

# Next-Gen-Auto

Frank V. Billotto | Feb. 2022

DUPONT™

# DuPont's Global Overview

**24,000+**  
Colleagues

**110+**  
Manufacturing Sites

**40+**  
Countries Where We Operate

**~15**  
Global R&D Centers



# Future-Gen Auto focuses on key industry challenges

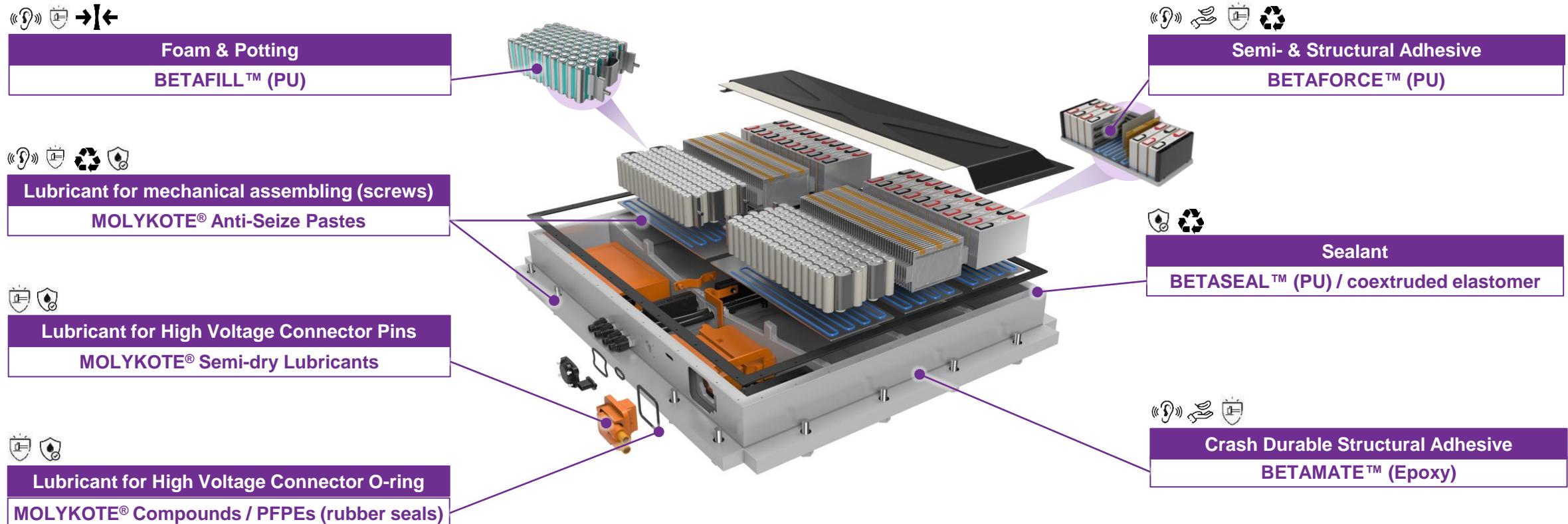
	Battery	eMotor and Drivetrain	Power Electronics (Inverter)	Connectivity, HMI, ADAS (Electronics)
FOCUS AREAS				
INDUSTRY CHALLENGES	<ul style="list-style-type: none"><li>• Improve <b>battery durability</b> and <b>efficiency</b></li><li>• Optimize <b>thermal management</b> and <b>fire prevention</b> for safe operations &amp; rapid charging</li><li>• Enable <b>component reduction, serviceability</b> and repurposing</li></ul>	<ul style="list-style-type: none"><li>• Improve efficiency with <b>high-voltage motors</b></li><li>• Increase <b>ease of assembly</b></li><li>• Reduce <b>NVH</b></li></ul>	<ul style="list-style-type: none"><li>• Improve <b>power output</b> and <b>heat removal</b></li><li>• Improve <b>ease of assembly</b></li><li>• Improve <b>efficiency</b> via transition to <b>next-gen technology</b>, e.g., SiC</li></ul>	<ul style="list-style-type: none"><li>• Improve <b>signal integrity</b></li><li>• Enable <b>thermal mgmt.</b> for PCBs</li><li>• Protect <b>structural integrity</b></li><li>• Reduce <b>complexity and sensitivity</b> of calibration</li></ul>
OUR SOLUTIONS	<ul style="list-style-type: none"><li>• Thermal interface materials and Fire prevention liners</li><li>• Multi-material bonding and Structural Crash Durable adhesives for sealing &amp; assembly</li><li>• Electrical insulation Films &amp; Laminates</li><li>• Lubricants to prevent seizing, wear and noise emission</li></ul>	<ul style="list-style-type: none"><li>• Motor insulation systems</li><li>• Wear and friction components</li><li>• Materials for high voltage &amp; extreme environments</li></ul>	<ul style="list-style-type: none"><li>• Thermal interface materials</li><li>• Robust technologies for high voltage/temperature environments</li></ul>	<ul style="list-style-type: none"><li>• EMI shielding</li><li>• Thermal interface materials</li><li>• Electronics Protection Materials (Vibration/Gap Filler, etc.)</li><li>• Flexible Printed Circuits</li></ul>

# DuPont High-Voltage Battery Solutions



DUPONT™

# Battery Pack “Mechanical” solutions



Anti vibration and NVH

Lightweight

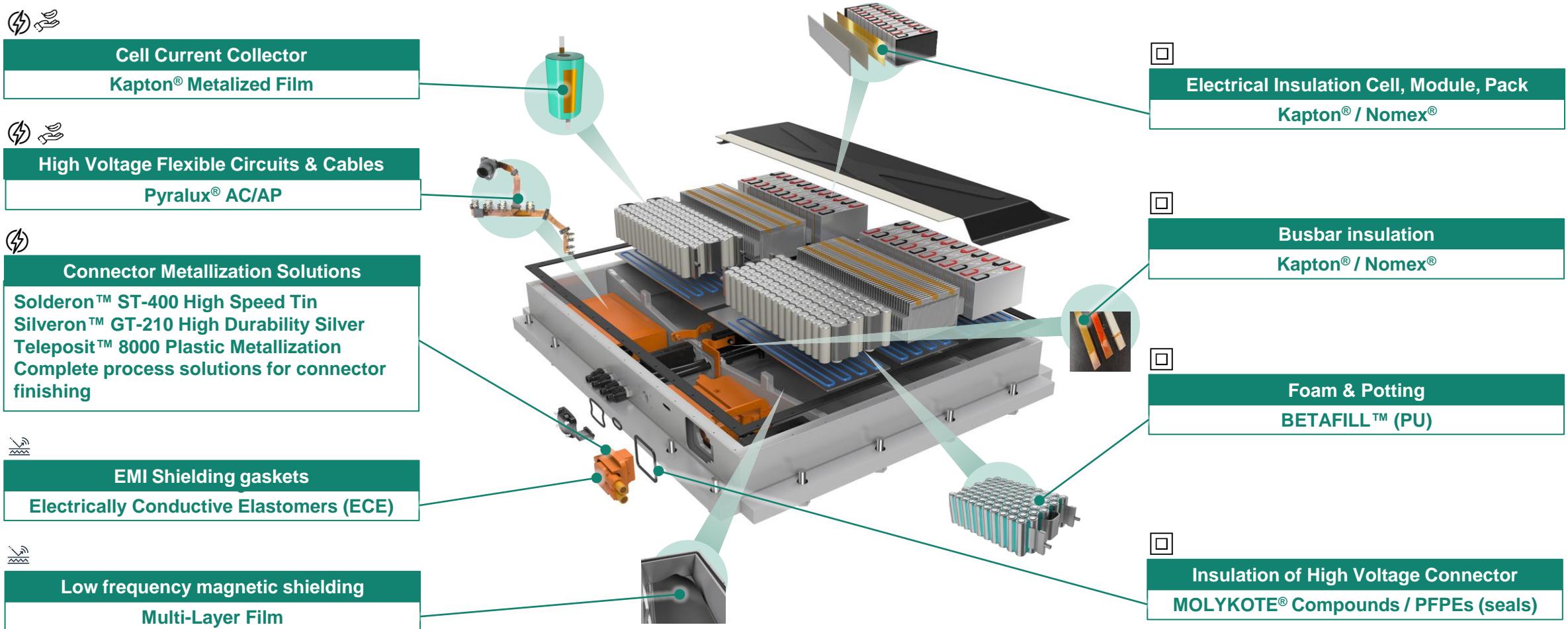
Structural integrity

Environment & corrosion protection

Cushioning, compression & fixation

Repair, Repurpose & Recycle ability

# Battery Pack “Electrical” solutions



Electrical insulation



Electrically conductive

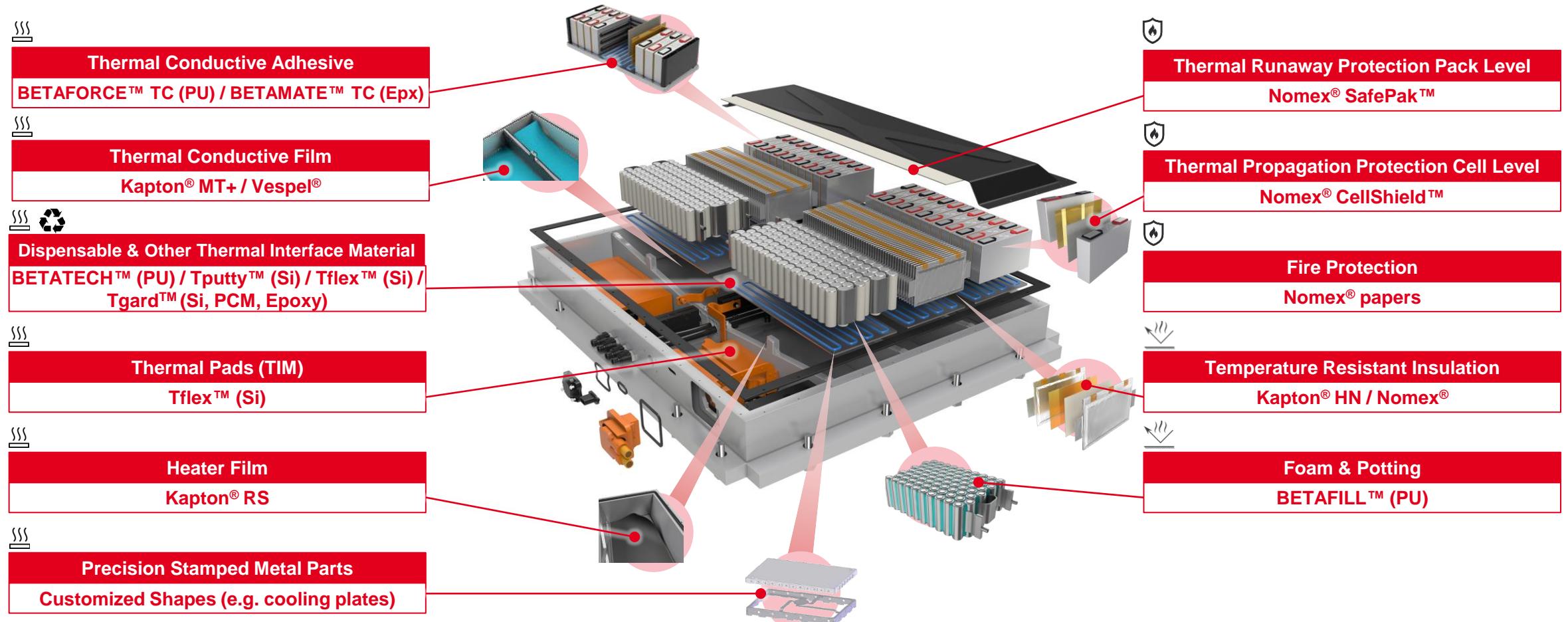


EMI Shielding



Lightweight

# Battery Pack “Thermal” solutions



# Battery Management System “Performance” Solutions



Environmental Protection



Thermal Conductivity



Electrical insulation



Electrically conductive



EMI Shielding



Lightweight

# Example: DuPont solutions OEM's are utilizing today!

## **BETATECH™ Thermal Interface Material**



“

DuPont has a long history of innovation, and we share a common vision for advancing sustainable mobility. We look forward to ongoing collaboration to develop solutions that continue to meet, and exceed, industry challenges.”

– Gilles Le Borgne, EVP Engineering of Renault Group

- Renault is a pioneer in automotive electrification, committed to the development of large-scale electric mobility
- Our one-component BETATECH™ was developed together with Renault to meet their performance and technical needs for high thermal conductivity, low viscosity and robust aging performance
- BETATECH™ was qualified by Renault and is now supplied to key EV production facilities in Maubeuge and Douai in northern France



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