Automotive Battery Pack Integration 2024

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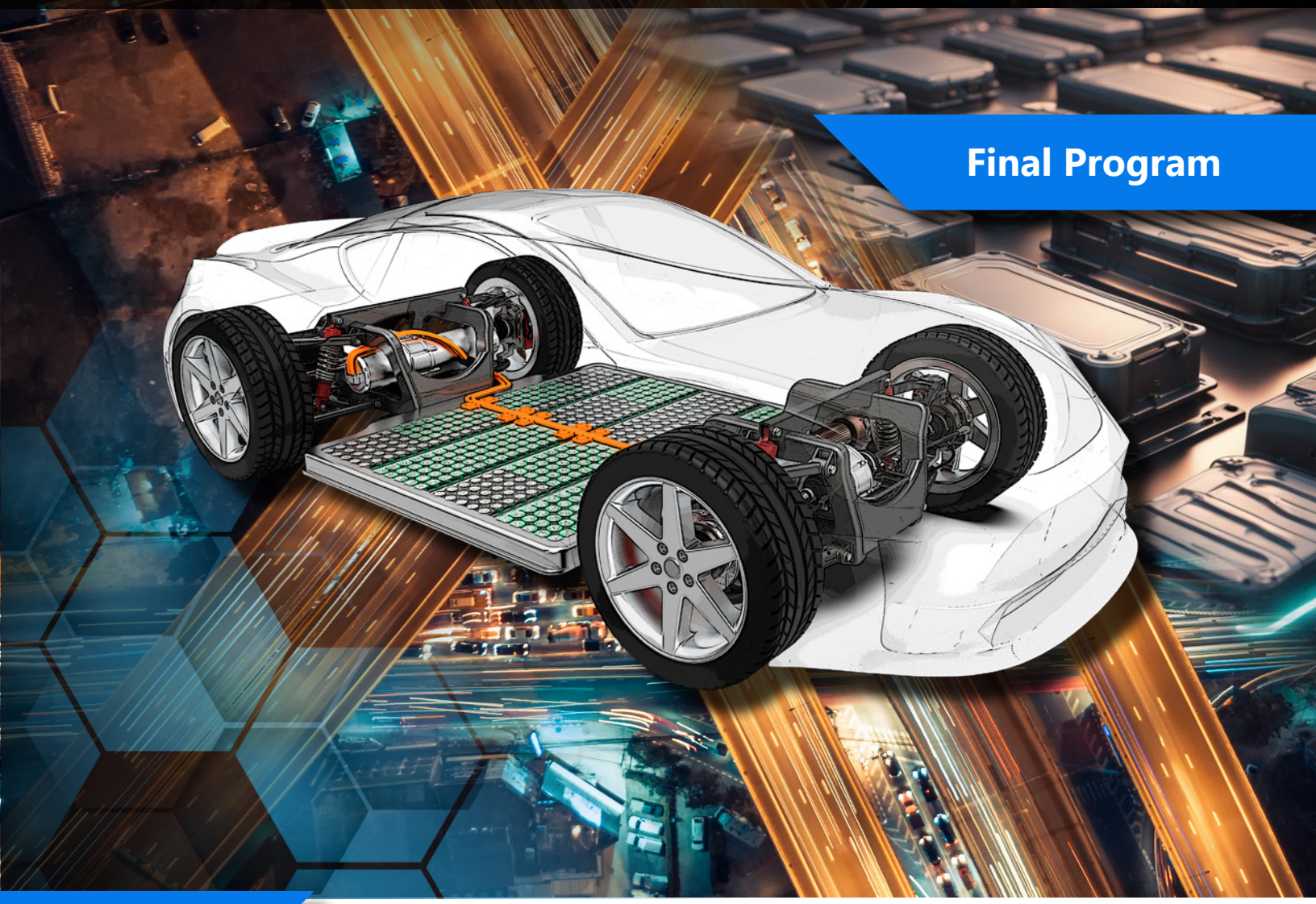
In-person June 12, 2024

The Sheraton Detroit Novi Hotel · Novi, MI USA



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Automotive Battery Pack Integration 2024

7:30 a.m. **Registration, Networking and Continental Breakfast**

8:40 a.m. **Welcome and Opening Remarks**
Mr. Sean Osborne, Vice President
The ITB Group

Battery Pack Systems

9:00 a.m. **Sustainable, Cost Effective, Next Generation HV Battery Enclosure Development**
Managing Director
Forward Engineering North America
This presentation will provide insights into a structured approach to objectively develop sustainable cost-effective solutions for next generation HV battery enclosures, leveraging the broadest toolbox of materials and manufacturing technologies.

9:30 a.m. **A Comprehensive Modeling Approach to Optimize Pressure And Moisture Management in Battery Packs**
R&D Scientist
W.L. Gore
Designing customer-specific venting solutions to minimize moisture ingress while providing adequate pressure equalization for a specified free air volume and battery-pack geometry can be a complex design problem. This presentation will show a modeling-based approach that includes various heat and moisture transport mechanisms, design parameters and operating conditions, and how to use parametric simulations to customize venting solutions.

10:00 a.m. **High Efficiency Busbar Welding**
President
Fabrisonic
This presentation explores how an electric vehicle (EV) manufacturer utilized metal additive manufacturing, specifically Ultrasonic Additive Manufacturing (UAM) to meet increasing EV demand. UAM was chosen for its ability to handle dissimilar metals and complex geometries as well as its high throughput. The challenge of adapting UAM to high-volume automotive production will be discussed.

10:30 a.m. **Networking Break**

Material Innovations

11:10 a.m. **Advanced Adhesive Technologies for Battery Pack Assembly**
Lead Application Engineer
Henkel
EV battery packs and their assembly require advanced adhesive technologies to ensure structural integrity, proper thermal management, and longevity. This presentation will provide a holistic view of material solutions necessary to deliver long-term durability and high performance of battery packs across rigorous production and use conditions. This includes advanced solutions for battery trays/enclosures, sidewalls and crossmembers as well as battery cells and modules. Alternatives to welds and multi-metal joining benefits to reduce weight will be addressed.

11:40 a.m. **Adhesive and Sealant Solutions for Battery Pack Integration**
Senior Technical Service Engineer and Technical Service Manager
Bostik
There is a wide range of structural adhesives available to support battery pack design and assembly challenges. Solutions for battery assembly which have been developed for challenging and innovative battery pack designs will be described. The benefits of choosing the right adhesive and sealant for specific battery pack design and processing will be demonstrated.

12:10 p.m. **Increasing Battery Pack Performance through PPA Materials**
Head of Technical Development
BASF
Hybrid, plug-in hybrid, and battery electric vehicles are under immense pressure to reduce cost and increase performance. Engineering plastic materials used in electrical component design have reached their limits. Aluminum housings and covers can potentially be replaced by next generation materials to save mass and cost. This presentation focuses on PPA materials and their advantages to improve cost, mass, and performance of battery packs and electrical components.

12:40 p.m. **Lunch**

Presentations will be made available to conference attendees two weeks after the conference has concluded AND when provided permission by the speaker

1:50 p.m. **New Polycarbonate Based Products with High CTI and Flame Retardancy for EV Applications**
Product Technology Lead for Mobility Interior and EV Packaging and Lead of Global Industrial Marketing Mobility
Covestro
An overview of test methods to determine comparative tracking index (CTI) will be given with the intent to clarify critical points about CTI, performance level categories, and insulating material groups. Conflicting demands on both flame retardancy and high CTI have been resolved in new polycarbonate-based products. Key properties will be compared.

2:20 p.m. **Long chain polyamides for Thermal Management and High Voltage application in BEVs**
Business Development Manager
Evonik
Long chain polyamides may be used for battery busbar and fluid tubing solutions. Such materials provide reliable insulation of the busbars to transfer energy at up to 1000 V, while enabling flame retardancy according UL94 V0 certification. Insights into the development of nylon compounds for power busbars, covering application related processing trials and EV specific testing programs like ISO6722/19642 will be shared. Also highlighted will be a strategy to reduce the carbon footprint of long chain polyamides by using renewable energy and recycled feedstock.

2:50 p.m. **Specialty Polymers That Can Take the Heat in Battery Pack Applications**
Global Marketing Managers Senior Research Scientist
Syensqo
Battery pack design and material selection enable systems to mitigate the impact of a thermal runaway event through flame suppression and heat resistance. Performance of insulation end plates, busbars, and housings can be improved through use of specialty materials. This presentation highlights material innovations including a compound capable of withstanding 1000 °C torch exposure for over ten minutes.

3:20 p.m. **Networking Break**

Battery Pack Thermal Integration

3:45 p.m. **Beyond Battery Cycling – How to Ensure Your Thermal Systems are Sized and Validated Before Installation**
Technical Director of Battery
Element Materials Technology
In battery development, supporting electronics, thermal management systems, and structural components may be secondary. This presentation will show how to plan ahead for thermal systems that can be integrated into the latest battery systems for effective power management with minimal system losses. Measures necessary to ensure long-term durability and effectiveness will be addressed

4:15 p.m. **Pack Design Strategies for Faster Charging, Extending Range, and Enhancing Safety through Thermal Management**
Application Engineering Manager
NeoGraf Solutions
Battery pack design plays a vital role in the safety of the vehicle, and the thermal management aspects of enhancing pack safety will be examined. Five factors influencing how fast a battery can be charged will be discussed with emphasis on battery pack thermal management.

4:45 p.m. **High Voltage Heater for the Cooling Systems of Battery Electric Vehicles**
Product Manager Thermal Systems
Roechling
Thermal management performance and cost is key for battery pack success. Roechling will present their development of a unique concept to for a plastic battery housing with an integrated heating element.

5:15 p.m. **Closing Remarks**

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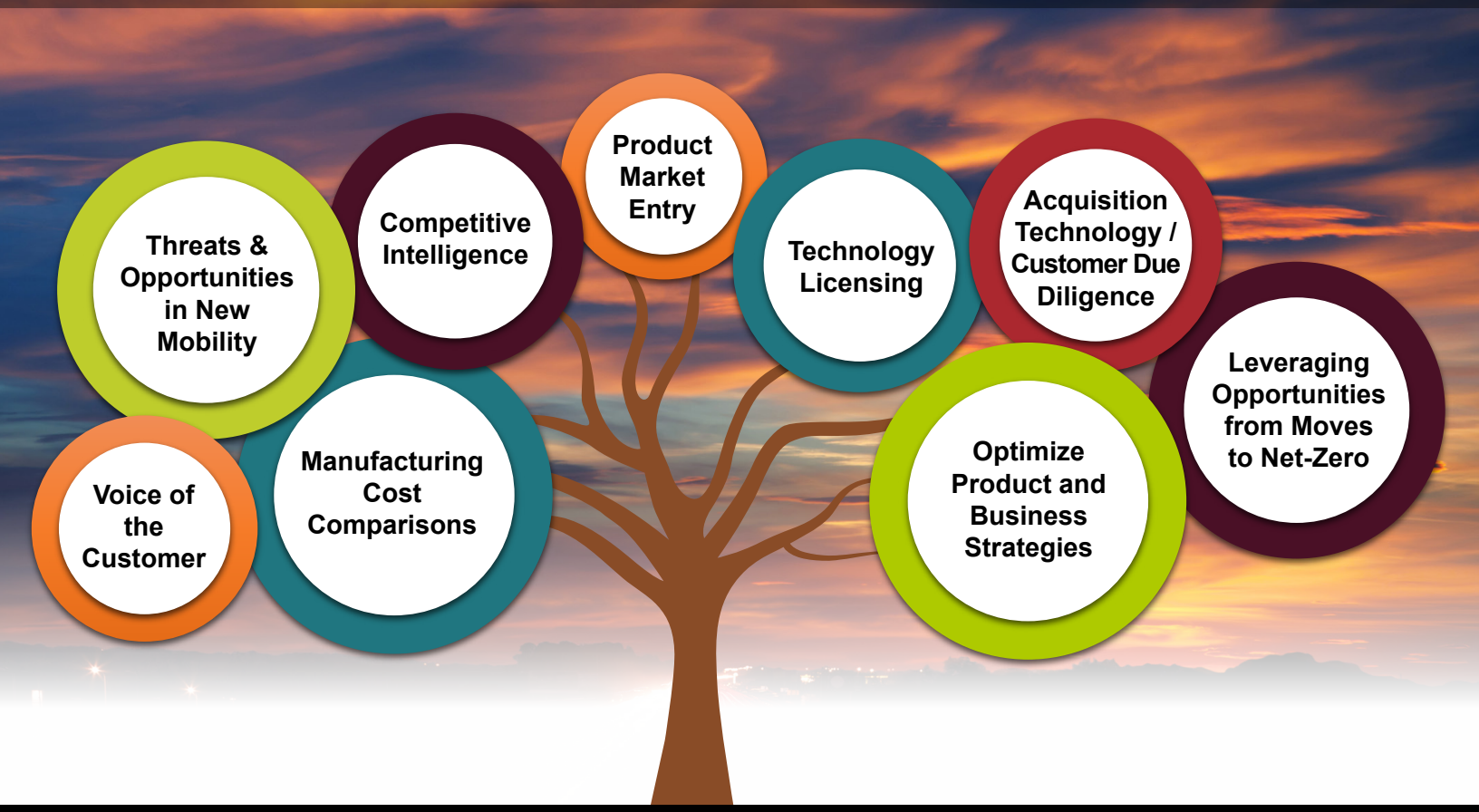

ITB Reports and Events

Research Reports
Click HERE for Details

- Staying Competitive with Chinese Plug-in Vehicle Developments
- Evolving Plug-in and Hybrid Vehicle Thermal Management
- Hydrogen Storage Tanks and Engines for Mobility
- Hydrogen Systems for Transport Briefing
- Global ICE Briefing

Upcoming Conferences
Click HERE for Details

- Smart Automotive Surfaces 2024
- Advanced Mobility Fuels Summit China 2024
- Critical Technologies for Sustainable Vehicle Production 2025
- Advanced Mobility Fuel Summit 2025
- Automotive Battery Pack Integration 2025
- Thermal Management Systems and Materials 2025

Contact The ITB Group for more information

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