

# Value Investing Seminar

**ROBOTTI**  
& COMPANY ADVISORS, LLC

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Nicosia, Cyprus  
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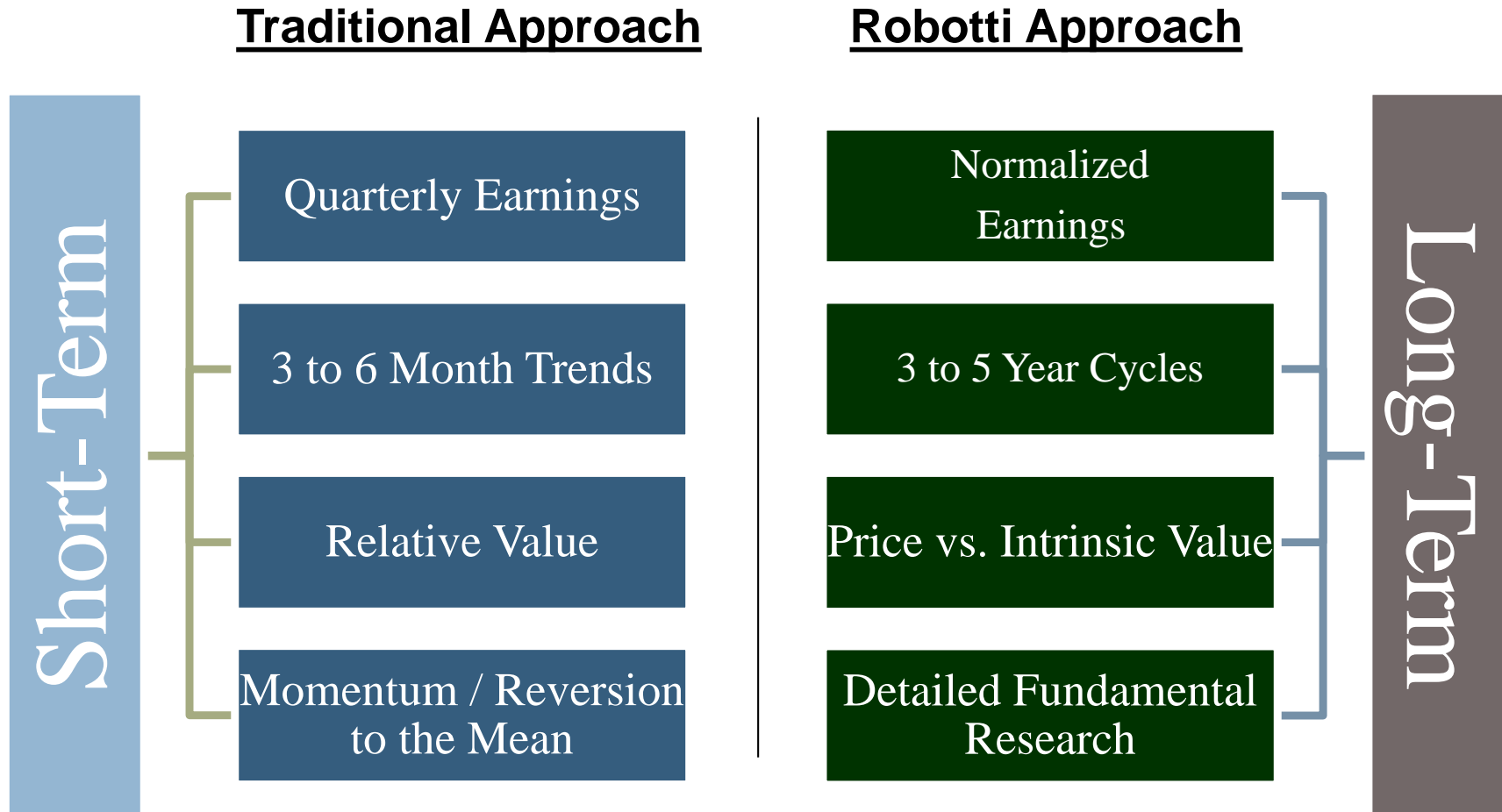
# Who Are We?

**Robotti & Company Advisors is a value-oriented investment manager founded over 30 years ago by Bob Robotti.**

- Value is the foundation of our investment process.
- We believe the market price of a security does not necessarily indicate the true economic worth.
- Our analysts research and identify equities selling at a significant discount to intrinsic value.

# What Makes Us Different?

Our investment philosophy most often leads us to contrarian ideas.



# **The Idea**

Allison Transmission Holdings, Inc.  
(NYSE: ALSN)



# Allison Transmission (ALSN)

## Investment Summary

- **Allison Transmission (NYSE: ALSN)** is the world's largest manufacturer of fully-automatic transmissions for medium- and heavy-duty commercial vehicles with 63% of global market share.
- A wide moat enables industry leading margins and high returns on tangible capital.
- A tax shield lasting until 2022 will allow Allison to continue generating substantial free cash flow in excess of GAAP earnings.
- Prudent capital allocation has led Management to pay down \$1.8 billion of net-debt since 2008, pay a dividend and begin repurchasing shares.
- Shares of Allison currently provide long-term investors with asymmetric risk/reward.

## Capitalization

<b>Price</b>	<b>\$27.62</b>
Diluted Shares	170.0
<b>Market Cap</b>	<b>4,695</b>
LT Debt	2,368
Cash	364
<b>Enterprise Value</b>	<b>6,700</b>
52 Week High	\$30.52
52 Week Low	\$20.56

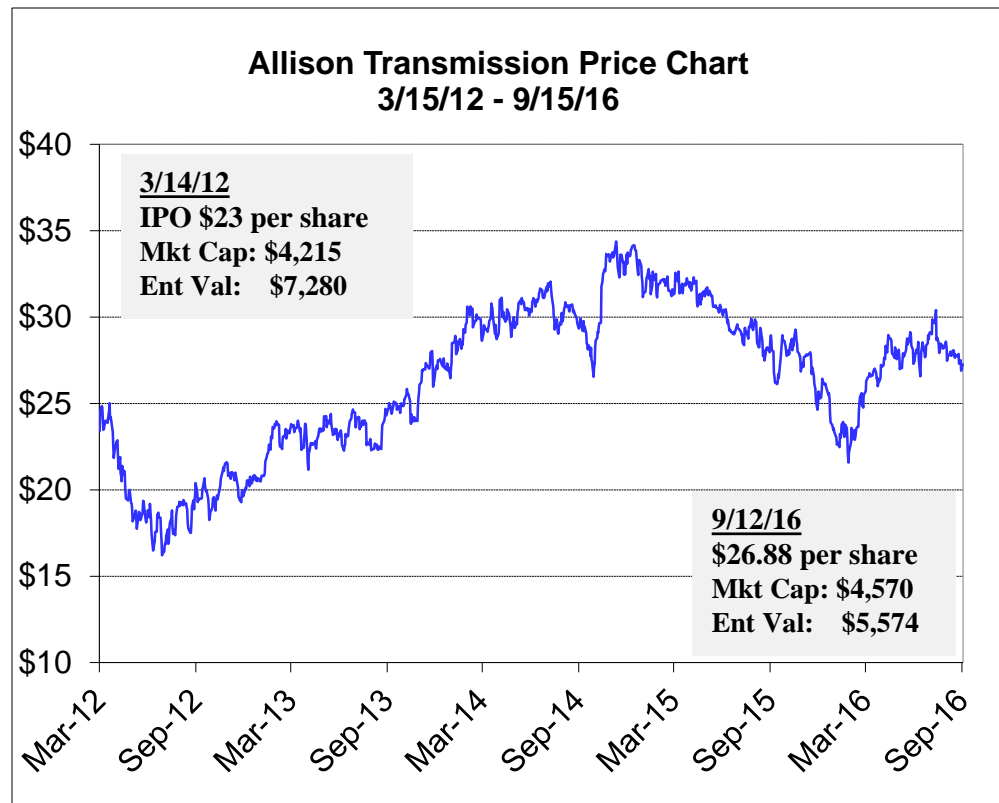
Prices as of 9/26/16

## Financial Summary

\$USD mm	FY '14	FY '15	TTM
<b>Revenue</b>	<b>2,127</b>	<b>1,986</b>	<b>1,908</b>
EV / Sales	3.2x	3.4x	3.5x
<b>EBITDA</b>	<b>745</b>	<b>720</b>	<b>680</b>
EV / EBITDA	9.0x	9.3x	9.9x
<b>Diluted EPS</b>	<b>\$1.25</b>	<b>\$1.03</b>	<b>\$0.99</b>
P / E	22.0x	26.8x	27.9x
<b>Free Cash Flow</b>	<b>540</b>	<b>530</b>	<b>564</b>
FCF Yield	11.5%	11.3%	12.0%
<b>Diluted Shares Out</b>	<b>182</b>	<b>177</b>	<b>170</b>

# Background

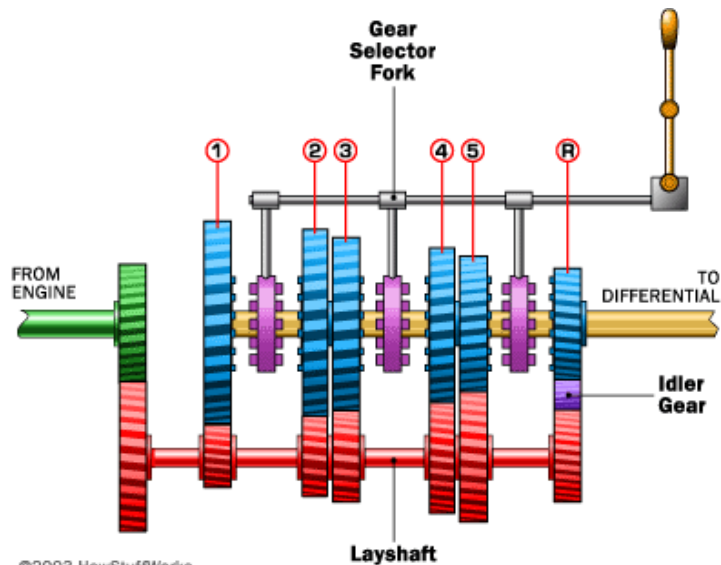
- Operations in 80 countries with regional facilities in Brazil, China, Hungary, India, Japan and The Netherlands
- 2,700 employees worldwide
- Acquired by General Motors in 1929
- Sold in 2007 for \$5.6 billion to The Carlyle Group and Onex
- IPO in March 2012 at \$23 per share implied \$4.2 billion enterprise value
- Carlyle and Onex exited in September 2014



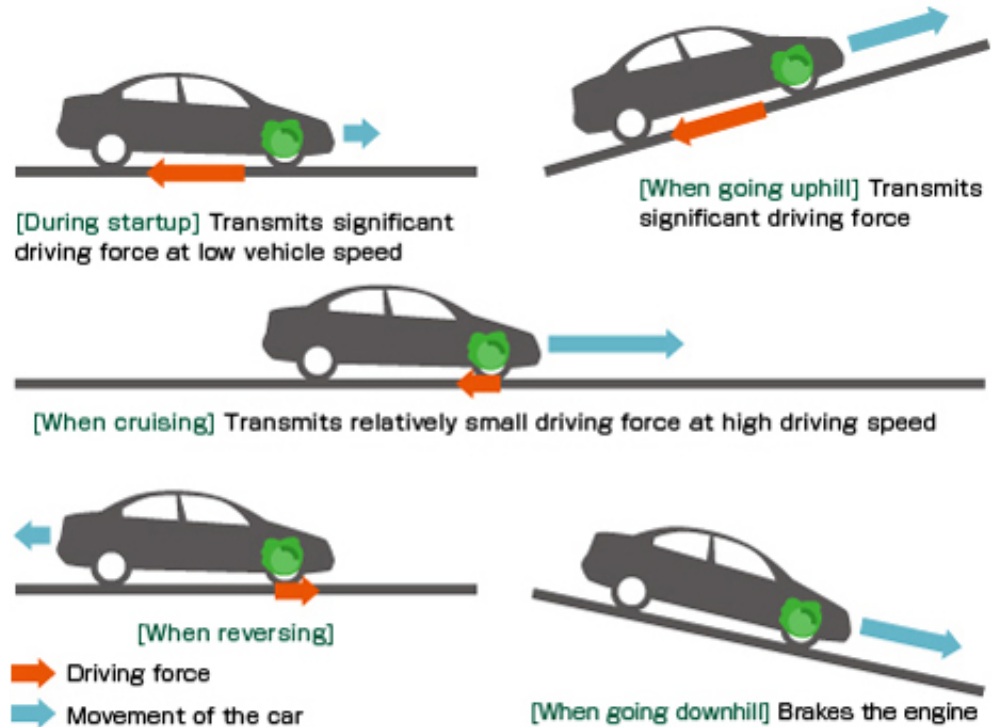
# Vehicle Transmission 101

## Types of Vehicle Transmissions

1. Manual (Standard)
2. Automatic Manual (AMT)
3. Fully-Automatic



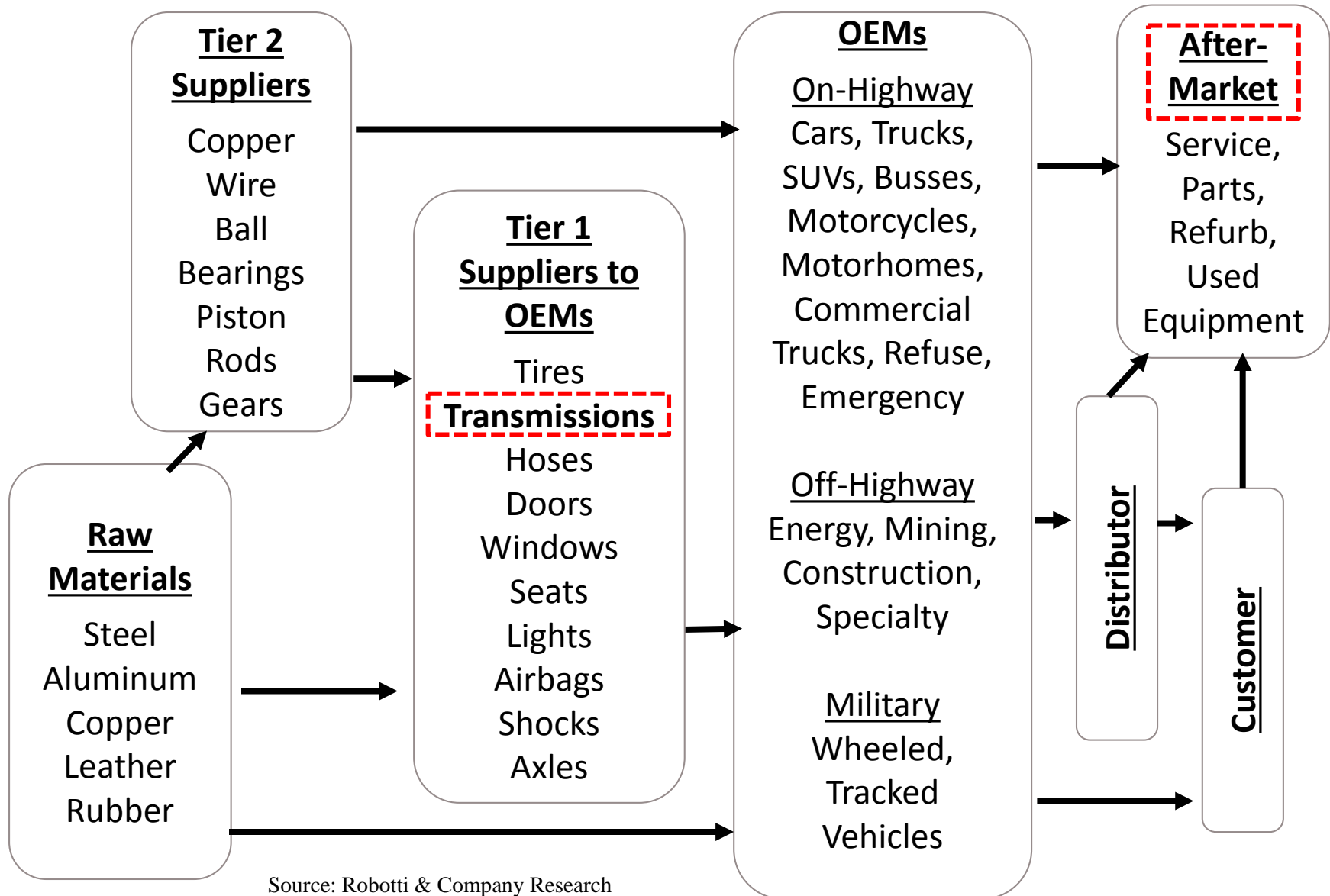
source: <http://www.howstuffworks.com>



source: <http://www.jatco.co.jp/ENGLISH/monozukuri/introduction>

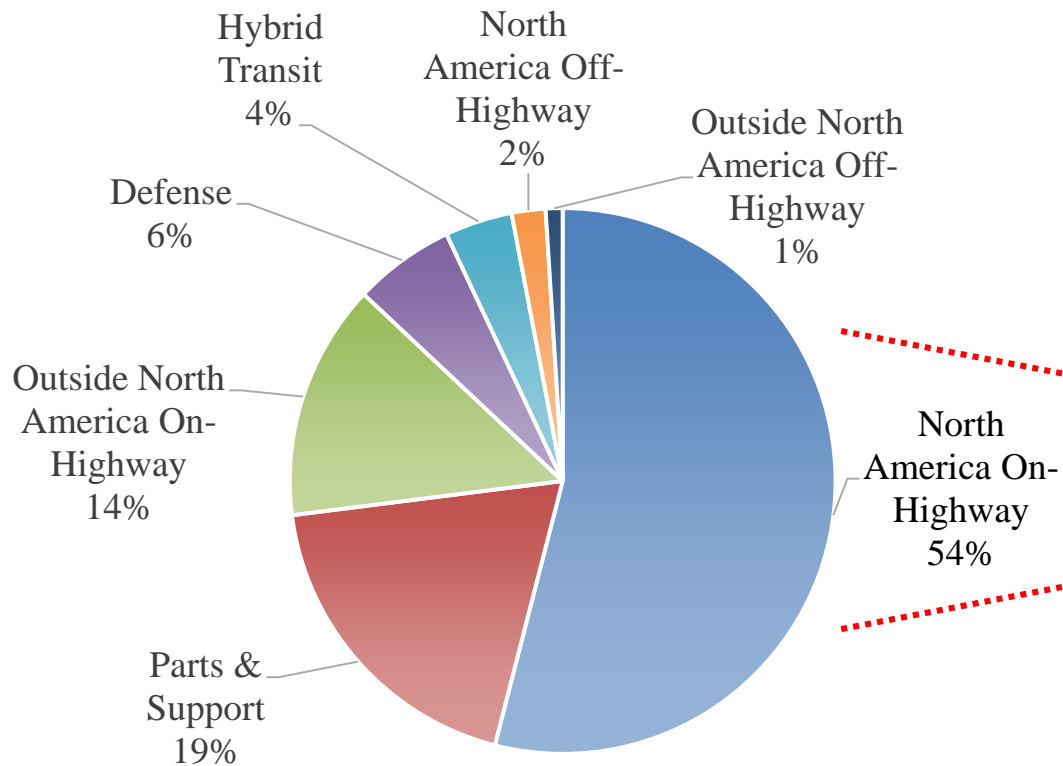
# Place in the Supply Chain

## Industry Map: Medium- to Heavy Duty Vehicles

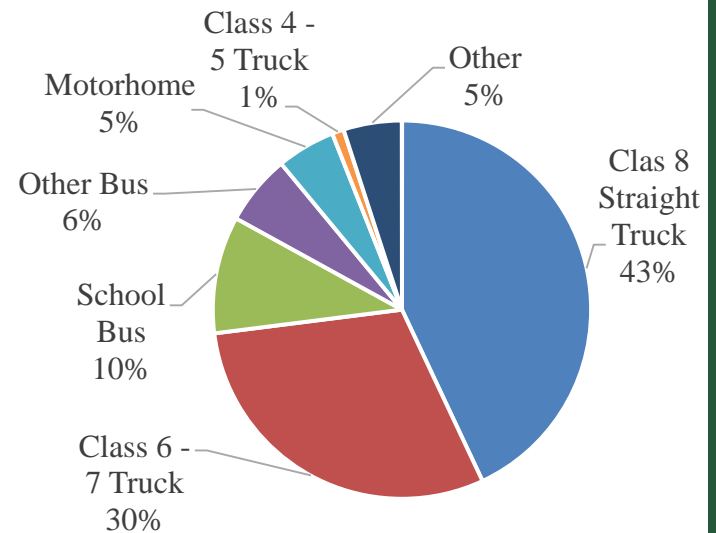


# Revenue Breakdown: Core Markets

## Sales by End Market (ttm)














































## 2015 N.A. On-Highway Sales



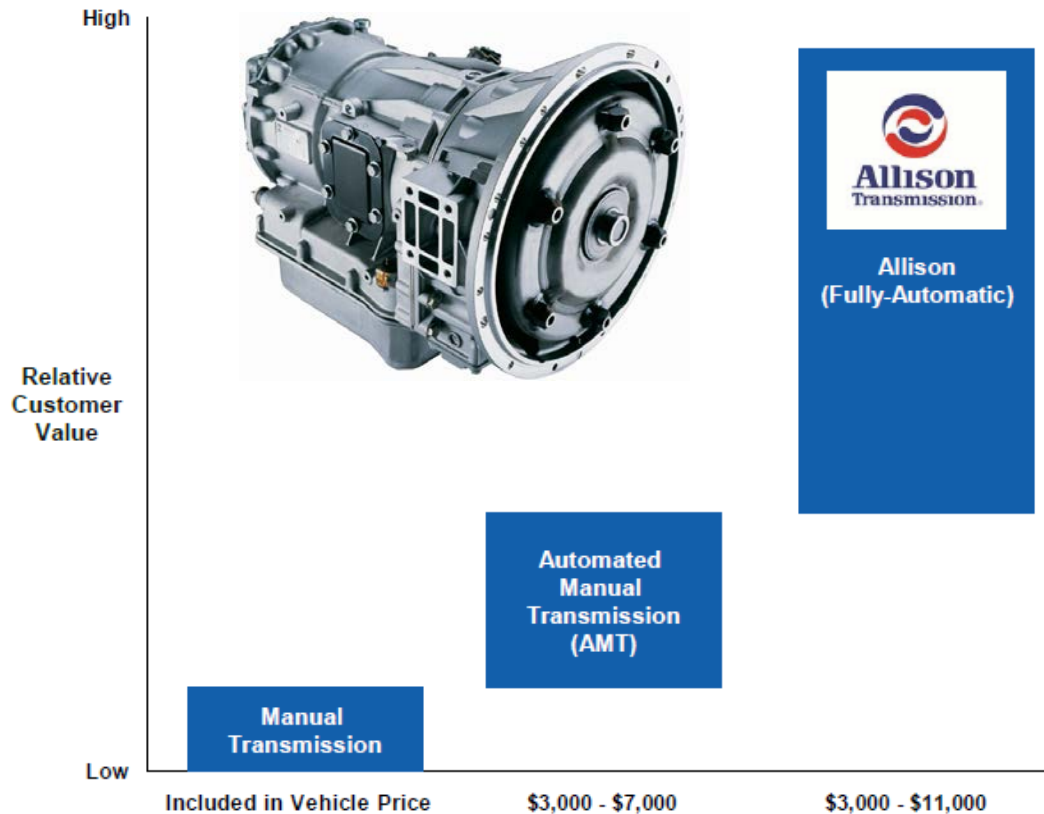
# Who Buys Automatic Transmissions?

## Over 50 Year Relationship with Industry-Leading OEMs

Core End Markets			
Service Parts, Support Equipment and Other	North America	On-Highway	         
		Hybrid Transit Bus	    
		Off-Highway	    
	Outside North America	On-Highway	          
		Off-Highway	      
	Defense	Medium- and Heavy-Tactical	    

# Value Proposition of Automatic?

End Users are Willing to Pay a Premium Price for Allison



- Increased Productivity (acceleration)
- Maintenance Savings (life cycle cost)
- Fuel Efficiency
- Driver Skillset / Wages
- Training (time, cost)
- Shift Quality
- Safety
- Residual Value

# **Consensus View**

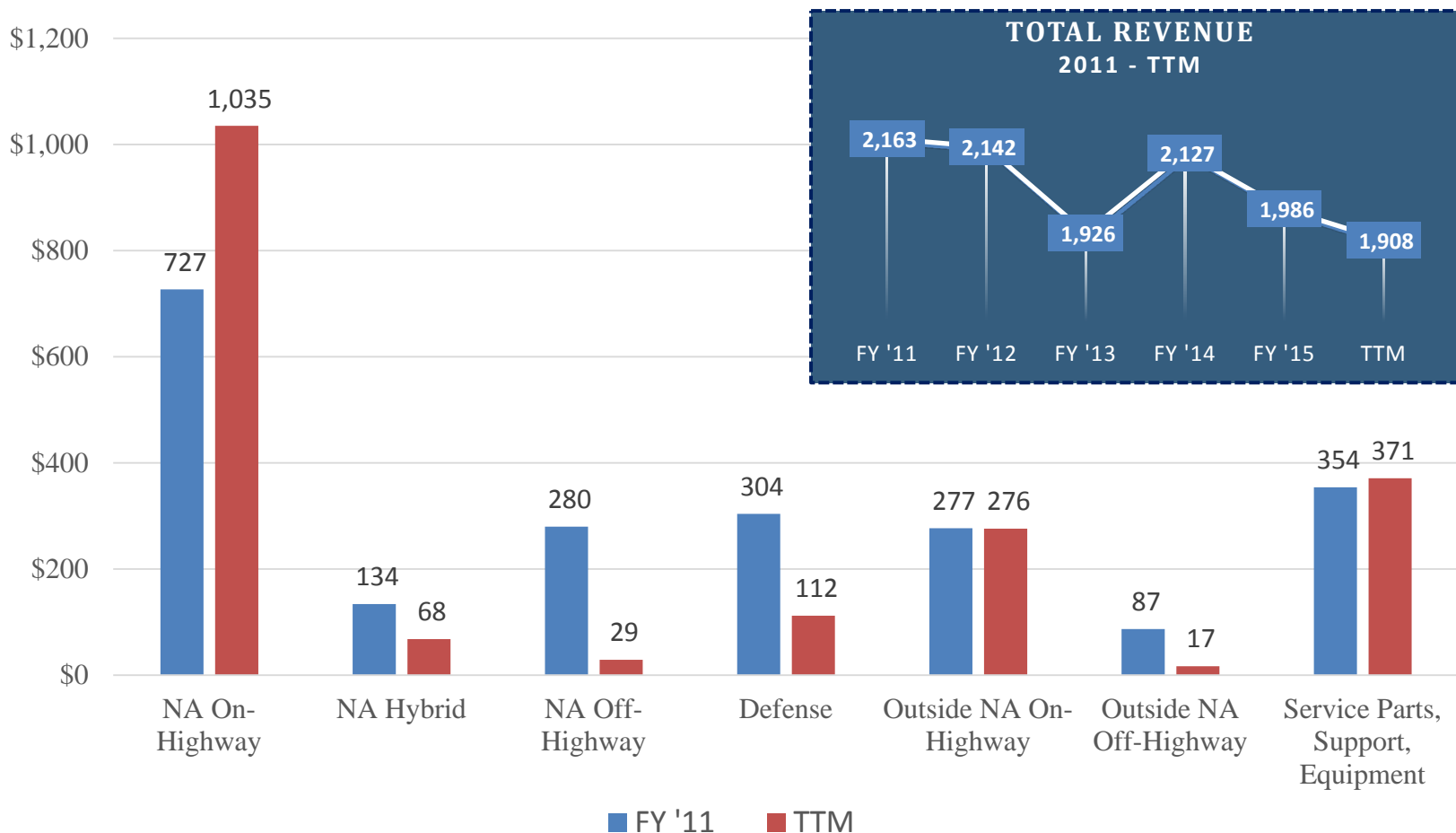
What's Priced Into the Stock Price?



# Revenue Growth Has Been Challenged

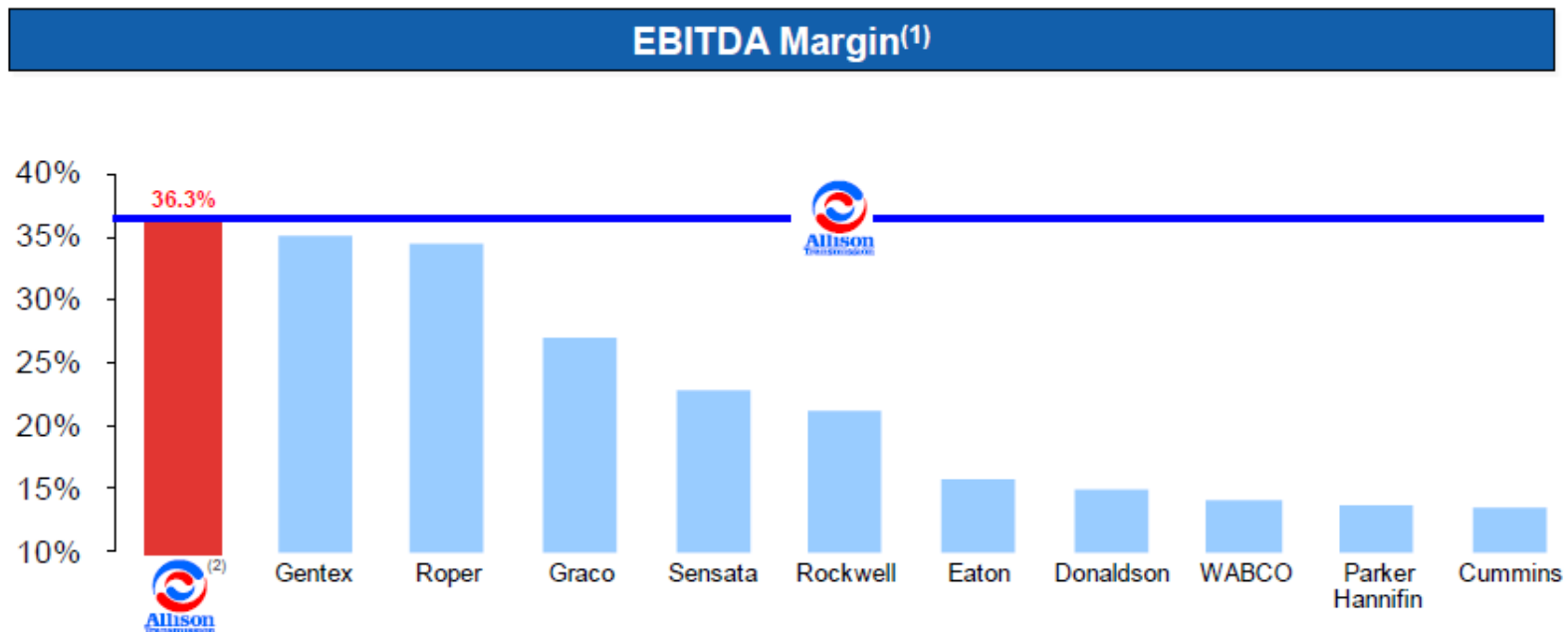
## Revenue by End Market

2011 vs TTM



# Incremental Improvement is Harder at The Top

- Widely acknowledged as having “best in class” margins
- Margin improvement from labor savings and supply chain improvements are longer-term efforts
- Without a near-term catalyst for margin improvement, “best in class” becomes “B-O-R-I-N-G”



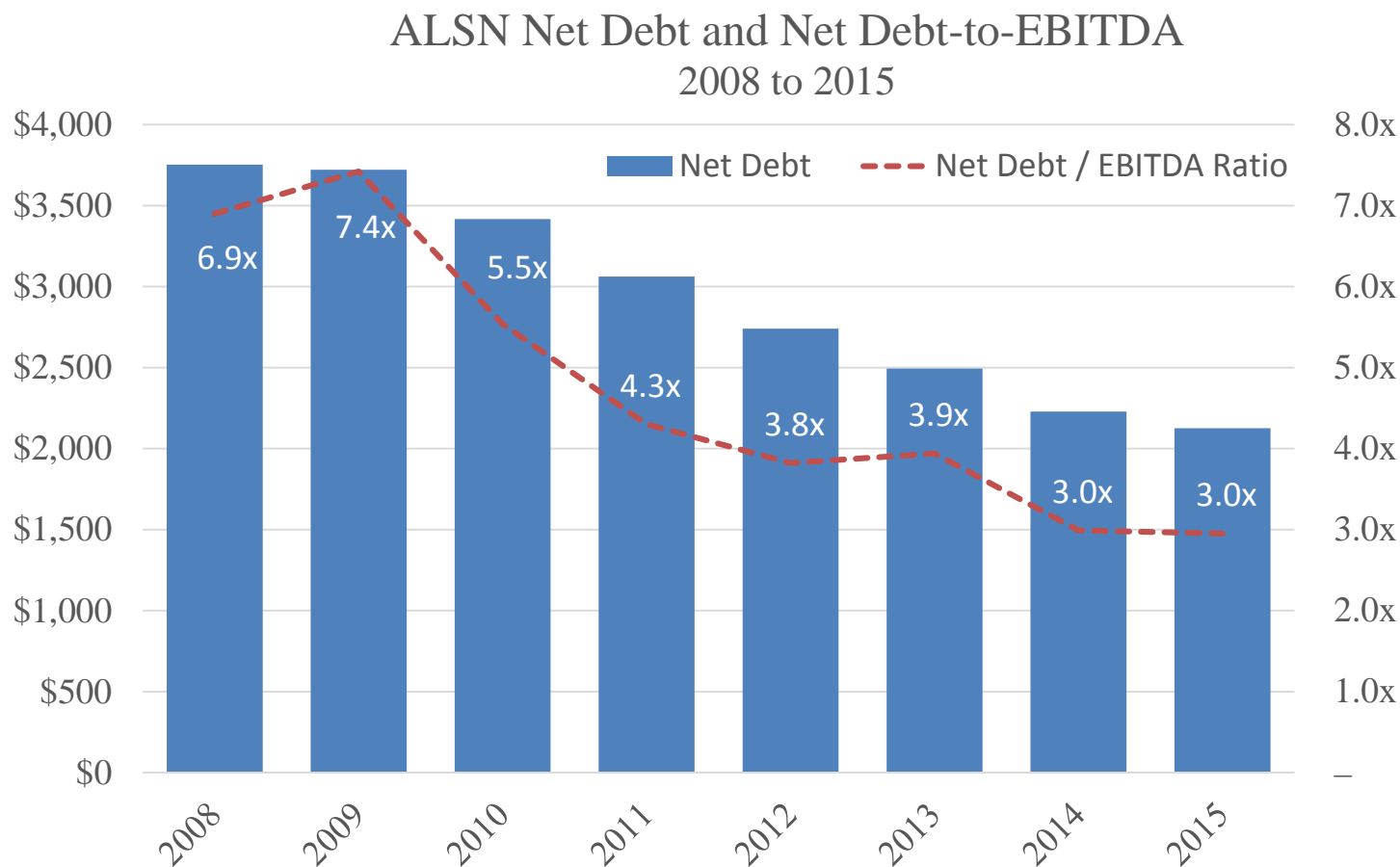
(1) Calendar Year 2015 EBITDA, which excludes non-recurring or one-time items as designated by each entity, are based on information available in the entity's most recent quarterly or annual report as of 02/26/2016. EBITDA included above may not be consistent with such entity's reported EBITDA or Adjusted EBITDA, if available.

(2) Represents Adjusted EBITDA excluding technology-related license expenses.

See appendix for comments regarding the presentation of non-GAAP financial information.

Source: ALSN Q2 2016 Investor Presentation

# Target Leverage Achieved



- Future share repurchases are given little value by analysts

# Variant View

How does our view differ from consensus?



# Evidence of a Moat

- High returns on tangible invested capital indicate the presence of high barriers to entry

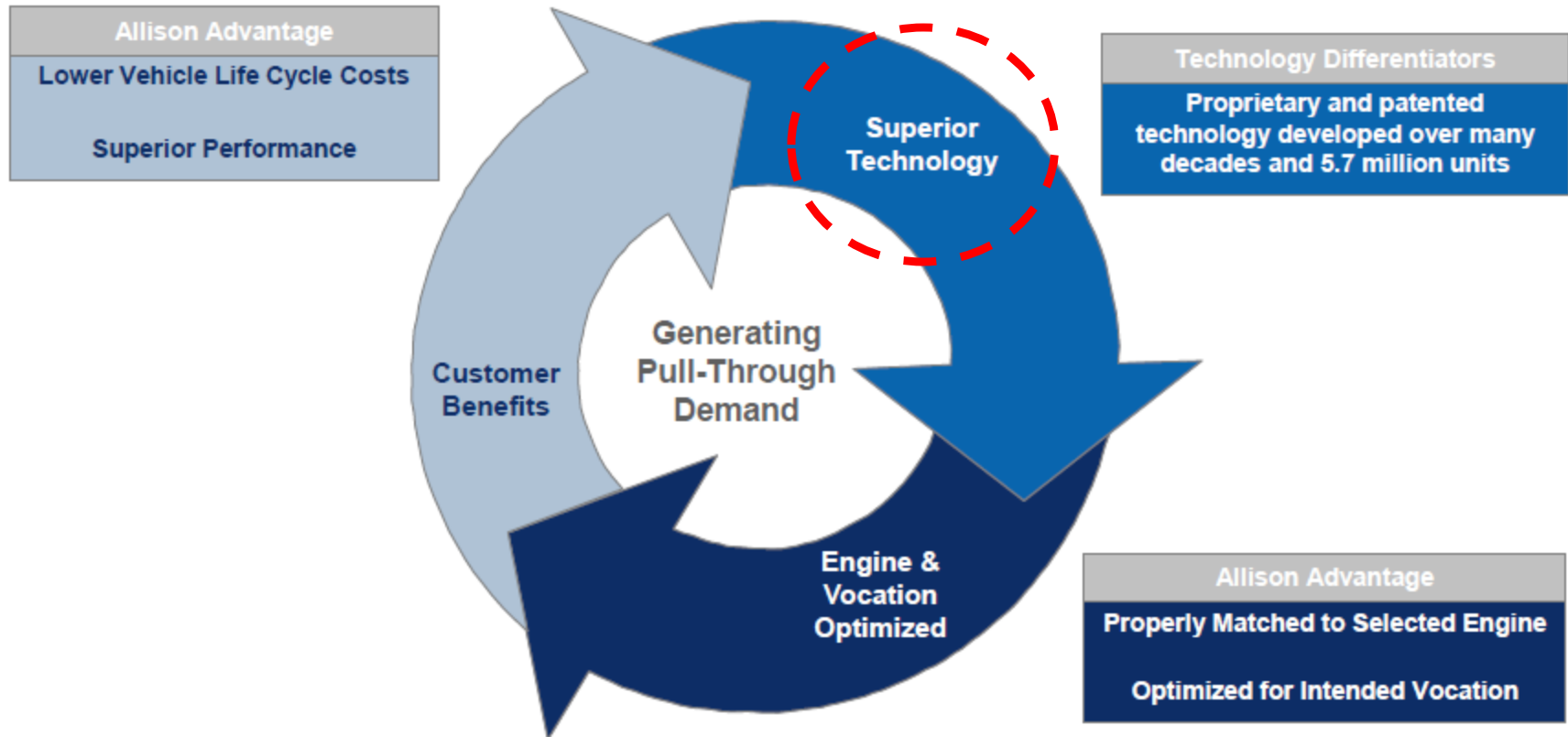
<b>After Tax Return on Tangible Capital Invested</b>								
in \$mm	FY '09	FY '10	FY '11	FY '12	FY '13	FY '14	FY '15	TTM
AfterTax EBIT (NOPAT)	na	224	228	228	248	315	250	239
Tangible Invested Capital	785	713	653	770	707	612	601	553
<b>Return on Tangible Capital</b>	<b>na</b>	<b>31%</b>	<b>35%</b>	<b>30%</b>	<b>35%</b>	<b>51%</b>	<b>42%</b>	<b>43%</b>

- Limited and stable number of competitors









<b>Competition: Transmissions for Commercial Vehicles</b>	
<b><u>AMT</u></b>	<b><u>Fully-Automatic</u></b>
Volvo (I-Shift, Mack mDrive)	Allison
Eaton (UltraShift HV)	Ford
Detroit Diesel (Daimler DT12)	Eaton Precision

# Source of a Moat

*Allison transmissions employ complex software algorithms that are individually tailored to maximize end user performance in thousands of vocational duty cycles*

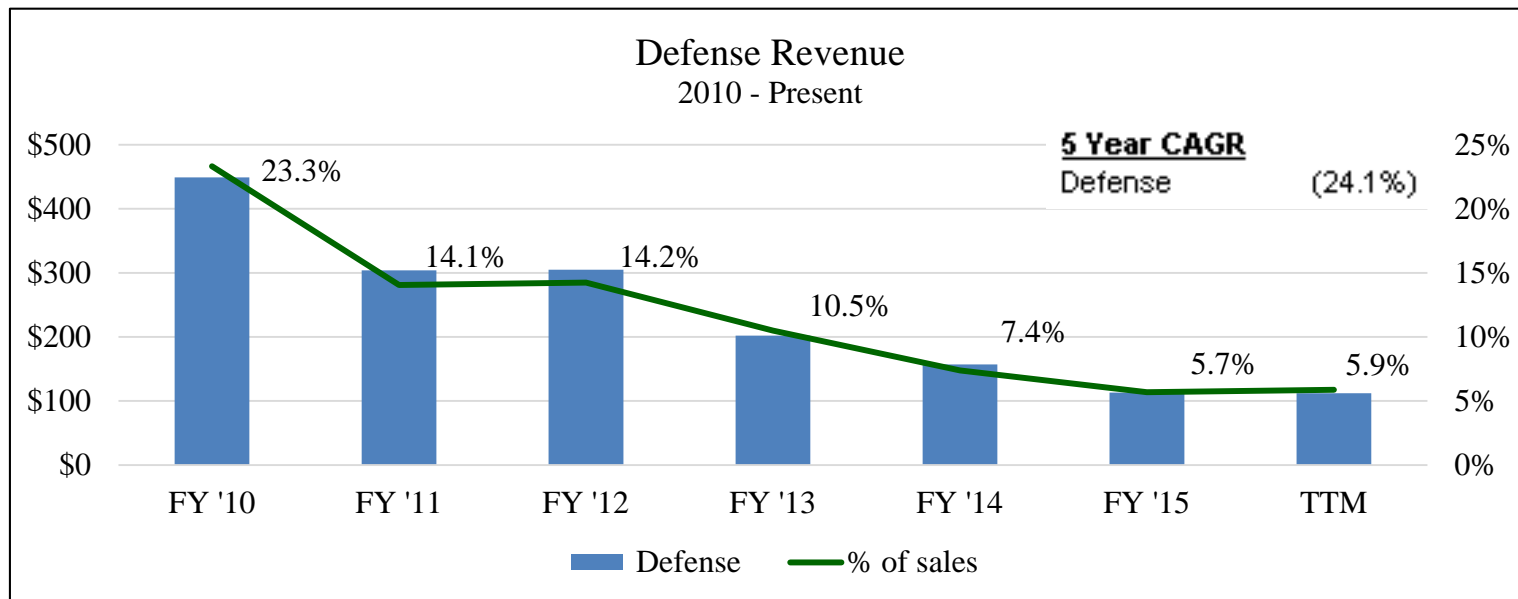
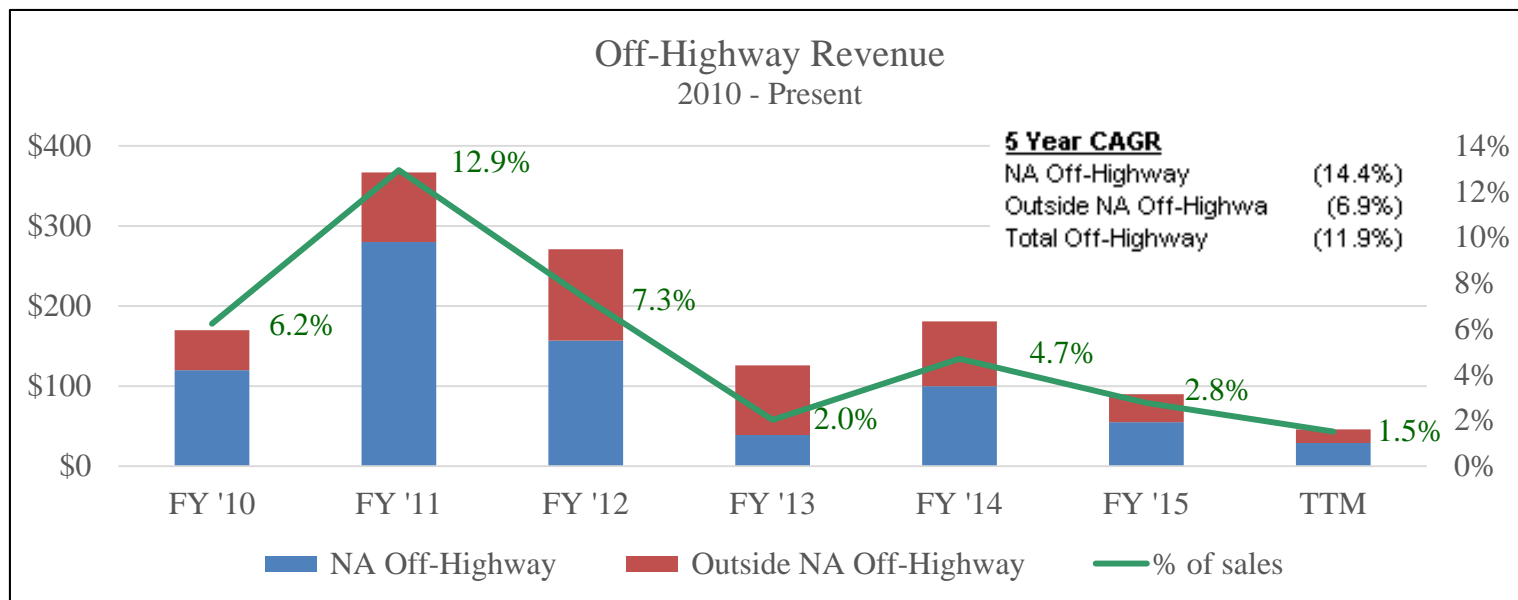


# End Markets: N.A. On-Highway

	Class 1-3	Underserved Class 4-5	Core Addressable Market				Underserved Class 8 Metro	Class 8 Tractor
			Motor Home	School Bus	Class 6-7	Class 8 Straight		
Vehicles								
Weight (000s of lbs)	< 14 lbs	14 – 19 lbs	16 – 33 lbs	16 – 33 lbs	19 – 33 lbs	33 lbs+	33 lbs+	33 lbs+
2015 Industry Units Produced	6,974,454	86,774	18,270	31,689	95,684	79,241	76,629	167,412
2015 Allison Share	0%	5%	40%	98%	77%	61%	7%	0%
% of 2015 Revenue		1%	5%	16%	30%	43%	5%	0%

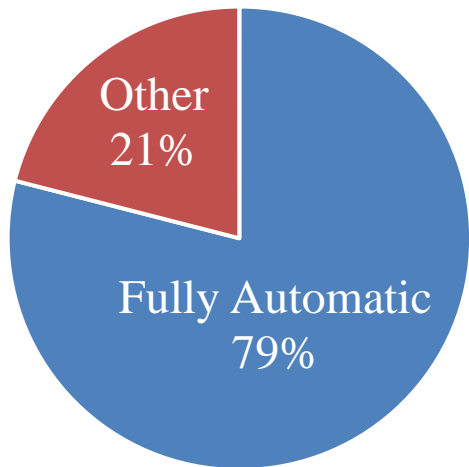
- 30% - 40% of N.A. On-Highway volume is driven by municipal spending
- General Motors re-entry into Class 4-5 market
- TC10 aimed penetrating the Class 8 Metro market

# Off-Highway/ Defense Markets

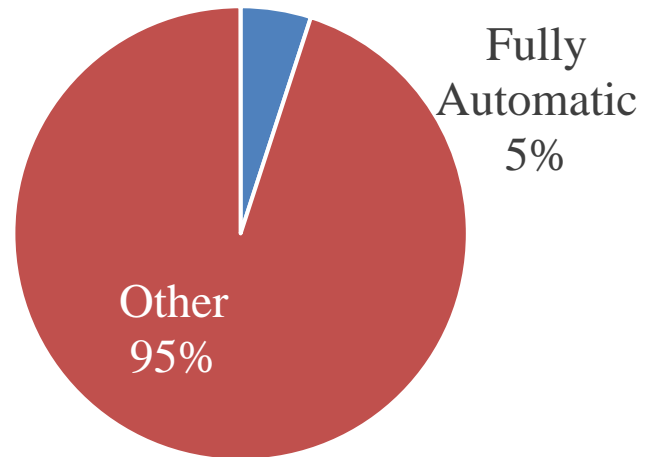


# What About International Sales?

North America



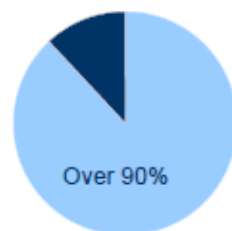
Outside of North America



# Margin Expansion Opportunities

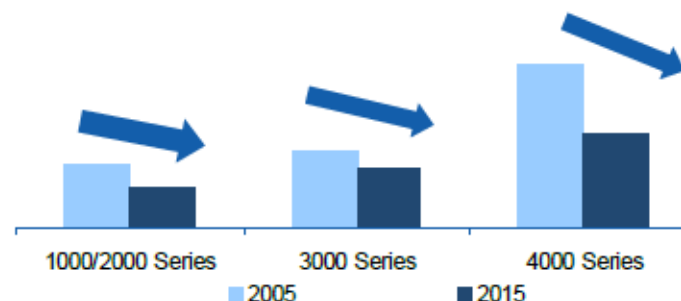
% of Revenue	FY '08	FY '09	FY '10	FY '11	FY '12	FY '13	FY '14	FY '15	TTM
Adjusted COGS	59.1%	58.9%	51.8%	51.1%	50.7%	51.2%	49.7%	48.5%	48.3%
Adjusted SG&A	12.4%	13.3%	12.0%	11.9%	12.6%	11.9%	11.6%	11.1%	12.2%

## Long-Term Customer Supply Agreements

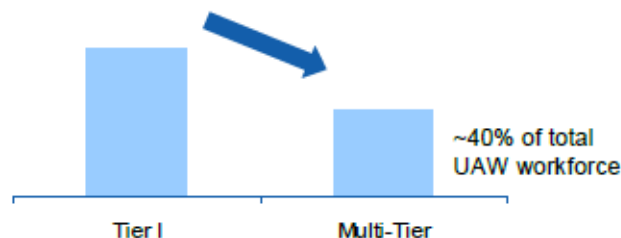


*Over 90% of 2015 N.A. On-Highway Unit Volume was covered by long-term customer supply agreements*

## Manufacturing Efficiencies (hours/unit)



## Workforce Optimization (cost/employee) <sup>(1)</sup>



*Significant savings driven by retirement of Tier I workers; 700 hourly employees are retirement eligible (~50% of workforce)*

## International Manufacturing

### India (~\$103mm total investment)

- New facility constructed to better serve Asia-Pacific
- Phase I: In-sourced component manufacturing (Q3 2010)
- Phase II: Assembly of 1000/2000 Series (Q3 2012)

### Hungary (~\$17mm total investment)

- Relocated assembly of 3000/4000 Series (Q2 2011)

# Income Tax Attributes

## Income Tax Attributes Overview

- Allison acquired from General Motors in August 2007
  - Asset deal structure
  - Step-up in basis for U.S. federal income tax purposes

Cash Income Taxes Paid 2008-2015 (\$ millions)

2008	2009	2010	2011	2012	2013	2014	2015
\$4	\$6	\$2	\$6	\$11	\$4	\$5	\$5

- As of 12/31/2015 Allison had \$2.1bn of unamortized intangible assets
  - Expect annual U.S. federal income tax deductions of \$315mm through 2021 and \$183mm in 2022
- Net operating loss carry forward of \$97mm as of 12/31/2015

(\$ millions)	Total	2016	2017	2018	2019	2020	2021	2022
Annual tax amortization	\$2,073	\$315	\$315	\$315	\$315	\$315	\$315	\$183
Cash tax savings <sup>(1)</sup>	770	117	117	117	117	117	117	68
Cash tax savings of NOLs <sup>(2)</sup>	34							
<b>Grand total</b>	<b>( \$804 )</b>							

**Results in present value tax savings of \$578-\$676mm<sup>(3)</sup>**

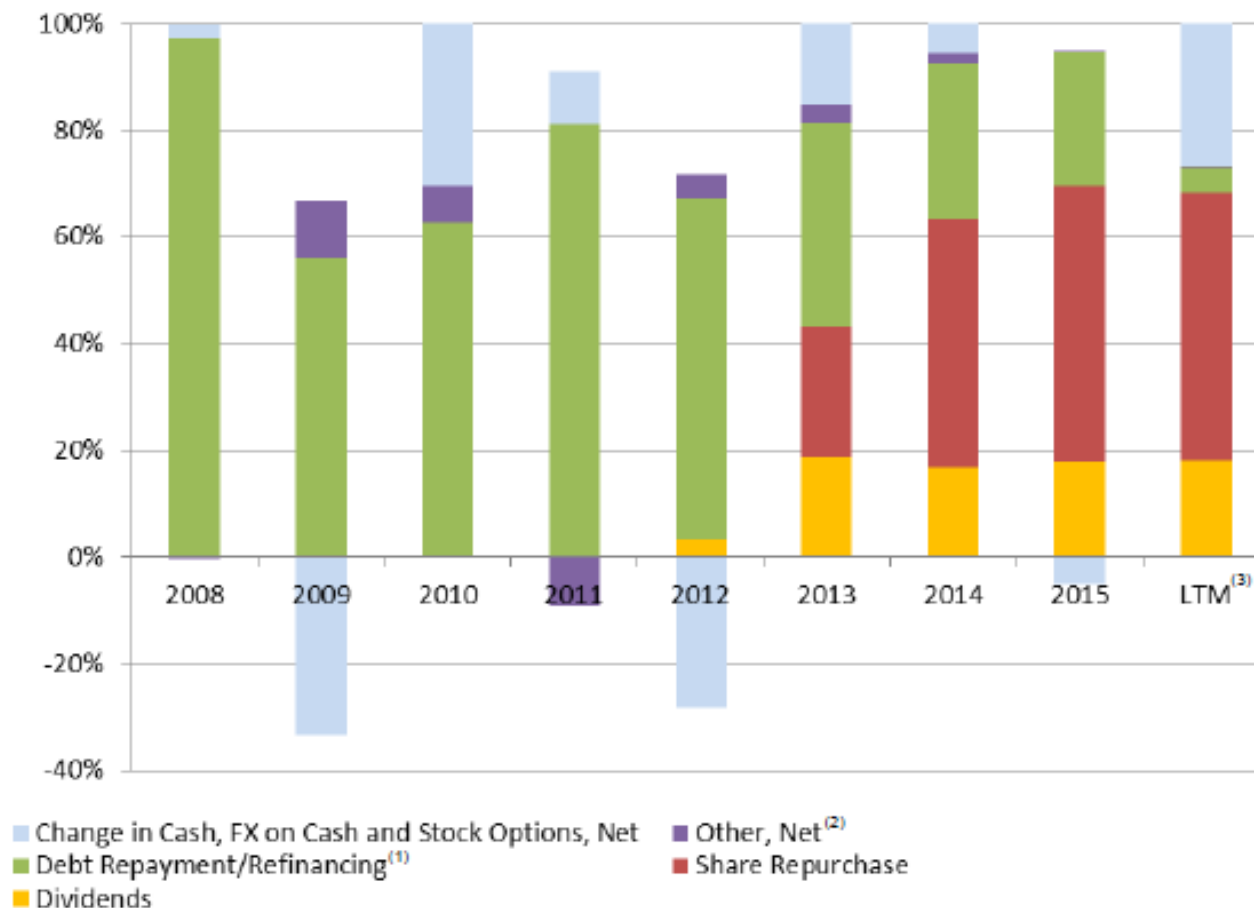
(1) Assuming continued profitability and no limitations at an assumed 37.13% federal and state tax rate.

(2) Calculated at a 35.0% federal tax rate on the \$97mm of federal NOL carry forward balance as of 12/31/2015.

(3) Based on annual discount rate of 5-10%; includes both amortization of intangibles and federal NOL's (contingent on timing of taxable income).

# History of Prudent Capital Allocation

## Free Cash Flow Use



Note: See appendix for comments regarding the presentation of non-GAAP financial information.

(1) Net of change in Cash & Cash Equivalents

(2) 2009 adjusted for certain non-recurring activity: (a) capitalized accrued interest on Senior Toggle Notes (\$29) million, (b) cash restructuring charge \$51 million, (c) accounts payable early payments \$3 million, (d) delayed accounts receivable receipts \$19 million and (e) Lehman LIBOR swap settlement \$17 million. All periods adjusted for collateral for interest rate derivatives, purchase of available-for-sale securities, proceeds from disposal of assets, investments in technology-related initiatives and license expenses, and fee to terminate services agreement with Sponsors.

(3) LTM 6/30/16.

(4) As of 6/30/16.

# **Valuation / Margin of Safety**

How can we make money?

How can we lose?



# Current Valuation

Fiscal Year End: 12/31	FY '13	FY '14	FY '15	TTM	FY '16E	FY '17E
<b>Revenue</b>	<b>1,927</b>	<b>2,127</b>	<b>1,986</b>	<b>1,908</b>	<b>1,789</b>	<b>1,815</b>
<i>ply growth</i>	(10.0%)	10.4%	(6.7%)	(3.9%)	(6.2%)	1.4%
<b>EBITDA (unadjusted)</b>	<b>614</b>	<b>720</b>	<b>710</b>	<b>662</b>	<b>608</b>	<b>621</b>
<i>ebitda margin</i>	<i>31.3%</i>	<i>33.8%</i>	<i>35.7%</i>	<i>34.7%</i>	<i>34.0%</i>	<i>34.2%</i>
<b>Diluted EPS</b>	<b>\$0.88</b>	<b>\$1.25</b>	<b>\$1.03</b>	<b>\$0.99</b>	<b>\$1.10</b>	<b>\$1.26</b>
Diluted Shares Out	187.9	182.3	177.2	170.0	169.5	164.0
Owner Earnings	411	508	520	467	399	381
<b>Diluted OE Per Share</b>	<b>\$2.19</b>	<b>\$2.78</b>	<b>\$2.94</b>	<b>\$2.75</b>	<b>\$2.36</b>	<b>\$2.33</b>
<b>Price / GAAP EPS</b>	<b>31.4x</b>	<b>22.0x</b>	<b>26.8x</b>	<b>27.9x</b>	<b>25.1x</b>	<b>22.0x</b>
<b>Price / Owner Earnings</b>	<b>12.6x</b>	<b>9.9x</b>	<b>9.4x</b>	<b>10.1x</b>	<b>11.7x</b>	<b>11.9x</b>

*We define Owner Earnings as:*

Earnings Before Interest, Depreciation & Amortization

- Maintenance Capex
- Interest Expense
- Cash Taxes

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= Owner Earnings

# Downside Case – Margin of Safety

\$ USD millions, except per share data	FY '15	Robotti & Co. Projection		CAGR 15-'21
		FY '16E	FY '21E	
North American On-Highway	1,059	974	1,034	(0%)
North American Hybrid	73	58	19	(22%)
North American Off-Highway	100	19	42	(15%)
Defense	113	107	181	9%
Outside N.A. On-Highway	262	262	298	2%
Outside N.A. Off-Highway	35	16	22	(8%)
Service, Parts & Equipment	389	350	417	1%
<b>Total Revenue</b>	<b>1,986</b>	<b>1,787</b>	<b>2,013</b>	<b>0%</b>

		Avg		
COGS (% revenue)	48.5%	49.5%	48.4%	48.8%
SG&A (% revenue)	11%	11%	11%	11%
EBITDA Margin	35.7%	33.9%	35.7%	34.9%
R&D	100	100	100	100
Maintenance Capex	70	70	70	70
Inerest Rate	6.1%	6.1%	6.1%	6.1%
Diluted Shares Outstanding	177	168	121	

EPS (GAAP)	\$1.03	\$1.05	\$2.30	<b>Est. Return</b>	
Owner Earnings	\$2.94	\$2.37	\$3.84	<b>Total</b>	<b>IRR</b>
End Multiple	10.0x		<b>\$38.43</b>	<b>39%</b>	<b>6%</b>
	15.0x		<b>\$57.65</b>	<b>109%</b>	<b>14%</b>

Source: Robotti & Company Advisors, Illustrative purposes only. Not necessarily indicative of any past specific recommendation of Robotti & Company Advisors, LLC

# Range of Value: Base Case

\$ USD millions, except per share data	FY '15	Robotti & Co. Projection		CAGR 15-'21
		FY '16E	FY '21E	
North American On-Highway	1,059	974	1,374	5%
North American Hybrid	73	62	28	(16%)
North American Off-Highway	100	19	74	(5%)
Defense	113	107	311	20%
Outside N.A. On-Highway	262	265	381	7%
Outside N.A. Off-Highway	35	18	82	17%
Service, Parts & Equipment	389	358	572	7%
<b>Total Revenue</b>	<b>1,986</b>	<b>1,803</b>	<b>2,822</b>	<b>7%</b>

		<b>Avg</b>		
COGS (% revenue)	48.5%	49.5%	48.4%	48.8%
SG&A (% revenue)	11%	11%	11%	11%
EBITDA Margin	35.7%	34.0%	37.1%	35.5%
R&D	100	100	100	100
Maintenance Capex	70	70	70	70
Interest Rate	6.1%	6.1%	6.1%	6.1%
Diluted Shares Outstanding	177	168	116	

EPS (GAAP)	\$1.03	\$1.08	\$4.22	<b>Est. Return</b>	
Owner Earnings	\$2.94	\$2.41	\$5.83	<b>Total</b>	<b>IRR</b>
End Multiple	10.0x		<b>\$58.31</b>	<b>111%</b>	<b>15%</b>
	15.0x		<b>\$87.47</b>	<b>217%</b>	<b>23%</b>

Source: Robotti & Company Advisors, Illustrative purposes only. Not necessarily indicative of any past specific recommendation of Robotti & Company Advisors, LLC

# Range of Value – Upside Case

\$ USD millions, except per share data		Robotti & Co. Projection		CAGR
	FY '15	FY '16E	FY '21E	15-'21
North American On-Highway	1,059	1,006	1,446	6%
North American Hybrid	73	62	33	(14%)
North American Off-Highway	100	30	110	2%
Defense	113	119	399	26%
Outside N.A. On-Highway	262	265	555	15%
Outside N.A. Off-Highway	35	18	134	28%
Service, Parts & Equipment	389	358	646	10%
<b>Total Revenue</b>	<b>1,986</b>	<b>1,857</b>	<b>3,323</b>	<b>10%</b>

				Avg
COGS (% revenue)	48.5%	49.5%	48.4%	48.8%
SG&A (% revenue)	11%	11%	11%	11%
EBITDA Margin	35.7%	34.1%	37.6%	35.8%
R&D	100	100	100	100
Maintenance Capex	70	70	70	70
Interest Rate	6.1%	6.1%	6.1%	6.1%
Diluted Shares Outstanding	177	168	115	

EPS (GAAP)	\$1.03	\$1.16	\$5.39	Est. Return	
Owner Earnings	\$2.94	\$2.54	\$7.01	Total	IRR
End Multiple	10.0x		\$70.15	154%	18%
	15.0x		\$105.22	281%	28%

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# Investment Themes

- ✓ Industries facing significant near-term headwinds / “unknowns.”
- ✓ Individual companies that are certainly not immune to the industry-wide issues and may even have more serious complications.
- ✓ Large inside-ownership – managers / boards who ‘eat their own cooking.’
- ✓ The dynamics are in place for very long runways of growth.



# Disclosure: Ownership Information

<u>Disclosures</u>	<b>Allison Transmission (NASD:ALSN)</b>
David Kessler and/or members of his household has a financial interest in the following securities	Yes
Robotti & Company or its affiliates beneficially own common equity of the following securities	Yes
Robotti & Company or its affiliates beneficially own 1% or more of any class of common equity of the following securities	No
David Kessler serves as a Director or Officer or Advisory Board Member of the following securities	No

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# Questions

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