**	12
Net adjustments to liability	**(2)**	3	**(4)**	6
Ending balance	**$ 49**	$ 70	**$ 49**	$ 70

As of September 30, 2017, the current and non-current product warranty liabilities were $22 million and $27 million, respectively. As of September 30, 2016, the current and non-current product warranty liabilities were $28 million and $42 million, respectively.

NOTE I. DEFERRED REVENUE

As of September 30, 2017, the current and non-current deferred revenue were $33 million and $75 million, respectively. As of September 30, 2016, the current and non-current deferred revenue were $24 million and $61 million, respectively.

Deferred revenue activity consists of the following (dollars in millions):

	Three months ended September 30,		Nine months ended September 30,	
	2017	**2016**	**2017**	**2016**
Beginning balance	**$ 96**	$ 84	**$ 94**	$ 79
Increases	**21**	7	**35**	23
Revenue earned	**(9)**	(6)	**(21)**	(17)
Ending balance	**$ 108**	$ 85	**$ 108**	$ 85

Deferred revenue recorded in current and non-current liabilities related to extended transmission coverage (ETC) as of September 30, 2017 were $29 million and $70 million, respectively. Deferred revenue recorded in current and non-current liabilities related to ETC as of September 30, 2016 were $24 million and $61 million, respectively.

NOTE J. OTHER CURRENT LIABILITIES

Other current liabilities consist of the following (dollars in millions):

	As of September 30, 2017		As of December 31, 2016	
Payroll and related costs	**$**	**67**	$	52
Sales allowances		**32**		24
Accrued interest payable		**28**		17
Taxes payable		**19**		10
Vendor buyback obligation		**13**		13
Derivative liabilities		**11**		11
Defense price reduction reserve		**9**		9
Other accruals		**14**		14
Total	**$**	**193**	$	150

NOTE K. EMPLOYEE BENEFIT PLANS

Components of net periodic benefit cost consist of the following (dollars in millions):

	Pension Plans				Post-retirement Benefits			
	Three months ended September 30,				Three months ended September 30,			
	2017		2016		2017		2016	
Net periodic benefit cost:								
Service cost	**$**	**3**	$	3	**$**		$	1
Interest cost		**1**		2		**2**		1
Expected return on assets		**(1)**		(2)				
Prior service cost						**(1)**		(1)
Net periodic benefit cost	**$**	**3**	$	3	**$**	**1**	$	1

	Pension Plans				Post-retirement Benefits			
	Nine months ended September 30,				Nine months ended September 30,			
	2017		2016		2017		2016	
Net periodic benefit cost:								
Service cost	**$**	**9**	$	9	**$**	**1**	$	2
Interest cost		**4**		5		**5**		5
Expected return on assets		**(5)**		(5)				
Prior service cost						**(3)**		(3)
Net periodic benefit cost	**$**	**8**	$	9	**$**	**3**	$	4

NOTE L. INCOME TAXES

For the three and nine months ended September 30, 2017, the Company recorded total tax expense of $59 million and $154 million, respectively. The effective tax rate for both the three and nine months ended September 30, 2017 was 35%. For the three and nine months ended September 30, 2016, the Company recorded total tax expense of $26 million and $93 million, respectively. The effective tax rate for the three and nine months ended September 30, 2016 was 37% and 38%, respectively. The decrease in effective tax rate for the three and nine months ended September 30, 2017 was principally driven by increased U.S. income tax deductions and discrete activity related to excess tax benefit from stock-based compensation.

The need to establish a valuation allowance against the deferred tax assets is assessed periodically based on a more-likely-than-not realization threshold, in accordance with authoritative accounting guidance. Appropriate consideration is given to all positive and negative evidence related to that realization. This assessment considers, among other matters, the nature, frequency and severity of recent losses, forecasts of future profitability, the duration of statutory carry forward periods, experience with tax attributes expiring unused, and tax planning alternatives. The weight given to these considerations depends upon the degree to which they can be objectively verified.

The Company continues to provide for a valuation allowance on certain of its foreign deferred tax assets. The Company has determined, based on the evaluation of both objective and subjective evidence available, that this valuation allowance is necessary and that it is more likely than not that the deferred tax assets are not fully realizable.

In accordance with the FASB s authoritative guidance on accounting for uncertainty in income taxes, the Company has recorded a liability for unrecognized tax benefits related to a 2010 Research & Development Credit as of September 30, 2017 and December 31, 2016. The accounting guidance prescribes a recognition threshold and measurement attributes for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. All of the Company s returns will remain subject to examination by the various taxing authorities for the duration of the applicable statute of limitations (generally three years from the later of the date of filing or the due date of the return).

NOTE M. ACCUMULATED OTHER COMPREHENSIVE LOSS

The following tables reconcile changes in Accumulated other comprehensive loss (AOCL) by component (net of tax, dollars in millions):

	Three months ended			
	Available-for-sale securities	**Defined benefit pension items**	**Foreign currency items**	**Total**
AOCL as of June 30, 2016	$ (6)	$ (21)	$ (30)	$ (57)
Other comprehensive loss before reclassifications			1	1
Amounts reclassified from AOCL		(1)		(1)
Income tax				
Net current period other comprehensive (loss) income	$	$ (1)	$ 1	$
AOCL as of September 30, 2016	$ (6)	$ (22)	$ (29)	$ (57)

AOCL as of June 30, 2017	$ (8)	$ (19)	$ (30)	$ (57)
Other comprehensive (loss) income before reclassifications	**(1)**		**6**	**5**
Amounts reclassified from AOCL		**(1)**		**(1)**
Income tax	**1**			**1**
Net current period other comprehensive (loss) income	**$**	**$ (1)**	**$ 6**	**$ 5**
AOCL as of September 30, 2017	**$ (8)**	**$ (20)**	**$ (24)**	**$ (52)**

	Nine months ended			
	Available-for-sale securities	Defined benefit pension items	Foreign currency items	Total
AOCL as of December 31, 2015	$ (6)	$ (20)	$ (33)	$ (59)
Other comprehensive loss before reclassifications			4	4
Amounts reclassified from AOCL		(3)		(3)
Income tax		1		1
Net current period other comprehensive (loss) income	$	$ (2)	$ 4	$ 2
AOCL as of September 30, 2016	$ (6)	$ (22)	$ (29)	$ (57)
AOCL as of December 31, 2016	$ (7)	$ (18)	$ (38)	$ (63)
Other comprehensive (loss) income before reclassifications	**(2)**		**14**	**12**
Amounts reclassified from AOCL		**(3)**		**(3)**
Income tax	**1**	**1**		**2**
Net current period other comprehensive (loss) income	**$ (1)**	**$ (2)**	**$ 14**	**$ 11**
AOCL as of September 30, 2017	**$ (8)**	**$ (20)**	**$ (24)**	**$ (52)**

	Amounts reclassified from AOCL		
AOCL Components	**Three months ended September 30, 2017**	**Three months ended September 30, 2016**	**Affected line item in the Condensed Consolidated Statements of Comprehensive Income**
Amortization of defined benefit pension items:			
Prior service cost	**$ 1**	$ 1	Cost of sales
Total reclassifications, before tax	**$ 1**	$ 1	Income before income taxes
Income tax			Income tax expense
Total reclassifications	**$ 1**	$ 1	Net of tax

	Amounts reclassified from AOCL		
AOCL Components	**Nine months ended**	**Nine months**	**Affected line item in the Condensed Consolidated**

	September 30, 2017	ended September 30, 2016	Statements of Comprehensive Income
Amortization of defined benefit pension items:			
Prior service cost	**$ 3**	$ 3	Cost of sales
Total reclassifications, before tax	**$ 3**	$ 3	Income before income taxes
Income tax	**(1)**	(1)	Income tax expense
Total reclassifications	**$ 2**	$ 2	Net of tax

Prior service cost is included in the computation of the Company s net periodic benefit cost. Please see NOTE K Employee Benefit Plans for additional details.

NOTE N. COMMITMENTS AND CONTINGENCIES

Environmental Matters

The Company has an agreement with the Environmental Protection Agency to perform remedial activities at the Company s Indianapolis, Indiana manufacturing facilities related to historical soil and groundwater contamination. As of September 30, 2017, the Company had a liability recorded in the amount of $13 million.

Claims, Disputes, and Litigation

The Company is party to various legal actions and administrative proceedings and subject to various claims arising in the ordinary course of business. These proceedings primarily involve commercial claims, product liability claims, personal injury claims and workers compensation claims. The Company believes that the ultimate liability, if any, in excess of amounts already provided for in the condensed consolidated financial statements or covered by insurance on the disposition of these matters will not have a material adverse effect on the financial position, results of operations or cash flows of the Company.

NOTE O. EARNINGS PER SHARE

The Company presents both basic and diluted earnings per share (EPS) amounts. Basic EPS is calculated by dividing net income by the weighted average number of common shares outstanding during the reporting period. Diluted EPS is calculated by dividing net income by the weighted average number of common shares and common equivalent shares outstanding during the reporting period that are calculated using the treasury stock method for stock-based awards. The treasury stock method assumes that the Company uses the proceeds from the exercise of awards to repurchase common stock at the average market price during the period. The assumed proceeds under the treasury stock method include the purchase price that the grantee will pay in the future, compensation cost for future service that the Company has not yet recognized and any tax benefits generated when the award generates a tax deduction. If there would be a shortfall, such an amount would be a reduction of the proceeds to the extent of the gains. The diluted weighted-average common shares outstanding exclude the anti-dilutive effect of certain stock options since such options had an exercise price in excess of the monthly average market value of our common stock. For each of the three months and nine months ended September 30, 2017, 0.2 million outstanding stock options were not included in the diluted EPS calculation because they were anti-dilutive. For each of the three months and nine months ended September 30, 2016, 0.6 million outstanding stock options were not included in the diluted EPS calculation because they were anti-dilutive.

The following table reconciles the numerators and denominators used to calculate basic EPS and diluted EPS (in millions, except per share data):

	Three months ended September 30,		**Nine months ended September 30,**	
	2017	**2016**	**2017**	**2016**
Net income	**$ 111**	$ 45	**$ 289**	$ 154
Weighted average shares of common stock outstanding	**146**	167	**152**	169
Dilutive effect stock-based awards	**1**	1	**1**	1
Diluted weighted average shares of common stock outstanding	**147**	168	**153**	170

Basic earnings per share attributable to common stockholders	**$ 0.75**	$ 0.27	**$ 1.91**	$ 0.91
Diluted earnings per share attributable to common stockholders	**$ 0.75**	$ 0.27	**$ 1.90**	$ 0.91

NOTE P. COMMON STOCK

The Company s current stock repurchase program was announced on November 14, 2016. The Board of Directors authorized the Company to repurchase up to $1,000 million of its common stock on the open market or through privately negotiated transactions through December 31, 2019. The timing and amount of stock purchases are subject to market conditions and corporate needs. This stock repurchase program may be extended, modified, suspended or discontinued at any time at the Company s discretion. During the three and nine months ended September 30, 2017, the Company repurchased approximately $239 million and $778 million, respectively, of its common stock under the repurchase program.

NOTE Q. CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Repurchase of Common Stock held by ValueAct Capital Master Fund

On February 3, 2017, the Company entered into a stock repurchase agreement with ValueAct Capital Master Fund, L.P., a related party, to repurchase 10,525,204 shares of the Company s common stock for approximately $363 million. The shares were repurchased under the stock repurchase program approved by the Board of Directors in November 2016. The purchase closed on February 8, 2017 and was funded with cash on hand and borrowings under the Revolving Credit Facility. The shares were subsequently retired.

ITEM 2. Management s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis is intended to help the reader understand our business, financial condition, results of operations, liquidity and capital resources. You should read this discussion in conjunction with our condensed consolidated interim financial statements and the related notes contained elsewhere in this Quarterly Report on Form 10-Q.

The statements in this discussion regarding industry trends, our expectations regarding our future performance, liquidity and capital resources and other non-historical statements are forward-looking statements. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to, the risks and uncertainties described in Cautionary Note Regarding Forward-Looking Statements and Part II, Item 1A Risk Factors below. Our actual results may differ materially from those contained in or implied by any forward-looking statements.

Overview

Allison Transmission Holdings, Inc. and its subsidiaries (Allison, the Company or we) design and manufacture commercial and defense fully-automatic transmissions. The business was founded in 1915 and has been headquartered in Indianapolis, Indiana since inception. Allison was an operating unit of General Motors Corporation from 1929 until 2007, when Allison once again became a stand-alone company. In March 2012, Allison began trading on the New York Stock Exchange under the symbol, ALSN .

We have approximately 2,600 employees and 13 different transmission product lines. Although approximately 78% of revenues were generated in North America in 2016, we have a global presence by serving customers in Europe, Asia, South America and Africa. We serve customers through a network of approximately 1,400 independent distributor and dealer locations worldwide.

Trends Impacting Our Business

Our net sales are driven by commercial vehicle production, which tends to be correlated to macroeconomic conditions. Our 2017 net sales reflect stronger demand for North America Off-Highway service parts, global On-Highway products and global Off-Highway products.

Third Quarter Net Sales by End Market (in millions)

End Market	Q3 2017 Net Sales	Q3 2016 Net Sales	% Variance
North America On-Highway	**$ 282**	$ 224	26%
North America Electric Hybrid-Propulsion Systems for Transit Bus	**19**	8	138%
North America Off-Highway	**17**	1	1,600%

Defense	**35**	25	40%
Outside North America On-Highway	**89**	78	14%
Outside North America Off-Highway	**14**	2	600%
Service Parts, Support Equipment and Other	**139**	96	45%
Total Net Sales	**$ 595**	$ 434	37%

North America On-Highway end market net sales were up 26% for the third quarter 2017 compared to the third quarter 2016, principally driven by higher demand for Rugged Duty Series and Highway Series models.

North America Electric Hybrid-Propulsion Systems for Transit Bus end market net sales were up $11 million for the third quarter 2017 compared to the third quarter 2016, principally driven by the timing of certain transit property orders.

North America Off-Highway end market net sales were up $16 million for the third quarter 2017 compared to the third quarter 2016, principally driven by higher demand from hydraulic fracturing applications.

Defense end market net sales were up $10 million for the third quarter 2017 compared to the third quarter 2016, principally driven by higher demand.

Outside North America On-Highway end market net sales were up 14% for the third quarter 2017 compared to the third quarter 2016, principally driven by higher demand in Asia and Europe.

Outside North America Off-Highway end market net sales were up $12 million for the third quarter 2017 compared to the third quarter 2016, principally driven by improved demand in the mining and energy sectors.

Service Parts, Support Equipment and Other end market net sales were up 45% for the third quarter 2017 compared to the third quarter 2016, principally driven by higher demand for North America Off-Highway service parts, global On-Highway service parts and global support equipment.

Key Components of our Results of Operations

Net sales

We generate our net sales primarily from the sale of transmissions, transmission parts, support equipment, defense kits, engineering services, royalties and extended transmission coverage to a wide array of original equipment manufacturers, distributors and the U.S. government. Sales are recorded net of provisions for customer allowances and other rebates. Engineering services are recorded as net sales in accordance with the terms of the contract. The associated costs are recorded in cost of sales. We also have royalty agreements with third parties that provide net sales as a result of joint efforts in developing marketable products.

Cost of sales

Our primary components of cost of sales are purchased parts, the overhead expense related to our manufacturing operations and direct labor associated with the manufacture and assembly of transmissions and parts. For the nine months ended September 30, 2017, direct material costs were approximately 70%, overhead costs were approximately 24%, and direct labor costs were approximately 6% of total cost of sales. We are subject to changes in our cost of sales caused by movements in underlying commodity prices. We seek to hedge against this risk by using commodity swap contracts and long-term supply agreements (LTSAs). See Part I, Item 3 Quantitative and Qualitative Disclosures about Market Risk Commodity Price Risk included below.

Selling, general and administrative

The principal components of our selling, general and administrative expenses are salaries and benefits for our office personnel, advertising and promotional expenses, product warranty expense, expenses relating to certain information technology systems and amortization of our intangible assets.

Engineering research and development

We incur costs in connection with research and development programs that are expected to contribute to future earnings. Such costs are expensed as incurred.

Non-GAAP Financial Measures

We use Adjusted Earnings before Interest, Taxes, Depreciation, and Amortization (EBITDA) and Adjusted EBITDA margin to measure our operating profitability. We believe that Adjusted EBITDA and Adjusted EBITDA margin provide management, investors and creditors with useful measures of the operational results of our business and increase the period-to-period comparability of our operating profitability and comparability with other companies. Adjusted EBITDA margin is also used in the calculation of management s incentive compensation program. The most directly comparable U.S. generally accepted accounting principles (GAAP) measure to Adjusted EBITDA is Net income. Adjusted EBITDA is calculated as the earnings before interest expense, income tax expense, amortization of intangible assets, depreciation of property, plant and equipment and other adjustments as defined by Allison Transmission, Inc. s (ATI) Term B-3 Loan due 2022 (Term B-3 Loan , and together with the revolving portion of ATI s senior secured credit facility (Revolving Credit Facility), defined as the Senior Secured Credit Facility). Adjusted EBITDA margin is calculated as Adjusted EBITDA divided by net sales.

We use Adjusted free cash flow to evaluate the amount of cash generated by our business that, after the capital investment needed to maintain and grow our business and certain mandatory debt service requirements, can be used for repayment of debt, stockholder distributions and strategic opportunities, including investing in our business and strengthening our balance sheet. We believe that Adjusted free cash flow enhances the understanding of the cash flows of our business for management, investors and creditors. Adjusted free cash flow is also used in the calculation of management s incentive compensation program. The most directly comparable GAAP measure to Adjusted free cash flow is Net cash provided by operating activities.

The following is a reconciliation of Net income to Adjusted EBITDA and Adjusted EBITDA margin and a reconciliation of Net cash provided by operating activities to Adjusted free cash flow:

	Three months ended September 30,		**Nine months ended September 30,**	
(unaudited, dollars in millions)	**2017**	2016	**2017**	2016
Net income (GAAP)	**$ 111**	$ 45	**$ 289**	$ 154
plus:				
Income tax expense	**59**	26	**154**	93
Interest expense, net	**26**	22	**78**	84
Amortization of intangible assets	**22**	23	**67**	69
Depreciation of property, plant and equipment	**21**	21	**60**	63
Stock-based compensation expense (a)	**2**	2	**8**	6
Dual power inverter module units extended coverage (b)	**(2)**		**(2)**	1
Unrealized loss (gain) on foreign exchange (c)	**2**	(1)	**1**	1
Technology-related investment expense (d)		1	**3**	1
Expenses related to long-term debt refinancing (e)		12		12
Unrealized gain on commodity hedge contracts (f)				(2)
Stockholder activism expenses (g)				4
Adjusted EBITDA (Non-GAAP)	**$ 241**	$ 151	**$ 658**	$ 486
Net sales (GAAP)	**$ 595**	$ 434	**$ 1,674**	$ 1,371
Adjusted EBITDA margin (Non-GAAP)	**40.5%**	34.7%	**39.3%**	35.4%

Net cash provided by operating activities (GAAP)	**$**	**215**	$	128	**$**	**492**	$	416
(Deductions) or additions to reconcile to Adjusted free cash flow:								
Additions of long-lived assets		**(20)**		(14)		**(40)**		(36)
Stockholder activism expenses (g)								4
Excess tax benefit from stock-based compensation (h)				1				1
Adjusted free cash flow (Non-GAAP)	**$**	**195**	$	115	**$**	**452**	$	385

(a) Represents employee stock compensation expense (recorded in Cost of sales, Selling, general and administrative, and Engineering research and development).

(b) Represents an adjustment (recorded in Selling, general and administrative) associated with the Dual Power Inverter Module (DPIM) extended coverage program liability. The DPIM liability will continue to be reviewed for any changes in estimates as additional claims data and field information become available.

(c) Represents losses (gains) (recorded in Other (expense) income, net) on intercompany financing transactions related to investments in plant assets for our India facility.

(d) Represents a charge (recorded in Other (expense) income, net) for investments in co-development agreements to expand our position in transmission technologies.

(e) Represents expenses related to the refinancing of ATI s, our wholly-owned subsidiary, Senior Secured Credit Facility in the third quarter of 2016.
(f) Represents unrealized gains (recorded in Other (expense) income, net) on the mark-to-market of our commodity hedge contracts.
(g) Represents expenses (recorded in Selling, general and administrative) directly associated with stockholder activism activity including the notice, and subsequent withdrawal, of director nomination and governance proposals by Ashe Capital Management, LP.
(h) Represents the amount of tax benefit (recorded in Income tax expense) related to stock-based compensation adjusted from cash flows from operating activities to cash flows from financing activities.

Results of Operations

Comparison of three months ended September 30, 2017 and 2016

The following table sets forth certain financial information for the three months ended September 30, 2017 and 2016. The following table and discussion should be read in conjunction with the information contained in our condensed consolidated financial statements and the notes thereto included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

	Three months ended September 30,			
(unaudited, dollars in millions)	**2017**	**% of net sales**	**2016**	**% of net sales**
Net sales	**$ 595**	**100%**	$ 434	100%
Cost of sales	**293**	**49**	230	53
Gross profit	**302**	**51**	204	47
Operating expenses:				
Selling, general and administrative expenses	**78**	**13**	79	18
Engineering research and development	**26**	**5**	21	5
Total operating expenses	**104**	**18**	100	23
Operating income	**198**	**33**	104	24
Interest expense, net	**(26)**	**(4)**	(22)	(5)
Expenses related to long-term debt refinancing			(12)	(3)
Other (expense) income, net	**(2)**		1	
Income before income taxes	**170**	**29**	71	16
Income tax expense	**(59)**	**(10)**	(26)	(6)
Net income	**$ 111**	**19%**	$ 45	10%

Net sales

Net sales for the quarter ended September 30, 2017 were $595 million compared to $434 million for the quarter ended September 30, 2016, an increase of 37%. The increase was principally driven by a $58 million, or 26%, increase in net sales in the North America On-Highway end market principally driven by higher demand for Rugged Duty Series and Highway Series models, a $43 million, or 45%, increase in net sales in the Service Parts, Support Equipment and Other end market principally driven by higher demand for North America Off-Highway service parts, global On-Highway service parts and global support equipment, a $16 million increase in net sales in the North America Off-Highway end market principally driven by higher demand from hydraulic fracturing applications, a $12 million increase in net sales in the Outside North America Off-Highway end market principally driven by improved demand in the mining and energy sectors, an $11 million, or 14%, increase in net sales in the Outside North America On-Highway end market principally driven by higher demand in Asia and Europe, an $11 million increase in net sales in the North America Electric Hybrid-Propulsion Systems for Transit Bus end market principally driven by the timing of certain transit property orders, and a $10 million, or 40%, increase in net sales in the Defense end market principally driven by higher demand.

Cost of sales

Cost of sales for the quarter ended September 30, 2017 was $293 million compared to $230 million for the quarter ended September 30, 2016, an increase of 27%. The increase was principally driven by increased material costs and manufacturing expenses commensurate with increased net sales and $2 million of higher incentive compensation expense.

Gross profit

Gross profit for the quarter ended September 30, 2017 was $302 million compared to $204 million for the quarter ended September 30, 2016, an increase of 48%. The increase was principally driven by $101 million related to increased net sales and $7 million of price increases on certain products, partially offset by $4 million of unfavorable material costs, $4 million of increased manufacturing expense commensurate with increased net sales and $2 million of higher incentive compensation expense. Gross profit as a percent of net sales for the quarter was higher than for the same period in 2016 principally driven by favorable sales volume and price increases on certain products, partially offset by unfavorable material costs and higher incentive compensation expense.

Selling, general and administrative

Selling, general and administrative expenses for the quarter ended September 30, 2017 were $78 million compared to $79 million for the quarter ended September 30, 2016, a decrease of 1%. The decrease was principally driven by $3 million of favorable product warranty adjustments and $3 million of favorable DPIM adjustments, partially offset by increased commercial activities spending and $2 million of higher incentive compensation expense.

Engineering research and development

Engineering expenses for the quarter ended September 30, 2017 were $26 million compared to $21 million for the quarter ended September 30, 2016, an increase of 24%. The increase was principally driven by increased product initiatives spending and $2 million of higher incentive compensation expense.

Interest expense, net

Interest expense, net for the quarter ended September 30, 2017 was $26 million compared to $22 million for the quarter ended September 30, 2016, an increase of 18%. The increase was principally driven by $12 million of higher interest expense for ATI s 5.0% Senior Notes due September 2024 (5.0% Senior Notes) that were issued in September 2016, $1 million of interest expense related to revolving loans outstanding on our Revolving Credit Facility and $1 million of higher interest expense for our interest rate derivatives that became effective in August 2016, partially offset by $10 million of lower interest expense as a result of debt repayments related to ATI s Term B-3 Loan, $1 million of favorable mark-to-market adjustments for our interest rate derivatives and $1 million of lower amortization of deferred financing fees.

Expenses related to long-term debt refinancing

In September 2016, we refinanced our Senior Secured Credit Facility, resulting in a one-time expense of $12 million for the three months ended September 30, 2016.

Other (expense) income, net

Other (expense) income, net for the quarter ended September 30, 2017 was ($2) million compared to $1 million for the quarter ended September 30, 2016. The change in Other (expense) income, net was principally driven by $2 million of 2017 losses on intercompany financing, $1 million of 2016 gains on intercompany financing and $1 million of higher foreign exchange losses, partially offset by $1 million of 2016 technology-related investment expense for investments in co-development agreements to expand our position in transmission technologies.

Income tax expense

Income tax expense for the quarter ended September 30, 2017 was $59 million resulting in an effective tax rate of 35% versus an effective tax rate of 37% for the quarter ended September 30, 2016. The decrease in the effective tax rate was principally driven by increased U.S. income tax deductions and discrete activity related to excess tax benefit from stock-based compensation.

Comparison of nine months ended September 30, 2017 and 2016

The following table sets forth certain financial information for the nine months ended September 30, 2017 and 2016. The following table and discussion should be read in conjunction with the information contained in our condensed consolidated financial statements and the notes thereto included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

	Nine months ended September 30,			
(unaudited, dollars in millions)	**2017**	**% of net sales**	**2016**	**% of net sales**
Net sales	**$ 1,674**	**100%**	$ 1,371	100%
Cost of sales	**831**	**50**	725	53
Gross profit	**843**	**50**	646	47
Operating expenses:				
Selling, general and administrative expenses	**245**	**15**	240	17
Engineering research and development	**74**	**4**	64	5
Total operating expenses	**319**	**19**	304	22
Operating income	**524**	**31**	342	25
Interest expense, net	**(78)**	**(5)**	(84)	(6)
Expenses related to long-term debt refinancing			(12)	(1)
Other (expense) income, net	**(3)**		1	
Income before income taxes	**443**	**26**	247	18
Income tax expense	**(154)**	**(9)**	(93)	(7)
Net income	**$ 289**	**17%**	$ 154	11%

Net sales

Net sales for the nine months ended September 30, 2017 were $1,674 million compared to $1,371 million for the nine months ended September 30, 2016, an increase of 22%. The increase was principally driven by a $123 million, or 46%, increase in net sales in the Service Parts, Support Equipment and Other end market principally driven by higher demand for North America service parts and global support equipment, a $91 million, or 12%, increase in net sales in the North America On-Highway end market principally driven by higher demand for Rugged Duty Series and Highway Series models, a $24 million, or 11%, increase in net sales in the Outside North America On-Highway end market principally driven by higher demand in Asia and Europe, a $22 million increase in net sales in the Outside North America Off-Highway end market principally driven by higher demand in the mining and energy sectors, a $16 million increase in net sales in the North America Off-Highway end market principally driven by higher demand from hydraulic fracturing applications, a $14 million, or 18%, increase in net sales in the Defense end market principally driven by higher demand, and a $13 million, or 32%, increase in net sales in the North America Electric Hybrid-Propulsion Systems for Transit Bus end market principally driven by the timing of certain transit property orders.

Cost of sales

Cost of sales for the nine months ended September 30, 2017 was $831 million compared to $725 million for the nine months ended September 30, 2016, an increase of 15%. The increase was principally driven by increased material costs and manufacturing expenses commensurate with increased net sales and $9 million of higher incentive compensation expense.

Gross profit

Gross profit for the nine months ended September 30, 2017 was $843 million compared to $646 million for the nine months ended September 30, 2016, an increase of 30%. The increase was principally driven by $184 million related to increased net sales and $29 million of price increases on certain products, partially offset by $9 million of higher incentive compensation expense, $5 million of unfavorable material costs, and $2 million of higher manufacturing expense commensurate with increased net sales. Gross profit as a percent of net sales for the nine months ended September 30, 2017 was higher than for the same period in 2016 principally driven by increased sales volume and price increases on certain products, partially offset by higher incentive compensation expense and unfavorable material costs.

Selling, general and administrative

Selling, general and administrative expenses for the nine months ended September 30, 2017 were $245 million compared to $240 million for the nine months ended September 30, 2016, an increase of 2%. The increase was principally driven by $13 million of higher incentive compensation expense, $2 million of higher stock-based compensation expense and increased commercial activities spending, partially offset by $7 million of favorable product warranty adjustments, $4 million of stockholder activism expenses in 2016 that did not recur in 2017 and $4 million of favorable DPIM adjustments.

Engineering research and development

Engineering expenses for the nine months ended September 30, 2017 were $74 million compared to $64 million for the nine months ended September 30, 2016, an increase of 16%. The increase was principally driven by $5 million of higher incentive compensation expense and increased product initiatives spending.

Interest expense, net

Interest expense, net for the nine months ended September 30, 2017 was $78 million compared to $84 million for the nine months ended September 30, 2016, a decrease of 7%. The decrease was principally driven by $35 million of lower interest expense as a result of debt repayments related to ATI s Term B-3 Loan, $21 million of favorable mark-to-market adjustments for our interest rate derivatives and $2 million of lower deferred financing fees, partially offset by $37 million of interest expense for ATI s 5.0% Senior Notes that were issued in September 2016, $9 million of higher interest expense for our interest rate derivatives that became effective in August 2016 and $4 million of interest expense related to revolving loans outstanding on our Revolving Credit Facility.

Expenses related to long-term debt refinancing

In September 2016, we refinanced our Senior Secured Credit Facility, resulting in a one-time expense of $12 million for the nine months ended September 30, 2016.

Other (expense) income, net

Other (expense) income, net for the nine months ended September 30, 2017 was ($3) million compared to $1 million for the nine months ended September 30, 2016. The change in Other (expense) income, net was principally driven by $2 million of higher technology-related investment expense for investments in co-development agreements to expand our position in transmission technologies, $1 million of higher foreign exchange losses and $1 million of higher losses on intercompany financing.

Income tax expense

Income tax expense for the nine months ended September 30, 2017 was $154 million resulting in an effective tax rate of 35% versus an effective tax rate of 38% for the nine months ended September 30, 2016. The decrease in the effective tax rate was principally driven by increased U.S. income tax deductions and discrete activity related to excess tax benefit from stock-based compensation.

Liquidity and Capital Resources

We generate cash primarily from our operating activities to fund our operating, investing and financing activities. Our principal uses of cash are operating expenses, capital expenditures, debt service, stock repurchases, dividends on common stock and working capital needs. We had total available cash and cash equivalents of $210 million and $205 million as of September 30, 2017 and December 31, 2016, respectively. Of the available cash and cash equivalents, approximately $210 million and $124 million were deposited in operating accounts as of September 30, 2017 and December 31, 2016, respectively, while approximately $81 million were invested in U.S. government backed securities as of December 31, 2016.

As of September 30, 2017, the total of cash and cash equivalents held by foreign subsidiaries was $71 million, the majority of which was located in Europe and China. The geographic location of our cash aligns with our business growth strategy. We manage our worldwide cash requirements considering available funds among the subsidiaries through which we conduct our business and the cost effectiveness with which those funds can be accessed. As a result, we do not currently anticipate any local liquidity restrictions to preclude us from funding our targeted expectations or operating needs with local resources.

If we distribute our foreign cash balance to the U.S. or to other foreign subsidiaries, we could be required to accrue and pay U.S. taxes. For example, we would be required to accrue and pay additional U.S. taxes if we repatriate earnings from certain foreign subsidiaries whose earnings we have asserted are permanently reinvested outside of the U.S. Foreign earnings for which we assert permanent reinvestment outside the U.S. consist primarily of earnings of our Europe and China subsidiaries. We currently do not foresee a need to repatriate any earnings from these subsidiaries for which we have asserted permanent reinvestment.

Our liquidity requirements are significant, primarily due to our debt service requirements. As of September 30, 2017, we had $1,179 million of indebtedness associated with ATI s Term B-3 Loan, $1,000 million of indebtedness associated with ATI s 5.0% Senior Notes and $400 million of indebtedness associated with ATI s 4.75% Senior Notes due October 2027 (4.75% Senior Notes). The minimum required quarterly principal payment on ATI s Term B-3 Loan through its maturity date of September 2022 is $3 million. There are no required quarterly principal payments on ATI s 5.0% Senior Notes and 4.75% Senior Notes.

Our ability to make payments on and to refinance our indebtedness and to fund planned capital expenditures will depend on our ability to generate cash in the future. This is subject to general economic, financial, competitive, legislative, regulatory and other factors that may be beyond our control. We made principal payments of $293 million and $424 million on the Senior Secured Credit Facility during the three and nine months ended September 30, 2017, respectively. We made principal payments of $1,200 million and $1,212 million on the Senior Secured Credit Facility during the three months and nine months ended September 30, 2016, respectively.

The Senior Secured Credit Facility provides for a $550 million Revolving Credit Facility, net of an allowance for up to $75 million in outstanding letters of credit commitments. Throughout the nine months ended September 30, 2017, we made periodic withdrawals and payments on the Revolving Credit Facility as part of our debt management plans. The maximum amount outstanding at any time during the nine months ended September 30, 2017 on the Revolving Credit Facility was $300 million. As of September 30, 2017, we had $533 million available under the Revolving Credit Facility, net of $17 million in letters of credit. As of September 30, 2017, we had no outstanding revolving loans outstanding. If we have revolving loan commitments outstanding on the Revolving Credit Facility at the end of a fiscal quarter, the Senior Secured Credit Facility requires us to maintain a specified maximum total senior secured leverage ratio of 5.50x. Additionally, within the terms of the Senior Secured Credit Facility, a senior secured leverage ratio at or below 4.00x results in the elimination of excess cash flow payments on the Senior Secured Credit Facility for the applicable year. As of September 30, 2017, our senior secured leverage ratio was 1.19x. The Senior Secured Credit Facility also provides certain financial incentives based on our total leverage ratio. A total leverage ratio at or

below 4.00x results in a 25 basis point reduction to the applicable margin on our Revolving Credit Facility, and a total leverage ratio at or below 3.50x results in a 12.5 basis point reduction to the Revolving Credit Facility commitment fee and an additional 25 basis point reduction to the applicable margin on our Revolving Credit Facility. These reductions would remain in effect as long as we achieve a total leverage ratio at or below the related threshold. As of September 30, 2017, our total leverage ratio was 2.90x.

In addition, the Senior Secured Credit Facility includes, among other things, customary restrictions (subject to certain exceptions) on our ability to incur certain indebtedness, grant certain liens, make certain investments, declare or pay certain dividends, or repurchase shares of our common stock. The indentures governing the 5.0% Senior Notes and 4.75% Senior Notes contain negative covenants restricting or limiting our ability to, among other things, incur or guarantee additional indebtedness, incur liens, pay dividends on, redeem or repurchase our capital stock, make certain investments, permit payment or dividend restrictions on certain of our subsidiaries, sell assets, engage in certain transactions with affiliates, and consolidate or merge or sell all or substantially all of our assets. As of September 30, 2017, we are in compliance with all covenants under the Senior Secured Credit Facility and indentures governing the 5.0% Senior Notes and 4.75% Senior Notes.

Our credit ratings are reviewed by Moody s Investors Service (Moody s) and Fitch Ratings (Fitch). In September 2017, our credit ratings were reviewed by Moody s and Fitch. Moody s held our corporate rating at Ba2 and our 5.0% Senior Notes rating at Ba3 , upgraded our Term B-3 Loan rating to Baa3 , and assigned Ba3 to the 4.75% Senior Notes. Fitch held our corporate rating at BB , our Term B-3 Loan rating at BB+ , and our 5.0% Senior Notes rating at BB and assigned BB to the 4.75% Senior Notes.

On November 14, 2016, our Board of Directors authorized us to purchase up to $1,000 million of our common stock under a stock repurchase program. During the three and nine months ended September 30, 2017, we repurchased approximately $239 million and $778 million, respectively, of our common stock under the repurchase program.

The following table shows our sources and uses of funds for the nine months ended September 30, 2017 and 2016 (in millions):

	Nine months ended September 30,	
Statements of Cash Flows Data	**2017**	**2016**
Cash flows provided by operating activities	**$ 492**	$ 416
Cash flows used for investing activities	**$ (43)**	$ (37)
Cash flows used for financing activities	**$ (447)**	$ (466)

Generally, cash provided by operating activities has been adequate to fund our operations. Due to fluctuations in our cash flows and the growth in our operations, it may be necessary from time to time in the future to borrow under the Senior Secured Credit Facility to meet cash demands. We anticipate cash provided by operating activities, cash and cash equivalents and borrowing capacity under the Senior Secured Credit Facility will be sufficient to meet our cash requirements for the next twelve months.

Cash provided by operating activities

Operating activities for the nine months ended September 30, 2017 generated $492 million of cash compared to $416 million for the nine months ended September 30, 2016. The increase was principally driven by increased gross profit, higher accounts payable and higher deferred revenue, partially offset by higher accounts receivable, increased cash income taxes, higher inventories, increased cash interest expense and increased incentive compensation payments.

Cash used for investing activities

Investing activities for the nine months ended September 30, 2017 used $43 million of cash compared to $37 million for the nine months ended September 30, 2016. The increase was principally driven by an increase of $4 million in capital expenditures and an increase of $2 million in technology-related initiatives. The increase in capital expenditures was principally driven by spending related to investments in productivity and replacement programs and

higher product initiatives spending.

Cash used for financing activities

Financing activities for the nine months ended September 30, 2017 used $447 million of cash compared to $466 million for the nine months ended September 30, 2016. The decrease was principally driven by $603 million of increased net debt borrowings, $14 million of lower debt financing fees, $8 million of lower dividend payments and $5 million of increased proceeds from common stock issuance, partially offset by $609 million of increased repurchases of common stock.

Contingencies

We are a party to various legal actions and administrative proceedings and subject to various claims arising in the ordinary course of business, including those relating to commercial transactions, product liability, personal injury and workers compensation, safety, health, taxes, environmental and other matters. For more information, see NOTE N, Commitments and Contingencies of our condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Critical Accounting Policies and Significant Accounting Estimates

A discussion of our critical accounting policies and significant accounting estimates are described in Part II, Item 7 Management s Discussion and Analysis section in our Annual Report on Form 10-K for the year ended December 31, 2016 as filed with the Securities and Exchange Commission on February 24, 2017. The preparation of the condensed consolidated financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of some assets and liabilities and, in some instances, the reported amounts of revenues and expenses during the applicable reporting period. Actual results could differ materially from these estimates. Changes in estimates are recorded in results of operations in the period that the events or circumstances giving rise to such changes occur. Within the context of these critical accounting estimates, we are not currently aware of any reasonably likely events or circumstances that would result in different policies or estimates being reported for the nine months ended September 30, 2017.

Off-Balance Sheet Arrangements

We are not a party to any off-balance sheet arrangements.

Recently Issued Accounting Pronouncements

Refer to NOTE B, Summary of Significant Accounting Policies in Part I, Item 1, of this Quarterly Report on Form 10-Q.

Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements. The words believe, expect, anticipate, intend, estimate and other expressions that are predictions of or indicate future events and trends and that do not relate to historical matters identify forward-looking statements. You should not place undue reliance on these forward-looking statements. Although forward-looking statements reflect management s good faith beliefs, reliance should not be placed on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements. Forward-looking statements speak only as of the date the statements are made. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events, changed circumstances or otherwise. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to: risks related to our substantial indebtedness; uncertainty in the global regulatory and business environments in which we operate; our participation in markets that are competitive; the highly cyclical industries in which certain of our end users operate; the failure of markets outside North America to increase adoption of fully-automatic transmissions; the concentration of our net sales in our top five customers and the loss of any one of these; future reductions or changes in government subsidies for hybrid vehicles and other external factors impacting demand; U.S. defense spending; general economic and industry conditions; the discovery of defects in our products, resulting in delays in new model launches, recall campaigns and/or increased warranty costs and reduction in future sales or damage to our brand and reputation; our ability to prepare for, respond to and successfully achieve our

objectives relating to technological and market developments, competitive threats and changing customer needs; risks associated with our international operations; labor strikes, work stoppages or similar labor disputes, which could significantly disrupt our operations or those of our principal customers; and our intention to pay dividends and repurchase shares of our common stock.

Important factors that could cause actual results to differ materially from our expectations are disclosed in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2016 as filed with the Securities and Exchange Commission on February 24, 2017. All written and oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by the cautionary statements as well as other cautionary statements that are made from time to time in our public communications. You should evaluate all forward-looking statements made in this Quarterly Report on Form 10-Q in the context of these risks and uncertainties.

ITEM 3. Quantitative and Qualitative Disclosures About Market Risk

Our exposure to market risk consists of changes in interest rates, foreign currency rate fluctuations and movements in commodity prices.

Interest Rate Risk

We are subject to interest rate market risk in connection with a portion of our long-term debt. Our principal interest rate exposure relates to outstanding amounts under our Senior Secured Credit Facility. Our Senior Secured Credit Facility provides for variable rate borrowings of up to $1,712 million including $533 million under our Revolving Credit Facility, net of $17 million of letters of credit. A one-eighth percent increase or decrease in assumed interest rates for the Senior Secured Credit Facility, if fully drawn, as of September 30, 2017 would have an impact of approximately $1 million on interest expense. As of September 30, 2017, we had no outstanding borrowings under our Revolving Credit Facility.

From time to time, we enter into interest rate swap agreements to hedge our variable interest rate debt. Below is a list of our interest rate swaps as of September 30, 2017:

	Counterparty	Effective Date	Notional Amount (in millions)	LIBOR Fixed Rate
Interest Rate Swap L*	Barclays	Aug 2016-Aug 2019	$ 75	3.44%
Interest Rate Swap M*	JP Morgan	Aug 2016-Aug 2019	$ 100	3.43%
Interest Rate Swap N*	Bank of America	Aug 2016-Aug 2019	$ 75	3.37%
Interest Rate Swap O*	Deutsche Bank	Aug 2016-Aug 2019	$ 75	3.19%
Interest Rate Swap P*	Barclays	Aug 2016-Aug 2019	$ 75	3.08%
Interest Rate Swap Q*	Barclays	Aug 2016-Aug 2019	$ 50	2.99%
Interest Rate Swap R*	Deutsche Bank	Aug 2016-Aug 2019	$ 50	2.98%
Interest Rate Swap S*	Deutsche Bank	Aug 2016-Aug 2019	$ 50	2.73%
Interest Rate Swap T*	Bank of America	Aug 2016-Aug 2019	$ 75	2.74%
Interest Rate Swap U*	Fifth Third Bank	Aug 2016-Aug 2019	$ 50	2.66%
Interest Rate Swap V*	Fifth Third Bank	Aug 2016-Aug 2019	$ 50	2.60%
Interest Rate Swap W*	Fifth Third Bank	Aug 2016-Aug 2019	$ 25	2.40%
Interest Rate Swap X*	Huntington Bank	Aug 2016-Aug 2019	$ 50	2.25%

* includes LIBOR floor of 1.00%

We are exposed to increased interest expense if a counterparty defaults. Refer to NOTE F, Debt and NOTE G, Derivatives of the notes to our condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Exchange Rate Risk

While our net sales and costs are denominated primarily in U.S. Dollars, net sales, costs, assets and liabilities are generated in other currencies including Japanese Yen, Euro, Indian Rupee, Brazilian Real, Chinese Yuan Renminbi, Canadian Dollar and Hungarian Forint. The expansion of our business outside North America may further increase the risk that cash flows resulting from these activities may be adversely affected by changes in currency exchange rates.

Assuming current levels of foreign currency transactions, a 10% aggregate increase or decrease in the Japanese Yen, Euro, Indian Rupee and Chinese Yuan Renminbi would correspondingly change our earnings, net of tax, by an estimated $3 million per year. All other exposure to foreign currencies is considered immaterial.

Commodity Price Risk

We are subject to changes in our cost of sales caused by movements in underlying commodity prices. Approximately two-thirds of our cost of sales consists of purchased components with significant raw material content. A substantial portion of the purchased parts are made of aluminum and steel. The cost of aluminum parts include an adjustment factor on future purchases for fluctuations in aluminum prices based on accepted industry indices. In addition, a substantial amount of steel-based contracts also include an index-based component. As our costs change, we are able to pass through a portion of the changes in commodity prices to certain of our customers according to our LTSAs. We historically have not entered into long-term purchase contracts related to the purchase of aluminum and steel. We currently hold commodity swaps that are intended to hedge forecasted aluminum purchases. Based on our forecasted demand for 2017 and 2018, as of September 30, 2017, the hedge contracts cover approximately 21% and 0% of our aluminum requirements, respectively. We do not hold financial instruments for trading or speculative purposes.

Assuming current levels of commodity purchases, a 10% increase or decrease in the price of aluminum and steel would correspondingly change our earnings, net of tax, by approximately $2 million and $5 million per year, respectively. This includes the partial offset of our hedging contracts described above.

Many of our LTSAs have incorporated a cost-sharing arrangement related to potential future commodity price fluctuations. Our hedging policy is that we hedge our exposure and do not hedge any portion of the customers exposure. For purposes of the sensitivity analysis above, the impact of these cost sharing arrangements has not been included.

ITEM 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)) as of the end of the period covered by this report. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Based on the evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are a party to various legal actions in the normal course of our business, including those related to commercial transactions, product liability, personal injury and workers compensation, safety, health, taxes, environmental and other matters. See NOTE N, Commitments and Contingencies in the notes to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Item 1A. Risk Factors

There have been no material changes from our risk factors as previously reported in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2016 as filed with the Securities and Exchange Commission on February 24, 2017.

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

The following table sets forth information related to our repurchases of our common stock on a monthly basis for the three months ended September 30, 2017:

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[1]	Approximate Dollar Value of Shares that May Yet Be Purchased Under Plans[1]
July 1 July 31, 2017	1,995,937	$ 37.80	1,995,937	$ 323,609,815
August 1 August 31, 2017	1,868,672	$ 35.26	1,868,672	$ 257,716,837
September 1 September 30, 2017	2,795,216	$ 34.96	2,795,216	$ 160,005,528
Total	6,659,825	$ 35.89	6,659,825	

(1) These values reflect repurchases made under the stock repurchase program approved by the Board of Directors on November 14, 2016 authorizing $1,000 million of repurchases through December 31, 2019.

Item 6. Exhibits

(a) Exhibits

Exhibit Number	Description
4.1	Indenture, dated as of September 26, 2017, between Allison Transmission, Inc. and Wilmington Trust, National Association, as Trustee (including form of Note) (incorporated by reference to Exhibit 4.1 to the Registrant s Current Report on Form 8-K filed September 26, 2017)
10.1	Incremental Facility Joinder Agreement, dated as of September 26, 2017, supplementing the Amended and Restated Credit Agreement, dated as of September 23, 2016, among Allison Transmission Holdings, Inc., Allison Transmission, Inc., as Borrower, the several banks and other financial institutions or entities from time to time parties thereto as lenders and Citicorp North America, Inc., as Administrative Agent (incorporated by reference to Exhibit 10.1 to the Registrant s Current Report on Form 8-K filed September 26, 2017)
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.1	Certification of Periodic Report by Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith)
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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 thereunto duly authorized.

	ALLISON TRANSMISSION HOLDINGS, INC.
Date: October 31, 2017	By: /s/ Lawrence E. Dewey Name: Lawrence E. Dewey Title: Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
Date: October 31, 2017	By: /s/ David S. Graziosi Name: David S. Graziosi Title: President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)