WEAUTOMOTIVE GROUP

STUTTGART, DE
30 APRIL 2026

xEV

BATTERY THERMAL MANAGEMENT

INNOVATION SUMMIT | EUROPE

PAST SPONSORS

EJOT · AdvanTech International · STANLEY Engineered Fastening · PPI · VICOR · Fraunhofer FFB · Sika Building Trust · NEOGRAF Solutions

NORMA GROUP · Sphere · Circulor · BURGER GROUP · Eberspächer · HUBER Advanced Materials · RISE · bdtronic

PPG · JOYSON Safety Systems · Saleri · ScioSense · CARRAR · SynErgy Thermal Management · X2F · RUBITHERM Phase Change Material

HENN Connecting Competence · NEURAL CONCEPT · KREISEL We Drive the Future · StoreDot · université PARIS-SACLAY · kurybees · ING · KERAFOL Keramische Folien GmbH & Co. KG

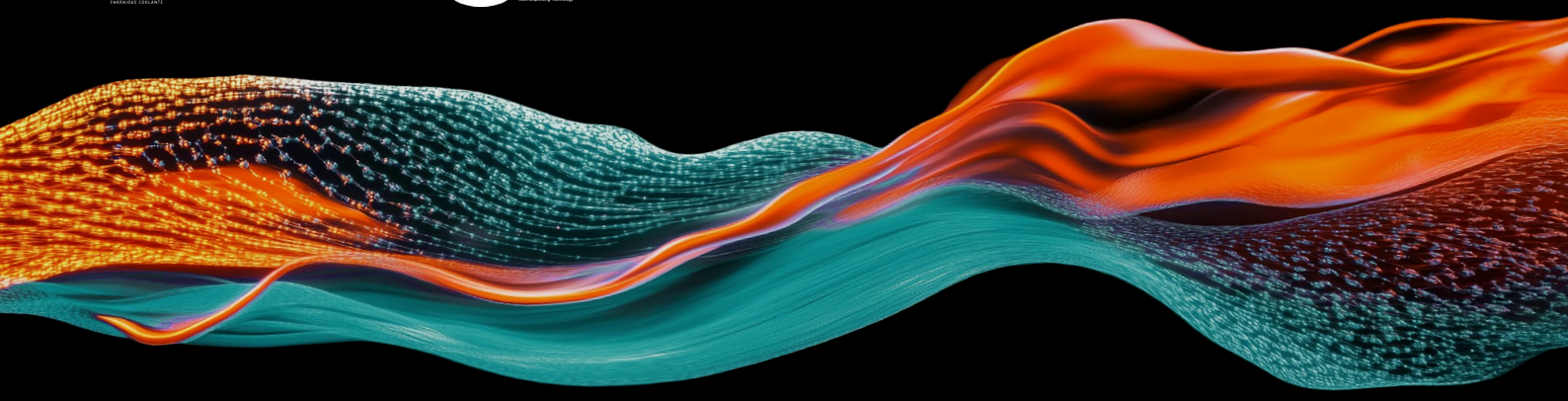
TRUMPF · BlueSolutions · DASSAULT SYSTEMES · SIEMENS · OROVEL · MANN+HUMMEL · CIC energiGUNE · cidetec

ilika · S&P Global · AKKODiS Engineering a Smarter Future Together · circunomics · 3M Science. Applied to Life.™ · Battery Kutter Solutions for mobile energy · NIO · Greenectra

POLY NOVA · iL Innovation Lab · COMSOL · Whitemark · Factorial · PORSCHE · northvolt · BREATHE

MAHLE · Amphenol · GRACO · ENGINEERED FLUIDS · H.B. Fuller · aspen aerogels · TotalEnergies · LION Smart

arteco · VALMET AUTOMOTIVE · DEMAK GROUP · VICOR · L&L Products



1DAY TECHNICAL FOCUS

40+ SPEAKERS

60+ EXHIBITORS

400+ DELEGATES

FULL-SYSTEM INTEGRATION: UNLOCKING SAFE, COST-EFFECTIVE, AND SCALABLE THERMAL MANAGEMENT FOR NEXT-GEN EV PLATFORMS

Europe's Leading Annual Technical Conference & Exhibition Showcasing Next-Generation Battery Thermal Management Innovation

Welcome to the **6th Annual xEV Battery Thermal Management EUROPE 2026** – Stuttgart, Germany the premier technical summit advancing battery thermal engineering and full-system thermal integration for next-generation electric vehicles.

This highly targeted, OEM-led event brings together over 500 senior-level BEV engineers, system architects, and R&D leaders to explore real-world challenges and practical innovations in high-performance, high-efficiency battery system design.

The agenda has been meticulously developed in collaboration with automakers, tier-one suppliers, and advanced technology providers to reflect the latest technical priorities across the industry.

Full-System Thermal Integration – Optimizing cell, pack, and vehicle-level temperature control

Advanced Cooling Architectures – From integrated cooling loops to thermal energy harvesting

Predictive Thermal Management – Leveraging smart controls, AI, and digital twins

Megawatt Charging Compatibility – Managing thermal loads under extreme power densities

Structural Battery Packs & Cell-to-Pack Innovation – Improving safety, packaging, and energy density

This isn't just another conference — it's a solutions-driven engineering summit, designed to accelerate technical collaboration and showcase the technologies shaping the future of electrification.

On the exhibition floor, see live demonstrations and explore cutting-edge materials, systems, and software solutions from leading suppliers and emerging disruptors.

With the electrification landscape evolving at record pace, BTM EUROPE is where battery and thermal innovation converge — offering exclusive insight into the next generation of safe, scalable, and cost-effective EV system

CONFERENCE TOPICS

Full-System Thermal Integration: Unlocking Safe, Fast, and Scalable Energy Management for Next-Gen xEV Platforms

Next-Generation Battery Architectures: Engineering for Energy Density, Safety, and Performance

Advancements in Battery Pack Design and Integration

Battery Thermal Management Systems: Beyond Cooling to Full-System Optimization

Scaling Battery Swapping for xEVs: Overcoming Thermal Management and Grid Integration Challenges

Rethinking Thermal Management: Integrated Protection and Performance for BMS Electronics

Innovations in Battery Assembly Processes: Advanced Manufacturing for Performance and Reliability

Sustainability in Battery Materials and Recycling: Circular Economy Strategies for Next-Gen Batteries

Battery Data and Diagnostics: Standardization and Predictive Analytics for System Optimization

AI and Machine Learning in Battery Technology: Driving Intelligent Optimization and Performance Gains

Holistic Integration: How Standardized Coolant Modules Are Transforming EV Thermal Systems

Cybersecurity in Battery Technology and Manufacturing

Innovations in Fast Charging Technology: Scaling Up for High-Power Charging

Bridging Cell-Level Data with System-Level Insights: A New Path for Battery Thermal Management

Immersion Cooling as a Paradigm Shift in High-Power BTM for Extreme Duty Applications

Optimizing EV Battery Design with Digital Twins

Advanced 3D Modeling and Simulation for Battery Design

Smarter Heat Management: How Integrated Systems and PCMs Are Reshaping EV Performance

Beyond Lithium-Ion: Addressing the Unique Thermal Challenges of Solid-State Batteries

Pushing the Boundaries of Battery Systems with Data-Driven, Temperature-Controlled Charging and Power Delivery

Unifying Innovation: Integrating Safety, Efficiency, and Scalability in xEV Battery Thermal Management

AGENDA 2025

30 APRIL 2026 | EUROPE
STUTTGART, DE

08:40 | Morning Registration

09:00 | Chair's Opening Remarks

Full-System Thermal Integration: Unlocking Safe, Fast, And Scalable Energy Management For Next-Gen xEV Platforms

Cecile Pera, *Technology Consultant – BEV Systems & Integration,* ***OROVEL***

As electric vehicles evolve toward higher power densities, structural battery designs, and megawatt charging capabilities, thermal management must advance beyond isolated component cooling. This session will examine the cutting-edge of system-level thermal strategies, where vehicle architecture, cell design, and battery pack layout converge to meet the growing demands of safety, performance, and sustainability.

- Understand the principles of full-system thermal integration across vehicle architecture, cell design, and pack layout.
- Explore predictive thermal management using digital twins and smart control algorithms to optimize safety and charging speeds.
- Evaluate the challenges and solutions of structural battery packs and cell-to-pack configurations in high-power applications.
- Assess how integrated cooling loops and thermal energy harvesting are shaping next-gen xEV thermal ecosystems.
- Review case studies demonstrating scalable, real-world applications of advanced thermal strategies in megawatt-charging and high-performance platforms.
- Identify material innovations and design methodologies that reduce thermal bottlenecks while supporting manufacturability at gigafactory scale.

09:20

Scaling Battery Swapping For xEVs: Overcoming Thermal Management And Grid Integration Challenges

Dr.-Ing. Yong Wang, *Head of EU Power Swap Product Management,* ***NIO***

Battery swapping delivers fast, flexible energy for EVs—but brings big challenges. Thermal management, grid integration, and scalability are key hurdles, along with standardization, battery degradation, and economic viability. This session dives into the critical obstacles and innovative solutions shaping the future of battery swapping.

- Analyze the impact of frequent battery swaps on temperature regulation and long-term battery performance.
- Explore strategies to optimize cooling and heating within battery swap stations for efficiency and safety.
- Examine how battery swap stations function as decentralized energy storage units.
- Discuss the challenges of bidirectional power flow and its impact on grid stability.
- Understand the role of bidirectional power modules in improving station energy efficiency.
- Explore heat recovery and distribution strategies to reduce energy loss and enhance station sustainability.
- Discuss the long-term potential of battery swapping in transforming EV infrastructure.

09:40

Rethinking Thermal Management: Integrated Protection And Performance For BMS Electronics

Wolfgang Höfer, *Business Unit Leader Thermal Management,* ***KERAFOL***

- Review current PCB and electronic protection methods and their limitations in high-power BMS applications.
- Understand the role of Thermal Interface Materials (TIMs) in maintaining stability in compact, high-density systems.
- Explore solutions that combine electronic protection with optimized thermal transfer in a single material.
- Compare hybrid materials with conventional TIMs and plastics, focusing on thermal performance, durability, and integration.
- Examine overmolding and 3D production technologies for scalable thermal and protective integration.
- Analyze a BMS case study demonstrating performance gains through advanced thermal management.
- Evaluate how integrated solutions reduce production complexity, cycle times, and system size.

10:00

Solving Thermal And Sustainability Challenges With Advanced Laser-Welded Cooling Plates

Adrian Serna, *Business Development Specialist,* ***AdvanTech International***

Key challenges around material selection, joint design optimization, and recyclability will be addressed, with insights into how laser welding supports circular economy goals through improved material efficiency and end-of-life recovery. The session will also assess how innovations in laser optics and energy delivery are unlocking new design freedoms for future-ready battery systems, from EVs and eVTOLs to stationary storage and solid-state battery applications.

- Examine the role of high-precision laser welding in improving cooling plate performance for high-power battery applications.
- Compare the thermal, structural, and cost implications of aluminum, composites, and hybrid materials in cooling system design.
- Explore innovations in joint architecture to maximize heat transfer and durability.
- Understand how laser welding contributes to circular economy strategies through enhanced recyclability and reduced CO_2 footprint.
- Review case studies of laser-welded cooling plates in production across EV, eVTOL, and energy storage platforms.
- Assess the impact of next-gen laser technologies on the future of scalable, sustainable thermal management solutions.
- The integration of laser welding with emerging battery technologies, such as solid-state batteries.
- Forecast how advancements in laser optics and energy delivery systems will reshape cooling solutions.

10:20

New Safety Frontiers In Lithium-Ion Battery Monitoring

Ellen Scott, *Researcher, Battery and BMS,* ***RISE***

With the increasing energy density of lithium-ion batteries, safety remains one of the most critical challenges for the industry. High temperatures, overcharge events, mechanical damage, and short circuits continue to threaten battery stability, while degradation and aging add further risk.
By monitoring the critical boundary between safe operation and failure—the "near-failure" zone—engineers can detect parameter changes in real time, enabling proactive mitigation and enhanced system reliability.
Through practical insights and case studies, this session will address how advanced diagnostics, battery safety testing, and real-time BMS data can be leveraged to predict, prevent, and protect against catastrophic battery failures.

- Explore the mechanisms leading to thermal runaway and the role of early failure detection in preventing safety-critical events.
- Understand strategies for identifying near-failure events in lithium-ion batteries through advanced monitoring and diagnostics.
- Learn how BMS data can be used to detect failure indicators during real-world battery operation.
- Review best practices for battery safety testing and validation to support failure prevention strategies.

10:40 | MORNING BREAK

11:20

Surface-Functionalized Graphene Coatings For EV Battery Thermal Management: Enhancing Fluid Compatibility And Preventing Agglomeration

Bret Trimmer, *Applications Engineering Manager,* ***NeoGraf Solutions***

Graphene-based thermal coatings offer superior heat dissipation, lightweighting, and durability, making them a promising innovation for battery cooling systems and power electronics. However, graphene's tendency to agglomerate and its limited compatibility with cooling fluids pose significant challenges in liquid-cooled and immersive cooling architectures.
This session will provide a deep technical dive into the development of surface-functionalized graphene coatings, engineered to enhance fluid compatibility, prevent aggregation, and improve long-term stability in EV battery cooling applications

- Understand the challenges of graphene agglomeration and explore functionalization techniques that enhance dispersion and compatibility in cooling systems.
- Gain insights into graphene-based coatings for liquid cooling systems and their role in EV battery thermal management.
- Learn how surface modifications improve thermal conductivity while maintaining mechanical and electrochemical stability.

- Discover scalable manufacturing processes for applying graphene coatings in mass-market EV battery applications.
- Analyze real-world case studies demonstrating the effectiveness of graphene-functionalized coatings in battery cooling applications.

11:40

Immersion Cooling As A Paradigm Shift In High-Power BTM For Extreme Duty Applications

Sean Chiang, *Business Development Manager,* ***XING Mobility***

A deep technical analysis of immersion cooling technology, evaluating its performance in maintaining thermal stability, improving charge/discharge efficiency, and mitigating thermal runaway propagation across high-energy lithium-ion battery modules.
We will compare direct immersion dielectric fluid systems with traditional cold plate and indirect liquid-cooled architectures, focusing on thermal conductance coefficients, transient heat rejection rates, and lifecycle degradation patterns under high C-rate cycling.

Design Principles of Immersion-Cooled Battery Packs
- Explain how to integrate immersion tanks within modular battery pack designs.
- Identify key criteria for selecting dielectric cooling fluids.
- Optimize cell spacing and coolant flow to maximize heat transfer efficiency.

Thermal Performance Under High Load Events
- Compare ΔT performance of immersion cooling vs. cold plate systems at 6C discharge.
- Assess how immersion cooling reduces thermal gradients during fast charging.
- Evaluate heat rejection in immersion systems under >600 kW continuous power.

Long-Term Degradation and Maintenance Implications
- Chemical interactions between dielectric fluids and cell casings over >2,000 cycles.
- Fluid filtration, conditioning, and replacement strategies to maintain thermal performance.
- Prognostics for coolant lifespan and contamination control under field conditions.

CFD and Multi-Physics Simulation Insights
- Flow dynamics modeling to predict hotspots and validate experimental thermal data.
- Coupled electro-thermal simulations accounting for internal cell heat generation and fluid dynamics.
- Scaling immersion systems for large-format packs in commercial EVs and stationary storage.

12:00

Optimizing EV Battery Systems: Virtual Twin & Simulation-Driven Engineering For Performance And Efficiency

Felix Krause, *SIMULIA Senior Sales Representative,* ***Dassault Systèmes***

The development of electric vehicle (EV) battery packs presents many challenges, including evolving materials, diverse designs, and high costs associated with physical testing. This presentation demonstrates the value of a modeling & simulation (MODSIM) approach that leverages advanced solver technologies, enhancing structural and thermal analysis workflows on a single platform and thereby improving design verification.
This EV battery pack simulation study emphasizes how integrating Virtual Twin technology and multi-physics analysis into your design process accelerates EV development, optimizing battery performance and vehicle efficiency. A MODSIM approach ensures:

- **Virtual Twin & Co-Simulation:** Integrates 1D system modeling, 3D CFD, and FEA thermal analysis to optimize EV battery thermal management and HVAC performance.
- **HVAC & Battery Optimization:** Uses realistic boundary conditions, and reduced-order modeling (ROM) for energy-efficient thermal management.
- **Real-World Scenario Evaluation:** Predicts battery life, vehicle range, and passenger comfort across different driving and environmental conditions.
- **Accelerated & Cost-Effective Design:** Enables faster design iterations, reduced physical testing, and improved system integration, empowering OEMs to enhance EV performance.

12:20

Holistic Integration: How Standardized Coolant Modules Are Transforming EV Thermal Systems

Antonio Savi, *Product Design Director - Thermal Management R&I,* ***Saleri TMS Competence Center GmbH***

As electric vehicles continue to evolve, so do the challenges associated with thermal management. Traditionally, cooling systems in EVs have relied on separate components such as water pumps, valves, and heat exchangers, leading to increased system complexity, weight, and inefficiencies. The industry is now shifting toward a more integrated approach, combining multiple cooling functions into compact, standardized modules that enhance efficiency, reduce fluid consumption, and streamline assembly.
The key drivers behind this trend will be explored, including the push for higher energy efficiency, reduced emissions, and improved serviceability. Finally, exciting new approaches to modular thermal management will be presented, highlighting the benefits of integration and the future roadmap for EV cooling technologies.

- **Understand the Shift to Integrated Cooling Systems** – Explore why the automotive industry is moving away from traditional, component-based thermal management toward fully integrated, modular systems.
- **Identify the Technical and Operational Benefits** – Learn how integration improves packaging efficiency, reduces weight, and optimizes cooling performance for electric vehicles.
- **Explore the Roadmap for Future EV Cooling Technologies** – Gain insights into how modular components and standardized approaches can support the next generation of EV battery thermal management.

12:40

Smarter Heat Management: How Integrated Systems And PCMs Are Reshaping EV Performance

Lutz Klinkner, *Managing Director,* ***Rubitherm Technologies GmbH***

This session will explore the application of phase change materials (PCMs) and advanced thermal interface materials (TIMs) as passive energy buffers to stabilize temperature fluctuations, reduce peak loads, and optimize thermal control across vehicle systems. Attendees will gain insights into how PCMs can serve as both a heat sink and thermal source, enabling energy recovery, reducing system power requirements, and supporting lightweight, cost-effective thermal architectures.
The session will also address the system-level integration of thermal materials within the full vehicle architecture, focusing on the technical challenges of thermal coupling between subsystems and maintaining battery temperature uniformity during extreme ambient conditions, including rapid charge cycles and seasonal variations.

- Analyze the thermal management challenges of high-power EV systems and the interactions between battery, electronics, and cabin heat loads.
- Evaluate the role of phase change materials (PCMs) in reducing system power demands, weight, and thermal cycling stresses.
- Explore PCM applications for passive vehicle heating and thermal buffering during transient load conditions.
- Understand strategies for minimizing energy consumption while maintaining passenger comfort through integrated heat recovery systems.
- Gain insights into integrating advanced thermal materials within the overall vehicle architecture to maximize system efficiency and fast-charging performance year-round.

13:00 | LUNCH BREAK

14:00

IMMERSION COOLING PANEL From Niche To Necessity? Overcoming The Barriers To Immersion Cooling In High-Performance EVs

Pranav Nagaveykar, *Researcher in Battery Technology,* ***University of Paris Saclay & Center of Atomic Energy***

Dr. Karsten Bolz, *Director of Product Management,* ***Eberspächer Group***

Sean Chiang, *Business Development Manager,* ***XING Mobility***

Cecile Pera, *Technology Consultant – BEV Systems & Integration,* ***OROVEL***

Marco Ranalli, *Business Development Consultant,* ***Carrar***

Dr. Stefan Andreas Meyer, *Chief Technology Officer,* ***Whitemark Technology***

Ine Vandebeek, *CTO,* ***Diabatix***

- What are the key trade-offs between hydrofluoroethers and hydrocarbon-based fluids in immersion cooling, particularly regarding safety, thermal performance, and cost?
- How do regulatory pressures around PFAS and the flammability risks of alternative fluids impact material selection and system design?
- What role do fluid properties such as thermal conductivity and specific heat capacity play in achieving effective and reliable cooling performance?
- What are the primary engineering challenges in integrating immersion cooling into existing battery architectures, including fluid dynamics,

pressure management, and sealing?
- How scalable is immersion cooling across different xEV platforms, from passenger cars to commercial vehicles and high-power applications?
- Is immersion cooling a niche solution for high-performance systems, or can it become a mainstream thermal management strategy for next-generation EVs?

14:40

Powering Performance: The Strategic Role Of Electrical Heaters In Modern EVs

Dr. Karsten Bolz, *Director of Product Management,* ***Eberspächer Group***

This session will provide a technical analysis of the role of high-voltage electrical heaters as essential components in integrated thermal management architectures. Attendees will explore how electrical heaters support heat pumps to stabilize system performance, ensure reliable cabin heating, and protect battery temperatures during fast charging and cold starts—without compromising vehicle range.

- Analyze the limitations of heat pump systems in EV thermal management and the need for supplemental heating strategies.
- Understand the role of electrical heaters in maintaining thermal stability during cold ambient conditions and fast charging.
- Explore integration strategies for combining electrical heaters with heat pumps to maximize overall system efficiency.
- Evaluate the impact of advanced thermal system design on range optimization, passenger comfort, and battery protection.
- Gain insights into scalable, cost-effective solutions for improving thermal performance across diverse vehicle platforms.

15:00

Inside The Warning Zone: Advancing Gas Sensing For EV Battery Safety

Rolf Pauly, *Senior Marketing & Product Manager,* ***Sciosense B.V.***

This session will examine how automotive-grade metal oxide (MOX) sensors enable real-time, low-power, and reliable early warning systems across diverse EV battery architectures. Attendees will gain insights into the technical requirements of integrating gas sensors directly into battery packs, including challenges around sensitivity, durability, and communication with the vehicle's BMS.

- Understand the critical gas indicators of thermal runaway and how early detection prevents failure propagation.
- Explore the technical challenges of integrating gas sensors into EV battery systems, including packaging, signal reliability, and power consumption.
- Assess the balance between sensor sensitivity and energy efficiency to ensure robust, real-time monitoring.
- Gain insights into emerging trends in battery diagnostics and the role of gas sensing in next-generation safety strategies.

15:20

Bridging Cell-Level Data With System-Level Insights: A New Path For Battery Thermal Management

Issam Baghdadi, *Independent battery specialist and Founder,* ***Kurybees***

In this presentation, we delve into how accurately characterizing cell resistance—by distinguishing ohmic, charge-transfer, and entropy components—enables more precise thermal management across various battery chemistries. We demonstrate how these parameters evolve with State of Charge (SoC), temperature, current, and time, and show why ohmic losses (scaling with I(A)^2) and charge-transfer kinetics (often related to ln(~I(A)) must be quantified separately for reliable heat estimation. Through comparative data on LFP, NMC, NCA, LTO, Na-ion, and both power- and energy-oriented cells, we illustrate the heat output normalized to kW/kWh under different load conditions.

Unpacking Cell Resistance: Ohmic, Charge-Transfer, and Entropy
- Fundamentals of cell internal resistance and its dependence on SoC, temperature, current, and time for charge and discharge
- Distinction between ohmic vs. charge-transfer resistance
- Importance of entropy effects at low currents and their impact on reversible heat generation

Conventional vs. Advanced Heat Estimation Approaches
- Overview of classical methodologies that lump all heat sources together into one resistance
- Demonstration of how decoupling ohmic, charge-transfer, and entropy components yields more accurate results
- Case studies or brief data illustrations showing discrepancy in thermal predictions

Comparative Analysis Across Chemistries
- Heat generation comparisons for LFP, NMC, NCA, LTO, Na-ion, and specialized power/energy cells
- Normalizing heat output (kW) to stored energy (kWh) across varying power demands
- Practical considerations: design, safety margins, and cooling strategies

15:40

Pushing The Boundaries of Battery Systems With Data-Driven, Temperature-Controlled Charging And Power Delivery

Daniel Astudillo, *Research Fellow,* ***Fraunhofer Institute for Silicon Technology ISIT***

Understanding battery thermal behavior is complex, requiring multiple models, experiments, and coolant-specific configurations. As a result, conventional charging strategies tend to be overly conservative, restricting power delivery to prevent overheating. In this session, we demonstrate how to develop a temperature-constrained fast charging or maximizer power delivery strategy — using only minutes of in-situ data collection.

- Recognize the need for a robust and adaptive approach to fast charging and maximum power delivery.
- Understand the paradigm shift from data-to-model approaches to data-to-control strategies.
- Learn how to create a data-driven charging strategy with less than an hour of in-situ data collection with recalibration capabilities.
- Explore how to develop a cost-effective and data-driven controller that could be implemented in existing and new battery packs.

16:00 | AFTERNOON BREAK

16:30

Immersion Cooling Explored: Adapting Diverse Solutions And Cross-Industry Knowledge To Automotive Batteries

Julien Baron, *Key Account Manager,* ***EXOES SAS***

This presentation highlights the versatility of immersion cooling technologies, showcasing how various methods, such as static bath, circulating liquid, and spray cooling, can be tailored specifically to meet diverse battery requirements.

It emphasizes that selecting the optimal cooling approach depends on precise thermal management objectives, performance expectations, and operational constraints.

Additionally, the presentation provides insight into how proven strategies and best practices, notably from sectors like aeronautics and railways, can inspire safe and performant solutions in automotive battery design.

16:50

Advanced Cooling Systems And Smart Control For Optimized Battery Thermal Management

Marc Graaf, *Managing Partner,* ***SynErgy Thermal Management GmbH***

Innovations in advanced cooling systems and smart control technologies are transforming Battery Thermal Management Systems (BTMS), improving energy efficiency, reducing charging times, and ensuring long-term reliability. This session explores cutting-edge cooling system designs, the role of smart controllers in thermal optimization, and how these advancements impact the overall performance of EV batteries.

- Examining Smart Control Innovations for advanced cooling systems
- Understand the role of integrated smart controllers in real-time monitoring and adaptive thermal management.
- Learn how AI and machine learning enhance BTMS efficiency and reliability.
- Discover strategies for maintaining thermal stability in high-energy-density battery cells.
- Evaluate System Integration and Energy Efficiency
- How smart controllers and advanced cooling systems work together to optimize energy usage.
- Gain insights into reducing parasitic losses in thermal management systems.
- Learn about the integration of IoT, AI, and predictive analytics in next-generation thermal management systems.

17:10

Mastering Battery Thermal Management And Ageing Prediction: Avoiding Common Pitfalls

Dr. Frank Richter, *CEO,* ***Greenectra OÜ***

Accurately calculating heat production and understanding parameter changes during battery aging are critical for optimizing performance and safety in lithium-ion batteries. However, challenges such as incomplete thermal models, unpredictable aging behaviors, and common operational mistakes often lead to failures.
This talk will explore methods for precise heat generation estimation, discuss how aging impacts battery heat production parameters and their prediction, and highlight typical errors in battery operation. Attendees will gain actionable insights into extending battery lifespan.

- Understand accurate heat production calculation during battery operations, including the role of advanced thermal models and real-time monitoring techniques.
- Learn how aging affects key battery heat production parameters such as, resistance, and thermal diffusivity, and discuss predictive models to estimate end-of-life (EOL) and performance degradation.
- Identify common mistakes in battery thermal management and learn strategies to avoid them.

17:30

Designing For Efficiency: Integrating Battery Architecture And Thermal Management At Vehicle Level

Pranav Nagaveykar, *Researcher in Battery Technology,* ***University of Paris Saclay & Center of Atomic Energy***

A technical deep dive into the latest strategies for integrating advanced thermal management into next-generation battery architectures, focusing on dual-loop and multi-functional systems capable of simultaneously regulating battery, electronics, and cabin temperatures.

- Examine the thermal challenges of cell-to-pack and cell-to-chassis battery designs and their impact on vehicle-level integration.
- Explore active thermal management strategies to reduce system weight, improve efficiency, and prevent thermal runaway.
- Assess the benefits of integrated dual-loop and multi-functional thermal systems for managing multiple heat sources.
- Understand the design trade-offs between cost, complexity, and performance in next-gen thermal architectures.
- Gain insights into how integrated thermal solutions are enabling scalable, high-efficiency xEV platforms.

17:50

Direct Liquid Strategies For High-Performance Pouch Cell Batteries

Manex Larrañaga Ezeiza, *Engineer in the mechanical/thermal section of the Energy Storage unit,* ***CIDETEC***

This session presents a novel direct liquid cooling (DLC) strategy designed specifically for lithium-ion pouch cell configurations, delivering enhanced thermal control, improved energy efficiency, and superior safety.
Through comparative analysis with traditional ILC systems, this research demonstrates how optimized DLC architectures significantly reduce auxiliary power consumption while maintaining high volumetric and gravimetric energy densities. The session will also explore how advanced CFD-driven hydraulic design optimization eliminates system bottlenecks, supports modular scalability, and delays thermal runaway propagation events—ultimately extending battery lifespan and improving the reliability of Battery Thermal Management Systems (BTMS).

- Examine the limitations of indirect liquid cooling and the performance advantages of direct liquid cooling in pouch cell battery systems.
- Explore advanced hydraulic design optimization techniques using CFD to maximize cooling efficiency and minimize power losses.
- Evaluate scalable and modular design concepts for high-performance battery systems.
- Understand safety enhancements through thermal runaway prevention and propagation delay mechanisms.
- Compare DLC and ILC strategies using auxiliary power consumption as a key performance metric.

18:10

Unlocking Safer, More Efficient, Greener Batteries: Advanced Materials Driving Next-Gen EV Performance

Dr. Elisabeth Cura, *Senior Product Development Specialist ePowertrain,* ***3M***

Dr. Sascha Sprott, *Senior Product Development Specialist ePowertrain,* ***3M***

Attendees will explore how advanced thermal interface materials (TIMs), dielectric coatings, and phase change materials are being engineered to mitigate hotspots, enhance electrical insulation, and optimize heat transfer—ensuring safer, longer-lasting, and higher-performing battery systems.
The session will also examine how these material solutions enable modular pack designs, faster assembly processes, and easier end-of-life disassembly, supporting compliance with global safety and environmental regulations while future-proofing battery platforms.

- Analyze the thermal management challenges of high-energy EV batteries and the role of advanced materials in preventing thermal runaway.
- Evaluate material solutions that improve thermal conductivity, dielectric protection, and manufacturability for next-generation battery designs.
- Understand how innovative materials enable modularity, repairability, and recyclability to support sustainability goals and regulatory compliance.
- Explore how material advancements contribute to increased energy density, faster charging, and extended battery lifespan.

18:30

Beyond Lithium-Ion: Addressing The Unique Thermal Challenges Of Solid-State Batteries

Adil Safder, *Lithium Battery Expert,* ***Battery-Kutter GmbH & Co. KG***

Solid-state batteries (SSBs) are emerging as a revolutionary advancement in electric vehicle (EV) technology, promising greater energy density, enhanced safety, and extended lifespan. Despite their potential, mass adoption remains challenging due to issues related to scalability, production costs, and safety concerns.

Key obstacles include:

- Scalability: The intricate manufacturing processes, limited availability of essential materials, and the absence of standardized production methods hinder large-scale production.
- Cost: High expenses associated with raw materials, manufacturing, and the lack of mass production efficiencies make SSBs costly compared to conventional batteries.
- Safety: Issues such as dendrite formation in lithium metal anodes, concerns over thermal stability, and inefficient electrode-electrolyte interfaces pose significant risks.

Addressing these challenges is crucial for solid-state batteries to become a viable replacement for traditional lithium-ion batteries in electric vehicles.

- Identify the key obstacles preventing the widespread commercialization of solid-state batteries.
- Examine cutting-edge solutions designed to address challenges related to scalability, cost, and safety.
- Gain an in-depth understanding of recent advancements and ongoing research in battery technology.
- Evaluate the economic and environmental benefits of adopting solid-state batteries.
- Analyze the contributions of automakers and battery manufacturers in driving the transition towards solid-state technology.

18:50 | Chair's Closing Remarks

Unifying Innovation: Integrating Safety, Efficiency, And Scalability In xEV Battery Thermal Management

Cecile Pera, *Technology Consultant – BEV Systems & Integration,* ***OROVEL***

As we look ahead, the challenge is no longer just cooling a battery—it's orchestrating a fully integrated, safe, efficient, and sustainable thermal ecosystem that supports the demands of next-generation electric vehicles.We look forward to seeing how these innovations continue to shape the future of xEV thermal management.

19:00 | Drinks Reception

LEADING OEM'S & BATTERY DEVELOPERS PRESENT IN 2025

Battery Technologists, Leading & Emerging OEMs, Cell manufacturers, Pack Integrators:

BMW Group, **CATL,** DAF, LG, Daimler Truck, **Samsung, Ferrari, Ford, Honda,** Hyundai, INVECO Group, **Jaguar Land Rover, Mercedes-Benz AG,** Stellantis, **Toyota, Volkwagen AG,** Volvo, MAHLE, **General Motors,** FCA, Daimler AG, **Lotus, Lilium, Volvo Group, Lucid Motors,** Rivian, Renault Group, **Fisker,** Lordsdtown Motor, **EDAG Group,** Rimac Technology, **Volvo Buses, Polestar,** XPeng, **AUDI AG, Porsche,** Lion Smart, DENSO Europe, **Genesis,** Cascadian Motion, **Alcraft Motor Company,** Iveco spA, **Volta Trucks,** Webasto Group, **EVBox,** Connected Kerb, **Shell, QuantumScape,** American Battery Solutions, **Clarios, Sono Motors, Tesla, NIO, Faraday Future,** Rimac Automobili, **Nikola, Proterra,** Aptera, **Aston Martin Lagonda, Bentley Motors,** Karam Automotive, **KIA, Lamborgini, Lexus, McLaren,** Penso, **Rolls-Royce**, Skoda, Toyota, **Smart, OPEL, Peugeot,** FIAT, Mini, **Nissan, Seat,** DACIA, **Mazda, Northvolt AB,** Lithium Werks B.V., **BMZ Group,** Draxlmaier Group

THOUGHT LEADERSHIP

Position your company as a thought leader by sharing your latest innovations, insights and best practices on the electric vehicle battery recycling stage. Demonstrate your expertise through presentations, panel discussions and technical workshops to establish your company as an innovative industry leader.

MAXIMUM VISIBILITY

Showcase your brand to a highly targeted audience of battery manufacturers, OEMs, Tier 1 suppliers and recycling professionals from across the e-mobility sector. Enhance your visibility with prominent logo placement, booth displays, and speaking opportunities within the electric vehicle battery recycling community.

NETWORKING OPPORTUNITIES

Build meaningful connections and collaborations with leading experts, decision-makers and potential customers invested in e-mobility, sustainability and circular economy. The conference provides ample networking opportunities, including dedicated networking breaks, receptions and meeting with key stakeholders.

#SHOWCASE YOUR TECHNOLOGIES AND SOLUTIONS AT EV BATTERY RECYCLING USA 2026

PRESENT | SPONSOR | EXHIBIT | NETWORK

CONTACT US

ATTENDEE JOB TITLE CROSS SECTION 2025

Chief Engineer, Chief Scientists, **Head of Research,** Thermal Management – Battery Systems, **Vice President Battery Cell Process & Manufacturing Engineering,** Electrochemist, Advanced Battery Cell Engineering, **Materials and Manufacturing,** Battery Module Thermal Management, **Simulation engineer/ HV Battery thermal management,** Director High Voltage Battery Systems, **Battery Management Systems Engineer,** Director Battery Pack Design and Thermal Management, **Chief Engineer,** Battery Systems Management Engineer, Sr. Adv. Battery Modeling Engineer, **Sr. Staff Battery Cell Engineer,** Senior Project Manager, **Battery Cell ManufacturingFluids and Thermal Management,** R&D Engineers, **Thermal Management Lead Engineers,** Electrified Powertrains, Battery Research and Systems Engineers, **HV Battery Design and Testing,** Chief Engineer, **Thermal Management HV Components, Thermal Management Modules Battery Electrical Vehicles,** Battery Management Systems (BMS) Designer, **Battery Management Systems (BMS) Engineer,** Chief Technology Officer, Senior Mechanical Engineer, **Materials Engineer,** Powertrain Project Management, **Senior Thermal Multi-Physics Engineer,** Energy Storage Systems (ESS) Safety Engineer, **Technical Specialist,** Hardware Engineering, Director Product Manager, **Director of Advanced Thermal Systems and Technology,** Battery Safety Engineer, **Senior Battery Technology Engineer,** Director – Manufacturing Engineering, **Senior Cell Engineer,** Lead Engineer Thermal Management System, **Thermal Management Research Engineer,** Projecthouse Thermal Management Modules, **Head of EV Battery Systems,** Thermal CFD Engineer, Predictive Thermal Management High-Voltage Battery, **Senior Engineer – Virtual Design Development and Verification, Electrification Battery Thermal, Technical Lead – Thermal Management,** Analyst – Battery Thermal Management, **Team Leader – Battery Modeling and Diagnostic,** R&D (Battery Thermal System), Thermal Management CAE Engineer, **Senior Manager- Battery Thermal Simulations,** Battery Packs – Electrical, **Mechanical Thermal components Team Leader,** HV Battery Cell Vent Management Supervisor, Senior Director, **Battery Storage,** Platform Battery Thermal Management Process engineering, **Director Thermal Management HV-Battery,** Director Battery System Product & Platform Management, **EV-Battery Production and Production Planning,** Thermal Systems Architecture Engineering, **Thermal Simulation Lead,** Director of Battery Cell and Module Technology

