

NEW STRATEGIES FOR SUSTAINABLE GROWTH 1-2 APRIL 2014 MELBOURNE, AUSTRALIA



Demand Drivers & Trends

Denny Mooney
Group Vice President
Global Product Development
Navistar, Inc.



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My Background: Australia



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Navistar: A Leader in Transportation

- Founded in 1831 as the McCormick Reaper Company
- Products include:
 - International® brand commercial and military trucks
 - MaxxForce® brand diesel engines
 - IC Bus™ brand school and commercial buses
- \$10 billion, *FORTUNE* 250 company
- North America's largest truck retail organization, with nearly 900 dealer locations
- 14,000 employees



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Full-line truck, bus, military vehicle and diesel engine manufacturer



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A Leading Class 6-8 Truck and Bus Manufacturer in North America



#1

School Bus

37% Market Share
FY2013



#2

Medium-Duty

24% Market Share
FY2013



#2

Class 8 Severe Service

22% Market Share
FY2013



#5

Class 8 Heavy-Duty

12% Market Share
FY2013



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TRANSFORMING TRUCKS TO EXCELLENCE



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Navistar in Australia: Trucks sold under Cat brand



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TRAINING THE BEST TRUCKS IN EUROPE

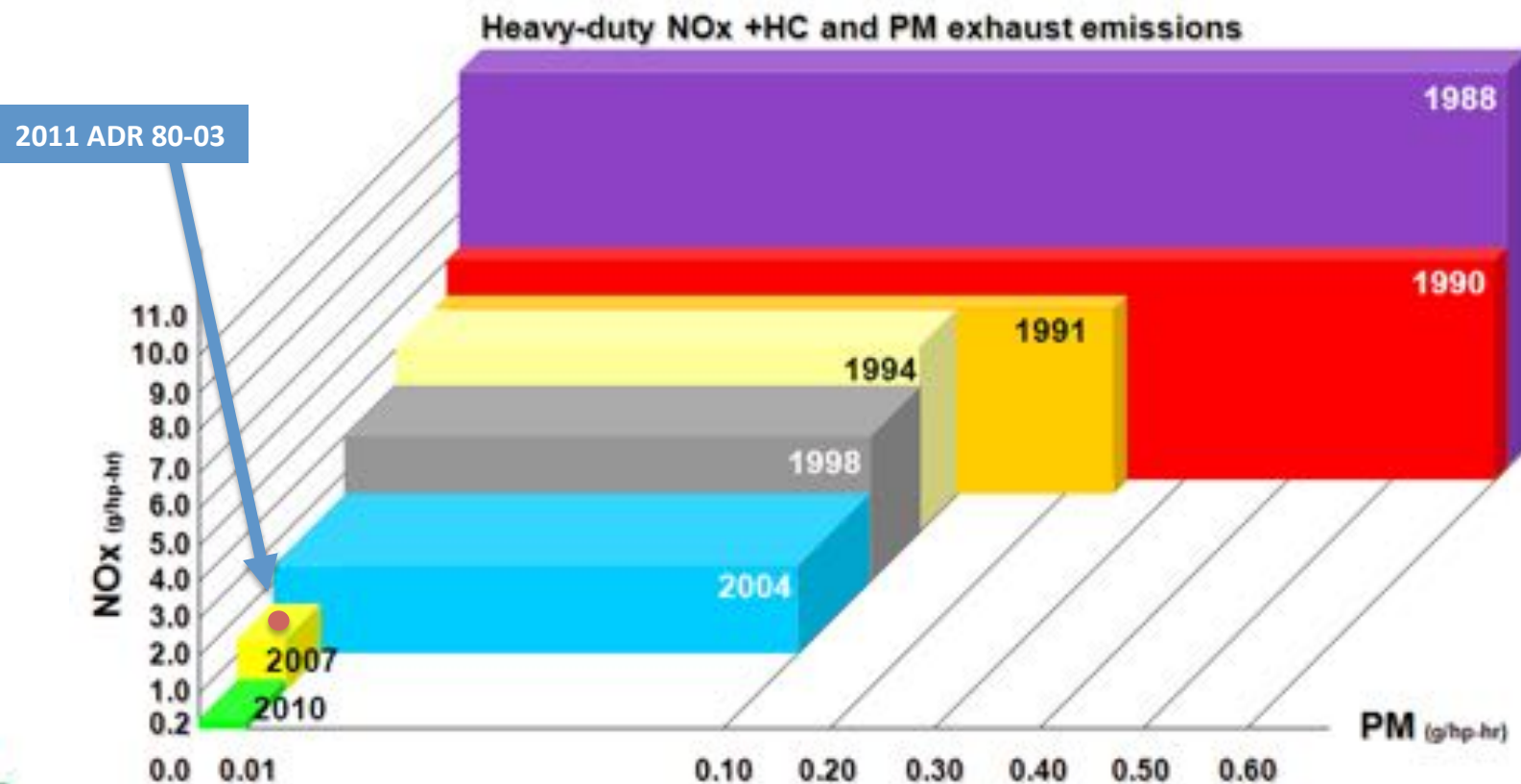
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Emissions Standards: U.S. EPA



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Emissions Standards: Not Aligned with Customer Priorities



Customer Demands

- Fuel Efficiency
- Reliability/Uptime
- Acquisition Costs
- Driver Accommodation
- Weight Reduction



Regulatory Impact

- Less Fuel Efficient
- More Weight
- Reliability Issues
- More Cost
- Product Complexity



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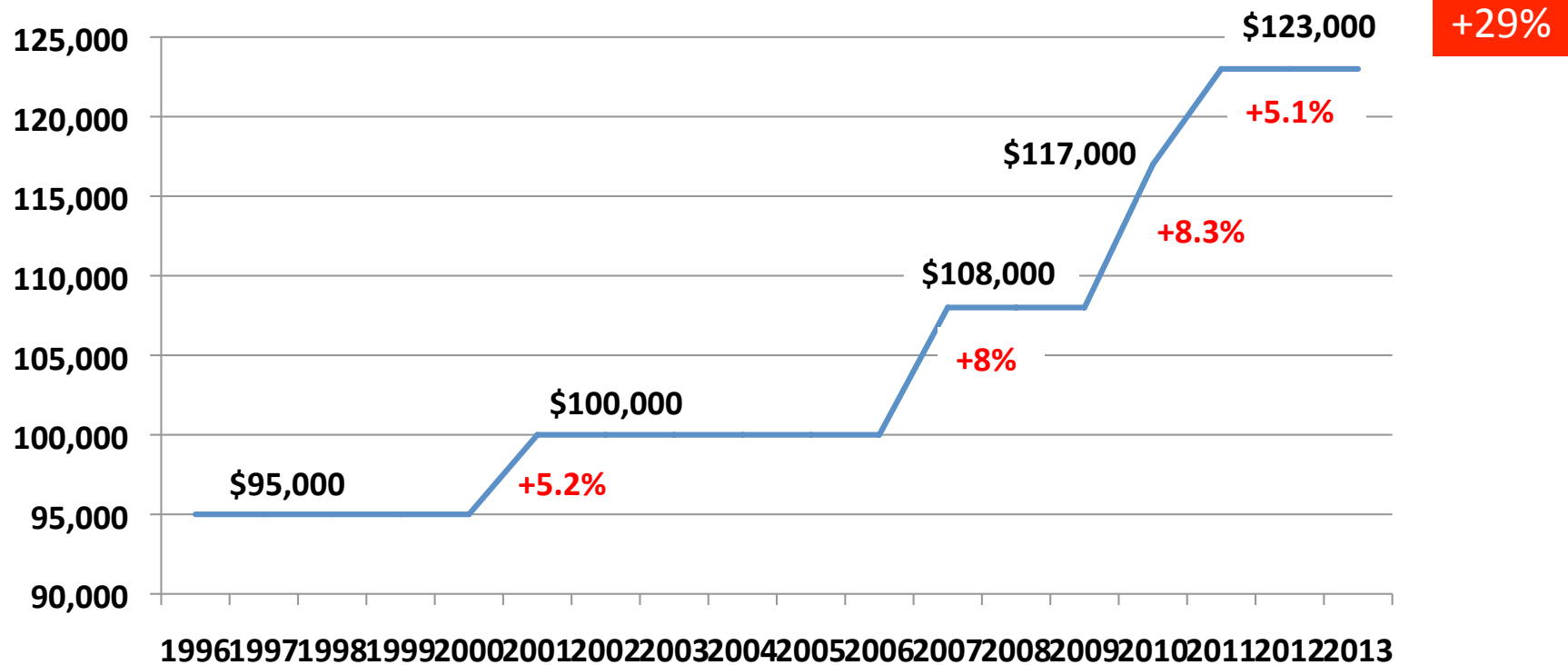
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Costs Increases Driving Higher Prices (U.S. Dollars)



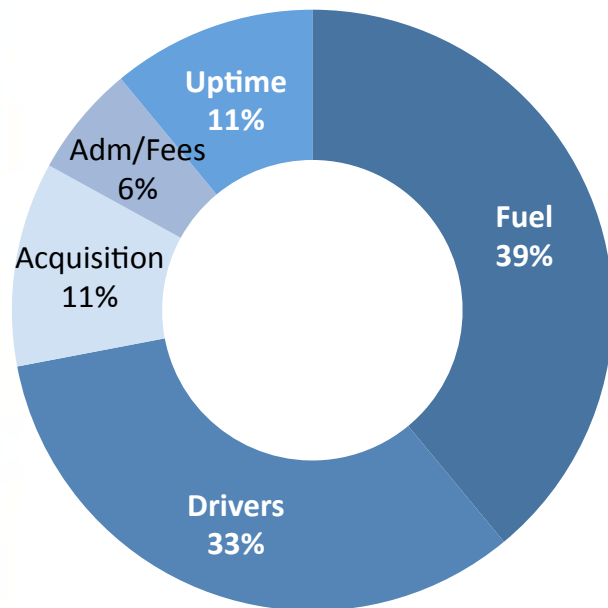
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Priorities of Today/Tomorrow: The Customer

United States



Key Concerns:

- Rising operating costs
- Driver shortage
- Safety, Driver Wellness
- Policy/Legislation

Key Opportunities:

- Uptime
- Fuel Efficiency
- Serviceability
- Competitive Price
- Driver Experience

GHG = Fuel Economy

Source: American Transportation Research Institute
An Analysis of the Operational Costs of Trucking, Sept 2013
(2012 survey of for-hire motor carriers)

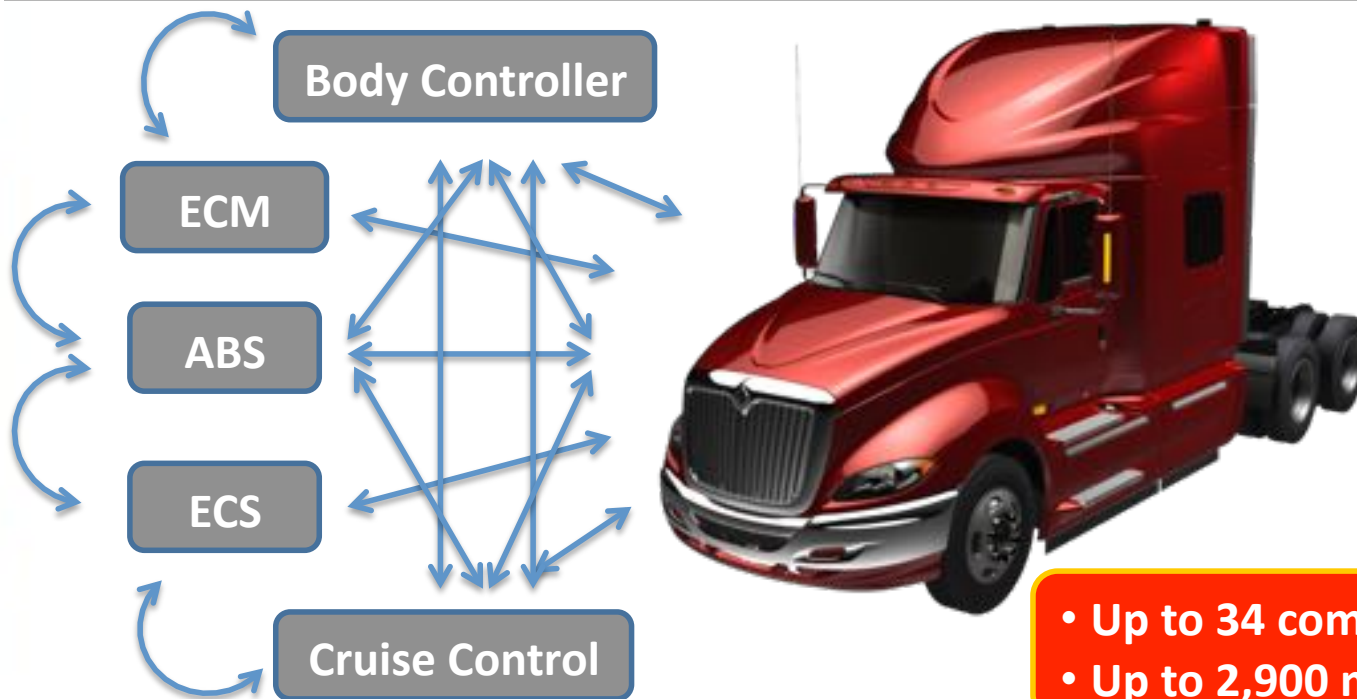


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Electronic Vehicle Integration



- Up to 34 computer modules
- Up to 2,900 messages per second

Future vehicles will leverage information for customer priorities.



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Intelligent Vehicle Systems

Smart Cruise Control

Smart Cooling System

Smart Charging Systems

Smart Air Compressors



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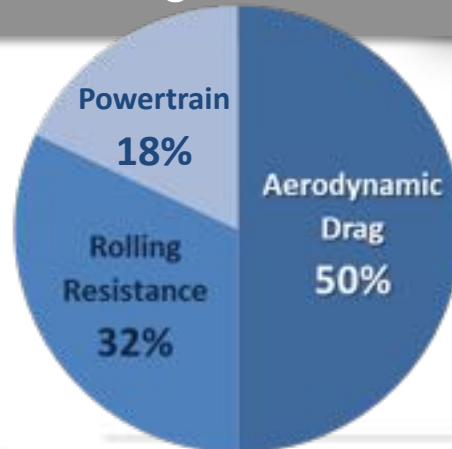
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Aerodynamics: From airflow to active energy management

- Leadership History
- Critical to Fuel Economy
- Innovations on the Horizon:
 - Smart Grille Shutters
 - Smart Ride Height Adjustments
 - Smart Fifth Wheel
 - Tractor/Trailer Integration



*Fuel Economy
impact at 100 KPH



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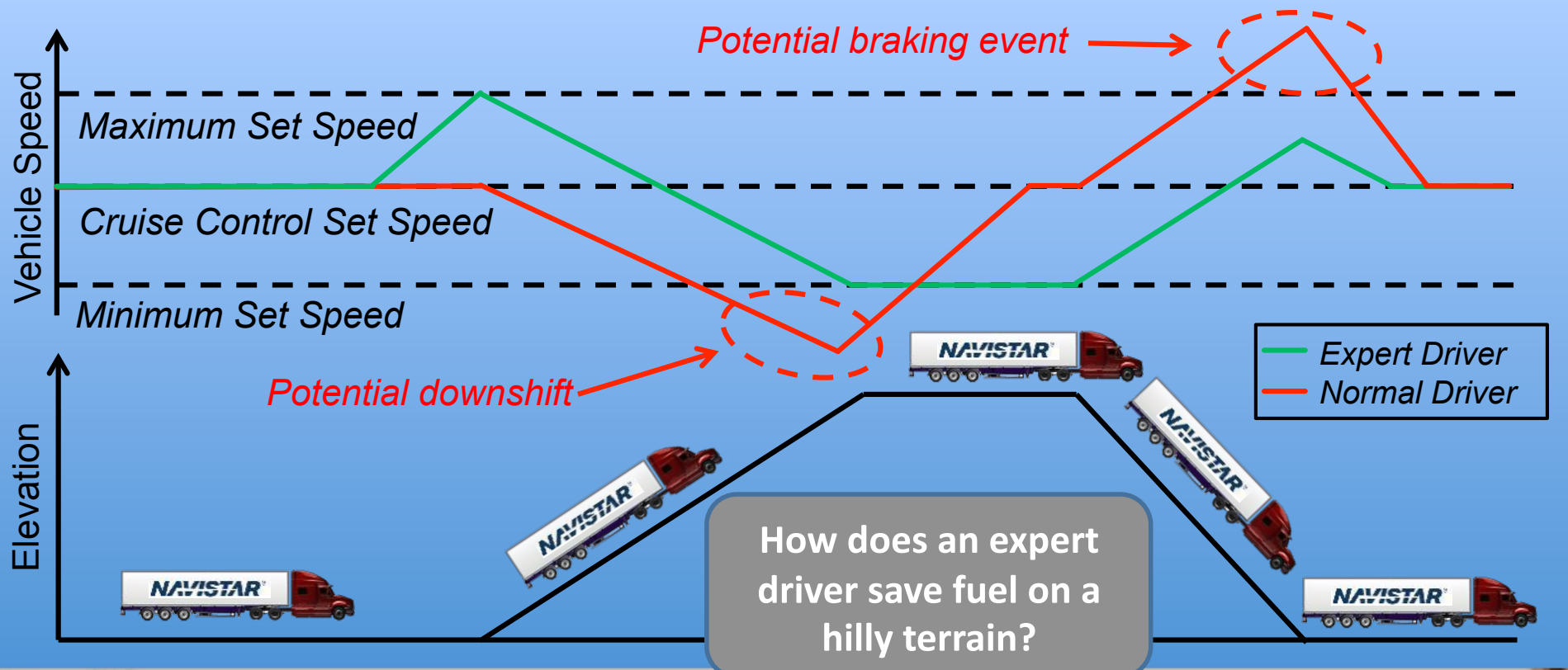
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Smart Cruise Technologies



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Location



Terrain



GPS



**Road Map
Database**

By leveraging technology/information, any driver can be an expert.



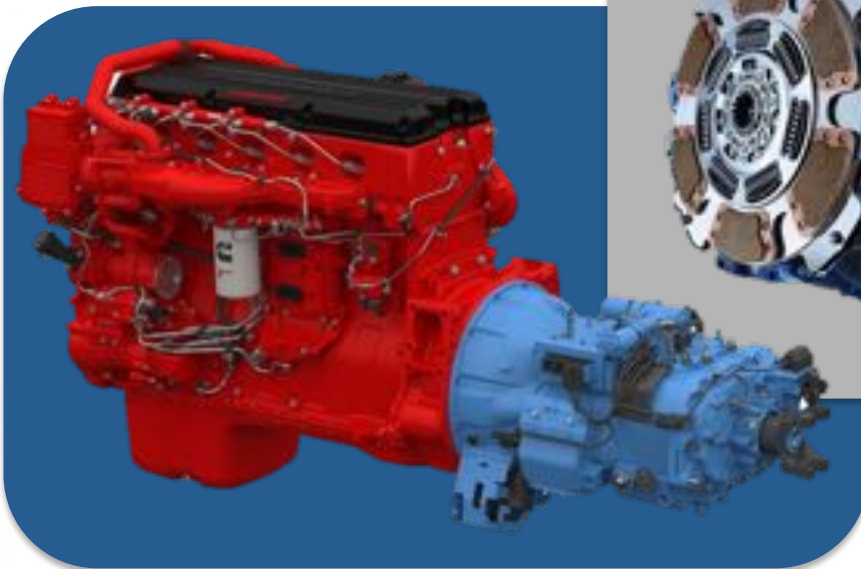
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Automated Manual Transmissions



Transmission always operates in the most efficient gear.
Ensures inexperienced driver performs with the best.



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Smart Cooling



Fan:

- Consumes up to 70 horsepower
- Smart fan control strategy

Water Pump:

- Precise flow control

Electronic Thermostat:

- Advanced engine management

Managing Cooling Module Air Flow:

- Superior sealing
- Underhood airflow management
- Reduce fan on time in typical line haul

Driving efficiencies by minimizing parasitic energy losses



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Connected Vehicle: Vehicle-to-Infrastructure

- Vehicle/Driver Visibility
- Mapping/GPS
- Fault Severity
- Dealer Location
- Parts Availability
- e-mail Reports



NAVISTAR® OnCommand™
Connection
READY

Open architecture delivers data to all parties to maximize uptime.



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Connected Vehicle: Vehicle-to-Driver



Future interiors will enable flexibility for wireless connectivity to enhance driver knowledge, productivity, comfort and convenience.



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Connected Vehicle: Vehicle-to-Vehicle



- Improved aerodynamics
- Platooning
- Collision mitigation
- Driverless vehicles



Technology moving in this direction. However, there is a myriad of legal, regulatory and policy implications.



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Truck of Tomorrow: Technology-Driven Efficiency

Fuel Economy

Intelligent Vehicle Systems

Connected Vehicle

Increased Uptime

Driver Efficiency



Future vehicles aimed at customer priorities



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