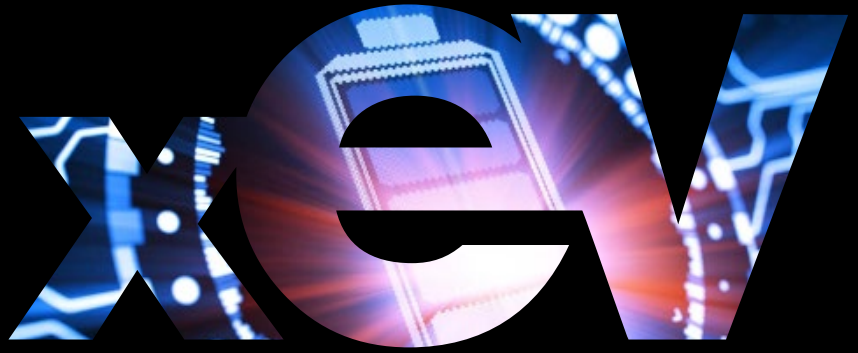




NOVEMBER 20-21<sup>ST</sup>

2024

SHERATON DETROIT NOVI  
DETROIT | USA



# BATTECH USA

**xEV ADVANCED BATTERY TECHNOLOGY INNOVATION SUMMIT**

OPTIMIZING COST, SAFETY & SYSTEM INTEGRATION WHILST REDUCING COMPLEXITY

BMS | BTM CELLS & MODULES | PACKAGING | ASSEMBLY | MANUFACTURING | TECHNOLOGY | SUSTAINABILITY

DON'T MISS OUT! OUR SUPER SAVER RATE ENDS 27<sup>TH</sup> SEPTEMBER 2024

OEM/Battery Mnf. **\$499**

Vendor/Supplier **\$799**

**REGISTER NOW**

| Headline Sponsor 2024



| Partners 2024



| Network Break Sponsors 2024



| Co-Sponsors 2024



## JOIN NORTH AMERICA'S PREMIER GATHERING OF BATTERY DESIGNERS, LEADING ENGINEERS, INNOVATORS AND EXPERTS

Take part in this industry leading event where Battery Technology leaders representing global OEMs, Tier1's and key solution providers, explore future trends, innovations and disruptive technologies shaping the future of vehicle manufacturing.

**2 DAY**  
TECHNICAL FOCUS

**40+**  
SPEAKERS

**30+**  
EXHIBITORS

**400+**  
DELEGATES

# DAY 1 | Battery Thermal Management

Addressing these challenges is critical to advancing the state of EV battery thermal management and improving the overall performance, safety, and sustainability of electric vehicles. Researchers, engineers, and manufacturers are continually working on innovative solutions to overcome these obstacles and accelerate the adoption of electric mobility.

**Energy Density:** EVs demand high-energy-density batteries for extended driving ranges. However, increasing energy density often generates more heat during charging and discharging, necessitating innovative thermal solutions to dissipate heat without compromising safety or efficiency.

**Fast Charging:** As EVs move towards faster charging capabilities, managing the heat generated during rapid charging becomes critical. Ensuring that batteries can withstand fast charging without overheating or degrading is a significant challenge.

**Battery Safety:** Preventing thermal runaway and thermal events, such as fires or explosions, is paramount. Developing materials and systems that enhance battery safety, especially in high-stress situations, is an ongoing concern.

**Cost-Effectiveness:** Implementing efficient thermal management systems while keeping

costs down is a continuous challenge. Affordable solutions are essential to make EVs more accessible to a broader range of consumers.

**Packaging Constraints:** EVs have limited space available for battery packs. Designing thermal management systems that fit within the packaging constraints while maximizing efficiency is a complex problem.

**Environmental Impact:** Sustainable materials and practices are increasingly important in EV battery thermal management. Developing eco-friendly cooling fluids and insulation materials is a challenge to minimize the environmental impact of EVs.

**Longevity:** Extending the lifespan of EV batteries is crucial for reducing the total cost of ownership. Thermal management strategies that minimize battery degradation over time are in high demand.

**Extreme Operating Conditions:** EVs are used in a wide range of climates, from extreme cold to scorching heat. Creating thermal management systems that can handle these diverse conditions without compromising performance is a persistent challenge.

**Extreme Operating Conditions:** EVs are used in a wide range of climates, from extreme cold to scorching heat. Creating thermal management systems that can handle these diverse conditions without compromising performance is a persistent challenge.

**Integration with Vehicle Systems:** Ensuring seamless integration of thermal management systems with the broader vehicle architecture, including power electronics and climate control, requires innovative engineering solutions.

# DAY 2 | Battery Cells & Systems Technologies

In the realm of electric vehicle (EV) manufacturing, safety has taken center stage, with an unwavering commitment to lowering battery costs while simultaneously enhancing energy density and rapid charging capabilities. As battery technology and cell chemistries continue to evolve, OEMs are laser-focused on realizing these objectives. They are actively seeking technologies that not only ensure safety but also drive efficiency, competitiveness in cost, sustainability, and deliver higher energy densities compared to previous standards.

- The Trade-off Between Battery Cost, Safety, Energy Density & Performance
- Improving Battery Safety & Preventing Thermal Runaway
- Optimizing Battery Management Systems
- Increasing Precision & Accuracy of Energy, Temperature & Safety Prediction
- How BMS Is Keeping Up With Evolving Cell Technology
- Designing Better Battery Packs
- The Commercialised Application Of Wireless BMS Solutions
- How BMS Will Keep Up With Evolving Cell Technology

- Future Battery Packs & Design Trends
- Solid-State
- Latest Methodologies In Battery Testing
- Battery Technologies & Pack Designs That Enable Fast Charging
- Assessing Future Chemistries & Technologies That Promise High Energy Density
- Battery Recycling & Battery Supply



## ESTEEMED CONFERENCE CHAIR 2024

**Are you ready to explore the forefront of electric vehicle innovation?** Join us for a dynamic conference that delves into the heart of EV battery technology – optimizing the whole vehicle architecture at a system level. During this industry leading conference, we will unearth the strategies and insights that are shaping the future of automotive engineering.

We will uncover the challenges and triumphs of optimizing system integration on a whole vehicle scale, setting the stage for a new era in automotive engineering. Explore the cutting-edge design philosophies tailored to various classes of Battery Electric Vehicles, and gain a deeper understanding of how these philosophies influence the overall vehicle design.

Delve into the intricate relationship between emerging design philosophies and their impact on critical aspects such as battery pack integration and thermal optimization; and learn how to seamlessly incorporate cost optimization into whole vehicle design concept.

Explore the intricacies of battery pack integration, while discovering the latest breakthroughs in thermal optimization and multi-function component integration. Get ready to be at the forefront of innovation in the automotive industry. This conference always promises to deliver fresh insights, groundbreaking strategies, and a glimpse into the future of electric vehicle architecture optimization. Don't miss out – **secure your seat today!**



**BOB GALYEN**

RT. CTO CATL, CHAIRMAN EMERITUS, NAATBATT



## DAY 1 | xEV Battery Thermal Management

### Next-Generation Battery Thermal Management Systems And Technology

07:45

#### Registration/Morning Reception

08:30

#### Chair's Opening Remarks

08:40

#### Innovative Thermal Management Solutions For Electric Vehicle Batteries: Multi-Functional Heating and Cooling Systems

- As the demand for electric vehicles (EVs) continues to surge, the efficiency and longevity of EV batteries have become paramount. Central to this is the development of advanced thermal management systems that can effectively regulate battery temperature. This presentation delves into multi-functional thermal heating and cooling systems, highlighting their critical role in optimizing battery performance, safety, and lifespan. Attendees will gain insights into the latest technologies, design strategies, and future trends in EV battery thermal management
- Components of Multi-Functional Thermal Systems:** Overview of heating and cooling mechanisms; integration of phase change materials (PCMs) and liquid cooling systems; role of advanced materials in thermal regulation
- Technologies in Focus:** Heat pumps and thermoelectric coolers; passive vs. active thermal management systems; innovations in thermal interface materials (TIMs)
- Future Trends and Developments:** Emerging technologies in thermal management; potential impact of solid-state batteries on thermal systems; trends towards integration with vehicle climate control systems

09:00

#### Maximizing Lithium-Ion Battery Safety: Strategies for Enhanced Performance And Reliability

Mekiyah Bailey, Field Application Engineer II,  
Parker Lord

- Understand the impact of increased energy density in lithium-ion batteries on performance and longevity.
- Identify the inherent risks associated with high energy density in lithium-ion batteries, particularly thermal runaway, and its implications for EV safety.
- Explore comprehensive strategies for enhancing battery safety, including:
  - Battery cell chemistry optimization
  - Cell design improvements
  - Advanced thermal management techniques
  - Utilization of advanced materials in battery packaging
  - Implementation of sophisticated battery management systems
- Gain insight into EV battery safety by:
  - Surveying different types of batteries commonly used in EVs and their associated hazard
  - Analyzing root causes of battery failures and identifying effective solutions for ensuring battery safety

- Discuss effective strategies for preventing or mitigating battery thermal events, considering the importance of proactive measures in safeguarding EV drivers and passengers

09:30

#### Maximizing Efficiency & Unlocking Battery System Performance Whilst Driving Down Cost Of Battery Pack Production

David Brandt, Technical Sales Manager -  
E-Mobility, SIKA

- Unlocking performance in your battery thermal management system utilizing state of the art gap fillers and thermally conductive adhesives
- Enabling maximum performance whilst maintaining efficient manufacturing processes to drive down the costs of battery pack production
- Reduce weight and improve efficiency utilizing the latest materials to market in order to meet the demands of the latest adoptions in the BEV landscape
- Design by nature:** Using nature to influence design in battery thermal management?
- Materials:** Finding the sweet-spot for thermal conductivity
- Sustainability:** How solutions can enable repair, reuse and recycling

09:50

#### Thermal Management Strategies For Faster Charging, Extended Range, And Propagation Prevention

Bret Trimmer, Applications Engineering  
Manager, NeoGraf Solutions

- Explore the challenges and opportunities as we delve into cutting-edge technologies, strategies, and best practices to optimize thermal performance in EVs
- Review the latest goals and best current methods for EV, ePlane, eVTOL, and Maritime battery thermal management
- Examine the five factors that allow cells to charge quickly and discuss the single factor that pack designers can control
- Unravel the secrets to maximizing driving range through innovative thermal management materials
- Explore the four primary strategies battery pack manufacturers use to prevent Thermal Runaway and the impact of each on fast charging, cell performance, and cell lifetime
- For applications where smaller-pack-size and lighter weights are essential, flexible graphite will be discussed as a direct substitute for aluminum

10:10

#### Optimizing EV Thermal Management: Overcoming Design Complexity And Enhancing Efficiency

Key components such as electric water pumps, coolant valves, and expansion devices are vital for maintaining optimal temperatures within battery cooling and heating circuits. Traditionally, these components operate as distributed mechatronic actuators, each with its own ECU, communicating

via LIN bus to the Zone Controller. However, this distributed architecture leads to increased complexity and numerous integration challenges. Transitioning to an Integrated Thermal Management System (ITMS) promises significant improvements by centralizing actuator functions and reducing the overall number of components. This presentation will explore the benefits of ITMS, including streamlined system integration, cost reduction, and enhanced thermal efficiency.

- Understand the limitations and complexities of current distributed thermal management architectures in EVs
- Explore the structure and components of an Integrated Thermal Management System (ITMS) and its operational advantages
- Identify the potential cost savings, efficiency gains, and engineering resource optimizations achieved through the adoption of ITMS

10:30

#### Morning Networking Break

11:10

#### Battery Cooling: Harnessing Laser Welding For Stronger, Lighter, Sustainable Aluminum Cooling Plates

Adrian Serna, Business Development Specialist,  
AdvanTech International

- Explore the advantages of laser welding, including enhanced strength, reduced weight, and cost savings, achieved through the utilization of robust yet affordable materials.
- Examine the environmental advantages of ground breaking laser welding technology, particularly in terms of reducing the CO2 footprint, and its contribution to sustainability efforts
- Gain insight into the practical applications of laser-welded aluminum cooling plates across various industries, understanding their potential market impact and benefits
- Analyze the trajectory of laser welding technology, forecasting its potential to reshape the landscape of battery cooling solutions and its broader implications for industrial applications

11:30

#### Unveiling The Power Of Technology For Enhanced Fire Protection In Electric Vehicles

Alexander Teuffl, Head of Sales - Battery  
Protection, AIS Ltd.

- How to increase safety against Thermal Runaway
- How to protect against Thermal Runaway up to 250Ah per cell
- Application know-how to optimize the module & pack production.
- Comparing different shielding technologies per application

11:50

#### Enhancing EV Range With Efficient Thermal Management: The Role of Simulation Tools



For electric vehicle (EV) manufacturers, maximizing range is a critical factor for consumer appeal. An efficient Vehicle Thermal Management System (VTMS) plays a crucial role in achieving this by optimizing the temperature regulation of powertrain components, thereby improving overall efficiency, safety, and durability. Given the complexity of modern VTMS, which involves numerous components such as pumps, compressors, heat exchangers, and valves, a holistic approach is necessary for their development and optimization. This presentation will delve into how simulation tools can drive the efficient integration and optimization of VTMS, from concept through to detailed design, significantly reducing time and cost while enhancing vehicle performance.

- Understand the importance of efficient thermal management in extending the range and ensuring the safety and durability of EVs
- Explore how simulation tools can streamline the development process of VTMS by allowing early conceptual evaluation and optimization, reducing the need for extensive testing and prototyping
- Learn how to leverage simulation tools like for detailed modeling and optimization of thermal management components, ensuring precise integration and performance of the overall system

12:10

## Processing Of Foams For Thermal Propagation Protection

Wim Dexters, Sales Engineering Director, bdrtronic, Americas

- Explore the fundamental principles underlying the generation of foams for thermal propagation protection in battery modules, including the key mechanisms involved in foam formation and their significance in preventing thermal runaway
- Analyze various concepts and techniques for processing foams in battery applications, elucidating their individual advantages and disadvantages in terms of thermal management, adhesion, and overall performance
- Understand the critical parameters and considerations involved in the selection and application of foaming adhesives for thermal propagation protection, including factors such as material compatibility, processing conditions, and environmental considerations
- Assess the impact of foam processing techniques on the structural integrity and reliability of battery modules in automotive electric vehicles, highlighting best practices and potential challenges faced by battery engineers and manufacturers
- Gain insights into innovative approaches and emerging trends in foam processing technology for thermal propagation protection, with a focus on enhancing efficiency, performance, and safety in automotive battery applications

12:30 - 40 min Round Table

## Round Table Panel Discussion

### Leveraging AI For Enhanced Thermal Management In Lithium-Ion Batteries

Moderator:

Panelists:

Artificial Intelligence (AI), particularly machine learning, is transforming thermal management in lithium-ion batteries. By integrating machine learning with first-principles calculations, researchers are gaining a deeper understanding of lithium-ion de-embedding and its effects on thermal conductivity. This technology also enhances battery temperature monitoring and prediction, improving heat dissipation, ensuring better battery performance, and preventing thermal failures.

- **Understand the Role of Machine Learning in Thermal Management:** Explore how machine learning techniques, combined with first-principles calculations, improve understanding and management of thermal conductivity in lithium-ion batteries
- **Enhance Battery Temperature Monitoring:** Learn about the integration of machine learning with sensors for reliable and accurate temperature estimation, leading to better battery performance and prevention of thermal failures
- **Improve Safety Management with Predictive Techniques:** Discover how machine learning can predict operating conditions and enhance safety management in energy storage systems by effectively monitoring and analyzing battery health and safety status

13:10

## Network Lunch Break

14:10

### Thermal Innovations For EV Battery Safety: Unveiling Next-Gen Solutions

Dezarai Shepherd, EV Battery Innovation Lead, Stanley Black & Decker, Inc.

- **Addressing Critical Challenges in Li-Ion Batteries:** Safety, performance, lifetime, costs, and sustainability, and explore how effective thermal management can mitigate these challenges
- **Understanding the Effects of Charging and Discharging Cycles:** Learn about the volumetric changes, swelling, and contraction experienced by batteries, especially in prismatic cells, during charging and discharging cycles, and their implications for battery performance and safety
- **Exploring Novel Approaches in Thermal Management:** Discover innovative approaches such as integrating thermal barriers with swelling compensators to address thermal propagation risks and battery cell swelling, and understand the effectiveness of these solutions through experimental investigation and numerical simulations
- **Optimizing Thermal Management Solutions:** Gain insights into optimizing the use of swelling compensators and thermal barriers to effectively mitigate thermal propagation risks, leading to improved safety, performance, and longevity of EV batteries
- **Advancing Thermal and Pressure Management Strategies:** Explore advanced thermal and pressure management strategies in battery packs, to enhance the safety, reliability, and efficiency of EV batteries

14:30

### Technological Advancements & Latest Insights On Battery Pack Thermal Management

Nathan Saliga, Chief Engineer, One | Our Next Energy

- Get a complete overview of advancements made in thermal management technology to cool battery packs
- Understand the process used to develop these technologies including where they started, the current stage they are at, the challenges encountered and how they are being overcome
- Examine new battery cell chemistries and their thermal requirements
- Assess results from abuse testing for battery packs

14:50

### Maximizing Thermal Runaway Protection With Advanced Cell-to-Cell Barriers

Cell-to-cell thermal barriers offer cutting-edge solutions for mitigating thermal runaway propagation in electric vehicle (EV) batteries. By integrating these ultrathin, lightweight barriers, battery engineers can meet stringent safety standards and enhance battery pack performance. This presentation will delve into the benefits of barriers, focusing on their ability to stop thermal propagation, perform dual roles as compression pads and fire barriers, and support next-generation cell architecture. Learn how these advanced materials can help achieve your battery safety and performance goals.

- **Understand Thermal Runaway Mitigation:** Explore how thermal barriers effectively stop thermal propagation at the cell-to-cell level, enhancing overall battery safety
- **Meet and Exceed Safety Standards:** Learn how these solutions help engineers satisfy critical safety requirements, including China's GB38031 and the UN's ECE/TRANS/180/Add.20 standards
- **Optimize Battery Pack Design and Performance:** Discover how barriers support maximum volumetric cell-to-pack ratio (VCP) and perform essential mechanical and thermal functions, leading to improved battery pack performance

15:10

### Breaking The Trade-Off Between Product Quality And Development Time Using 3D Deep-Learning Algorithms: Heat Exchanger Optimization

Dr.-Ing. Kosmas Kritikos, MBA, Commercial Director DACH, Neural Concept

- Understand how predictive models based on 3D Deep Learning algorithms accurately forecast numerical simulation results in near real-time directly from 3D CAD geometry
- Explore the capabilities of Deep Generative models in swiftly generating innovative design variations
- Learn about fully automated optimization campaigns that efficiently optimize geometries, leveraging predictive and generative capabilities.
- Discover a powerful and open platform enabling OEMs to seamlessly integrate deep learning technology into existing workflows and effectively use it in production
- Gain insights into recent algorithms based on Geometric Deep Learning, which enable shortcutting simulation chains through predictive models outputting post-processed simulation results and optimization suggestions directly from CAD designs
- Implement predictive and generative models to streamline heat exchanger optimization processes, leading to significant performance enhancements
- Understand how AI models can emulate the expertise of simulation engineers, empowering product or design engineers to make informed decisions early in the development process
- Uncover the complexities of heat exchanger design and the advantages of utilizing AI-driven internal CFD simulations for non-parametric optimization

15:30

### Enhancing Electric Vehicle Safety: Thermoplastic Thermal Runaway Barrier Solutions

OEM/Battery Mnf. **\$499**

Vendor/Supplier **\$799**

battery-innovation-usa.com

Explore how innovative thermoplastic-based thermal runaway barrier solutions are revolutionizing electric vehicle (EV) safety by preventing fire spread within battery systems. Test results demonstrate the efficacy of materials in providing thermal insulation and flame resistance, reducing the risk of cell-to-cell propagation during thermal runaway scenarios. Discover how flame-retardant resins have been evaluated and verified for their ability to delay flames effectively, ensuring enhanced safety in EV battery enclosures.

**Thermal Runaway Mitigation:** Understand the role of thermoplastic-based thermal barrier solutions in mitigating thermal runaway events within EV battery systems, reducing safety risks associated with high-temperature gas, open flames, and pressure increases.

**Material Performance and Verification:** Learn about the performance characteristics of resins and its ability to provide thermal insulation and flame resistance, as well as certifications for effective flame delay performance in battery enclosure applications.

**Application in EV Battery Components:** Explore real-world applications of thermoplastic materials in EV battery components, including module enclosures, busbars, and end plates, and understand how these materials contribute to meeting stringent fire safety regulations and improving overall safety, efficiency, and performance of EV battery systems.

15:50

## Enabling Battery Circularity: Innovations In Debondable Adhesives

Discover latest advancements in debondable adhesives, designed to promote the circularity of batteries through enhanced repair, re-use, and recyclability. These innovative adhesives address the growing need for high structural integrity in high energy density battery designs, such as cell-to-pack configurations, while also facilitating the disassembly process essential for battery repair, re-use, and recycling.

- **Circularity in Battery Design:** Understand the importance of debondable adhesives in enabling the circularity of batteries, allowing for efficient repair, re-use, and recycling of battery components and materials
- **Structural Integrity and Disassembly:** Learn how debonding technology enhances the structural integrity of battery cells within the battery tray or vehicle structure, while also enabling seamless disassembly for maintenance, repair, and end-of-life processes
- **Sustainability and Environmental Impact:** Explore the role of debondable adhesives in advancing sustainability goals by promoting the reusability and recyclability of battery systems, contributing to the reduction of waste and environmental impact associated with battery manufacturing and disposal

16:10

## Afternoon Networking Break

16:50

## Sealing Safety: Coating Solutions For Next-Gen EV Battery Packs

Discover the advancement of Electric Vehicle (EV) development through cutting-edge solutions tailored for enhanced safety, performance, and manufacturing efficiency. From advanced battery fire protection to thermal management solutions and shielding coatings, this presentation will explore a comprehensive portfolio that addresses critical challenges in EV battery pack design and production. Gain valuable insights into innovations that are driving automotive powertrain systems.

- **Enhancing Safety and Performance:** Understand how solutions for advanced battery fire protection, thermal management, and dielectric isolation coatings contribute to enhancing the safety and performance of EV battery packs, ensuring reliable operation and mitigating risks of thermal runaway
- **Streamlining Manufacturing Processes:** Discover how automated application processes and coatings facilitate increased manufacturing throughput, optimizing efficiency and scalability in EV battery pack assembly
- **Collaborative Innovation:** Learn about the critical challenges in EV battery pack design and production, ultimately accelerating the development of next-generation automotive powertrain systems

17:10 - 40 min Round Table

## Round Table Panel Discussion

### Unlocking the Future: Leading OEMs Explore Trends In EV Battery Thermal Management

**Moderator:**

**Panelists:**

This round table panel brings together key thought leaders and visionaries in the field of electric vehicle (EV) battery thermal management to discuss current trends and forecast future developments. Covering topics such as immersion cooling, machine learning applications, advanced materials, and holistic thermal management systems, the panel aims to provide insights into the challenges, innovations, and opportunities shaping the future of EV battery technology. Through collaborative discussion and shared expertise, attendees will gain a comprehensive understanding of the evolving landscape of EV battery thermal management.

- Gain insights into emerging trends and technologies in EV battery thermal management, including immersion cooling, machine learning applications, and advanced materials
- Explore the challenges and opportunities associated with current thermal management solutions and forecast future developments in the field
- Foster collaboration and knowledge exchange among industry leaders to accelerate innovation and drive progress in EV battery thermal management

17:50 - 40 min Round Table

## Round Table Panel Discussion

### Overcoming Infrastructure & Regulatory Hurdles For Scaling Electric Vehicles In The U.S.

**Moderator:**

**Panelists:**

Join us for an illuminating round table panel addressing the crucial challenges hindering the widespread adoption and scaling of electric vehicles (EVs) in the United States. This session will delve into the outdated infrastructure and regulatory barriers that pose significant obstacles to the continued growth of EVs and EV battery manufacturing. The panel will explore key recommendations for overcoming these challenges, focusing on expanding the public charging station network, clarifying environmental rules for battery factories, streamlining approval processes for key battery chemicals, and encouraging innovation in battery recycling and disposal.

- Gain insights into the current state of electric vehicle adoption and manufacturing in the U.S., including the factors driving growth and the impediments to scaling
- Understand the critical infrastructure and regulatory challenges facing the EV industry, such as the need for an expanded charging station

- network and clarity on environmental rules for battery factories
- Explore actionable recommendations for overcoming these hurdles, including streamlining approval processes, promoting innovation in battery recycling, and fostering collaboration among industry stakeholders

18:30

## Sealed For Success: Solutions For Immersion Cooling In EV Batteries

This presentation delves into the rising prominence of immersion cooling technology for electric vehicle (EV) batteries and the critical role of sealing systems in ensuring its safety and efficacy. Innovative materials address the challenge of leak-proofing immersion cooling systems, crucial for maintaining the integrity of coolant circulation. From sealing gaps during battery cell insertion to withstand prolonged coolant exposure, engineered compounds offer robust solutions for EV manufacturers seeking reliable immersion cooling.

- Understand the significance of immersion cooling in enhancing EV battery efficiency and charging times
- Explore the challenges associated with ensuring leak-proof seals in immersion cooling systems, particularly in EV batteries
- Learn about advanced potting compounds and sealants engineered to address the unique sealing requirements of EV battery immersion cooling

18:50

## Innovative Tape Solutions For Mitigating Fire Propagation Risks In Electric Vehicle Battery Systems

Join us for an insightful presentation addressing the critical challenge of maintaining optimal battery temperatures to prevent thermal runaway events. With the demand for electric vehicles rising, effective thermal management solutions are paramount to ensure safety and reliability. This session will focus on innovative tape solutions, specifically engineered to provide thermal barrier protection and prevent the spread of thermal events between battery cells. These solutions offer heat-absorbent and flame-resistant properties, along with electrical insulation, effectively reducing the risk of fire propagation within battery modules.

- Understand the challenges faced by automakers in maintaining optimal battery temperatures to prevent thermal runaway events
- Explore innovative tape solutions, designed to provide thermal barrier protection and mitigate the spread of thermal events between adjacent battery cells
- Learn about the heat-absorbent, flame-resistant properties, and electrical insulation capabilities, and how they contribute to enhancing safety and reliability in electric vehicle battery systems

19:10

## Chair's Closing Remarks

19:30

## All Attendee Drinks Reception

# DAY 2 | Battery Tech Cells & Systems

## Optimizing the Safety, Capacity and Lifespan of Lithium-Ion Batteries with Battery Management Systems, Battery Intelligence Innovations & Battery Pack Advancements

07:45

### Registration/Morning Reception

08:30

### Chair's Opening Remarks

08:40

### Innovative Cooling Solutions For EV Batteries: Pioneering Cell Design

A leading OEM has recently filed a patent for innovative battery cells designed to enhance cooling efficiency through unconventional shapes. Moving away from the traditional rectangular form of the current Ultium cells, the OEM proposes Lego-like shapes that create cooling channels when assembled into modules. This design aims to extend battery life by improving cooling directly over a larger surface area. However, the complexity of manufacturing these nonuniform cells presents significant challenges. This presentation will delve into the technical and production implications of this new design, evaluating its potential to revolutionize EV battery performance and production.

- **Understanding the Design Innovation:** Explore the unique Lego-like shapes of these proposed battery cells and how they create cooling channels to improve thermal management and battery longevity
- **Evaluating Manufacturing Challenges:** Assess the complexities and potential production challenges associated with manufacturing nonuniform battery cells
- **Projecting Future Applications and Impact:** Discuss the potential impact of this innovation on the OEM's future EV models and the broader EV market, including anticipated benefits and the feasibility of integrating these new cells into upcoming vehicle designs

09:00

### Exploring The Boundaries Of Multi-Material Assembly Through Cutting-Edge Friction Welding Elements Technology

**Arnaud Gug, Director of Product Management, EJOT Industrial Division**

- Learn about the crucial role of innovative fastener solutions in adapting to new multi-material battery structures and ultra-high strength steels, while maximizing lightweight materials
- Understanding the necessity for reliable production processes capable of seamlessly integrating with diverse materials and thicknesses to meet the demands of high-volume battery manufacturing
- Explore the game-changing benefits of a rapid and straightforward friction welding process, slashing cycle times without any surface preparation or pre-drilled holes
- Unlock the potential of minimal heat affected zone and compact profile in friction welding, coupled with its versatility with various adhesives, revolutionizing manufacturing efficiency

09:20

### Maximizing Efficiency And Sustainability In EV Battery Assembly With Plasmatreat

**Frank Petrolli, VP Strategic Market Development, Plasmatreat**

**Alex Borchardt, Sales & Business Development, Plasmatreat**

We'll unveil the future of EV battery assembly processes, where Plasmatreat(ment) technology emerges as a revolutionary force. Prepare to be captivated by the incredible versatility of Plasmatreat(ment) as it cleans and activates surfaces, transforming automotive manufacturing. Explore a world of possibilities with over 100 diverse applications, and be amazed by its game-changing impact on production processes. Dive into the cutting-edge #OpenAirPlasma® Technology, where Plasmatreat(ment) elevates EV battery assembly, enhancing thermal management, bond strength, corrosion protection, and more.

Discover how it paves the way for scalable battery production, aligning perfectly with the rapid growth of the EV industry. Join us on this eco-friendly journey, as Plasmatreat(ment) reduces VOC and CO2 emissions, championing sustainability. And, the excitement doesn't end there – gain valuable insights into traceability and zero downtime.

09:40

### Electrification: How OEMs Accelerate Architecture Research & Definition While Optimizing Power, Range, Reliability, And Cost

**Anthony Giesey, SVP & Head of Brands, Economy Group**

A dynamic session where you'll discover how more than 250+ leading OEMs are propelling the rapid development and continuous refinement of their next-generation vehicle architectures. Delve into the intricacies of optimizing power, range, reliability, and cost while staying at the forefront of innovation. Explore the Economy Ecosystem, supported by a network of 700+ suppliers, driving over 90% of new electrified architectures across diverse industries including Automotive, Aviation, Off-Highway, Logistics, and Marine. Gain invaluable insights from the company that has spearheaded the evolution of Automotive architectures, from 48V to extraordinary voltages like 900V and beyond, setting a precedent for innovation in various sectors. Don't miss this opportunity to be at the forefront of cutting-edge architectural advancements.

- Overview of this exciting Ecosystem and how it supports 95%+ of all next-generation mobility architecture
- Learn market trends for industry adoption, including the roadmap to 10kV+ electrified powertrains & fully autonomous vehicles
- Learn about state-of-the-art electrified powertrain, autonomous-enabling sensors, software stacks, and development tools

10:00

### Unleashing The Potential: Innovations In Powder Coating For Enhanced BEV Component Performance

**Kevin Hales, Automotive Innovation Manager – Powder Coatings, AkzoNobel**

Uncover the transformative power of powder coating in battery electric vehicle components. Explore the remarkable advancements, applications, performance enhancements, and environmental benefits that powder coating offers in BEV components. Gain valuable insights into the unique challenges faced when powder coating BEV components, from intricate designs to material requirements, as we tackle these challenges head-on to achieve flawless results. Discover the future trends and emerging opportunities in the rapidly evolving field of powder coating for BEV components, setting the stage for new horizons in innovation.

Delve into the critical role of powder coating as a protective insulating layer for battery packs, mitigating the risk of electrical system failures and preventing heat build-up in batteries, ensuring optimal safety and performance. Unlock the secrets behind powder coating's exceptional electrical insulation properties, empowering even the most intricate designs with high dielectric strength, extraordinary adhesion performance, and exceptional thermal shock resistance. Unlocking the untapped potential of powder coating for enhanced BEV component performance.

10:20

**AkzoNobel**

### Morning Networking Break

11:00

### Innovative Joining And Sealing Solutions Achieved By Flowform® Fasteners And PIAS® Nuts For Electric Vehicle (EV) Battery Manufacturing

**Thomas Klama, Application Engineer, ARNOLD Fastening Systems**

**Joerg Pecho, Director Functional Parts Pre-Series Production, ARNOLD Fastening Systems**

Explore the pivotal role of comprehensive joining solutions in battery design and manufacturing processes within the context of today's electric vehicle landscape. This session delves into the use of Flowform® fasteners and PIAS® Pierce nuts to build robust, leak-free battery packs, safeguarding them from environmental factors. Discover innovative approaches for tackling joining challenges across various material stack-ups, adhesive applications, and sealing methods for battery housing designs.

11:20

### Improved Methods For Leak testing Lithium-Ion Batteries

**Thomas Schwoerer, President, Zeltwanger**

Highlighting the critical importance of Battery Leak Testing for ensuring both safety and performance

OEM/Battery Mnf. **\$499**

Vendor/Supplier **\$799**

[battery-innovation-usa.com](http://battery-innovation-usa.com)



in the field of battery technology. Delving into comprehensive test solutions spanning from laboratory settings to the production scale within Giga factories, covering a spectrum of battery components, including cells, modules, packs, enclosures (trays and lids), cooling channels, and associated components. The presentation underscores the pivotal role that rigorous leak testing plays in safeguarding battery systems and maximizing their efficiency at various stages of development and production.

11:40

## Digital Twin Of EV Batteries: A Cradle-To-Grave Solution For Streamlining Development, Production, and Disassembly

**Katharina Gerber**, Engagement Lead - Battery Industry, **Siemens Digital Industries Software**

The Digital Twin of an EV Battery serves as a comprehensive cradle-to-grave tool, optimizing every stage of the battery lifecycle—from initial design to end-of-life disassembly. Starting with the optimization of cell design, this digital model allows for the precise integration of cells into modules and packs, incorporating simulations for thermal runaway events, thermal management, optimized cooling strategies, and Battery Management Systems (BMS). This holistic approach enables developers to refine designs and anticipate performance under various conditions. Beyond the development phase, the Digital Twin provides valuable support during the production process by generating detailed bills of materials and bills of manufacturing. It streamlines assembly by offering a virtual guide, ensuring accuracy and efficiency. As the battery reaches the end of its life, the Digital Twin becomes a critical asset for sustainable practices, providing a blueprint for the automated disassembly of used EV packs. It serves as an instructional document for robotic systems, enabling efficient recycling and recovery of valuable materials. This comprehensive digital approach not only enhances the development and testing phases but also ensures a sustainable and cost-effective end-of-life process for EV batteries.

### Optimization of Cell Design and Integration:

- The Digital Twin starts by optimizing the design of individual cells and their integration into modules and packs
- Simulations for thermal runaway events, thermal management, optimized cooling, and Battery Management Systems (BMS) are incorporated to enhance safety and performance

### Support for Production and Assembly:

- Provides detailed bills of materials (BOM) and bills of manufacturing (BOMfg) to streamline the production process
- Offers a virtual guide to ensure accurate and efficient assembly of battery components

### End-of-Life Management and Disassembly:

- Acts as a blueprint for the automated disassembly of used EV battery packs
- Serves as an instructional document for robotic systems to efficiently recycle and recover valuable materials

### Holistic Lifecycle Approach:

- Acts as a blueprint for the automated disassembly of used EV battery packs
- Serves as an instructional document for robotic systems to efficiently recycle and recover valuable materials

12:00

## Revolutionary Conductivity: How Carbon-Coated Aluminum Foil Transforms EV Batteries

Electric vehicle (EV) battery performance hinges on innovative materials and technologies. Carbon-coated aluminum foil is emerging as a game changer, combining the lightweight and conductive properties of aluminum with the enhanced electrical performance of carbon. This presentation will delve into the development, application methods, and benefits of this advanced material. We will explore how it enhances battery efficiency, capacity, and longevity, driving the future of EV technology.

### Understanding Carbon-Coated Aluminum Foil Technology:

- Explore the composition and development of carbon-coated aluminum foil
- Learn how this material integrates the lightweight strength of aluminum with the conductive properties of carbon to improve EV battery performance

### Evaluating Carbon Coating Methods and Their Impacts:

- Examine various carbon coating techniques, including Chemical Vapor Deposition (CVD), Electrophoretic Deposition (EPD), and Solution Processing
- Assess the advantages and challenges of each method in terms of cost, efficiency, and performance

### Analyzing the Benefits for EV Batteries:

- Understand how carbon-coated aluminum foil enhances conductivity, adhesion, and surface area, leading to increased battery capacity and stability
- Discuss the impact on battery performance, including reduced internal resistance, improved charging times, and extended battery lifespan, contributing to the advancement of sustainable transportation

12:20 - 40 min Round Table

## Round Table Panel Discussion Cutting-Edge Innovations And Challenges In Lithium Battery Technologies

### Moderator:

### Panelists:

The lithium battery market is evolving rapidly, with novel battery types emerging frequently. Lithium-iron-phosphate (LFP) batteries currently dominate, especially in China, due to their cost-effectiveness and durability. Additionally, sodium-ion batteries are gaining traction, with significant manufacturing capacities being developed. All-solid-state lithium batteries (ASSLBs), which offer enhanced safety and performance, are also making strides. However, challenges such as environmental impacts of lithium extraction and fire safety concerns persist. This round table discussion will explore recent advancements, including novel electrolyte chemistries and improved manufacturing techniques, that aim to enhance the efficiency and sustainability of lithium batteries.

- **Understanding Market Trends and Dominant Technologies:** Examine the current dominance of LFP batteries, especially by Chinese manufacturers, and the emergence of sodium-ion batteries as an alternative
- **Exploring Technological Innovations:** Delve into recent advancements in ASSLBs, including the grain-boundary electronic insulation (GBEI)

strategy that significantly extends cycling life and reduces self-discharge rates, and the development of novel electrolyte chemistries for improved battery performance

### Addressing Environmental and Safety

**Challenges:** Analyze the environmental risks associated with lithium extraction, the fire safety hazards of lithium-ion batteries, and the innovative solutions being developed to mitigate these issues and promote sustainable, cost-effective battery technologies

13:10

## Network Lunch Break

14:00

## Optimizing EV Battery Pack and Cell Connection Systems: Overcoming Sensor Integration Challenges

The heart of an electric vehicle (EV) is its battery pack, with the cell connection system being crucial for both performance and safety. Integrating advanced sensor technologies into these systems is essential for monitoring critical parameters such as temperature, voltage, current, gas emissions, and water intrusion. This presentation explores the challenges and solutions in sensor integration for EV battery packs, focusing on how to enhance performance, safety, and longevity through precise and effective sensor deployment.

### Understanding the Role of Temperature Sensors:

- Learn how temperature sensors manage thermal conditions to prevent overheating and ensure optimal battery performance
- Understand the impact of temperature fluctuations on battery health and safety, including risks like thermal runaway and lithium dendrite growth

### Voltage and Current Monitoring Challenges:

- Discover the importance of accurate voltage and current measurements in maintaining state of charge (SOC) and state of health (SOH) of battery cells
- Explore the design requirements for sensor circuits to handle the dynamic stresses of charging and discharging cycles

### Gas Detection and Water Intrusion Prevention:

- Examine the critical role of gas sensors in early detection of thermal runaway and the types of gasses indicative of this condition
- Learn about the challenges of detecting and mitigating water intrusion and coolant leaks to prevent short circuits and corrosion within the battery pack

14:20

## Overcoming Challenges in EV Battery Module Welding: Speed and Precision with Lasers

With the rapid expansion of the electric vehicle (EV) industry, the demand for efficient and precise battery welding solutions is greater than ever. This presentation delves into advanced laser welding cell, which integrate cutting-edge technologies such as SCARA robots, dynamic clamping tools, and in-process monitoring. Designed to produce battery modules at an unparalleled speed of one module per minute, this automated solution addresses key challenges in the EV battery manufacturing process, ensuring high-quality welds and robust performance.

### Understanding Remote Laser Welding Technology:

- Learn about the capabilities of remote laser welding heads, including precision control and

- optimal penetration depth for high-quality welds
- Explore how the integration of optical fibers and gantry systems enhances the welding process for various battery module configurations

#### Maximizing Efficiency with Dynamic Clamping and Vision Systems:

- Discover the role of SCARA robots in applying precise pressure for consistent weld quality and how vision systems ensure accurate positioning of battery cells
- Understand how dynamic clamping tools and real-time vision analysis contribute to achieving rapid welding cycles and minimizing downtime

#### Ensuring Quality and Safety with Advanced Monitoring and Fume Extraction:

- Examine the importance of in-process monitoring systems for real-time validation of weld quality and the automatic detection of defects
- Learn about the critical role of fume extraction systems in maintaining a clean work environment and preventing contamination that could affect weld integrity and safety

14:40

### Streamlining EV Battery Manufacturing: The Role of Electrode-Fixing Tapes

This presentation will introduce cutting-edge electrode-fixing tapes designed specifically for electric vehicle (EV) battery assembly. These tapes, manufactured in the USA, are engineered to enhance the safety, efficiency, and assembly process. This presentation will introduce cutting-edge electrode-fixing tapes designed specifically for electric vehicle (EV) battery assembly. These tapes, manufactured in the USA, are engineered to enhance the safety, efficiency, and assembly process of EV batteries while ensuring compliance with industry regulations. Featuring electrolyte-compatible acrylic adhesives and distinctive green coloring, these tapes offer self-wound, liner-less construction for ease of use. Join us as we explore the innovative features and applications of these electrode-fixing tapes in optimizing EV battery design and assembly.

#### Understanding the Role of Electrode-Fixing Tapes in EV Battery Assembly:

- Gain insights into the specialized adhesive properties and construction of electrode-fixing tapes used to bind multilayer electrode constructions in EV battery cells
- Explore the significance of electrode-fixing tapes in optimizing the structural integrity and performance of EV battery components

#### Exploring the Benefits and Features of Electrode-Fixing Tapes:

- Learn about the electrolyte-compatible acrylic adhesives and highly visible green color of these electrode-fixing tapes, enhancing safety and visibility during assembly
- Understand the advantages of self-wound, liner-less construction and the availability of various widths on plastic cores for efficient application in EV battery manufacturing

#### Addressing Key Challenges in EV Battery Manufacturing:

- Discover how electrode-fixing tapes contribute to reducing flammability, boosting dielectric strength, and optimizing design and assembly processes in EV battery manufacturing
- Explore the role of polyethylene terephthalate (PET) and polypropylene (PP) plastic facestocks in ensuring chemical inertness and preventing self-discharge in EV battery cells

15:00

### Prioritizing Safety: Navigating EV

### Battery Testing Challenges

As electric vehicle (EV) batteries evolve with increased energy capacity and power output, ensuring personnel safety during testing becomes paramount. This presentation offers an in-depth exploration of critical safety considerations for personnel and test setups in EV battery testing. From facility requirements to specialized equipment and proactive/reactive safety measures, attendees will gain valuable insights into maintaining safety while handling high-voltage electronics and batteries. Through case studies and best practices, this session emphasizes the importance of prioritizing safety in EV battery testing to ensure a secure and promising future for EV technology.

#### Understanding Safety Requirements in EV Battery Testing:

- Explore the evolving challenges posed by the increasing energy capacity, power output, and recharge speeds of EV batteries
- Learn about the essential safety protocols and facility requirements necessary to mitigate risks during EV battery testing

#### Exploring Specialized Test Equipment and Real-Time Monitoring Solutions:

- Gain insights into the specialized test equipment and real-time monitoring systems used to ensure personnel safety and data integrity during EV battery testing
- Understand the role of advanced technologies in detecting and responding to potential safety hazards in real-time

#### Implementing Proactive and Reactive Safety Measures:

- Discover proactive safety measures aimed at preventing accidents and minimizing risks before they occur during EV battery testing
- Learn about reactive safety measures designed to swiftly address safety incidents and protect personnel and equipment in emergency situations

15:20

### Safeguarding the Future: Battling Particle Contamination in EV Battery Manufacturing

As the electric vehicle (EV) industry surges forward, the safe and efficient production of EV batteries becomes increasingly vital. However, an often overlooked challenge in this process is particle contamination, which can jeopardize safety, performance, and efficiency. This presentation delves into the implications of particle contamination in EV battery manufacturing and explores innovative solutions to address this issue. From understanding the risks associated with particle contamination to implementing advanced detection technologies and setting contamination baselines, attendees will gain insights into safeguarding EV battery production. Additionally, the presentation highlights the critical role of particle counting in recycling end-of-life EV batteries to ensure environmental sustainability and economic viability.

#### Understanding the Risks of Particle Contamination:

- Explore the safety hazards posed by particle contamination in EV batteries, including risks of short circuits, thermal runaway, and compromised performance
- Recognize the challenges faced by fire crews in extinguishing EV battery fires due to their unique characteristics

#### Challenges in Particle Detection and Inspection:

- Learn about the limitations of traditional inspection methods for detecting particles in EV battery cells and the need for scalable next-generation solutions
- Explore innovative approaches such as automated inspection systems and advanced imaging techniques to enhance particle detection

capabilities

#### Implementing Contamination Control Measures:

- Discover stringent contamination control measures and advanced detection technologies employed to mitigate hazards and uphold production quality
- Understand the distinction between conductive and non-conductive particles and their respective impacts on battery performance

#### Recycling and Repurposing End-of-Life Batteries:

- Recognize the urgency and importance of recycling end-of-life EV batteries to recover valuable materials, minimize environmental impact, and harness economic potential
- Explore the role of particle counting in ensuring the safety, performance, and environmental sustainability of repurposed battery systems

15:40

### Breaking Boundaries in EV Battery Assembly: The Lamination Revolution

Explore the cutting-edge advancements in EV battery module assembly with the introduction of an innovative cell contacting system (CCS) lamination approach. This transformative method eliminates the need for traditional positioning methods like molded plastic trays and foams, offering enhanced precision, flexibility, and sustainability. Discover how rigorous testing and qualification of PET insulation foils and adhesives from multiple suppliers have streamlined CCS design and assembly, driving efficiency and reducing environmental footprint. With a focus on sustainability and efficiency, this groundbreaking approach is poised to shape the future of EV battery module design and assembly.

- Understanding the Limitations of Traditional CCS Assembly Methods:** Explore challenges posed by conventional methods such as molded plastic trays and foams in CCS assembly, including weight, complexity, and structural limitations
- Introduction to Advanced Lamination Approach:** Learn about innovative hot and cold lamination processes designed to eliminate the need for traditional positioning methods and offer enhanced precision and flexibility
- Qualification of PET Foils and Adhesives:** Discover how rigorous testing and qualification of PET insulation foils and adhesives have streamlined CCS design and assembly
- Implications and Benefits of Advanced Lamination Approach:** Understand the far-reaching implications of this approach, including improved structural integrity and lifespan of EV battery modules, reduced manufacturing cycle times, and environmental footprint
- Focus on Sustainability and Efficiency:** Explore the commitment to sustainability and efficiency through the reduction or elimination of traditional adhesives, addressing concerns over longevity, environmental impact, and manufacturing efficiency

16:00

### Afternoon Networking Break

16:40

### Revolutionizing Recycling: Pioneering Designs For Intrinsic Recyclability In Electrodes and Cells

Explore the frontier of battery recycling with our presentation, "Revolutionizing Recycling." We'll delve into ground-breaking designs aimed at embedding recyclability directly into electrode and cell structures. Attendees will uncover the challenges and opportunities inherent in pioneering



intrinsic recyclability, from material selection to manufacturing processes. Throughout the session, insights into innovative design principles, regulatory considerations, and collaborative strategies will be shared, empowering participants to drive meaningful change in the battery industry. By the conclusion, attendees will be equipped with strategies to revolutionize recycling practices, minimize waste, and foster sustainability in battery technology.

- Explore ground-breaking designs aimed at embedding recyclability directly into electrode and cell structures
- Uncover challenges and opportunities inherent in pioneering intrinsic recyclability, from material selection to manufacturing processes
- Gain insights into innovative design principles, regulatory considerations, and collaborative strategies to drive meaningful change in the battery industry towards sustainability

### 17:00 - 40 min Round Table

#### Round Table Panel Discussion

### Powering The Future: The Role Of Solid-State Batteries In The US EV Market

**Moderator:**

**Panelists:**

The electric vehicle (EV) revolution is transforming the automotive industry, with the US playing a pivotal role in this global shift. As the demand for more efficient and safer battery technologies grows, solid-state batteries are emerging as a key innovation. This round table discussion will delve into the advancements in solid-state battery technology, the challenges the US faces in securing critical minerals, and the strategic efforts to establish a robust supply chain. By examining the intersection of technology, geopolitics, and industry strategy, we will explore how the US can maintain its competitive edge in the EV market.

#### Understand Solid-State Battery Technology:

- Gain insights into the advancements and benefits of solid-state batteries, including their higher energy density, improved safety, and potential to revolutionize the EV market
- Explore the current state of solid-state battery research and development in the US, including key players and emerging trends

#### Analyze the Geopolitical and Economic Challenges:

- Examine the US's efforts to secure critical minerals essential for solid-state battery production amid global competition and geopolitical tensions
- Understand the impact of the Inflation Reduction Act of 2022 and other policies on the US EV supply chain and how they aim to reduce dependence on foreign sources

#### Explore Strategic Industry Initiatives:

- Investigate the initiatives and partnerships the US is fostering to build a resilient and sustainable EV battery supply chain, including collaborations with tech startups and academic institutions
- Assess the potential of battery recycling and

other innovative solutions to address raw material shortages and ensure long-term supply chain security

### 17:40 - 40 min Round Table

#### Round Table Panel Discussion

### Navigating The Future Of EV Battery Technology: Balancing Price, Performance, And Innovation

**Moderator:**

**Panelists:**

As the electric vehicle (EV) market evolves, the dual goals of price and performance remain paramount. While price is straightforward to quantify, performance is influenced by myriad factors encompassing materials science and engineering innovations. Over the next few years, significant advancements in EV battery technology are anticipated, particularly in solid-state solutions. However, the landscape of global EV manufacturing reveals a competitive edge held by Korean and Chinese companies, posing challenges for European, Japanese, and North American automakers. This round table discussion will explore the innovative strategies shaping the industry, the crucial role of rapid charging capabilities, and the qualities driving the EV sector forward.

- **Analyzing Global Competitive Dynamics:** Understand the competitive landscape of EV battery manufacturing, highlighting the dominance of Korean and Chinese companies and the strategic challenges faced by their European, Japanese, and North American counterparts
- **Exploring Technological Innovations:** Delve into cutting-edge developments in materials science and solid-state battery technologies, and assess how these innovations will impact the performance and efficiency of EV batteries in the near and distant future
- **Emphasizing Rapid Charging and Efficiency:** Examine the critical importance of rapid charging capabilities and efficient battery design, emphasizing the need for innovation, simplicity, and elegance to achieve optimal performance and user satisfaction without the necessity for excessive range

### 18:20

### Maximizing Output, Minimizing Waste: Approaches To Effective Black Mass Chemical Treatment

Join us for an in-depth exploration of effective chemical treatment methods for black mass in battery recycling operations. Our presentation focuses on maximizing output and minimizing waste through innovative approaches to black mass treatment. Attendees will gain insights into the challenges and opportunities associated with chemical treatment techniques, including material recovery, process optimization, and environmental considerations. By the end of

the session, participants will be equipped with actionable strategies to enhance the efficiency and sustainability of black mass treatment processes, driving positive environmental impact and economic growth in battery recycling operations.

- **Effective Chemical Treatment Methods for Black Mass:** Explore innovative approaches to chemical treatment for black mass in battery recycling operations
- **Maximizing Output and Minimizing Waste:** Understand strategies to maximize output and minimize waste through effective black mass treatment techniques
- **Actionable Strategies for Efficiency and Sustainability:** Gain insights into actionable strategies for enhancing the efficiency and sustainability of black mass treatment processes, driving positive environmental impact and economic growth in battery recycling operations

### 18:40

### Towards Eco-Friendly Batteries: Redefining Sustainability In Design And Recycling

In our presentation, "Towards Eco-Friendly Batteries," we explore the paradigm shift in battery sustainability through innovative design and recycling practices. Attendees will delve into the challenges and opportunities inherent in redefining sustainability across the battery lifecycle, from initial design to end-of-life recycling. Throughout the session, insights into eco-friendly material selection, manufacturing processes, and circular economy principles will be shared, empowering participants to drive meaningful change in the battery industry. By the conclusion, attendees will be equipped with strategies to enhance sustainability, minimize environmental impact, and foster a greener future for battery technology.

- Explore challenges and opportunities in redefining sustainability across the battery lifecycle
- Learn about innovative design and recycling practices aimed at minimizing environmental impact
- Gain insights into sustainable material selection and manufacturing processes for batteries
- Understand the importance of adopting eco-friendly practices to reduce resource consumption and waste generation
- Explore circular economy principles and their application in battery design and recycling.
- Learn strategies to enhance sustainability and promote a greener future by adopting circular economy practices in the battery industry

### 19:00

### Chair's Closing Remarks

### 19:20

### All Attendee Drinks Reception



# BECOME A PARTNER

PRESENT | SPONSOR | EXHIBIT

CONNECT WITH OUR VISIONARY COMMUNITIES

BECOME A PARTNER

# ATTENDEES BY COMPANY FOR xEV ADVANCED BATTERY TECHNOLOGY INNOVATION SUMMIT 2023

Alelion, **Amazon**, Andreas Stihl, **Automotive Cells Company**, AVL, **Banner Batterien Oesterreich**, BMZ, BrightVolt, **Caterpillar**, **Cellforce**, China Euro Vehicle Technology, **Clarios**, CUSTOMCELLS, **Daimler**, **East Penn**, **ENOVIX**, Exide Technologies, EVE, **EVONOMY Group**, Factorial Energy, **Farasis Energy**, **Ford**, Forsee Power, **FREYR**, **General Motors**, GS Yuasa, Hankook, Hino Motors, **Hitachi**, **Honda**, HOPPECKE Batterien, **Hyundai**, InoBat Auto, KTM, LG Energy Solutions, **Litens Automotive**, Log9, **Lotus**, LytEn, MAGNA STEYR, MAHLE, **Mazda**, **Mercedes-Benz**, **Natron**, NingDe Amperex Technology, **Nissan**, Northvolt, Nyobolt, **Panasonic**, **Porsche**, **QuantumScape**, **Renata**, **Renault**, Rimac Automobili, **Robert Bosch**, **Rolls Royce**, SAFT, Sakuu, **Samsung SDI**, **Scania**, Sebang Global Battery, **Siemens Mobility**, Sion Power, **Sionic Energy**, **SK**, **Skeleton Technologies**, Solid Power, **Stellantis**, **StoreDot**, **Toshiba**, **Toyota**, Traton, **Volkswagen**, **Volvo**, Yanmar, **Zeta Energy & more**.

## THOUGHT LEADERSHIP

Establish your company as a thought leader by showcasing your latest innovations, insights, and best practices on the **BATTECH USA 2024** stage. Deliver a keynote address, participate in a panel discussion, or host a workshop to educate, inspire, and solidify your position as a leader in the industry.

## MAXIMUM VISIBILITY

Elevate your brand's presence by connecting with a targeted audience of **battery designers, engineers, manufacturing experts, and strategists**. Boost your visibility through prominent logo placement as an event sponsor and captivate the delegation with an engaging and interactive exhibition booth.

## NETWORKING OPPORTUNITIES

Build meaningful connections and collaborations with leading experts, decision-makers and potential customers in the xEV Advanced Battery Technology field. Our conference provides ample networking opportunities, including dedicated networking breaks, receptions, and one-on-one meetings with key stakeholders.

## #SHOWCASE YOUR TECHNOLOGIES AND SOLUTIONS AT **BATTECH USA 2024**

xEV ADVANCED BATTERY TECHNOLOGY INNOVATION SUMMIT

PRESENT | SPONSOR | EXHIBIT | NETWORK

[CONTACT US](#)

## ATTENDEES BY JOB TITLE 2023

**Chief Engineer - Battery Electric & Plug-In Hybrid Vehicles**, Chief Engineer, Electrified Propulsion System, **Chief Engineer**, Electrical System, Head, **EV Engineering Systems**, Head of Vehicle Electrification Technology, **Head of Hybrid and EV Battery System**, Chief Scientist, **Energy and Systems**, Head of Vehicle Architecture, **Head of Systems and Control Engineering**, Electrification Project Engineer, **Head of Research**, Materials and Manufacturing, **Group Product Director Hybrid and Electric Systems**, Lead Engineer, **Electrical Systems Engineering**, Lead Engineer, **Electrified Powertrain**, Head of Body Structures/Body in White, Battery Electric Vehicle Global Lead Engineer, **Global Battery Systems Engineering**, Battery Research Engineer, **Technical Manager - Innovation Management**, Chief Engineer & Technical Leader - Energy Storage & Systems

DON'T MISS OUT! OUR SUPER SAVER RATE ENDS 27<sup>TH</sup> SEPTEMBER 2024

OEM/Battery Mnf. **\$499**

Vendor/Supplier **\$799**

[battery-innovation-usa.com](https://battery-innovation-usa.com)

# BECOME A SPONSOR OR EXHIBITOR

## MEET YOUR PROSPECTS

From advanced materials, battery pack monitoring and control innovation, to modular battery cooling systems, pack assembly, BMS' and power electronics innovation - this is where the OEM decision making teams, come together to spend quality time with you at your booth. **70% OEM Attendance**

## ENGAGE & PRESENT

Your opportunity to present to a captivated, dedicated audience. This is not a trade show where the agenda is something on the side where you can rest your legs. Our agenda is rigorously put together after months of research directly with OEMs - **and our attendees are here to learn from you!**

| SPONSOR, EXHIBIT OR SUBMIT A PRESENTATION FOR REVIEW - MAKE SURE THAT YOU ARE VISIBLE AND ENGAGING

## | Exhibitor Categories

Battery Thermal Management

Battery Design & Integration

Battery Management & Battery Intelligence

Battery Management Systems

Battery Safety

Battery Cooling Plates

Battery Components

Battery Pack Assembly / Integrator

Adhesives, Sealing & Bonding

BEV Architectures

Material Suppliers

Joining Technologies & Solutions

Battery Pack Design & Material

Battery Assembly

Battery Materials

Powder Coatings

Cabling & Connectors

Cells & system

Battery Applications

Battery Manufacturers

Battery Components

Battery Assembly

Sustainable Lightweight Solutions

Battery Second Life Opportunities

Beyond Li-ion

Solid-State Batteries

Testing Solutions

Pressure Sensitive Adhesives & Tapes

Battery Manufacturing

Renewable Energy Systems

Simulation & Modelling

Recycling Li-ion Batteries

Battery Charging / Fast Charging

Battery Components

Gap Fillers

Electrification of The Off-Road Vehicle Market

Battery & Fuel Cell Development

Electric Systems Development

Advanced Engineering

Technology Solutions

Advanced Lightweight Structures

Dispensing Systems & Robots

Liquid Systems

Sealing Systems

EVONOMY Data Ecosystem



For full details, please contact the Team

Email: [info@we-automotive.com](mailto:info@we-automotive.com) Call: US +001 (313) 799 2911 EU +44 7932 631 029

**DON'T MISS OUT! BOOK TODAY**

OEM/Battery Mnf. **\$499**

Vendor/Supplier **\$799**

**ENQUIRE HERE**



**xEV ADVANCED BATTERY TECHNOLOGY INNOVATION SUMMIT**

# **BATTECH** USA

**20-21 NOV 2024 | DETROIT, MI**

## **UNLOCK EXCLUSIVE SAVINGS RESERVE YOUR PLACE NOW!**

Join this years leading battery thermal management event. Don't delay, register now to enjoy **exclusive discounts, unparalleled networking opportunities, and game-changing insights**. As a limited-time offer, our specially crafted pricing tiers allow you to maximize your investment. Whether you're a patriot looking for the best value or an early adopter seeking unbeatable rates, your commitment to early booking ensures you won't miss out on the electrifying experience that awaits. **Don't delay - reserve your seat today and join the vanguard of the automotive revolution!**

### **SUPER SAVER RATE**

**OEM/BATTERY \$499**

**OFFER ENDS 27<sup>TH</sup> SEP**

**REGISTER NOW**

- Prices include food & beverages, morning breakfast & coffee
- Networking breaks, coffee and snacks. Hot buffet luncheon
- Afternoon coffee break including soft drinks & snacks
- All attendee evening drinks reception - open bar

### **SUPER SAVER RATE**

**SUPPLIER/VENDOR \$799**

**OFFER ENDS 27<sup>TH</sup> SEP**

**REGISTER NOW**

- Prices include food & beverages, morning breakfast & coffee
- Networking breaks, coffee and snacks. Hot buffet luncheon
- Afternoon coffee break including soft drinks & snacks
- All attendee evening drinks reception - open bar

### **SAVER RATE**

**OEM RATE \$700**

**OFFER ENDS 25<sup>TH</sup> OCTOBER**

### **SUMMIT STANDARD RATE**

**OEM RATE \$899**

### **SAVER RATE**

**SUPPLIER/VENDOR \$1,000**

**OFFER ENDS 25<sup>TH</sup> OCTOBER**

### **SUMMIT STANDARD RATE**

**SUPPLIER RATE \$1,300**

**FROM SPEAKING, SPONSORSHIP & EXHIBIT POSITIONS**

**ENQUIRE HERE**