



# E-Systems Product Day

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March 25, 2021

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Making every drive better™

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# Safe Harbor Statement

## Forward-Looking Statements

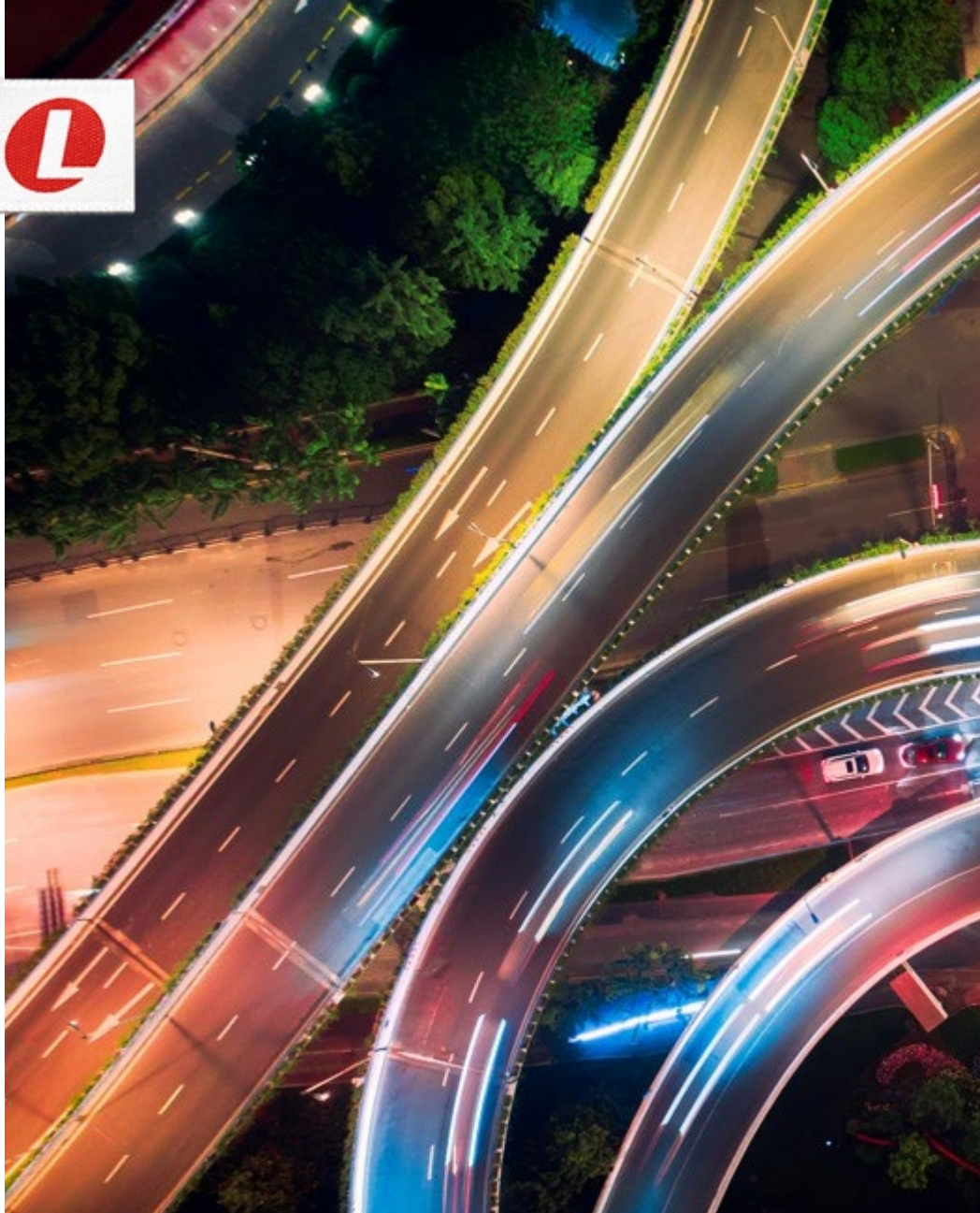
This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding anticipated financial results and liquidity. The words “will,” “may,” “designed to,” “outlook,” “believes,” “should,” “anticipates,” “plans,” “expects,” “intends,” “estimates,” “forecasts” and similar expressions identify certain of these forward-looking statements. The Company also may provide forward-looking statements in oral statements or other written materials released to the public. All statements contained or incorporated in this presentation or in any other public statements that address operating performance, events or developments that the Company expects or anticipates may occur in the future are forward-looking statements. Factors that could cause actual results to differ materially from these forward-looking statements are discussed in the Company’s Annual Report on Form 10-K for the year ended December 31, 2020, and its other Securities and Exchange Commission filings. Future operating results will be based on various factors, including the impact of COVID-19 on our business and the global economy, actual industry production volumes, commodity prices, the impact of restructuring actions and the Company’s success in implementing its operating strategy.

Information in this presentation relies on assumptions in the Company’s sales backlog. The Company’s sales backlog reflects anticipated net sales from formally awarded new programs less lost and discontinued programs. The Company enters into contracts with its customers to provide production parts generally at the beginning of a vehicle’s life cycle. Typically, these contracts do not provide for a specified quantity of production, and many of these contracts may be terminated by the Company’s customers at any time. Therefore, these contracts do not represent firm orders. Further, the calculation of the sales backlog does not reflect customer price reductions on existing or newly awarded programs. The sales backlog may be impacted by various assumptions embedded in the calculation, including vehicle production levels on new programs, foreign exchange rates and the timing of major program launches.

The forward-looking statements in this presentation are made as of the date hereof, and the Company does not assume any obligation to update, amend or clarify them to reflect events, new information or circumstances occurring after the date hereof.







# E-Systems Product Day

# E-Systems Product Day



Product Portfolio Overview



Key Products in Electrification and Connection Systems



Competitive Advantages and Why We Win



Our View on Electric Architecture Trends



Positioned for Strong Growth Over the Next Five Years and Beyond





# Proactively Positioning E-Systems for the Future



**Diverse product portfolio well aligned with megatrends**



**Increasing opportunities in Electrification and Vertical Integration will drive above market growth and higher margins**



**Domain expertise and systems level understanding of evolving electrical architecture provides customers with unique insights and optimized solutions**



**Customers look to Lear for operational excellence, solving difficult problems and speed of execution**



# A Global Leader in Electrical and Electronic Systems with Strategic and Complementary Product Families

## E-SYSTEMS HIGHLIGHTS

**\$5.3B**

2021 Sales  
Outlook <sup>(1)</sup>

**~80K**

Employees  
Worldwide

**48**

Manufacturing  
Facilities

**21**

Countries

**6**

Global Technology  
Centers of Excellence

### PRODUCT FAMILIES

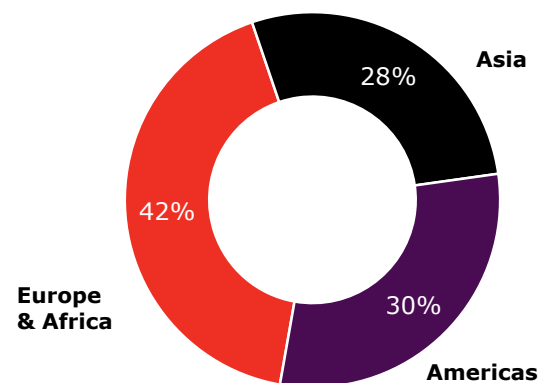
#### Electrical Distribution and Connection Systems

- Global Electrical Distribution and Connection Systems Supplier
- Differentiated Connection Systems Offerings
- Low Voltage and High Voltage Capabilities

#### Electronic Systems and Software

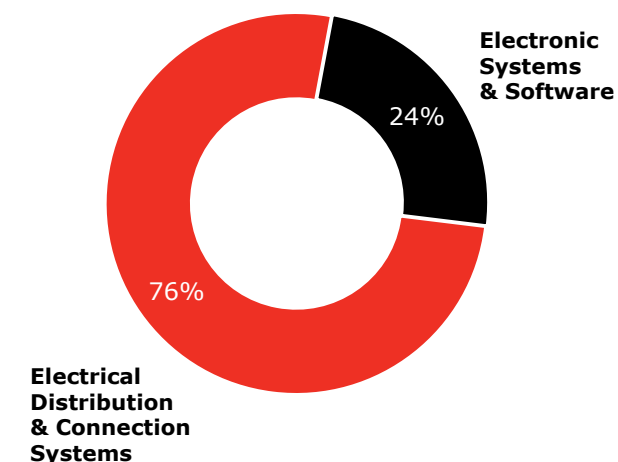
- High Power Electrification Electronics
- Power Converting, Switching and Routing
- Low Voltage Vehicle Electronics with Embedded Software Capabilities
- Wireless Connectivity and Communication Electronics

### SALES BY REGION



<sup>(1)</sup> Reflects midpoint of February 4, 2021 Outlook

### SALES BY PRODUCT

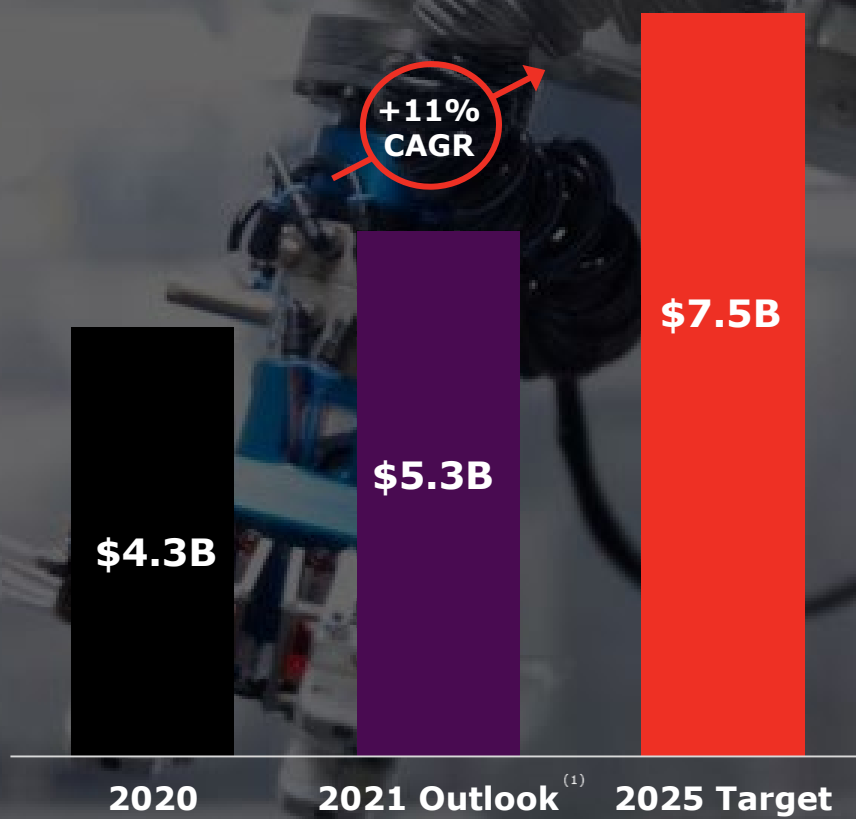


**20+ YEARS PROVIDING INDUSTRY LEADING ELECTRICAL AND ELECTRONIC SOLUTIONS**



# Portfolio is Well Aligned for Growth

## E-SYSTEMS SALES OUTLOOK



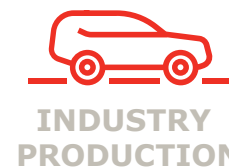
<sup>(1)</sup> Reflects midpoint of February 4, 2021 Outlook

## E-Systems

**+6** **GROWTH**  
**POINTS** **OVER MARKET**

## GROWTH DRIVERS

- Electrification business contributing 3 percentage points of growth
- Higher electrical content to support features and functions
- Conquest wins
- Customer expansion and diversification
- Strong quote pipeline
- Inorganic growth and partnerships



**5 YEAR  
OUTLOOK**

**+5%**  
CAGR

Source: IHS Markit as of February 16, 2021

# E-Systems Product Experience



**Electrical  
Distribution  
Systems**

**22  
years**



**Electronics**

**22  
years**



**Connection  
Systems**

**17  
years**



**Electrification**

**13  
years**





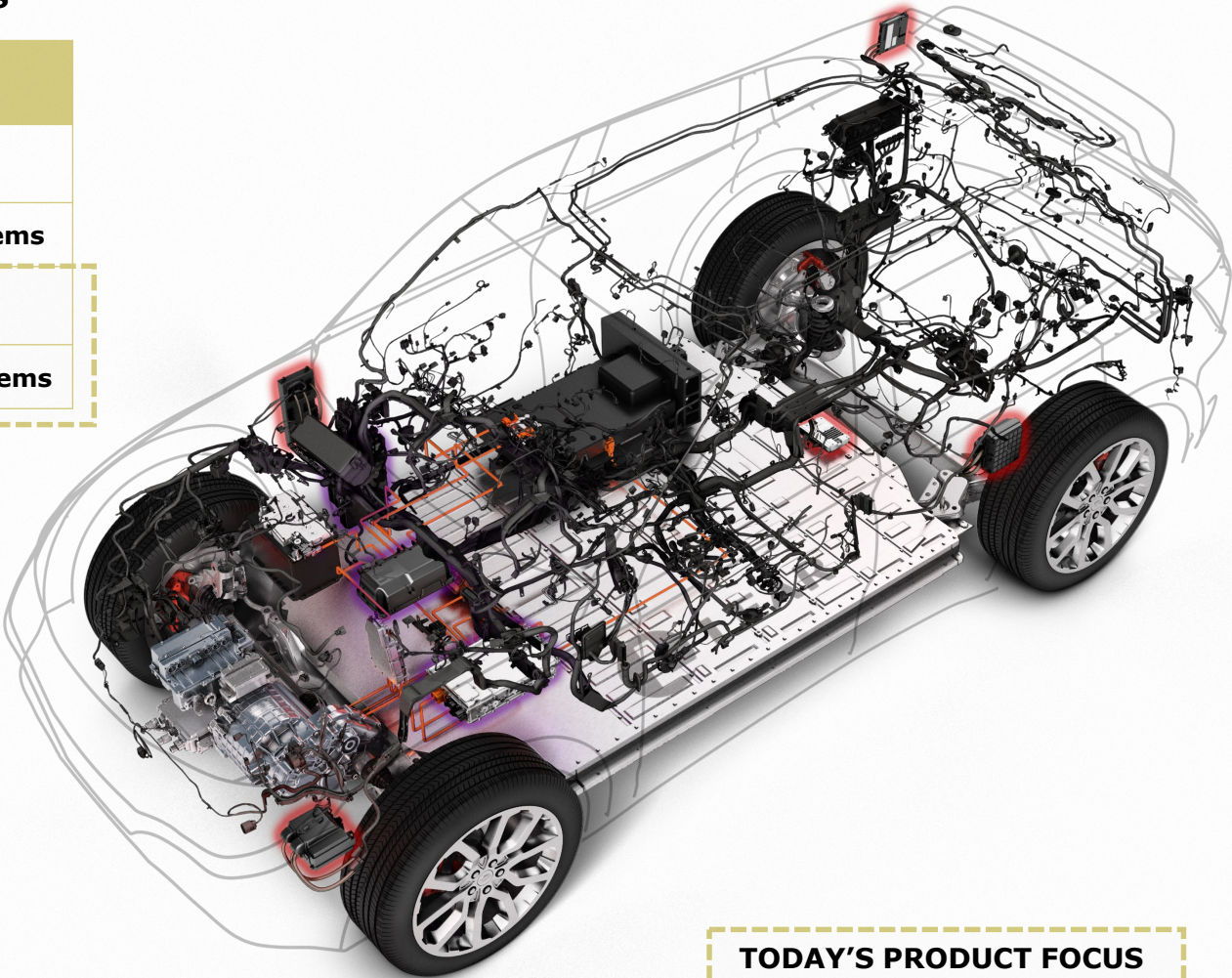
# E-Systems Diversified Product Portfolio

## ELECTRICAL DISTRIBUTION AND CONNECTION SYSTEMS

PRODUCT OFFERINGS
Low Voltage Electrical Distribution Systems
Low Voltage Connection Systems
High Voltage Electrical Distribution Systems
High Voltage Connection Systems

## ELECTRONIC AND SOFTWARE SYSTEMS

PRODUCT/SERVICE OFFERINGS
Junction Boxes
Body Control Modules
On-Board Battery Chargers
DC/DC Converters
Battery Management Systems
Battery Disconnect Units
Gateway Modules
Communication Modules
Embedded Software
Xevo Connected Services
EXO Navigation Services



TODAY'S PRODUCT FOCUS

INTEGRATED POWER MODULE





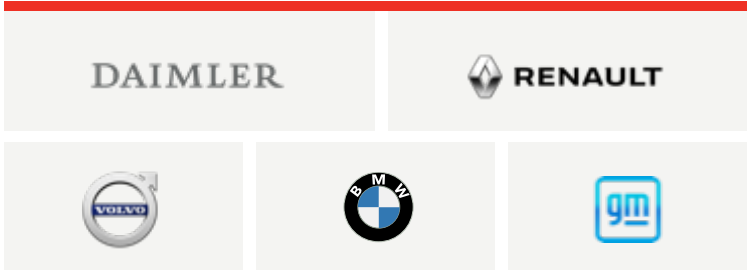
# Electrification





# Electrification Product Portfolio Built on Long History

2010



## INITIAL MARKET ENTRY

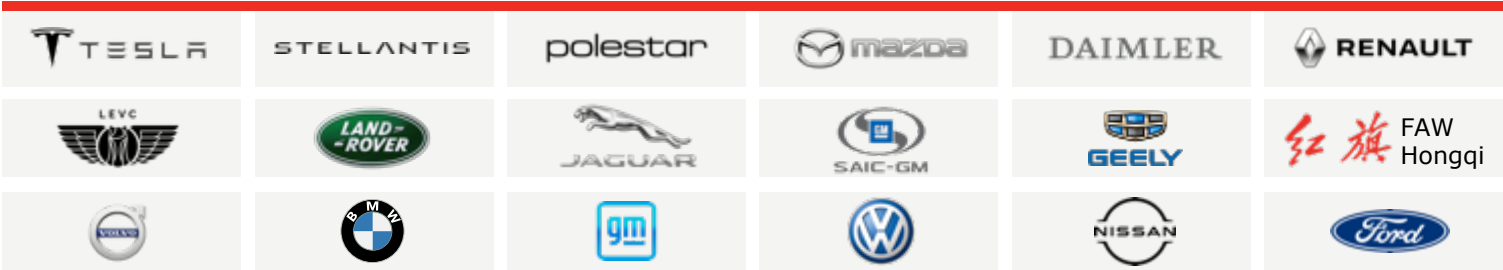


- High Voltage Wire Harnesses
- Charging Systems
- High Voltage Connection Systems

5 CUSTOMERS

9 MODELS

2021



## POWER ELECTRONICS



- On-Board Chargers
- DC/DC Converters
- Battery Disconnect Units

18 CUSTOMERS

## BATTERY MANAGEMENT SYSTEMS



- Battery Management Units
- Battery Sensor Units
- Battery Management Software

90+ MODELS

## HIGH VOLTAGE WIRE HARNESSES AND CONNECTION SYSTEMS



- High Voltage Wire Harnesses
- Battery Connections
- Electronic Connections



# High Voltage Electrical Distribution & Connection Systems

## PRODUCT FUNCTION

Distribute high voltage power throughout the vehicle – from the battery to the power electronics and from the power electronics to the motor

Critical safety and reliability consideration in addition to typical cost, weight and delivery considerations

## VEHICLE FUNCTION

Enables all electrified powertrain components to receive power to function



A single ½ inch Lear terminal can handle more power than an entire modern household



**Typical CPV \$200 - \$400**



## WHY LEAR

- Operational excellence that enables fast development cycles to support customer timing requirements, with the right solution, launched flawlessly
- Production-proven products and development processes with global customers and manufacturing capabilities
- Engineering expertise in highly efficient solutions reducing mass and cost that result in longer vehicle range



# Integrated Power Modules - On-Board Battery Charger + DC/DC Converter + High Voltage Power Distribution

## PRODUCT FUNCTION

**On-Board Battery Charger** converts AC power from the grid to high voltage DC power to charge Electric Vehicle batteries. **DC/DC Converter** converts high voltage to low voltage to power accessory and other critical systems in vehicles such as advanced driver assistance systems, seats, windows, infotainment, etc. **High Voltage Power Distribution** when integrated provides the circuit protection and switching

## VEHICLE FUNCTION

Manages the power flowing in and out of the high voltage Electric Vehicle battery, converting the inputs and outputs appropriately for all system functions



Manages power up to the equivalent of ~4,400 cell phone chargers simultaneously



7 kW to 22 kW charging power

**Typical CPV \$600 - \$800**



## WHY LEAR

- High efficiency and power-density solution enabling longer range, shorter charging time and more compact packaging
- Bespoke packaging based on standardized subsystems to enable customer architectures with optimized reuse strategies, for fast implementation of the industry's most stringent and advanced requirements
- Scalable design supports 7kW through 22kW variants required for various vehicle and customer architectures
- Sophisticated software capabilities to achieve quality and safety requirements

# Battery Management Systems

## PRODUCT FUNCTION

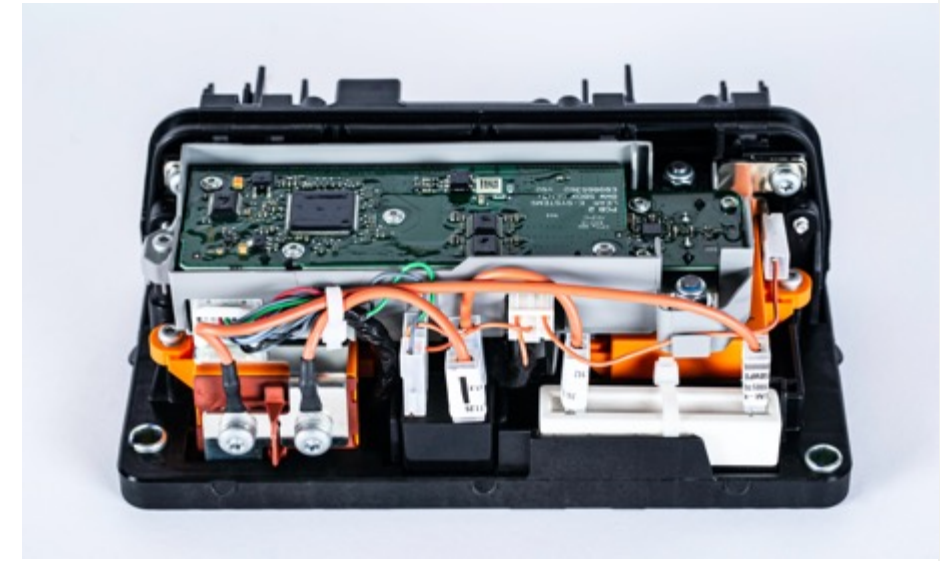
Senses current, voltage, and temperature at the cell level within Electric Vehicle batteries and utilizes advanced software to determine the state of the battery and make control decisions about charge / discharge rate, temperature controls and balancing within the battery system

## VEHICLE FUNCTION

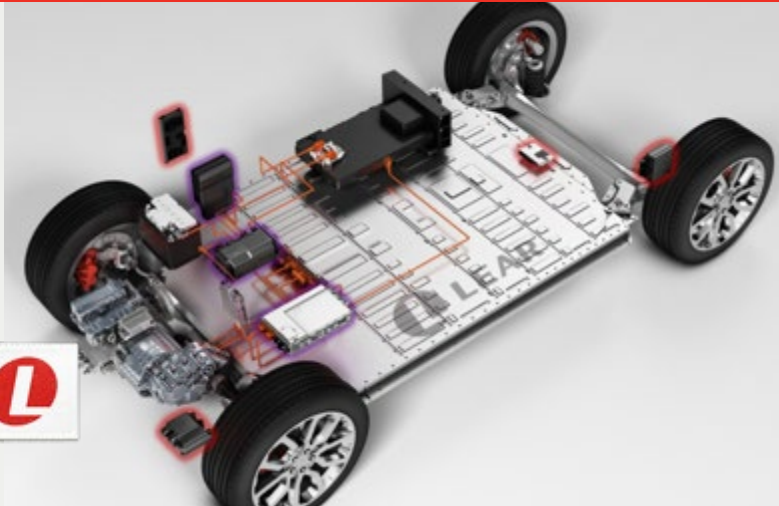
Ensure optimized operating conditions for the battery, resulting in performance and battery life benefits



Contains approximately the same amount of software as an F-22 Raptor Fighter Jet



**Typical CPV \$150 - \$350**



## WHY LEAR

- Deep expertise and experience with over 10 years of production proven products including functional safety Automotive Safety Integrity Level (ASIL C) and software integration
- Scalable solution compatible with 400V and 800V batteries
- Flexible architecture for optimal partitioning utilizing Lear's in-house software or third party software applications
- Robust product roadmap enhancing critical performance measures including efficiency, cell balancing, accuracy, wireless implementation, and advanced software solutions



# High Voltage Power Distribution & Battery Disconnect Units

## PRODUCT FUNCTION

Controls all power switching in and out of the Electric Vehicle battery

## VEHICLE FUNCTION

Provide high voltage and current disconnect functions ensuring safe vehicle operation



Equivalent  
power control to  
~100 modern  
households



**51" Long | 49lbs | 2 Megawatt Capacity**

**Typical CPV \$600 - \$800**

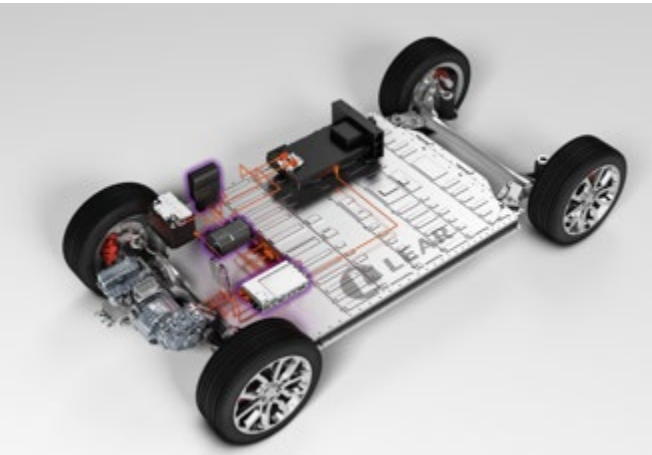


## WHY LEAR

- Proven solutions in production for over 10 years
- Continuous innovations in high voltage thermal and disconnect technologies allow higher performance Electric Vehicles to meet future needs
- Thermal management expertise and technology
- Advanced testing capabilities
- Patented and patent pending proprietary solutions

# Strategic Relationships with OEMs for Electrification Platforming

AUTOMAKER



Electric Vehicle Architecture



Proliferate across vehicle lines and automaker technology sharing alliances

1 CORE PLATFORMS

2 LAUNCH – Debut Vehicles

3 SCALE

LEAR E-SYSTEMS



Battery Disconnect Unit



Battery Plugboard



Integrated Power Module



Intense Engineering and Programmatic Execution to meet demanding timing and performance requirements



High reuse variants developed and launched across vehicle brands and types

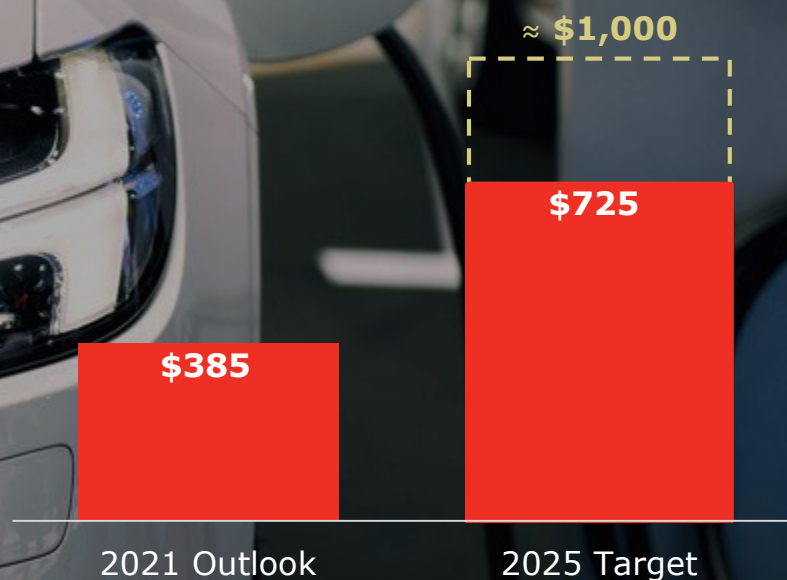





# Growing Electrification Business

## ELECTRIFICATION SALES OUTLOOK

(\$ in millions)



 Awarded  Targeted

## GROWTH DRIVERS

- Industry shift to electric vehicles is accelerating
- Higher content per vehicle opportunity for electric vehicles
- Significant increase in quoting activity
- Traditional customers accelerating shift to electric vehicles
- New Electric Vehicle (NEV) customers entering automotive market
- Develop targeted partnerships with technology enablers such as battery makers



# Broad Range of Electrification Capabilities

PRODUCT CAPABILITIES		TYPICAL CPV	LEAR	Competitors			
				A	B	C	D
High Voltage Wire Harnesses		\$200 - \$400	✓	✓		✓	
High Voltage Connection Systems			✓	✓			
Battery Disconnect Units		\$600 - \$800	✓		✓		
Battery Management Systems		\$150 - \$350	✓		✓		✓
Integrated Power Modules	On-Board Chargers	\$600 - \$800	✓		✓		
	DC-DC Converters		✓		✓		





# Electrification Expertise and Why We Win

One of the first to supply high power wiring and electronics for electric vehicles over 10 years ago

Known throughout industry as a problem solver that can deliver customized solutions

Developed first mass market on-board battery charger in 2008

Only supplier with full portfolio across electrified architectures

Scalable core technologies

Trusted and experienced partner

## Customer Award

GM Battery Disconnect Unit

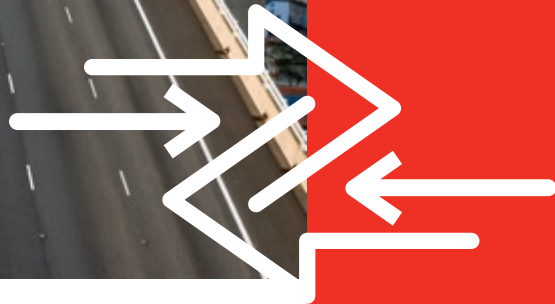


- Highly complex problem involving high-voltage power management
- World-class time to market
- Mechanical packaging expertise drove significant size and weight reductions

- Electrical design achieved high power performance and reductions in thermal loads
- End-to-end ownership of product integration
- Development completed in half the time of a traditional program



# Connection Systems and Vertical Integration





# Comprehensive Connection Systems Core Capabilities and Portfolio

## CONNECTORS



## INLINE CONNECTION SYSTEMS



## POWER DISTRIBUTION & FUSES



## EYELETS / RING TERMINALS



## TERMINALS



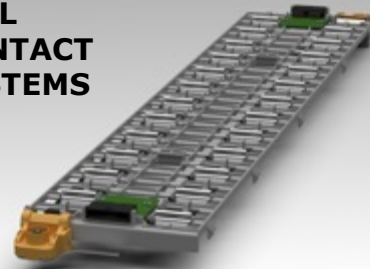
## HIGH SPEED DATA AUTOMOTIVE ETHERNET



## HIGH VOLTAGE



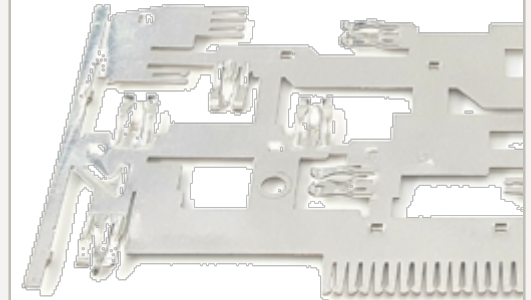
## CELL CONTACT SYSTEMS






















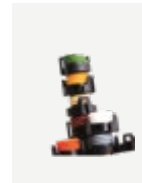
## CHANNELS / BRACKETS / COVERS



## BUSBARS



# Connection Systems Portfolio Aligns to Megatrends

MEGATRENDS	MICROTRENDS	PRODUCTS					
<div></div> <div>AUTONOMY</div>	QUALITY SAFETY RELIABILITY	<ul style="list-style-type: none"><li>• Smart Connectors</li><li>• High Current Terminals</li></ul>	<ul style="list-style-type: none"><li>• Silver Plated Terminals</li><li>• Spring Loaded Terminals</li></ul>				
<div></div> <div>CONNECTIVITY</div>	MINIATURIZATION SIGNAL TRANSMISSION	<ul style="list-style-type: none"><li>• Micro Terminals</li><li>• Clean Body Terminals</li><li>• High Speed Data Terminals &amp; Connectors</li></ul>	<ul style="list-style-type: none"><li>• Clean Body Connectors</li><li>• High Density Connectors</li></ul>				
<div></div> <div>ELECTRIFICATION</div>	HIGH VOLTAGE	<ul style="list-style-type: none"><li>• 48V Terminals &amp; Connectors</li><li>• High Voltage Connectors</li></ul>	<ul style="list-style-type: none"><li>• High Voltage Terminals</li><li>• Battery Cell Connections</li></ul>				
<div></div> <div>SHARED MOBILITY</div>	DURABILITY HIGH PERFORMANCE EFFICIENCY	<ul style="list-style-type: none"><li>• High Vibration Connectors</li><li>• Spring Loaded Terminals</li><li>• Silver &amp; Gold Plated Terminals</li></ul>	<ul style="list-style-type: none"><li>• Clean Body Terminals</li><li>• Inline Systems</li><li>• Aluminium Terminals</li></ul>				





# High Voltage Battery Plugboard

## PRODUCT FUNCTION

Charging function: Connect high voltage DC power to charge EV batteries

Discharging function: Connect vehicle electrical devices to supply power

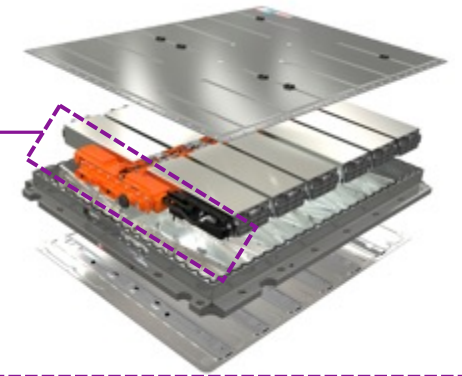
Pressure relief valve: Balance air pressure inside and outside the battery

## VEHICLE FUNCTION

Provide an interface on the battery to connect charging system, battery, pressure relief valve and vehicle electrical devices



Connects the equivalent power to 1,200 50" high-definition LED televisions



19" x 3"

120,000+ kW Connection

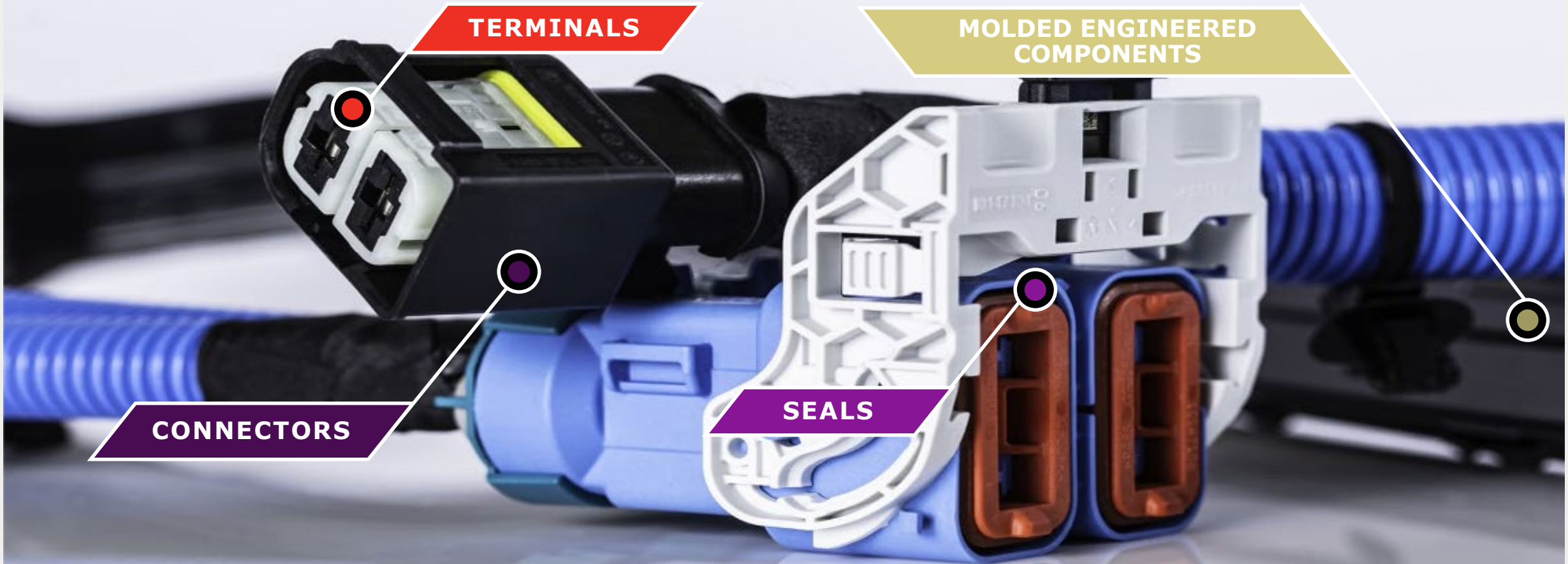


## Why LEAR

- Communicate closely with customer and design integration
- Excellent mold development and quality control abilities
- Development and production experience with similar products

# E-Systems

## Vertically Integrated Connection Systems Capabilities



**INCREASED VERTICAL INTEGRATION DRIVING MARGIN GROWTH**



# Growing Opportunities in Vertical Integration

## CONNECTION SYSTEMS SALES

(\$ in millions, including intercompany sales)



## MARGIN DRIVERS

- Vertically integrating across our Electrical Distribution and Electronic Systems businesses
- Actively in-sourcing from our existing catalog and with new designs
- Increasing relative mix of higher margin Connection Systems and Engineered Components
- Increasing Connection Systems content as industry shifts to high voltage

## GROWTH DRIVERS

- Increasing quote pipeline
- Expanded go-to-market focus for existing catalogs and well positioned for developing high voltage catalogs
- Increased investment in new designs and product partnerships
- Inorganic growth



# Connection Systems and Why We Win

Global manufacturing footprint including Europe, Asia and North America

Scalable core technologies

Highest power density connectors in the industry support lower volume and weight leading to more range

Full portfolio of grounding solutions

Highly automated manufacturing processes

Custom connectors for battery packs and interconnects with in-house manufacturing

## **Customer Award** VW MEB Plugboard Battery Connector

- VW looking for provider with global footprint
- Valued Lear experience in engineered components
- Reputation for engineering, quality and manufacturing
- Close customer relationship
- Strong ESG commitments







# Electrical Architecture Trends

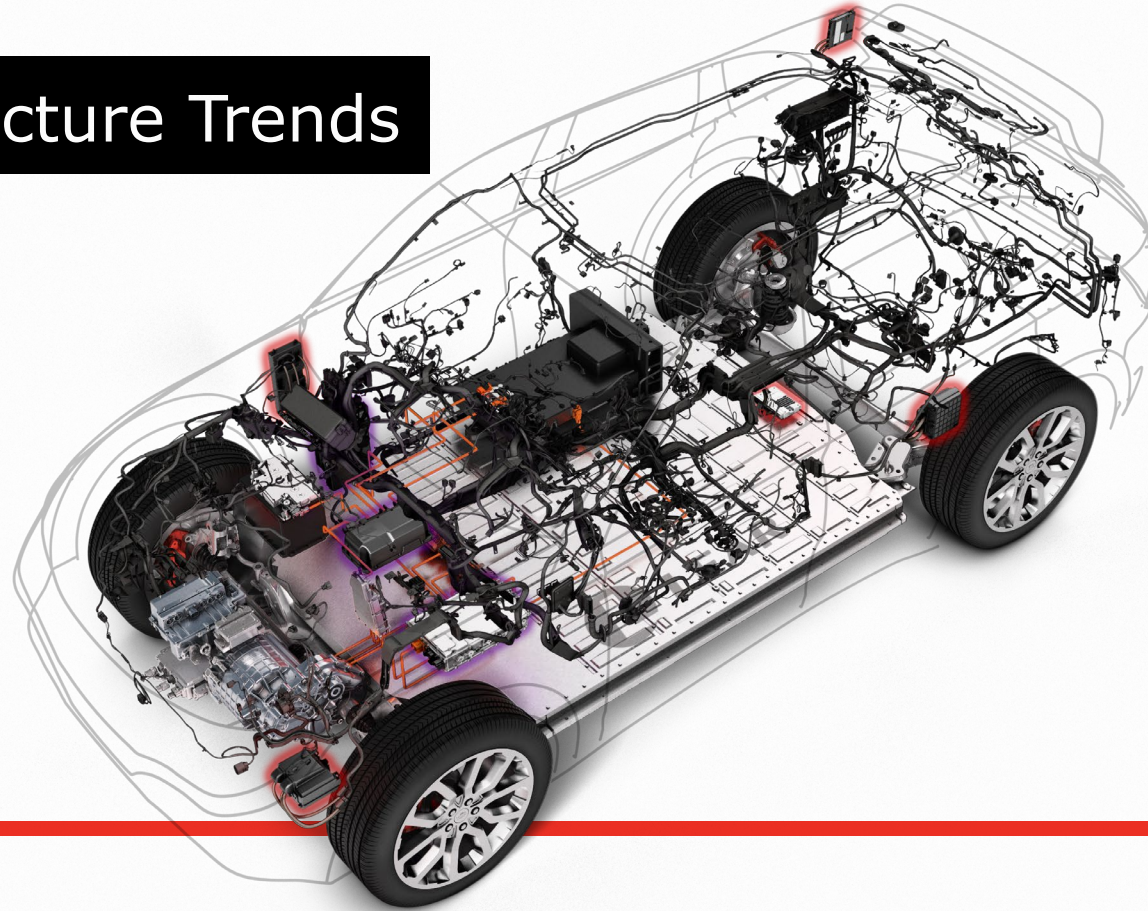


# Electrical Architecture Trends

**SOFTWARE-DEFINED**

**HIGHER POWER**

**ADVANCED NETWORKS**

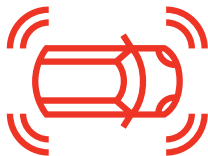


**MORE CONNECTIVITY**

**MORE SECURE**

**MORE INTEGRATED**

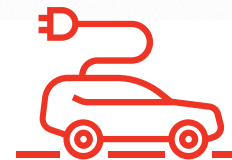
**HIGHER RELIABILITY**



**AUTOMATED DRIVING**



**CONNECTIVITY**



**ELECTRIFICATION**



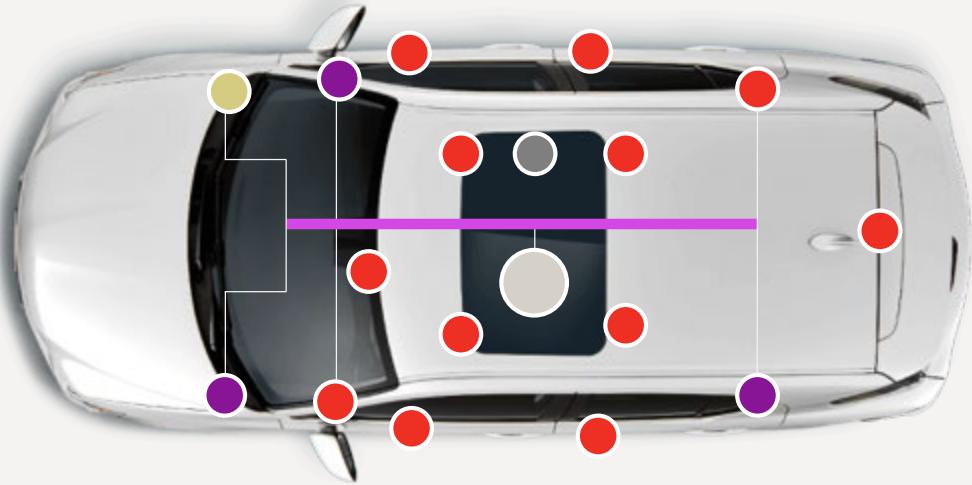
**MOBILITY**





# E-Systems Advantage from Architecture Expertise

## LEAR ADVANCED NETWORK ARCHITECTURE



- |                           |                        |
|---------------------------|------------------------|
| ● Power Distribution Box  | ● ZONE Input/Output    |
| ● Telematics Control Unit | ● Central Compute Unit |
| ● Power Busbar            | ● Zonal Control Module |

### Expertise and product offerings across electrical distribution and connection systems, electronics and software for both high and low voltage

- Domain expertise will map to future software-defined architecture
- Unique vertical integration capabilities
- In-house expertise to solve complex engineering challenges
- Balanced approach to technical solutions leveraging breadth of product expertise



# E-Systems Advantage from Architecture Expertise

## LEAR ENABLING TECHNOLOGIES

### System-level understanding enables unique insights and optimized solutions

- Strengthens deep customer partnerships
- Creation of component value propositions at the system or architecture level
- Broad perspective improves fidelity of industry trends and technologies and enables alignment with future requirements and development of differentiated component level solutions

**GATEWAY /  
CENTRAL  
COMPUTE**



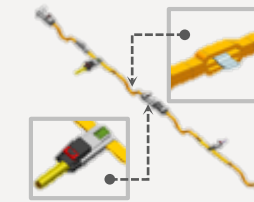
**REDUNDANT  
POWER  
MANAGEMENT**



**ZONE  
CONTROLLER**



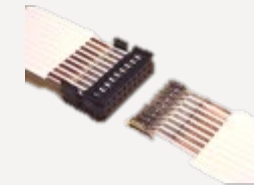
**POWER  
BUSBAR**



**TELEMATICS  
CONTROL UNIT**



**FLAT CABLE  
CONNECTORS**



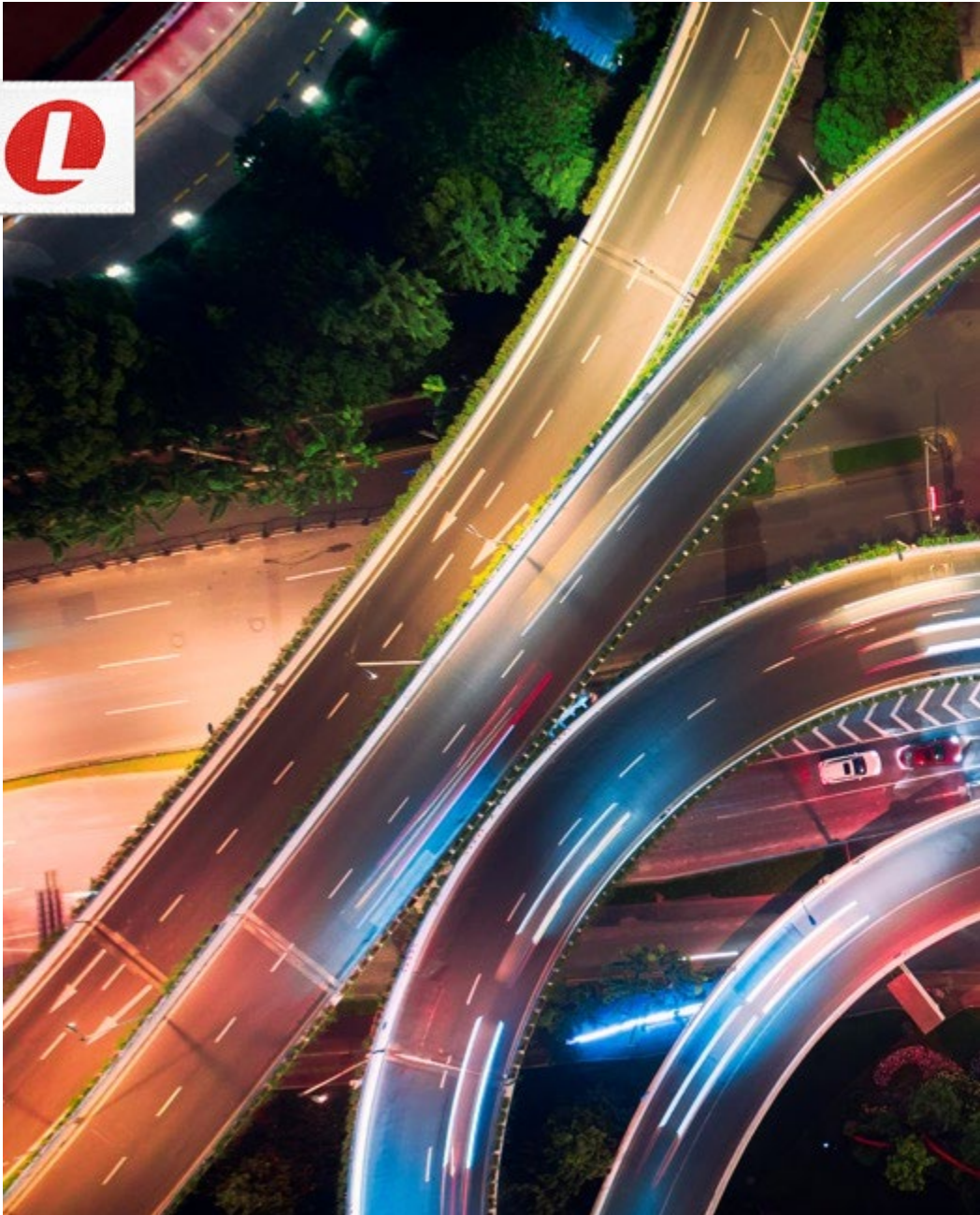
**HIGH SPEED  
DATA CABLE**



**HIGH VOLTAGE  
ELECTRONICS**







# Summary

# Operational Excellence Driving New Business Awards

Global scale & optimized footprint

Quality & Innovation leader

Full-service design, program management,  
engineering and manufacturing

Flawless execution

Customer relationships / trusted partner

Speed to market

## Customer Award

Established European  
Customer Wire Harnesses

- Engineering agility
- Best in class wire quality performance
- Conquest award
- Longstanding customer relationship





# Operational Excellence Driving New Business Awards

Global scale & optimized footprint

Quality & Innovation leader

Full-service design, program management,  
engineering and manufacturing

Flawless execution

Customer relationships / trusted partner

Speed to market

## Customer Award

New Global Customer  
Low & High Voltage  
Wire Harnesses

- World-class time to market
- Industry leading manufacturing processes
- Highly automated solutions
- Quality methods and controls including Artificial Intelligence



# Proactively Positioning E-Systems for the Future



**Diverse product portfolio well aligned with megatrends**



**Increasing opportunities in Electrification and Vertical Integration will drive above market growth and higher margins**



**Domain expertise and systems level understanding of evolving electrical architecture provides customers with unique insights and optimized solutions**



**Customers look to Lear for operational excellence, solving difficult problems and speed of execution**

**EXPECTING 2025 REVENUE OF \$7.5+ BILLION WITH 10% OPERATING MARGINS**







**Carl Esposito** SVP, President of E-Systems

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**John Ellis** VP, Global Engineering

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**Eric Partington** VP, Strategy  
& Product Management

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**Ed Lowenfeld** VP, Investor Relations

# Q/A Session





# Thank you

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March 25, 2021

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Making every drive better™