The Future Will be Driven by Vehicle Electrification

aabc europe

14th INTERNATIONAL advanced automotive battery conference

13-16 MAY 2024 | STRASBOURG, FRANCE

SAVE UP TO €500!
REGISTER BY 2 FEBRUARY

2024 CONFERENCE PROGRAMS

PRE-CONFERENCE TUTORIALS: MONDAY 13 MAY

TUESDAY & WEDNESDAY 14-15 MAY

- CHEMISTRY - PART 1
- ENGINEERING
- HEAVY DUTY
- MANUFACTURING
- RECYCLING
- GRID-SCALE *Co-Located Event*

WEDNESDAY & THURSDAY 15-16 MAY

- CHEMISTRY - PART 2
- SAE EV MOBILITY
- xEV BATTERY TECHNOLOGY
- BATTERY INTELLIGENCE
- RAW MATERIALS
- HYDROGEN & FUEL CELLS *Co-Located Event*

Join a global audience

of battery technologists from leading automotive OEMs and their key suppliers for a must-attend 4 days exploring development trends and breakthrough technologies

AdvancedAutoBat.com/Europe

Cambridge EnerTech
Facilitating Advances in Rechargeables

Platinum Sponsor A123 SYSTEMS

2024 CONFERENCE PROGRAMS

PRE-CONFERENCE TUTORIALS: MONDAY 13 MAY

TUESDAY & WEDNESDAY | 14-15 MAY

- CHEMISTRY - PART 1
- HEAVY DUTY
- RECYCLING
- ENGINEERING
- MANUFACTURING
- GRID-SCALE *Co-Located Event*

WEDNESDAY & THURSDAY | 15-16 MAY

- CHEMISTRY - PART 2
- xEV BATTERY TECHNOLOGY
- RAW MATERIALS
- SAE EV MOBILITY
- BATTERY INTELLIGENCE
- HYDROGEN & FUEL CELLS *Co-Located Event*

TOP REASONS TO ATTEND

- Learn first-hand about the technical and business directions from major automakers currently active in the European market
- Hear key global market outlook data on the forecasted consumption trends for China, Japan, Korea, Europe and the United States
- Meet leading energy storage technologists from all automakers active in the European market
- Discuss fast-charging solutions coming to the market to support electrification goals for the coming decade
- Get an in-depth international overview of the lead industry including current trends, competitive analysis and examination of the key players and their strategies for market growth
- Discover the latest technological advancements in high specific energy batteries with long cycle life and low cost
- See how key players are overcoming challenges to commercialization for the specialty EV battery market while assessing consumer demand and competing technologies
- Understand the many facets of the international battery raw materials market, including advances in mining and processing with an emphasis on sourcing and cost control strategies by manufacturers
- Network at the largest international gathering of advanced energy storage technology developers and integrators in Europe

AABC EUROPE SPONSORS

PLATINUM SPONSOR

A123 SYSTEMS

GOLD SPONSORS

6K ENERGY · AMIONX · ASCEND ELEMENTS · aspen aerogels · BenQ Materials Corp · BlueSolutions · CAMX Power · CHASM · coperion confidence through partnership · elysia BATTERY INTELLIGENCE · FARASIS · HCM World's Leading LMFP Maker · Henkel · JobsOhio Ohio's Economic Development Corporation · JOKOH · MACCOR Battery & Cell Test Equipment Worldwide · MOLICEL · Nanoramic LABORATORIES · ONEJOON · ProLogium · ROGERS CORPORATION · SOLVAY Progress beyond · STROPOWER 迅洋技术 · TotalEnergies · TWAICE Predictive Battery Analytics · VOLTAIQ

SILVER SPONSORS

Arbin INSTRUMENTS · ARKEMA

13 MAY 2024 | STRASBOURG, FRANCE

TUTORIALS*

*All Access or separate registration required

MONDAY 13 MAY 14:00-15:30

TUT1: Solid-State Batteries
Instructor:
Juergen Janek, PhD, Professor, Solid-State Ionics & Electrochemistry, Justus Liebig University, Giessen

TUT2: Na-ion Batteries: Materials and State of the Art
Instructor:
Philipp Adelhelm, PhD, Professor, Institute of Chemistry, Humboldt-University Berlin

TUT3: Sustainability in the Automotive Battery Value Chain
Instructor:
Stefan Debruyne, Director of External Affairs, SQM International

TUT4: The Rechargeable Battery Market: Value Chain and Main Trends
Instructor:
Christophe Pillot, PhD, Director, Avicenne Energy

TUT5: Cell & Pack Design for xEVs
Instructor:
Kevin Konecky, Battery and Energy Storage Systems Consultant, Total Battery Consulting

MONDAY 13 MAY 16:00-17:30

TUT6: Battery Intelligence
Instructor:
Sheldon Williamson, PhD, Professor & Canada Research Chair, Electrical & Computer & Software Engineering, University of Ontario Institute of Technology

TUT7: Recycling Methods
Instructor:
Steve Sloop, PhD, President, OnTo Technology LLC

TUT8: Improving the Energy Density of Batteries with Silicon-Based Anodes
Instructor:
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.

TUT9: Battery Safety and Abuse Tolerance Validation
Instructor:
Shmuel De-Leon, CEO, Shmuel De-Leon Energy Ltd.

TUT10: In-Depth Analysis of the Chinese xEV Battery Market
Instructor:
Mark H. L. Lu, PhD, Senior Industrial Analyst, Industrial Economics & Knowledge Center, Industrial Technology Research Institute

OFFICIAL MEDIA SPONSOR

MEDIA SPONSORS

LITHIUM BATTERY CHEMISTRY — PART 1

Advancements in Lithium-ion and Beyond

MONDAY 13 MAY

13:00 Registration Open till 17:00

TUESDAY 14 MAY

7:00 Registration and Morning Coffee

MARKET OVERVIEW

8:30 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

8:35 Chairperson's Remarks
Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

8:40 The Rechargeable Battery Market: Value Chain and Main Trends, 2023-2033
Christophe Pillot, PhD, Director, Avicenne Energy
An overview of the 10-year automotive market forecasts from Avicenne and other analysts (micro/Hybrid/P-HEV/EV). Other coverage will include car makers' strategies and advanced energy storage (advanced lead acid/supercap/NiMH/LIB). Additionally, LIB design for P-HEV & EV markets (cylindrical, prismatic, pouch/wounded, stacked, Z fold cells) and LIB cell, module, and pack cost structure will be discussed.

9:00 Future Technologies for Automotive Batteries: Opportunities and Challenges
Angelique Janse van Rensburg, PhD, Head of Cell Chemistry and Methods, BMW Group
Lithium-ion technology is set to be the workhorse of e-mobility for the next decade and thus demands further R&D to improve the usual performance indicators such as energy density, safety, and lifetime. In addition, more sustainable materials and those that allow for faster charging are of high interest to the automotive industry. Selected observations originating from advanced electrode-active materials are discussed in this presentation.

9:20 The Battery Market
Hauke Simon, PhD, Director Strategy, EY Parthenon

9:40 MODERATED Q&A: Session Wrap-Up
Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster
Panelists:
Christophe Pillot, PhD, Director, Avicenne Energy
Angelique Janse van Rensburg, PhD, Head of Cell Chemistry and Methods, BMW Group
Hauke Simon, PhD, Director Strategy, EY Parthenon

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing - *Sponsored by* **ARKEMA**

ELECTROLYTES

10:50 The Electrolyte—The Hidden Champion for Maximizing the Performances of Modern and Innovative EV Cells
Kolja Beltrop, PhD, CTO, E-Lyte Innovations GmbH
E-Lyte aims to provide a sustainable and resilient supply chain for the perfect electrolyte solution for each energy storage system. The automotive industry currently has the greatest need for safe and powerful energy storage systems. The presentation will answer the question of why it is so difficult to find the perfect electrolyte for commercial battery technologies used in electric vehicles and how E-Lyte overcomes this challenge.

11:10 Enabling Lithium Metal: From Mine to Materials, Batteries, Vehicles, and Data
Kang Xu, PhD, , MRS Fellow, ECS Fellow, ARL Fellow (emeritus), Chief Scientist, SES AI Corp
SES AI specializes in rechargeable Li-Metal batteries (LMBs) with advanced electrolyte systems. These batteries offer excellent cycle-life, rate capability, energy density, and safety. SES has commercialized 100 Ah large format LMBs for EV and eVTOL applications. The company is now leveraging AI/ML for data mining in materials discovery, electrochemistry design, battery integration, recycling, and database management.

11:30 Armarator - An Invented Technology for Battery Separator
Speaker To Be Announced, BenQ Materials Corp
Armarator is a proprietary-design separator that offers a number of advantages over conventional separators including high temperature integrity, low film impedance and it does not require modifications to existing production processes. Armarator is easy for seamless adoption as a cost-effective solution for battery manufacturers.

11:50 MODERATED Q&A: Session Wrap-Up
Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster
Panelists:
Kolja Beltrop, PhD, CTO, E-Lyte Innovations GmbH
Kang Xu, PhD, , MRS Fellow, ECS Fellow, ARL Fellow (emeritus), Chief Scientist, SES AI Corp

12:10 Networking Lunch *(Sponsorship Opportunity Available)*

13:10 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

CATHODES

13:40 Chairperson's Remarks
Egbert Figgemeier, PhD, Senior Manager, IEK 12, Helmholtz Institute Muenster

13:45 Cathode Research
Xin Xia, Director, Global Technical Sales, Battery Materials, BASF
This talk will explore BASF's latest cathode research developments, with focus on chemistry and material advancements.

14:05 Pre-Lithiation as Enabling Technology for High-Capacity Negative Electrodes
Egbert Figgemeier, PhD, Senior Manager, IEK 12, Helmholtz Institute Muenster
Replacing carbon-based materials with silicon in negative electrodes for lithium-ion-batteries promises a boost of capacity and is therefore a major R&D topic. Nevertheless, widespread commercial automotive applications with silicon-modified anodes are still at the horizon, but not a commercial fact. Issues regarding volume variations, particle disintegration, and electrolyte consumption are hurdles still to overcome. The presentation will summarize latest efforts and prospects with regard to commercialization of silicon-based anodes.

14:25 Wildcat U.S. Manufacturing Plans for Advanced Cathode Materials
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.
The intersection of Wildcat Discovery Technologies' materials experience with the U.S. goal of a domestic supply chain provides a unique opportunity. We will describe Wildcat's plan and progress to manufacture advanced cathode materials. Our product pipeline consists of materials that 1) provide a range of energy densities; 2) are free of cobalt and nickel; 3) show promising material safety performance; and 4) have synergies in manufacturing unit operations.

14:45 MODERATED Q&A: Session Wrap-Up
Moderator: Egbert Figgemeier, PhD, Senior Manager, IEK 12, Helmholtz Institute Muenster
Panelists:
Xin Xia, Director, Global Technical Sales, Battery Materials, BASF

15:05 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

15:30 Electrode and Cell Design for Sulfide Electrolyte-Based Solid-State Batteries
Holger Althues, Head, Chemical Surface Technology Grp, Fraunhofer Institute for Material & Beam Technology
The talk will present and discuss innovations in electrode and cell design for

LITHIUM BATTERY CHEMISTRY — PART 1

Advancements in Lithium-ion and Beyond

sulfide electrolyte-based solid-state batteries. 100% silicon anodes were applied as stable high-energy anode concept in single- and multi-layer pouch cells with dry-processed NMC composite cathodes and solid electrolyte membranes. The cycling performance was studied in dependence of temperature and external pressure revealing high rate capability and cycle life.

15:50 Novel Electrolyte Additives for Enabling High Energy Lithium-ion Chemistries

Gabriel Torres, Director of Product Management, Sionic Energy

Next-gen lithium-ion batteries feature high-nickel NMC cathodes paired with silicon anodes to boost energy density, demanding innovative electrolyte design for safety, cycle life, and power considerations. Achieving control over the electrode-electrolyte interface, especially for new materials, involves employing sacrificial additives. Presented are novel electrolyte additives designed for high-energy cathodes and silicon anodes, focusing on stabilizing the CEI and SEI in this system.

16:10 Presentation to be Announced

16:30 MODERATED Q&A: Session Wrap-Up

Moderator: Egbert Figgemeier, PhD, Senior Manager, IEK 12, Helmholtz Institute Muenster

Panelists:

Holger Althues, Head, Chemical Surface Technology Grp, Fraunhofer Institute for Material & Beam Technology

Gabriel Torres, Director of Product Management, Sionic Energy

16:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

18:00 Close of Day

WEDNESDAY 15 MAY

7:20 Registration Open

7:30 Interactive Breakout Discussions & Morning Coffee

8:20 Organizer's Remarks

Victoria Mosolgo, Conference Producer, Cambridge EnerTech

8:25 Chairperson's Remarks

Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

LITHIUM-SULFUR

8:30 Lyten is Making Li-S Batteries a Commercial Reality

Karel Vanheusden, PhD, Vice President, Product Development, Lyten, Inc

Lyten is commercializing lithium-sulfur batteries enhanced with its proprietary 3D Graphene to enable next generation energy-storage with higher energy density, shorter charging times and longer cycle life. Lyten started operating a 3 MWh Li-S battery pilot line in California to support a variety of customers, and to further develop manufacturing capabilities for GWh-scale materials and cell production.

8:50 Presentation to be Announced

SILICON ANODE

9:10 Umicore's Silicon Anode Material—How to Answer the Key Requirements from Electric Vehicle Manufacturers?

Stephane Levasseur, PhD, Senior Director Innovation Battery, Umicore

After 15 years of R&D, Umicore introduces its silicon carbon composite (Si/C) anode portfolio. Today, and after extensive testing at large-scale, our customers confirm that Umicore Si/C technology is the right answer to meet their key requirements for next-generation EV batteries: performance, cost, scalability, ESG, and IP. We will detail our go-to-market strategy and industrial plan to be the first European Si-anode player at-scale.

9:30 On the Way to Silicon-Based Anode Materials—Beyond Cycle Stability

Stefan Haufe, PhD, Director, LIB Application Technology, R&D, Wacker Chemie AG

The challenges related to the huge volume change of silicon during lithiation still hamper its use as main anode material in lithium-ion batteries. Material concepts, addressing both mitigation on the electrode as well as on the materials level, are under investigation. Besides cycle stability and further electrochemical properties, applicability in existing production equipment and economic attractiveness are in the focus of these developments.

9:50 LFP Battery Cells Made in Europe—A Matter of Course in the Future or Not Feasible? Opportunities and Challenges of a Domestic LFP Supply Chain

Ines Miller, Team Lead Battery Cells, E Mobility, P3 Automotive GmbH

LFP-based battery cells see increasing popularity in the e-mobility market promising a safe and cost effective solution. To decrease dependency on Chinese import, more LFP cell capacities are planned to be installed in Europe—but can the technology keep its low-cost footprint in a western environment? This question is answered by analyzing the impact of local manufacturing conditions on the LFP cell cost structure.

10:10 Presentation to be Announced

10:30 MODERATED Q&A: Session Wrap-Up

Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

Panelists:

Karel Vanheusden, PhD, Vice President, Product Development, Lyten, Inc

Stefan Haufe, PhD, Director, LIB Application Technology, R&D, Wacker Chemie AG

Stephane Levasseur, PhD, Senior Director Innovation Battery, Umicore

Ines Miller, Team Lead Battery Cells, E Mobility, P3 Automotive GmbH

10:50 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:20 Binders vs. Structural Additives—The Key to Maximum Silicon Anode Performance

Manuel Wieser, CTO, AnteoTech Ltd.

Binders and additives, though a small part of anode compositions, play a crucial role in achieving a long cycle life. This is especially vital for silicon-containing anodes, where materials like SiOx, Si/C, or Si are employed to enhance storage capacity. Evolving binder chemistries and innovative structural additives, such as Anteo X, aim to minimize inactive materials, pushing silicon anodes forward with significant cycle improvements.

11:40 Na-ion Batteries: Materials and State-of-the-Art

Philipp Adelhelm, PhD, Professor, Institute of Chemistry, Humboldt-University Berlin

Na-ion batteries (SIBs) are emerging as potential alternatives to complement Li-ion battery (LIB) technology. SIBs offer energy densities close to LIBs while reducing the use of critical elements. Their conceptual similarity allows for production on existing LIB manufacturing lines, facilitating market implementation. This talk provides an overview of Na-ion battery development, focusing on materials (anode, cathode) and electrolytes.

12:00 Presentation to be Announced

12:20 MODERATED Q&A: Session Wrap-Up

Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

Panelists:

Manuel Wieser, CTO, AnteoTech Ltd.

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

14:30 Close of Conference

EV TECHNOLOGY FOR HEAVY DUTY APPLICATIONS

Commercialising Advanced High-Energy Batteries and Infrastructure for HEVs

MONDAY 13 MAY

13:00 Registration Open till 17:00

TUESDAY 14 MAY

7:00 Registration and Morning Coffee

HEAVY-DUTY MARKET EXPANSION

8:30 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

8:35 Chairperson's Remarks
Denis Gorman, Head of Batteries & High Voltage Systems, FutureMotiv

8:40 Cell Safety for Commercial Vehicles
Dragoljub Vrankovic, PhD, Manager, Team Cell Technology, Daimler Truck

Battery electric trucks can be the future backbone of the transport industry—combining maximum energy efficiency with good flexibility. Daimler Truck AG has proven, with a number of projects and products on a global scale, how capable these electric trucks can be. This presentation will investigate the special needs of batteries and cells for commercial vehicles with a special focus on cell chemistry and safety.

9:00 Battery Technologies for Heavy-Duty Trucks Using Electrified Roadways
John Forgie, PhD, Electrochemistry Senior Manager, Accelera by Cummins

9:20 Battery Powered Trains: Operation of Li-ion Batteries and Effect of High-Switching Frequencies from DC/DC Converters
Tony Jaumann, PhD, Senior Specialist for Energy Storage Systems, Power Transmission - System Development, Siemens Mobility

Battery Powered Trains (BEMU) will continuously substitute diesel eclectic trains (DEMU) in catenary-free railways. Siemens Mobility will present results for aging and operation of Li-ion batteries with up to 1000 V. Charging of BEMU is carried out at overhead lines. Focus of the study will be the influence of ripple currents on battery cells as a result of DC/DC converters and 15 kV AC overhead lines.

9:40 MODERATED Q&A: Session Wrap-Up
Moderator: Denis Gorman, Head of Batteries & High Voltage Systems, FutureMotiv
Panelists:
Dragoljub Vrankovic, PhD, Manager, Team Cell Technology, Daimler Truck
John Forgie, PhD, Electrochemistry Senior Manager, Accelera by Cummins
Tony Jaumann, PhD, Senior Specialist for Energy Storage Systems, Power Transmission - System Development, Siemens Mobility

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing - *Sponsored by* **ARKEMA**

10:50 Battery Trains and Their Technologies
Ezequiel Glasserman, Battery System Engineer, Stadler Deutschland GmbH

Battery electrical multiple units, such as the Stadler FLIRT Akku, offer a hybrid solution to rapidly electrify train lines still running on fossil fuels. The demands on the reliability and quality of multiple units, which are in use almost around the clock for up to 30 years, place high demands on the battery system. Here we present the first series-produced battery electrical multiple unit in Germany.

INNOVATION IN HEAVY-DUTY APPLICATIONS

11:10 Extreme Fast-Charge Batteries for Heavy-Duty Applications
Brian Barnett, PhD, CTO, Nyobolt

For many heavy-duty applications, batteries must deliver very high-power discharge capability and a very large number of charge-discharge cycles. The IDEAL battery would provide these attributes and would also be capable of incredibly fast charge with minimal heat release, allowing almost constant up-time. Nyobolt is commercializing battery technology with the capability of fully charging in 5-10 minutes or less, with outstanding cycle life, for mining and material handling/robotic applications.

11:30 Presentation to be Announced

11:50 MODERATED Q&A: Session Wrap-Up
Moderator: Denis Gorman, Head of Batteries & High Voltage Systems, FutureMotiv
Panelists:
Ezequiel Glasserman, Battery System Engineer, Stadler Deutschland GmbH
Brian Barnett, PhD, CTO, Nyobolt

12:10 Networking Lunch *(Sponsorship Opportunity Available)*

13:10 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

INNOVATION IN HEAVY-DUTY APPLICATIONS

13:40 Chairperson's Remarks
Tony Jaumann, PhD, Senior Specialist for Energy Storage Systems, Power Transmission - System Development, Siemens Mobility

13:45 Powertrain Sizing for Heavy-Goods FCEVs
Denis Gorman, Head of Batteries & High Voltage Systems, FutureMotiv

Fuel cell vehicles are expected to be a key contributor to decarbonizing transportation, particularly for heavy goods and off-highway applications. A holistic approach to system sizing can minimize cost, weight, and complexity, all whilst ensuring that vehicle capability is not compromised. This session will demonstrate how customer requirements can be used to select appropriately-sized components, and explore how the capabilities of those components are interdependent.

14:05 Fast-Charging in High-Utilization Use Cases: Optimization of Power/Energy Ratios
Sebastian Pohlmann, PhD, Vice President, Automotive, Skeleton Technologies GmbH

The electrification of high utilization use cases requires low charging times and long cycle lifetimes in order to ensure low total cost of ownership. Skeleton Technologies has developed a high-power energy storage technology capable of being charged in 60 seconds and surviving up to 50,000 cycles. This presentation will analyze the requirements of high utilization use cases and how different energy storage technologies provide the lowest TCO for these applications.

14:25 Hybrid Supercapacitors with Lithium-ion Batteries in Electric Vehicles for Fast-Charging
Kawinkorn Iamrod, PhD, Researcher, University of Birmingham; Researcher, The Faraday Institution

This study aims to scale down supercapacitors to a coin cell size. Various charging rates will be applied to these cells using the VMP3 potential state from BioLogic. This experimentation will simulate scenarios where supercapacitors assist batteries in rapid charging from high-rate charger devices and when they harvest excess energy from the driving system with slower charging rates.

14:45 MODERATED Q&A: Session Wrap-Up
Moderator: Tony Jaumann, PhD, Senior Specialist for Energy Storage Systems, Power Transmission - System Development, Siemens Mobility
Panelists:
Denis Gorman, Head of Batteries & High Voltage Systems, FutureMotiv
Sebastian Pohlmann, PhD, Vice President, Automotive, Skeleton Technologies GmbH
Kawinkorn Iamrod, PhD, Researcher, University of Birmingham; Researcher, The Faraday Institution

15:05 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

15:30 Operation Optimization of Heavy-Duty Vehicles Based on Updated Battery Degradation Models
Josu Olmos, Researcher, Ikerlan Technology Research Centre
Data-driven battery degradation models increase the confidence of their predictions as more data is compilated from operation. Each time the degradation model is updated, the operation of a fleet of heavy-duty vehicles can be re-optimized (e.g., updating the charging or energy management strategy), so the warranty period of the battery is respected. As new vehicles are introduced in the fleet, transfer learning is applied to develop new degradation models.

15:50 Recycled NCM Cathode-Active Material Engineered for High-Power, High-Performance Heavy-Duty Lithium-ion Battery Applications
Ian Braime, Chief Commercial Officer, Ascend Elements
Kevin Dahlberg, PhD, Vice President of Cell Technology, XALT Energy
Ascend Elements and XALT Energy have collaborated to develop a novel recycled NCM-grade material tailored for heavy duty electrification applications, enabling long cycle life, high charge rate, and high safety. Recently both companies have worked together to scale and demonstrate the material and corresponding cell performance in multilayer 2 Ah prototype pouch cells and in large format production scale pouch cells.

16:10 Sponsored Presentation *(Opportunity Available)*

16:30 MODERATED Q&A: Session Wrap-Up
Moderator: Tony Jaumann, PhD, Senior Specialist for Energy Storage Systems, Power Transmission - System Development, Siemens Mobility
Panelists:
Josu Olmos, Researcher, Ikerlan Technology Research Centre
Ian Braime, Chief Commercial Officer, Ascend Elements
Kevin Dahlberg, PhD, Vice President of Cell Technology, XALT Energy

16:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

18:00 Close of Day

WEDNESDAY 15 MAY

7:20 Registration Open

7:30 Interactive Breakout Discussions & Morning Coffee

INNOVATION IN HEAVY-DUTY APPLICATIONS

8:45 Chairperson's Remarks
Ezequiel Glasserman, Battery System Engineer, Stadler Deutschland GmbH

8:50 1000km+ zero emission: GenH2 Fuel Cell Truck's High Performance Battery
Kristina Pfeifer, PhD, R&D Engineer, Product Engineering, Daimler Truck AG
The Mercedes-Benz Trucks GenH2 Fuel Cell Truck recently made headlines for completing a remarkable journey, covering a record-breaking 1047 km on just one hydrogen tank. This success is attributed to an efficient system design, particularly the high-voltage battery and other essential components. The talk gives an overview of the overall GenH2 truck system with a special focus on its battery design and highlights the differences to battery-electric trucks.

9:10 Myth-Busting Heavy-Duty Electrification
Sigve Aasebo, Senior Advisor, Statens vegvesen
Heavy-duty electrification is dependent on lighter, higher C, and cheaper battery cells. There will be no change before the vehicles may charge on publicly-available fast chargers. Business and logistics chains will remain, and the same transport companies will transition into a carbon neutral transport economy. Or is it the other way around? Join for an analysis made to make you think.

9:30 Advanced Concept of an Algorithm Extending the Life of Batteries in Electric Buses by Dynamically Adjusting the Depth of Discharge of Lithium-ion Cells
Bartek Kras, PhD, CEO, Impact Clean Power Technology SA
Limiting the depth of discharge (DOD) allows you to achieve a greater number of cycles, but limits the useful energy in one cycle. The publication examined the hypothesis that it is possible to extend the lifetime and increase the discharge energy (higher vehicle mileage) at the expense of an initial limitation of the discharge depth (shorter range at the beginning of use).

ADVANCES IN SAFETY FOR HEAVY-DUTY APPLICATIONS

9:50 First Responder Emergency Response Guide Considerations for HVOR Applications
Brian Engle, Manager, Business Development, Electrification, Amphenol
The SAE J2990 Task Force has developed standard practice for documenting Emergency Response Guides for EV and fuel cell vehicles. Field incident investigations, first responder feedback, and recent research has provided further guidance for tools and resources needed as battery systems scale up for HVOR markets.

10:30 MODERATED Q&A: Session Wrap-Up
Moderator: Ezequiel Glasserman, Battery System Engineer, Stadler Deutschland GmbH
Panelists:
Kristina Pfeifer, PhD, R&D Engineer, Product Engineering, Daimler Truck AG
Sigve Aasebo, Senior Advisor, Statens vegvesen
Bartek Kras, PhD, CEO, Impact Clean Power Technology SA
Brian Engle, Manager, Business Development, Electrification, Amphenol

10:50 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:20 Advances on High-Safety and Long-Lasting Lithium-ion Batteries for Demanding Heavy-Duty Applications
Khadija Yazda, PhD, Product Manager, High Voltage Battery Systems, Engineering, Electrovaya
Electrovaya's infinity batteries provide superior performance over conventional lithium-ion battery solutions, and are exceptionally well-suited for demanding and mission-critical applications where longevity and fire safety are critical metrics. This superior performance was achieved through years of R&D, extending the battery's lifetime and setting the industry standards (End of Life ~14000 cycles, equivalent to 3.5 million mile for a 250-mile range).

11:40 Benefits of Deploying Electrical Impedance Spectrometry (EIS)
Clemens Vanzeyl, Founder and Managing Director, Heimdalytycs GmbH
While lithium-ion batteries are prevalent in our lives, they are made safe through the encasement of the battery, combined with temperature sensing and cycle counting. This strategy is effective for electronics and small mobile applications, but impractical for large systems. Large systems require accurate measurement of a battery's "state of health," so that it may be isolated and replaced before failing.

12:00 Sponsored Presentation *(Opportunity Available)*

12:20 MODERATED Q&A: Session Wrap-Up
Moderator: Ezequiel Glasserman, Battery System Engineer, Stadler Deutschland GmbH
Panelists:
Khadija Yazda, PhD, Product Manager, High Voltage Battery Systems, Engineering, Electrovaya
Clemens Vanzeyl, Founder and Managing Director, Heimdalytycs GmbH

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

14:30 Close of Conference

BATTERY RECYCLING

Advanced Recycling Methods for Sustainable Battery Materials Supply

MONDAY 13 MAY

13:00 Registration Open till 17:00

TUESDAY 14 MAY

7:00 Registration and Morning Coffee

EXPANDING GLOBAL RECYCLING MARKETS

8:30 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

8:35 Chairperson's Remarks
Steve Sloop, PhD, President, OnTo Technology LLC

8:40 Future Scenarios for LIB Recycling in Each Region (Europe/US/China/Japan)
Akihito Fujita, Co-Head, Research & Consulting, Nomura Research Institute America, Inc.

9:00 Battery Recycling and Black Mass Forecast
Julia Harty, Battery Recycling & Black Mass Analyst, Fastmarkets
This presentation will cover scrap battery forecast, black mass pricing, and shredding and refining capacities.

9:20 Building Local and Circular Lithium-ion Recycling Solutions and Networks
Christian Lafrance, Director, Business Development Europe, Lithion Technologies

9:40 MODERATED Q&A: Session Wrap-Up
Moderator: Steve Sloop, PhD, President, OnTo Technology LLC
Panelists:
Akihito Fujita, Co-Head, Research & Consulting, Nomura Research Institute America, Inc.
Julia Harty, Battery Recycling & Black Mass Analyst, Fastmarkets
Christian Lafrance, Director, Business Development Europe, Lithion Technologies

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing - *Sponsored by* **ARKEMA**

10:50 Sustainability Challenges for the Recycling of Present and Emerging Batteries
Marcel Weil, Scientific Research Group Leader, Research for Sustainable Energy Technologies, ITAS & HIU, Karlsruhe Institute of Technology
Several studies estimate a tremendous increase of energy-storage demand which causes a strong increase of critical raw-material demand (especially for Co, Ni, Li, natural graphite, and others). Secondary raw materials from the recycling of spent batteries are considered as a potential source to tackle at least a certain fraction of future demand. But there are still challenges for the recycling of used batteries today and in the future.

11:10 Redefining Sustainability: AVL's Blueprint for Eco-Friendly Battery Design and Recycling Excellence
Stefan Windisch-Kern, Battery Development Engineer, Battery Systems and Functions, AVL List GmbH
We'll discuss how proper design and engineering choices can boost recyclability and end-of-life strategies, touching on the legislative environment, material selection, and mechanical design, as well as manufacturing techniques. Furthermore, our discussion will dive into AVL's benchmarking program, where we will share concrete examples of how design choices significantly influence end-of-life options and CO2 footprint, investigated during our extensive battery tear-down analysis.

11:30 Sponsored Presentation *(Opportunity Available)*

11:50 MODERATED Q&A: Session Wrap-Up
Moderator: Steve Sloop, PhD, President, OnTo Technology LLC
Panelists:
Marcel Weil, Scientific Research Group Leader, Research for Sustainable Energy Technologies, ITAS & HIU, Karlsruhe Institute of Technology
Stefan Windisch-Kern, Battery Development Engineer, Battery Systems and Functions, AVL List GmbH

12:10 Networking Lunch *(Sponsorship Opportunity Available)*

13:10 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

RECYCLING METHODS

13:40 Chairperson's Remarks
Anna Vanderbruggen, PhD, Process Engineer, GeoRessources Institute, University of Lorraine

13:45 Characterization of Process Water in Lithium-ion Battery Recycling
Sascha Nowak, PhD, Head of Analytics & Environmental, Electrochemical Energy Technology, University of Münster
Water-using recycling processes—such as wet crushing and electrohydraulic fragmentation—generate large amounts of contaminated process water, resulting in increased costs for the disposal of hazardous waste and safety guidelines. To improve wastewater management, safety, and sustainability of water-assisted recycling processes, comprehensive knowledge of the battery components in the water are required. Analytical techniques can play an important role during these processes.

14:05 Advances in Recycling Technology and Building Recycling Plants for Spoke and Hydro Metallurgy
Christian Reiche, PhD, CTO, Primobius

14:25 Direct Recycle Cathode-Healing and Battery Deactivation to Improve Cost and Safety of the Value Chain
Steve Sloop, PhD, President, OnTo Technology LLC
Dr. Sloop will discuss recycling batteries with Cathode-Healing, along with inertization of lithium-ion, design for recycling with PFAS-free components. The approaches are presented in counterpoint of current plans to ship dangerous goods for recycling, repurifying cathode metals, and resynthesizing cathodes for every battery lifecycle. The triple-threat of design for recycling, battery inertization, and Cathode-Healing is presented as a flexible, scalable approach to help make energy storage affordable for everyone.

14:45 MODERATED Q&A: Session Wrap-Up
Moderator: Anna Vanderbruggen, PhD, Process Engineer, GeoRessources Institute, University of Lorraine
Panelists:
Sascha Nowak, PhD, Head of Analytics & Environmental, Electrochemical Energy Technology, University of Münster
Christian Reiche, PhD, CTO, Primobius
Steve Sloop, PhD, President, OnTo Technology LLC

15:05 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

15:30 Effects of Over-Discharge on the Quality of Lithium-ion Battery Recycling Products
Alexandra Kaas, Research Associate, Mechanical Process Engineering and Mineral Processing, Freiberg University of Mining and Technology
Discharging is performed to ensure safety during a recycling process and can be done to different levels. The effects of over-discharging, e.g., formation of copper on the cathode or coating of the separator, have an influence on the quality of the recycling products, e.g., black mass or metal fractions. Examination of whether the new EU regulations can be met with different chemistries (NMC, NCA, LFP) were investigated.

15:50 Influences on the Properties of Black Mass from Mechanical Lithium-ion Battery Recycling
Christian Wilke, Research Associate, TU Bergakademie Freiberg
During mechanical recycling of lithium-ion batteries, a fine fraction, black mass is produced. This fraction consists of the detached coating of the electrodes and small quantities of impurities. Yield and composition of the black mass are influenced by the preceding processing steps, discharge, comminution, drying, and pyrolysis. This presentation provides an overview of the process settings that affect the black mass properties and outlines how to optimize yield and quality.

16:10 Sponsored Presentation *(Opportunity Available)*

16:30 MODERATED Q&A: Session Wrap-Up
Moderator: Anna Vanderbruggen, PhD, Process Engineer, GeoRessources Institute, University of Lorraine
Panelists:
Alexandra Kaas, Research Associate, Mechanical Process Engineering and Mineral Processing, Freiberg University of Mining and Technology
Christian Wilke, Research Associate, TU Bergakademie Freiberg

16:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

18:00 Close of Day

WEDNESDAY 15 MAY

7:20 Registration Open

7:30 Interactive Breakout Discussions & Morning Coffee

RECYCLING METHODS

8:45 Chairperson's Remarks
Christian Wilke, Research Associate, TU Bergakademie Freiberg

9:10 Battery Recycling—Influence of Diluent in Solvent Extraction Process
Blaise Bridier, Performance Liquids Technology Product Professional, ExxonMobil Chemical Europe
The paradigm of solvent selection presentation will compare several diluents and provide an overview of the properties to take into account in its selection. Diluents are usually the last parameter to be optimized, but the right diluent is a tradeoff between extraction efficiency, process robustness, and for sure safety, environmental concerns, and cost.

9:30 Enhancing Recycling of Valuable Materials from Spent Lithium-ion Batteries Using Electrostatic and Magnetic Separations
Hyeyeon Lee, PhD, Research Fellow, University of Birmingham
To enable greater elemental recovery and less resource waste, a robust pre-treatment technology is required. This study delineates the utilization of electrostatic and magnetic separation processes across four distinct lithium-ion battery formats and chemistries. These pre-treatment methods thereby facilitate the provision of high-purity materials which can be directly processed back into battery components, providing a secondary critical mineral ore for the battery industry whilst reducing secondary pollution concerns.

9:50 Innovative Approach to Lithium-ion Battery Recycling: Utilizing Froth Flotation with Bio-Based Cyrene Solvent as a Sustainable Binder Removal Pre-Treatment
Anna Vanderbruggen, PhD, Process Engineer, GeoRessources Institute, University of Lorraine
Froth flotation holds potential for separating cathode- and anode-active material in lithium-ion battery recycling and therefore increasing the recycling rate. Effective flotation separation requires removal of the organic binder (PVDF) from active particles' surfaces. This study investigates pre-treatment of an industrial black mass with the bio-based solvent Cyrene to efficiently remove the binder and compares it to the pyrolysis route.

10:10 Advancing Sustainability: Fast-Tracking Closed Loop Industry in Europe
Tomasz Poznar, VP Strategy , Ascend Elements
Terms "sustainability" and "closed loop" are often used to describe battery recycling processes like pyrometallurgy and hydrometallurgy, but these traditional recycling processes are just the first steps in a battery materials journey. The typical outputs of battery recycling require processing before they can go into new EV batteries. This presentation puts recycled battery materials under the microscope and explores the steps to engineer new, battery-ready cathode and anode active materials.

10:30 MODERATED Q&A: Session Wrap-Up
Moderator: Christian Wilke, Research Associate, TU Bergakademie Freiberg
Panelists:
Blaise Bridier, Performance Liquids Technology Product Professional, ExxonMobil Chemical Europe
Hyeyeon Lee, PhD, Research Fellow, University of Birmingham
Anna Vanderbruggen, PhD, Process Engineer, GeoRessources Institute, University of Lorraine

10:50 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:20 Graphite Anode Recycling: An Environmentally-Friendly Approach to Supply Chain Localization
Rakan Ashour, PhD, Senior Process Development Engineer, Koura
In this talk, we will present data showing that the physio-chemical attributes and electrochemical performance of recycled graphite are on-par with pristine commercial graphite anode active materials. We will highlight the environmental, supply chain, and economic benefits for recycling graphite from lithium-ion batteries. Finally, we will discuss how recycled graphite can be a viable anode active material for Li-ion batteries.

EXPANDING GLOBAL RECYCLING MARKETS

11:40 Recycling of Li-ion Batteries: Empower Your Understanding of the Competitive and Technological Landscape Thanks to Patent Analysis
Filippo Farina, PhD, Technology & Patent Analyst, Energy, KnowMade
The global growing demand for batteries has led to the increasing interest for Li-ion batteries recycling. Players on the market need to stay ahead of the technological trends and to understand their competitive environment. Through patent landscape analysis, we will uncover IP trends and key IP players, with a focus on cathode active materials.

12:00 Sponsored Presentation *(Opportunity Available)*

12:20 MODERATED Q&A: Session Wrap-Up
Moderator: Christian Wilke, Research Associate, TU Bergakademie Freiberg
Panelists:
Rakan Ashour, PhD, Senior Process Development Engineer, Koura
Filippo Farina, PhD, Technology & Patent Analyst, Energy, KnowMade

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

14:30 Close of Conference

BATTERY ENGINEERING

Building Better Batteries through Improvements in Battery Safety, Cell Engineering, and Battery Management Systems

MONDAY 13 MAY

13:00 Registration Open till 17:00

TUESDAY 14 MAY

7:00 Registration and Morning Coffee

CHARGING

8:30 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

8:35 Chairperson's Remarks
Christiane Essl, Researcher, Battery Safety, VIRTUAL VEHICLE Research GmbH

8:40 Safe EV Charging
Pawel Fudala, Deployment Lead, EMEA Supercharger, Tesla Motors
Modern EV charging systems implement several safeguards to minimise the hazard to people and property in the case of unexpected events. This presentation will review safeguards commonly found within an EV, at the charger, and in building infrastructure, and how they work together to minimise risk of DC fast charging installations. The presentation will place emphasis on best practices when considering indoor DC charging installations.

9:00 Innovative Battery Systems—Achieving High Energy Density while Improving Fast-Charging Capabilities and Safety
Vaneet Kumar, Vice President, European R&D Center, SVOLT Energy Technology Europe GmbH
SVOLT's next-generation cell-to-pack EV batteries deliver superior energy density, extended lifespan, and rapid charging capabilities while ensuring best-in-class safety. This is achieved by innovative system design and battery cells which are specifically designed for cell-to-pack architecture.

9:20 Introduction to the Premium Platform Electric (PPE) Battery System
Sebastian Lacher, PhD, Head, Cell & Cell Module Development, E Traction HV Systems Development, Audi AG
Audi and Porsche will launch their first vehicles on the Premium Platform Electric to market. This talk will introduce key features such as fast charging and thermal management from cell up to system-level.

9:40 MODERATED Q&A: Session Wrap-Up
Moderator: Christiane Essl, Researcher, Battery Safety, VIRTUAL VEHICLE Research GmbH
Panelists:
Pawel Fudala, Deployment Lead, EMEA Supercharger, Tesla Motors
Vaneet Kumar, Vice President, European R&D Center, SVOLT Energy Technology Europe GmbH
Sebastian Lacher, PhD, Head, Cell & Cell Module Development, E Traction HV Systems Development, Audi AG

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing - *Sponsored by* **ARKEMA**

THERMAL MANAGEMENT AND MATERIALS

10:50 Driving Innovations in Battery Materials and Cell Concepts by Focusing on Lab-to-Pilot Scale-Up
Falko Schappacher, PhD, Managing Director, MEET Battery Research Center, University of Muenster
The process of driving innovations in battery materials and cell concepts through lab-to-pilot scale-up involves transitioning promising developments from the laboratory to larger-scale production for testing and optimisation. This entails the exploration and development of novel materials, innovative cell architectures, and scalable production processes.

11:10 Thermal Management Materials for EV Battery Module & Packs: High Energy Density and Safety
Tomohiro Kawai, PhD, Senior Chief Scientist & Leader, Product Design, Mitsubishi Chemical Corp.
Takata Nobuaki, Senior Manager, Mitsubishi Chemical Corp.
Mitsubishi Chemical's thermal management materials for EV battery module/packs are spotlighted for their integral role in enhancing high energy density and safety. Demonstrations of these materials' effectiveness in fast-charging and thermal stability will be conducted through simulations and test results. The key features presented include flame-retardant thermoplastic composite and inter-cell spacers. Strategies for mitigating thermal runaway will be explored.

11:30 Presentation to be Announced ONEJOON

11:50 MODERATED Q&A: Session Wrap-Up
Moderator: Christiane Essl, Researcher, Battery Safety, VIRTUAL VEHICLE Research GmbH
Panelists:
Falko Schappacher, PhD, Managing Director, MEET Battery Research Center, University of Muenster
Tomohiro Kawai, PhD, Senior Chief Scientist & Leader, Product Design, Mitsubishi Chemical Corp.

12:10 Networking Lunch *(Sponsorship Opportunity Available)*

13:10 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

BATTERY FAILURE

13:40 Chairperson's Remarks
Michael Schoenleber, Co-Founder & CTO, Batemo GmbH

13:45 Investigating the Ability of Plastic Current Collectors and Thermally-Stable Separators to Isolate Internal Short
Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center
As we push the specific energy over 250 Wh/kg in 21700 Li-ion cells with cathode metalized plastic current collectors (PCC), we lose tolerance to nail penetration. Adding thermally-stable separators, anode PCCs, and reducing cathode-active material adhesion to the collector didn't improve nail penetration safety. Jellyroll winding tension appears to play a major role in cylindrical cells since nail tolerance is achieved in prismatic pouch cells > 250 Wh/kg.

14:05 Comparing Safety-Relevant Parameters of Failing Batteries with Different Energy Density
Christiane Essl, Researcher, Battery Safety, VIRTUAL VEHICLE Research GmbH
Since many factors influence the results of battery experiments, it is important to analyse them—one important factor is the gravimetric energy density. In this presentation, results of failing state-of-the-art battery cells will be presented and discussed. The focus will be on the comparison of NMC cells with different gravimetric energy density. The results will be compared in the categories: thermal behavior, vent gas production, and vent gas composition.

14:25 Is Flexibility Contrary to High Throughput in Battery Cell Manufacturing? A Model-Based Approach for the Rapid Ramp-up of Innovative Production Equipment
Juergen Fleischer, PhD, Manager of Machines, Equipment & Process Automation, Karlsruhe Institute of Technology
To reconcile the two seemingly conflicting goals of highly flexible processes and high production volumes, new concepts are needed for singulation and stacking processes. Combining the traditional discrete stacking process with a continuous cutting operation will allow rapid changes in electrode dimensions. By setting up digital twins of the machinery, it is possible to virtually commission control components and deduce machine influences on material behaviour and product quality.

14:45 MODERATED Q&A: Session Wrap-Up
Moderator: Michael Schoenleber, Co-Founder & CTO, Batemo GmbH
Panelists:
Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center
Christiane Essl, Researcher, Battery Safety, VIRTUAL VEHICLE Research GmbH
Juergen Fleischer, PhD, Manager of Machines, Equipment & Process Automation, Karlsruhe Institute of Technology

15:05 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

CELL ENGINEERING AND SELECTION

15:30 LFP Battery Cells Made in Europe—A Matter of Course in the Future, or Not Feasible? Opportunities and Challenges of a Domestic LFP Supply Chain
Ines Miller, Team Lead Battery Cells, E Mobility, P3 Automotive GmbH
LFP based battery cells see increasing popularity in the e-mobility market promising a safe and cost-effective solution. To decrease dependency on Chinese import, more LFP cell capacities are planned to be installed in Europe—but can the technology keep its low cost footprint in a western environment? This question is answered by analysing the impact of local manufacturing conditions on the LFP cell cost structure.

15:50 Battery Cell Design Revealed—Why Batteries Are Built the Way They Are
Michael Schoenleber, Co-Founder & CTO, Batemo GmbH
In this talk we will discuss different performance targets of battery cells and how these are affected by material choice and cell design. We will illustrate some of the fundamental sensitivities of cell design by virtually designing and re-designing different cells and studying the impact on cell performance.

16:10 Presentation to be Announced
AMIONX

16:30 MODERATED Q&A: Session Wrap-Up
Moderator: Michael Schoenleber, Co-Founder & CTO, Batemo GmbH
Panelists:
Ines Miller, Team Lead Battery Cells, E Mobility, P3 Automotive GmbH

16:50 Networking Reception in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

18:00 Close of Day

WEDNESDAY 15 MAY

7:20 Registration Open

7:30 Interactive Breakout Discussions & Morning Coffee

SAFETY AND BATTERY MANAGEMENT SYSTEMS

8:40 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

8:45 Chairperson's Remarks
Natalia Lebedeva, PhD, Scientific Project Officer, Energy Storage, European Commission

8:50 Advancements in Elastomeric Materials for Cell-to-Cell Pressure Management
ROGERS CORPORATION
Katleen Van Nuffel, Sr. Technical Service Engineer, Rogers Corporation
Elastomeric pads are vital for pressure management in pouch and prismatic cells, providing cushioning and adaptability for cell breathing and expansion due to dendritic growth and gas evolution. This presentation assesses the influence of pad material selection on overall pack performance. Various materials (silicone, polyurethane) with differing mechanical properties were tested for their impact on cycle life in pouch and prismatic formats.

9:10 Safety of Li-ion Batteries: Current Challenges and R&D Needs
Natalia Lebedeva, PhD, Scientific Project Officer, Energy Storage, European Commission
In this presentation, various aspects of thermal runaway and propagation in Li-ion batteries, including thermal runaway detection criteria and questions facing development of a regulatory test procedure, are discussed. Liquid, gas, and solid emissions from Li-ion batteries in several scenarios including battery fire are analysed allowing more quantitative risk assessment of such emissions.

9:30 Future BMS Architectures—Lower Cost, Better Safety, and Faster Time-to-Market
Stefan Goede, CTO, Co-Founder, Munich Electrification GmbH
Battery management systems are a decisive factor for successful and fast development of batteries. Oftentimes, integrators struggle with managing the increasing software complexity in modern automotive and heavy-duty ECUs. Yet, time-to-market is critical and battery and cell variants are only growing. This talk presents a view on future BMS architectures, taking into consideration industry trends such as: the SW-defined vehicle, Ethernet to the Edge, and new safety goals.

9:50 Next-Generation Intelligent Battery Management System with Enhanced Safety for Transportation Electrification
Sheldon Williamson, PhD, Professor & Canada Research Chair, Electrical & Computer & Software Engineering, University of Ontario Institute of Technology
Range anxiety is a key reason that consumers are reluctant to embrace electric vehicles (EVs). However, none of today's EVs allow fast charging in cold or even cool temperatures due to the risk of lithium plating, the formation of metallic lithium that drastically reduces battery life and even results in safety hazards. Here, we present an approach that enables 15-minute fast charging of Li-ion batteries at any temperature (-50 °C).

10:10 In the Line of Fire: Parameters for Torch and Grit Testing
aspen aerogels
John Williams, Vice President, Technical Services, Aspen Aerogels
A cell in thermal runaway releases hot gas and high-velocity particulates into a pack's confined spaces. Safely ushering those hazards before they trigger adjacent cells is a plumbing problem involving cell chemistry, vent design, and architectural layout. Benchtop torch and grit (TaG) testing can be a useful tool, but the industry is not aligned on the inputs to simulate a thermal runaway event. This session explores parameters engineers can use to develop effective gas-management strategies.

10:30 MODERATED Q&A: Session Wrap-Up
Moderator: Natalia Lebedeva, PhD, Scientific Project Officer, Energy Storage, European Commission
Panelists:
Stefan Goede, CTO, Co-Founder, Munich Electrification GmbH
Sheldon Williamson, PhD, Professor & Canada Research Chair, Electrical & Computer & Software Engineering, University of Ontario Institute of Technology

10:50 Coffee Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

CELL ENGINEERING AND PROTOTYPING

11:20 Technology Developments from Cell Selection to Design
Alastair Hales, PhD, Lecturer, Mechanical Engineering, University of Bristol
Is specific energy density the right optimisation metric to select the most appropriate lithium-ion cell for application in an automotive battery pack? Here, About:Energy's reduced-order models are used to examine the real-life performance benefits and drawbacks of cell selection against different performance metrics. These models are built with industry-leading parameterisation techniques. These models enable cell-to-cell comparison across the vast suite of commercially available lithium-ion cells, as set out.

11:40 Cell Engineering and Prototyping
Alexander Roberts, PhD, Professor of Energy Storage, Centre for eMobility and Clean Growth, Coventry University
As new materials progress from laboratory to commercial reality, a key aspect in predicting final performance is device prototyping. This work demonstrates the effects of cell size and design on prototype prediction of final device performance. Through variation of design and size of Li-ion pouch cells, from single-layer through many layer, relationships with parameters such as capacity, rate, resistance, and lifetime are considered relative to those of final device.

12:00 How Do Conductive Electrode Coatings Optimize the Performance of Dry Coated Batteries?
Tobias Knceht, PhD, Battery Cells Specialist, Automotive Components, Henkel Adhesive Technologies
Dry coating of lithium-ion batteries has the potential to revolutionize battery production through a reduced solvent, energy and footprint demand. However, dry coated electrodes suffer from poor adhesion between the dry film and current collector that leads to the demand of a pre-coating. We want to discuss how carbon coatings of current collectors can enable dry battery manufacturing and improve battery cell performance.

12:20 MODERATED Q&A: Session Wrap-Up
Moderator: Natalia Lebedeva, PhD, Scientific Project Officer, Energy Storage, European Commission
Panelists:
Alastair Hales, PhD, Lecturer, Mechanical Engineering, University of Bristol
Alexander Roberts, PhD, Professor of Energy Storage, Centre for eMobility and Clean Growth, Coventry University

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

14:30 Close of Conference

MONDAY 13 MAY

13:00 Registration Open till 17:00

TUESDAY 14 MAY

7:00 Registration and Morning Coffee

GLOBAL MARKET OPPORTUNITIES IN BATTERY MANUFACTURING

8:30 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

8:35 Chairperson's Remarks
Jochen Zausch, PhD, Senior Scientist, Team-Leader Electrochemistry and Batteries, Flow and Material Simulation, Fraunhofer ITWM

8:40 Technology Trends in Sodium-ion Batteries and Market Penetration
Christoph Neef, PhD, Senior Scientist, Fraunhofer Institute for Systems and Innovation Research ISI

A number of manufacturers have launched their first generation of sodium-ion batteries in 2023. The technologies used differ significantly and cover a wide range in cathode and anode materials and cell design. The presentation highlights current and future SIB technologies and makes an assessment of the future market development.

9:00 Supporting the Growth of the European Battery Ecosystem by Building the Bridge between Europe and Asia
Christian Ruediger, PhD, Managing Director, Chem4Batteries GmbH

Based on our in-depth industry knowledge and long-year trusted relationships along the entire battery value chain, from raw material mining to battery cell making, paired with our fundamental electrochemical expertise, we are in the unique position to seek, assess, and develop new businesses. We help our clients to navigate through new battery technology trends and their shift into localisation by building strategic collaborations and alliances.

9:20 Sustainable Battery Manufacturing and Use for a Greener Tomorrow
David Verner, Director of Energy Strategy, Gresham Smith & Partners

The shift in the automotive landscape towards electric vehicles (EVs) took a defining turn when the GMC Hummer EV emerged. The transformation of an iconic gas-guzzler into an EV muscle car heralded a meaningful change in the market. However, to realize the environmental aspirations of EVs, a comprehensive evaluation of the battery supply chain, from sourcing raw materials to recycling, is imperative.

9:40 MODERATED Q&A: Session Wrap-Up
Moderator: Jochen Zausch, PhD, Senior Scientist, Team-Leader Electrochemistry and Batteries, Flow and Material Simulation, Fraunhofer ITWM
Panelists:
Christoph Neef, PhD, Senior Scientist, Fraunhofer Institute for Systems and Innovation Research ISI
Christian Ruediger, PhD, Managing Director, Chem4Batteries GmbH
David Verner, Director of Energy Strategy, Gresham Smith & Partners

10:00 Grand Opening Coffee Break in the Exhibit Hall with Poster Viewing - *Sponsored by* **ARKEMA**

ADVANCES IN CELL MANUFACTURING

10:50 Future Manufacturing Approaches Including Advances in Pre-Lithiation
Wolfgang Bernhart, Senior Partner, Automotive Competence Center, Roland Berger Strategy Consultants GmbH

Outlook on acheiving manufacturing targets with on-demand supply balance for Li, Ni, Co, Mn, and graphite; alternative feedstock and processing routes; comparing costs and CO2 emission; strategies to secure critical raw materials adopted by major players; framework for holistic evaluation of manufacturing strategies.

11:10 Meeting EV Demand and Leapfrogging Supply Chain Hurdles with Localised Battery Production
Rick Constantino, PhD, CTO & Co-Founder, Manufacturing, Group14 Technologies

11:50 MODERATED Q&A: Session Wrap-Up
Moderator: Jochen Zausch, PhD, Senior Scientist, Team-Leader Electrochemistry and Batteries, Flow and Material Simulation, Fraunhofer ITWM
Panelists:
Wolfgang Bernhart, Senior Partner, Automotive Competence Center, Roland Berger Strategy Consultants GmbH

12:10 Networking Lunch *(Sponsorship Opportunity Available)*

13:10 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

GLOBAL MARKET OPPORTUNITIES IN BATTERY MANUFACTURING

13:40 Organizer's Remarks
Wolfgang Bernhart, Senior Partner, Automotive Competence Center, Roland Berger Strategy Consultants GmbH

13:45 KEYNOTE PRESENTATION: Standard Factory at PowerCo
Kai Worner, PhD, Head of Manufacturing, PowerCo

14:05 FEATURED PRESENTATION: Disruption of Existing Supply Chain for Extraction and Processing of Rare Metals and the Manufacture of Battery Cells
John Kwon, General Counsel of Global Legal & Strategy, Contemporary Amperex Technology Limited (CATL)

Since the United States is a significant market for EVs, some battery manufacturers have had to change their global strategies and invest in the construction of battery plants in the United States. This is resulting in the re-organization of existing supply chains around the world. Similar disruption to existing supply chains will further be exacerbated with the imminent passage of the European Union Critical Raw Minerals Act of 2023.

ADVANCES IN CELL MANUFACTURING

14:25 Physical Models for Process Simulation of Lithium-ion Cell Production
Jochen Zausch, PhD, Senior Scientist, Team-Leader Electrochemistry and Batteries, Flow and Material Simulation, Fraunhofer ITWM

We propose to apply physics-based computer simulation in order to support the optimisation of specific process steps in the production of lithium ion batteries and pack assembly. We will describe our simulation approach and discuss how simulation results can be used to improve process design.

14:45 MODERATED Q&A: Session Wrap-Up
Moderator: Wolfgang Bernhart, Senior Partner, Automotive Competence Center, Roland Berger Strategy Consultants GmbH
Panelists:
Kai Worner, PhD, Head of Manufacturing, PowerCo
John Kwon, General Counsel of Global Legal & Strategy, Contemporary Amperex Technology Limited (CATL)
Jochen Zausch, PhD, Senior Scientist, Team-Leader Electrochemistry and Batteries, Flow and Material Simulation, Fraunhofer ITWM

15:05 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

15:30 Synthesis and Properties of Sustainable Cathode-Active Materials Based on Earth-Abundant Elements
Eungje Lee, Staff Scientist, Chemical Sciences & Engineering, Argonne National Laboratory
Advancing a sustainable energy storage market requires robust, cost-effective, and diverse material supply chains. Our recent work at Argonne National Laboratory focuses on next-generation, earth-abundant cathode-active materials. This talk will explore the synthesis, structure, and properties of these electrode materials and highlight key commercialization challenges and insights.

15:50 Novel, Dry Manufacturing Process for Low Cost, Low Carbon, High Energy Density, Mixed-Metal Oxide Cathode Active Materials
Virginia Irwin Klausmeier, President & CEO, Sylvatex
The cathode is the battery's most costly and carbon-intensive part; thus, it creates a critical supply chain bottleneck in realising the decarbonization impact we desire. A lower-cost, more sustainably-manufactured EV is achievable in the near term by employing a future-proofed next-generation cathode manufacturing process.

16:10 A Rapid Electrochemical Characterization Technique for Cell Manufacturing VOLTAIQ
Speaker To Be Announced, Voltaiq Inc
Electrochemical characterization techniques have seen limited use in manufacturing, primarily because they are generally too slow to be practical in a high-throughput environment.We will present a rapid electrochemical characterization technique suitable for manufacturing that can reveal information about the transport, kinetic, and thermodynamic properties of a cell and can be used for lifetime prediction, defect detection, and root-cause analysis at scale.

16:30 MODERATED Q&A: Session Wrap-Up
Moderator: Wolfgang Bernhart, Senior Partner, Automotive Competence Center, Roland Berger Strategy Consultants GmbH
Panelists:
Eungje Lee, Staff Scientist, Chemical Sciences & Engineering, Argonne National Laboratory
Virginia Irwin Klausmeier, President & CEO, Sylvatex

16:50 Networking Reception in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

18:00 Close of Day

WEDNESDAY 15 MAY

7:20 Registration Open

7:30 Interactive Breakout Discussions & Morning Coffee

ADVANCES IN CELL MANUFACTURING

8:45 Chairperson's Remarks
David Verner, Director of Energy Strategy, Gresham Smith & Partners

9:10 Addressing Scale-Up Challenges in Battery Materials
Keri Goodwin, PhD, Chief Technologist, Formulation, CPI
Presentation will detail CPI's work in supporting the main challenges faced by innovators in battery materials development. Several topics will be presented, including details of a new facility for open access synthetic scale-up development of novel active materials, supporting the transition from lab scale to commercial validation in industrially relevant cell formats. This facility will also incorporate process analytical tools (PAT), soft sensors, and modelling in development of materials synthesis.

9:30 Breaking the Barrier between Digital and Reality: An Integrated Software Solution for Battery Manufacturing Optimisation and Personalised Training
Alejandro A. Franco, PhD, Professor, Reactivity & Chemistry of Solids Lab, University of Picardie Jules Verne
In this lecture I present the latest research carried out in my group regarding the development of digital twins of battery manufacturing processes. I present also, an innovative software solution integrating data management, simulation, manufacturing optimization, and personalised training capabilities. Such a software can be used in both computer and mixed reality environments, breaking the barrier between the digital and the real worlds.

9:50 LIOVIX Technology: Li Metal Anode Innovation at Scale
Marina Yakovleva, Director, R&D and New Business Development, Livent
Industry needs to monetize on and scale up innovative and sustainable solutions that can improve battery performance, safety, and manufacturing efficiency of the lithium metal anode. The core of Livent technology is LIOVIX, proprietary printable lithium formulation. The ability to print lithium metal anodes opens the pathway for the ranges of anode width and thickness, and allows cell manufacturer to easily change cell design and format to meet application requirements.

10:10 New Trends in Continuous Mixing of Battery Electrode Masses coperion
Massimo Bernert, Sales Manager, Coperion GmbH
The state-of-the-art and dominant process for mixing of electrode masses is still the batch process. However, as a system supplier for the complete mixing process, we are currently noticing that inquiries from Europe and the USA are increasingly focusing on continuous mixing with extruder systems. The reasons for this are cost- and process-related advantages. This presentation will introduce the continuous mixing process, shows the advantages and identify future trends in mixing technology.

10:30 MODERATED Q&A: Session Wrap-Up
Moderator: David Verner, Director of Energy Strategy, Gresham Smith & Partners
Panelists:
Keri Goodwin, PhD, Chief Technologist, Formulation, CPI
Alejandro A. Franco, PhD, Professor, Reactivity & Chemistry of Solids Lab, University of Picardie Jules Verne
Marina Yakovleva, Director, R&D and New Business Development, Livent

10:50 Coffee Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

11:20 Introduction of the Beff Platform: Comprehensive Support from Cell Development to Production.
Shunsuke Amagai, Founder & Co-CEO, Beff
Since our company's inception, we have collaborated with cell manufacturers and automotive OEMs to address numerous development and production challenges related to cells. Leveraging the expertise of our engineers who have extensive experience in the lithium-ion battery field, we offer comprehensive solutions from cell design to mass production. In this presentation, we will showcase the development methodologies using the Beff Platform, complemented by real-world examples.

11:40 Optimising Battery Pack and Module Production Tests
Paul Scharfe, Battery Production, Transportation Business Unit, National Instruments
In this session, we will focus on the current challenges that we see in battery pack and module production tests through the latest electrical validation test techniques. We will also talk about the fast amount of data that is generated in this process and how it can be used through smart data analytics tools to influence your overall efficiency.

12:20 MODERATED Q&A: Session Wrap-Up
Moderator: David Verner, Director of Energy Strategy, Gresham Smith & Partners
Panelists:
Shunsuke Amagai, Founder & Co-CEO, Beff
Paul Scharfe, Battery Production, Transportation Business Unit, National Instruments

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

14:30 Close of Conference

14-15 MAY 2024 | STRASBOURG, FRANCE

GRID-SCALE ENERGY STORAGE EUROPE

Overcoming the Hurdles to a Renewable & Sustainable Future

Co-Located Event

As Europe's demand for electrical power surges, the focus on stabilizing intermittent energy production and consumption intensifies. Cutting-edge, high-energy-density battery designs promise solutions for grids, utilities, and customers. These advanced batteries enhance power quality, conversion, capacity, and reliability, revolutionizing grid performance. Europe aims to double the share of variable renewables in power generation, exceeding 60% by 2030. In this rapid evolution, energy storage provides essential system flexibility, supporting Europe's sustainable energy journey. Cambridge EnerTech's Grid-Scale Energy Storage Europe conference will bring together the major global players showcasing the industrial trends and grid optimization advances that will fuel the achievement of these ambitious goals.

PRELIMINARY AGENDA

GRID-SCALE ENERGY STORAGE MARKET

Exploring Stationary Storage Markets and Costs
Benjamin Campbell, Manager, Battery Research, E Source

Mapping Energy Storage Technologies to Future Grid Applications
Chloe Herrera, Energy Storage Analyst, Lux Research

Grid Storage Forecast and Materials Requirements
Sam Jaffe, Business Development Senior Manager, Addionics

Strategies for Monetizing Stationary Battery Storage Systems: Case of German Power Market
Farzad Sarfarazi, PhD, Energy System Expert, Accenture

From Electric Vehicles to Energy Storage
Thomas Fedderau, Senior Product Manager, EIA, UL International Germany

INNOVATION IN GRID-SCALE ENERGY STORAGE

Model Predictive Control Strategies for Revenue Stacking in BTM and FTM Battery Storage Applications
Matthias Vetter, PhD, Department Head, Electrical Energy Storage, Fraunhofer Institute for Solar Energy Systems ISE

SineStack – Taking Energy Efficiency & Cycle Life to the Next Level
Wasim Sarwar Dilov, PhD, Head of Research & Advanced Engineering, Rimac

Successful Efficient Energy and E-Mobility Transition
Claudio Geyken, CEO & Founder, RiDERgy

Utility-Scale Li-ion Battery Energy Storage Systems
Sonia Leou, Sales Engineer, Utility Scale Energy Storage, Trina Solar

Beyond Performance Data: Evaluating Potential Safety Concerns of Alternative Cell Designs in Energy Storage Systems through a Testing Based Approach
Troy Hayes, PhD, Principal Engineer, Materials & Corrosion Engineering, Exponent

Analyzing the Growing Need for Energy Storage in Industrial Applications: Implications for Sustainability, Resilience, and Technological Advancements
Bernhard Riegel, Dir R&D, R&D, HOPPECKE Batterien GmbH & Co KG

LITHIUM BATTERY CHEMISTRY — PART 2

Advancements in Lithium-ion and Beyond

WEDNESDAY 15 MAY

12:30 Registration Open

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

SOLID STATE

14:30 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

14:35 Chairperson's Remarks
Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

14:40 New Perspective on Anode-Free All-Solid-State Batteries
Shirley Meng, PhD, Professor, University of Chicago; Chief Scientist, Argonne Collaborative Center for Energy Storage Science, Argonne National Laboratory
Anode-free strategy is gaining more interest in recent years, due to its manufacturing simplicity and potential for high-energy-density batteries without safety compromise. However, the design constraints for anode-free batteries have been difficult to overcome. In this talk, I will give an update on our efforts to enable anode-free lithium-metal and anode-free sodium-metal batteries. We hope to discuss a few opportunities presented by such a strategy.

15:00 Advanced Electrolytes for Metal Batteries
Venkataraman Thangadurai, PhD, Professor, Chemistry, University of Calgary
I would like to present recent advances in solid-state membranes for intercalation electrodes and also conversion electrodes, especially sulfur cathodes. Li-stuffed garnets and sodium silicates for next-generation batteries will be discussed.

15:20 Blue Solutions' Strategy for Developing an Agnostic New Polymer Electrolyte
Margaud Lecuyer, Electrochemical Engineer, Production Monitoring, Blue Solutions
Blue Solutions is already know as the pioneer company in the field of solid-state batteries, having put on the market Lithium Metal Polymer batteries since 2011. Currently, we are preparing next generation by developing a new electrolyte chemistry that is compatible with multiple cathode materials. The aim of this strategy? Anticipating possible market shifts due to either lack of mineral resources or OEMs wish to move to greener products in a medium time.

15:40 MODERATED Q&A: Session Wrap-Up
Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster
Panelists:
Shirley Meng, PhD, Professor, University of Chicago; Chief Scientist, Argonne Collaborative Center for Energy Storage Science, Argonne National Laboratory
Venkataraman Thangadurai, PhD, Professor, Chemistry, University of Calgary

16:00 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

16:30 Solid-State Batteries
Juergen Janek, PhD, Professor, Solid-State Ionics & Electrochemistry, Justus Liebig University, Giessen
In this presentation, the current status of sulfide-based SSBs and the recent development of halide solid electrolytes will be briefly discussed, as well as the potential need for targeted design of cathode active materials for SSBs.

16:50 Oxide-Based Solid-State Batteries
Olivier Guillon, Professor & Director, Materials Synthesis & Processing, Forschungszentrum Juelich GmbH
This overview presentation will highlight the recent developments related to the integration of oxide electrolytes into lithium solid-state batteries within the Festbatt dedicated platform. In particular, synthesis with low carbon-footprint and energy-efficient processing are important for this class of materials. Thick and thin film technologies as well as innovative sintering approaches are key to guarantee materials compatibility and functionality.

17:10 The Future of Polymer Electrolytes in EV Applications
Gunther Brunklaus, PhD, Group Leader, Ionics in Energy Storage, IEK 12, Forschungszentrum Juelich
Fast-charge capabilities of solid-state batteries enable their application in future electric cars and long-distance trucks. In this talk, we discuss candidate polymer electrolytes for lithium-metal batteries that can be processed and operated at moderate temperatures, while affording long cycle-life and high electrochemical stability. Synergistic performance improvements are demonstrated in hybrid cells with inorganic materials that allow for straightforward cell assembly; also, relevant aspects of cell designs are addressed.

17:30 MODERATED Q&A: Session Wrap-Up
Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster
Panelists:
Juergen Janek, PhD, Professor, Solid-State Ionics & Electrochemistry, Justus Liebig University, Giessen
Olivier Guillon, Professor & Director, Materials Synthesis & Processing, Forschungszentrum Juelich GmbH
Gunther Brunklaus, PhD, Group Leader, Ionics in Energy Storage, IEK 12, Forschungszentrum Juelich

17:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

19:00 Close of Day

THURSDAY 16 MAY

8:00 Registration and Morning Coffee

SOLID STATE

8:40 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

8:45 Chairperson's Remarks
Juergen Janek, PhD, Professor, Solid-State Ionics & Electrochemistry, Justus Liebig University, Giessen

8:50 Presentation to be Announced

9:10 Solid-State Batteries
Linda F. Nazar, PhD, Professor Chemistry & Canada Research Chair, Solid State Energy Materials, University of Waterloo

9:30 SOLBAT: The Solid-State Metal-Anode Battery Project within The Faraday Institution
Mauro Pasta, PhD, Associate Professor, Materials, University of Oxford
The SOLBAT project within The Faraday Institution, the UK's independent institute for electrochemical energy storage science and technology, aims to understand the fundamental science underpinning the manifold scientific and technological challenges to the practical development of solid-state batteries. In my presentation, I will summarize the scientific highlights from the SOLBAT project and the overall scientific direction.

LITHIUM BATTERY CHEMISTRY — PART 2

Advancements in Lithium-ion and Beyond

9:50 Design Factors for Halide- and Sulfide-Based Solid-State Batteries

Yoon Seok Jung, PhD, Professor, Energy Storage Materials and Electrochemistry, Yonsei University

Recent advancements in all-solid-state batteries (ASSBs) have marked a significant leap forward. Mechanically sinterable sulfide solid electrolytes (SEs) are pivotal for the scalable fabrication of ASSBs. Additionally, the emergence of halide SEs, noted for their high oxidative stability, has opened new avenues. This presentation discusses material design factors for enhancing ionic conductivity, electrochemical stability, and compatibility between SEs, as well as engineering aspects associated with cell fabrication.

10:10 MODERATED Q&A: Session Wrap-Up

Moderator: Juergen Janek, PhD, Professor, Solid-State Ionics & Electrochemistry, Justus Liebig University, Giessen

Panelists:

Linda F. Nazar, PhD, Professor Chemistry & Canada Research Chair, Solid State Energy Materials, University of Waterloo

Mauro Pasta, PhD, Associate Professor, Materials, University of Oxford

Yoon Seok Jung, PhD, Professor, Energy Storage Materials and Electrochemistry, Yonsei University

10:30 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:00 Li-Free Anode Battery Development and Scaling at Quantumscape

Tim Holme, PhD, CTO, QuantumScape Battery Corporation

This talk will highlight the scientific and engineering challenges in developing and scaling production of an anode-free solid-state battery. QuantumScape was founded in 2010, with a mission to revolutionise energy storage to enable a sustainable future.

11:20 Cost-Optimised Designs for EVs: Status and Outlook for Mn-Rich Systems—Offering NMC-like Energy Density at LFP-like Cost

Stephane Levasseur, PhD, Senior Director Innovation Battery, Umicore

The ongoing race towards more affordable vehicles, translated into lower US/kWh, sheds a new light on these materials which appear to be very suitable candidates for cost-optimised designs. Topics covered: presenting Umicore, global leader in active battery materials; cathode material roadmap for xEV: which chemistries for which applications? Focus on Mn-rich compounds: how can they answer today's needs? Progress made in the technical development Mn-rich.

11:40 Sponsored Presentation *(Opportunity Available)*

12:00 MODERATED Q&A: Session Wrap-Up

Moderator: Juergen Janek, PhD, Professor, Solid-State Ionics & Electrochemistry, Justus Liebig University, Giessen

Panelists:

Tim Holme, PhD, CTO, QuantumScape Battery Corporation

Stephane Levasseur, PhD, Senior Director Innovation Battery, Umicore

12:20 Networking Lunch *(Sponsorship Opportunity Available)*

13:00 Dessert Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

SOLID STATE

13:30 Chairperson's Remarks

Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

13:35 Design Strategies for Anodes and Interface toward High-Energy and Long-Lasting Quasi-All-Solid-State Lithium Batteries Employing Garnet Solid Electrolytes

Jusik Kim, PhD, Principal Researcher, Samsung Advanced Institute of Technology

In this presentation, we will discuss anode design strategies for introducing a carbon-based interlayer, from the perspective of reducing the interfacial resistance and preventing short-circuit formation via experimental measurements and computational modelling.

13:55 All-Climate Solid-State Battery Enabled by Non-Flammable Gel Polymer Electrolyte

Zhe Li, PhD, Senior Researcher, China Science Lab, General Motors

Solid-state battery (SSB) is a potentially superior alternative to a state-of-the-art lithium-ion battery, owing to its merits in abuse tolerance, operable temperature ranges, and system integration. Though promising, SSBs still face barriers that hinder their practical application, such as insufficient physical contact and poor ionic transport. In this talk, we will propose the strategies of utilising gel polymer electrolytes to effectively enhance the interfacial compatibility.

14:15 Saft's Advanced & beyond Lithium-ion Technologies for Mobility Applications

Patrick Bernard, PhD, Director, Research, SAFT

Saft is developing new Li-ion products reflecting market needs: LTO cell for heavy-cycling applications, phosphate-based technology for safety-critical applications, NMC/Gr-Si-based cells for high-energy applications. Future materials will allow the development of next generations of Li-ion technologies: HV phosphates, LNMO, Li-rich rocksalts, and titanium niobium oxide. Beyond conventional Li-ion batteries, Saft has launched a large program of R&D and industrialisation on solid-state technologies.

14:35 MODERATED Q&A: Session Wrap-Up

Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

Panelists:

Jusik Kim, PhD, Principal Researcher, Samsung Advanced Institute of Technology

Zhe Li, PhD, Senior Researcher, China Science Lab, General Motors

Patrick Bernard, PhD, Director, Research, SAFT

14:55 Session Break

15:10 Sponsored Presentation *(Opportunity Available)*

15:30 Making Cobalt-Free Lithium/Manganese-Rich Cathodes Work: Stable, Safe, High-Capacity CAM Made by Stratus Materials

Jay F. Whitacre, PhD, CEO & CTO, Materials Science & Engineering, Stratus Materials

This talk will cover the development of LXMO, a new class of Lithium/Manganese (LMR) cathode material by Stratus Materials. The presentation will be data-intensive and show how this material succeeds in common full cell testing configurations as a compelling solution. We will focus on durability and safety performance as well as energy density.

15:50 Next-Generation Batteries (Silicon, Lithium-Metal, Sulphur): Status Update

Nicolo Campagnol, PhD, Solution Manager, Battery Insights, McKinsey & Co.

This talk aims to create more clarity about next-generation Li-ion chemistries in terms of what they are and what their industrialization status is.

16:10 MODERATED Q&A: Session Wrap-Up

Moderator: Martin Winter, PhD, Director & Professor, Electrochemical Energy Technology, University of Muenster

Panelists:

Jay F. Whitacre, PhD, CEO & CTO, Materials Science & Engineering, Stratus Materials

Nicolo Campagnol, PhD, Solution Manager, Battery Insights, McKinsey & Co.

16:30 Close of Conference

xEV BATTERY TECHNOLOGY, APPLICATION, AND MARKET

Driving the Future Growth of Electric Vehicles Globally

WEDNESDAY 15 MAY

12:30 Registration Open

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

MARKET EXPANSION OF xEVs AND THEIR BATTERIES

14:30 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

14:35 Chairperson's Remarks
Arnold Lamm, PhD, Founder & Executive Director, E-Mobility, e-Technologies GmbH

14:40 KEYNOTE PRESENTATION: Porsche's New Battery Advancements for the Taycan and Macan BEVs
Otmar Bitsche, PhD, Director, E-Mobility, Porsche AG
Porsche as leader in fast-charging and 800V technology introduces two new EVs in 2024. The Taycan shows significant steps ahead in range, efficiency, power, and fast-charging. This was enabled by new developments in cell technology, thermal management, and operating strategy. The complete new all-electric Macan, based on the PPE platform, brings 800V high power and fast-charging technology to the high-volume model at Porsche.

15:00 KEYNOTE PRESENTATION: Battery Technologies for Automotive Applications—Trends and Challenges
Kurt Vandeputte, Manager Battery Cell Competence Center, BMW Group

15:20 Proven Reliability of TotalEnergies Immersion Cooling Technology in Application
Speaker To Be Announced, TotalEnergies
Immersion cooling is a technology that enables ultra-fast charging of lithium batteries and provides an unprecedented level of safety. Using fluids developed by TotalEnergies, we will demonstrate the maturity of this concept through concrete examples.

15:40 MODERATED Q&A: Session Wrap-Up
Moderator: Arnold Lamm, PhD, Founder & Executive Director, E-Mobility, e-Technologies GmbH
Panelists:
Otmar Bitsche, PhD, Director, E-Mobility, Porsche AG
Kurt Vandeputte, Manager Battery Cell Competence Center, BMW Group

16:00 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

16:30 Sustainability and Affordability—Requirements for Future Mobility, Electrification, and Batteries
Roland Matthé, Technical Fellow, Global Battery Systems; Manager, Electrical Architecture, Stellantis
Stellantis is a global vehicle manufacturer based on companies in automotive business since 1896. The company is pushing forward the transformation of automotive mobility towards sustainability with a special focus on keeping mobility affordable. Electrification of the portfolio is progressing and requires battery solutions which have to meet two key goals, sustainability and affordability.

16:50 Securing the Competitiveness of the European Battery Industry in a Changing World
Ilka Von Dalwigk, Policy Manager, European Battery Alliance
The EU battery industry is under pressure. Recent geopolitical challenges hamper the investment climate and its competitiveness. The work started by the European Battery Alliance to stay ahead of competitors will only succeed if decision-makers acknowledge the change of paradigm in global trade and embrace the changed rules of the game. It is therefore paramount that industry and policy-makers act jointly to complete and future-proof the EU's regulatory toolbox.

17:10 Preparation for the Near-Future: Market & Technical Planning of the Asian xEV LIB Manufacturers
Mark H. L. Lu, PhD, Senior Industrial Analyst, Industrial Economics & Knowledge Center, Industrial Technology Research Institute
This presentation will provide an overview of the above cell-makers' planning, especially covering both the technical comparison, market, and product segmentation to show the future development in Asian xEV LIB manufacturers.

17:30 MODERATED Q&A: Session Wrap-Up
Moderator: Arnold Lamm, PhD, Founder & Executive Director, E-Mobility, e-Technologies GmbH
Panelists:
Roland Matthé, Technical Fellow, Global Battery Systems; Manager, Electrical Architecture, Stellantis
Ilka Von Dalwigk, Policy Manager, European Battery Alliance
Mark H. L. Lu, PhD, Senior Industrial Analyst, Industrial Economics & Knowledge Center, Industrial Technology Research Institute

17:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

19:00 Close of Day

THURSDAY 16 MAY

8:00 Registration and Morning Coffee

MARKET EXPANSION OF xEVs AND THEIR BATTERIES

8:45 Chairperson's Remarks
Kevin Konecky, Battery and Energy Storage Systems Consultant, Total Battery Consulting

9:10 FEATURED PRESENTATION: A Standardized Lifecycle of Automotive HV-Batteries
Arno Perner, PhD, Battery Cell and Battery System Innovations for Electric Vehicles, Volkswagen AG
Volkswagen Group is aiming for 70% of electric vehicle sales in 2030. The battery development focusses on attractive products in the segments: Affordability, Range, & Performance. With standardized components, the complexity and variety of variants in the development, series, after-sales, and recycling of HV batteries can be minimized. This creates the best conditions for maintaining the value chain in the Volkswagen Group, reducing costs and controlling the life cycle.

xEV BATTERY TECHNOLOGY

9:30 Wildcat U.S. Manufacturing Plans for Advanced Cathode Materials
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.
The intersection of Wildcat Discovery Technologies' materials experience with the U.S. goal of a domestic supply chain provides a unique opportunity. We will describe Wildcat's plan and progress to manufacture advanced cathode materials. Our product pipeline consists of materials that 1) provide a range of

energy densities; 2) are free of cobalt and nickel; 3) show promising material safety performance; and 4) have synergies in manufacturing unit operations.

9:50 Deployment and Demonstration of Enevate Ultra-Fast Charging Cells
Benjamin Park, PhD, Founder & CTO, Enevate Corp.
Ultra-fast charging is the last hurdle to widespread EV adoption. Charging as fast as filling a tank is a clear objective for vehicle and battery makers alike. Enevate will update its progress in enabling this goal, including results showing all-silicon fast-charging cells in different form factors. Enevate will also update progress in commercialisation and practical demonstration of its cell technology. Updates will also be given on Enevate's computational (AI) tools.

10:10 MODERATED Q&A: Session Wrap-Up
Moderator: Kevin Konecky, Battery and Energy Storage Systems Consultant, Total Battery Consulting
Panelists:
Arno Perner, PhD, Battery Cell and Battery System Innovations for Electric Vehicles, Volkswagen AG
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.
Benjamin Park, PhD, Founder & CTO, Enevate Corp.

10:30 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:00 Multi-Chemistry Battery Electric Platforms—A Technological Differentiator
Joern Neuhausen, PhD, Director, PwC Strategy
The diversification of electric platforms will determine the next phase in eMobility transformation. To meet diverse relevant customer needs, future BEV powertrain requires differentiated platforms, mainly driven by battery and cell technology. Multi-chemistry powertrain platforms will play a pivotal role, enabling OEM and suppliers to introduce innovation across classes and build competitive advantages across range, charging speed, and costs.

11:20 How Safety Regulations and Battery Pack Design Trends Drive Venting Unit Innovation
Michael Harenbrock, PhD, Principal Expert, Engineering Electric Mobility, MANN+HUMMEL GmbH
Battery pack safety concepts are essential to ensure trust in battery technology and to comply with battery safety regulations. New battery cell chemistries and pack designs require differentiated safety concepts, driving the need for adapted venting units which play an important role in reducing the negative impact of thermal runaways. This presentation will provide an overview of current challenges and solutions for multi-functional venting units—beyond just gas release.

11:40 Presentation to be Announced

12:00 MODERATED Q&A: Session Wrap-Up
Moderator: Kevin Konecky, Battery and Energy Storage Systems Consultant, Total Battery Consulting
Panelists:
Joern Neuhausen, PhD, Director, PwC Strategy
Michael Harenbrock, PhD, Principal Expert, Engineering Electric Mobility, MANN+HUMMEL GmbH
Speaker To Be Announced, CAMX Power

12:20 Networking Lunch *(Sponsorship Opportunity Available)*

13:00 Dessert Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

xEV BATTERY TECHNOLOGY

13:30 Chairperson's Remarks
Michael Harenbrock, PhD, Principal Expert, Engineering Electric Mobility, MANN+HUMMEL GmbH

13:35 Increasing Battery System Performance
Kevin Konecky, Battery and Energy Storage Systems Consultant, Total Battery Consulting
Battery systems are complex systems with the battery cell as the core technology of the system, but then integrated with multiple subsystems, including mechanical, thermal, and battery management systems (BMS). This presentation will look into the different subsystems that contribute to the overall battery system performance and opportunities for improvement in next-generation battery systems. Battery system trends in the industry will be evaluated and discussed.

13:55 Dynamic Crash Research of HV Batteries with a Drop Tower
Roland Weixler, Managing Director, KE TEC GmbH
Today different crush tests are defined, with the disadvantage to observe only the local damage by the intrusion. By contrast, dynamic tests stress the whole battery. In order to protect the crash center from unexpected events, it could be interesting to crash the battery system with a drop tower. A further advantage is that the whole battery will be monitored with a high-speed 3D measurement system during the crash.

14:15 Presentation to be Announced

14:35 MODERATED Q&A: Session Wrap-Up
Moderator: Michael Harenbrock, PhD, Principal Expert, Engineering Electric Mobility, MANN+HUMMEL GmbH
Panelists:
Kevin Konecky, Battery and Energy Storage Systems Consultant, Total Battery Consulting
Roland Weixler, Managing Director, KE TEC GmbH

14:55 Session Break

15:10 Trends and Developments in Battery Performance
Aslan Goeger, Director Business Development, Farasis Energy Europe GmbH
Offering high energy density whilst ensuring fast charging will be a key milestone for future success in the automotive industry, combined with the ability to deliver demanded volumes in-time. Aslan Goeger, Director Business Development at Farasis Energy Europe, explains in his presentation, how the organization will tackle these challenges based on high performance lithium-ion batteries and will give an insight into latest battery developments.

15:30 Scalable Dry Coating of Battery Electrodes with DRYtraec
Benjamin Schumm, PhD, Division Manager, Battery Technology, Fraunhofer IWS
The proprietary dry coating technology DRYtraec enables solvent-free battery electrode coating with significant cost reduction potential. Results of the application of this technology for the production of electrodes for LIB (NMC, LFP, Graphite), Li-S, and SSB at a prototype scale (20cm wide tandem coatings at 10m/min) will be presented.

15:50 Empowering Electric Vehicle Battery Testing: Conquering Data Challenges for Enhanced Safety and Performance
Penny Merian, Director, Go To Market, Product Analytics, National Instruments
Testing electric vehicle (EV) batteries guarantees their safety, performance, and durability. Nonetheless, EV battery testing confronts a range of data-related challenges. Join us to explore the significance of tackling these challenges within EV battery testing as it becomes pivotal in the "shift left" paradigm, ultimately enhancing the overall performance of batteries.

16:10 MODERATED Q&A: Session Wrap-Up
Moderator: Michael Harenbrock, PhD, Principal Expert, Engineering Electric Mobility, MANN+HUMMEL GmbH
Panelists:
Benjamin Schumm, PhD, Division Manager, Battery Technology, Fraunhofer IWS
Penny Merian, Director, Go To Market, Product Analytics, National Instruments

16:30 Close of Conference

GLOBAL BATTERY RAW MATERIALS

Balancing Supply, Demand, and Costs for Battery Component Materials

WEDNESDAY 15 MAY

12:30 Registration Open

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

GLOBAL MARKET DEMAND

14:30 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

14:35 Chairperson's Remarks
Lukasz Bednarski, Associate Director, Battery Raw Materials, IHS Markit

14:40 EV Sales Review for 2023 and the Expectations Going Forward and Implications on Battery Demand
Viktor Irle, Co-Founder & Market Analyst, EV Volumes

15:00 Outlook for Battery Raw Materials
Olivier Masson, Metals and Mining Analyst, Fastmarkets
This presentation will cover recent developments in the markets for major battery raw materials, particularly lithium, nickel, and cobalt. The presentation will also give an outlook on the supply and demand for these raw materials and highlight any issues that could affect the price for these commodities in the years ahead.

15:20 Sustainably Sustainable Production Processing of Cathode Active Material
Wyatt Olson, Sr. Program Manager, 6K Energy
The process for producing battery material must change to create a long-term ecosystem in the US. It must be cost-effective and environmentally friendly, thus sustainably sustainable. Requiring a process that is energy efficient, produces no waste, and can reuse virtually all byproducts by returning them to the feedstock supply for future battery material. Learn how we are leveraging nitric acid to eliminate sodium sulfate waste and create a sustainable, circular process.

15:40 MODERATED Q&A: Session Wrap-Up
Moderator: Lukasz Bednarski, Associate Director, Battery Raw Materials, IHS Markit
Panelists:
Viktor Irle, Co-Founder & Market Analyst, EV Volumes
Olivier Masson, Metals and Mining Analyst, Fastmarkets

16:00 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

16:30 Lithium in the Terawatt-Hour Era
Adam Megginson, Analyst, Benchmark Mineral Intelligence
After closely tracking and analysing a tumultuous 12 months for the lithium market, what lessons can we learn? What does the remainder of 2024 have in store for supply & demand, and how will this affect prices for this specialty chemical so vital to electrification?

16:50 Risks to the European Battery Raw Materials Supply Chain
Alex Laugharne, Principal Consultant, Consulting, CRU International
Massive investment in European LIB capacity is resulting in rapid growth in raw and active materials requirements. In-region availability of raw material resources is limited; the build-out of refining and active materials capacity remains incipient. This presentation will highlight the scale of the challenge meeting regional demand for low-cost, low-carbon, and responsibly-sourced raw materials; incorporating supply-demand balance scenarios, company and regulatory responses, and risks to key players.

17:10 China Lithium Battery Market Update
Yanchen Wang, PhD, Managing Director, Shanghai Metals Market (SMM)
Rapid growth of global lithium-ion battery demand, geopolitical factors, and technological development have a great impact on the lithium-ion battery industry, specifically on raw materials. Heavy investment in the raw materials sector could lead to overcapacity once EV sales' growth is lower than expected. Different types of batteries also could reduce dependency on certain raw materials. Huge fluctuation in raw-materials prices could deeply damage the battery industry and beyond.

17:30 MODERATED Q&A: Session Wrap-Up
Moderator: Lukasz Bednarski, Associate Director, Battery Raw Materials, IHS Markit
Panelists:
Adam Megginson, Analyst, Benchmark Mineral Intelligence
Alex Laugharne, Principal Consultant, Consulting, CRU International
Yanchen Wang, PhD, Managing Director, Shanghai Metals Market (SMM)

17:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

19:00 Close of Day

THURSDAY 16 MAY

8:00 Registration and Morning Coffee

GLOBAL MARKET DEMAND

8:45 Chairperson's Remarks
Alex Laugharne, Principal Consultant, Consulting, CRU International

8:50 Presentation to be Announced

9:10 Unconventional Lithium Resources & Extraction Methods
Lukasz Bednarski, Associate Director, Battery Raw Materials, IHS Markit
The presentation based on the new research report provides an overview of novel extraction methods from unconventional lithium deposits. It provides risk analysis of unconventional lithium extraction methods and explores their impact on supply and demand forecast. The presentation also highlights the importance of novel extraction methods for regionalisation of battery supply chain and sustainability.

SUPPLY CHAIN SUSTAINABILITY

9:30 Sustainable Lithium Supply—SQM at the Forefront of Transparent Mining Assurance
Stefan Debruyne, Director of External Affairs, SQM International
Lithium is an essential element in the global energy transition. It's critically important to stakeholders that it is mined in a sustainable and equitable way. Besides an update on SQM's progress on its sustainable development plan, SQM's innovation roadmap toward water-neutral lithium production will be presented. Additionally, global lithium demand and SQM's expansion plan will be updated.

9:50 Energizing Europe's Eco-Friendly Mobility: Selecting the Ideal CAM Materials for an Environmentally Sound Supply Chain Aligned with OEMs' Sustainability Goals
Tom Van Bellinghen, Vice President, Marketing & OEM Value Chain, Rechargeable Battery Materials, Umicore
In this presentation, we'll explore the critical role of carefully choosing CAM (cathode active materials) to power Europe's sustainable mobility transformation. We'll delve into the selection of different chemistries, each with their own performance profile and ramp-up challenges. We'll also highlight their vital role in constructing a supply chain that meets the stringent sustainability standards set by original equipment manufacturers (OEMs).

10:10 MODERATED Q&A: Session Wrap-Up
Moderator: Alex Laugharne, Principal Consultant, Consulting, CRU International
Panelists:
Lukasz Bednarski, Associate Director, Battery Raw Materials, IHS Markit
Stefan Debruyne, Director of External Affairs, SQM International
Tom Van Bellinghen, Vice President, Marketing & OEM Value Chain, Rechargeable Battery Materials, Umicore

10:30 Coffee Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

BATTERY RAW MATERIALS SUPPLY

11:00 FEATURED PRESENTATION: Building the World's Next Tier-1 Lithium Operation, Sustainably
Ana Cabral, CEO and Co-Chair of the Board, Sigma Lithium

11:20 An Update on Brazilian Nickel's Low-Carbon Piauí Nickel Project
Anne Oxley, Technical Director, Brazilian Nickel PLC
Brazilian Nickel's Piauí Project in NE Brazil is a nickel laterite heap leach, producing nickel- and cobalt-intermediate products as feed for battery cathodes. Small-scale production began in 2022, and construction for the full-scale project will begin in 2024. Nickel production of 25,000 tpa contained in MHP will begin in 2026. Brazilian Nickel will give an update on progress on the project, other future projects, and its CO2 reduction plans.

11:40 Graphene from Disperser Manufacturer Accelerates Battery Development JOKOH
Miki Ishii, PhD, Sapporo R&D Materials Group, JOKOH Co., Ltd.
JOKOH has developed highly customizable graphene using our ultra-high pressure homogenizer (NAGS). Free combinations of shape, lateral dimensions, layers thickness, and dispersion concentration can be possible. We show the quality assessment details based on ISO standards and comparison of battery performance with CNT and others. The products can be provided as powder, dispersion liquid, and ink mixed with other materials. We aim to contribute to significantly shortening the development period.

12:00 MODERATED Q&A: Session Wrap-Up
Moderator: Alex Laugharne, Principal Consultant, Consulting, CRU International
Panelists:
Ana Cabral, CEO and Co-Chair of the Board, Sigma Lithium
Anne Oxley, Technical Director, Brazilian Nickel PLC

12:20 Networking Lunch *(Sponsorship Opportunity Available)*

13:00 Dessert Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

BATTERY RAW MATERIALS SUPPLY

13:30 Chairperson's Remarks
Anne Oxley, Technical Director, Brazilian Nickel PLC

13:35 Regional Diversification in Battery Compositions and the Impact of Regional Supply-and-Demand Balance
Jack Bedder, PhD, Founder & Director, Project Blue
This presentation will assess how the regional variations in cathode chemistry choice by manufacturers will impact raw material requirements in major markets. The development of the supply chains in these regions will undergo different strains and stresses as regional production ramps up, with both private and government support targeting particular markets.

13:55 Nickel Market Outlook—Indonesian Supply Dominates
Jason Sappor, Senior Analyst, S&P Global Commodity Insights
We expect the global nickel market to be oversupplied in the medium term, as supply from top producer Indonesia surges. This presentation will assess the nickel market performance in 2024 and provide our five-year price forecast, considering factors including electric vehicle sales, battery chemistry mix, and supply-and-demand fundamentals.

14:15 Consolidating the State-of-the-Art, Boosting New Technology: How Flourine Chemistry Will Play a Key Role
Lorenzo Orsini, PhD, R&D Director, Alkeemia Spa
The common will of localising the supply chain in EU already raised concerns about the industrial surrounding required to sustain the European gigafactory roadmap. Access to fluorine chemistry will represent a challenge due to its complexity in order to sustain current technologies as salts, additives, and solvents and will limit our capability to produce new high-performance solutions. The talk will provide insight on current demands, developments, and technology.

14:35 MODERATED Q&A: Session Wrap-Up
Moderator: Anne Oxley, Technical Director, Brazilian Nickel PLC
Panelists:
Jack Bedder, PhD, Founder & Director, Project Blue
Jason Sappor, Senior Analyst, S&P Global Commodity Insights
Lorenzo Orsini, PhD, R&D Director, Alkeemia Spa

14:55 Session Break

15:10 Sponsored Presentation *(Opportunity Available)*

15:30 Empowering Tomorrow: Building a Resilient Graphite Ecosystem for Sustainable Futures
Bridget Catherine Deveney, Director of R&D, Vianode
Battery material production, especially active anode materials, is mainly centered in Asia, posing a risk to non-Asian industries during global disruptions. Vianode counters this by manufacturing high-volume, competitive anode materials with top-tier performance in Norway, enhancing efficiency and sustainability. The presentation will touch on Vianode's progress in graphite recycling, advancing toward pilot-scale implementation.

15:50 Mineral-Based Raw Materials—Essential Products for Battery Safety from Cell to Pack Level
Pia Lindorf, Head R&D Technical Services, Coatings & Electronics, Nabaltec AG
Nabaltec AG is a leading European manufacturer offering a wide range of aluminum hydrate-based materials specially designed to serve battery safety applications like a.m. and passive heat management. To further highlight, Nabaltec has developed a new class of flame-retardant fillers to provide lightweight battery cases made of thermosets or eng. plastics with an integral heat barrier effect due to ceramification of the polymer composite.

16:10 MODERATED Q&A: Session Wrap-Up
Moderator: Anne Oxley, Technical Director, Brazilian Nickel PLC
Panelists:
Bridget Catherine Deveney, Director of R&D, Vianode
Pia Lindorf, Head R&D Technical Services, Coatings & Electronics, Nabaltec AG

16:30 Close of Conference

15-16 MAY 2024 | STRASBOURG, FRANCE

EV MOBILITY 2030

SAE and AABC Joint Peer-Reviewed Technical Track

SAE has partnered with AABC to host a technical track featuring peer-reviewed published papers on your latest research and development helping to drive future outcomes of electric vehicle batteries. Each year, AABC Europe brings together a global audience of battery technologists and their key suppliers for a must-attend week of development trends, breakthrough technologies, and predictions of the market for years to come. SAE provides thought leaders the opportunity to reach this target rich audience through its extensive peer-reviewed manuscript process so engineers can learn today and keep for long-term reference value in the future. It's a great partnership! As a critical subject matter expert, we ask you to submit an abstract for consideration that is focused on technology that will fuel next-generation battery development.

PRELIMINARY AGENDA

ALL PRESENTATIONS ARE SUBJECT TO PEER REVIEW

A Comparative Analysis of Thermal Runaway Propagation in Different Modular Lithium-Ion Battery Configuration
Antonio Garcia, PhD, Professor, Universitat Politecnica de Valencia

Numerical Approach for the Characterization of the Venting Process of Cylindrical Cells Under Thermal Runaway Conditions
Carlos Mico, PhD, Assistant Professor, Universitat Politecnica de Valencia

Investigation into the Thermal Response of Internal Short-Circui Treatment of a Cylindrical Lithium-ion Battery Cell Jacketed with Passive Cooling
Renaldo Nicholls, Research and Innovation Analyst, Staffordshire University

Insights in Experimental Heat Release Calculation for Accurate Measurement
Jose Pastor, PhD, Professor, Universitat Politecnica de Valencia

Simulation and Evaluation of Battery Aging in Electric Hybrid Storage Systems
Roman Moedl, Development Engineer, AVL

Model-Based Knowledge Management in HV Battery Development
Badi Ibtihal, Development Engineer, AVL

An Optimization Framework for Minimizing the Production Cost of Lithium-ion Batteries in Electrified Vehicles
Sahar Farkhandi, Research Assistant, Sabancı University

PANEL DISCUSSION: European Battery Passport, Providence, and Global Traceability Standards
PANEL MODERATOR:
Brian Engle, Manager, Business Development, Electrification, Amphenol

BATTERY INTELLIGENCE

Using Machine Learning and Artificial Intelligence to Optimise Battery Development from Materials to Manufacturing

WEDNESDAY 15 MAY

12:30 Registration Open

12:40 Networking Lunch *(Sponsorship Opportunity Available)*

14:00 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

MACHINE LEARNING FOR RESEARCH AND DEVELOPMENT

14:30 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

14:35 Chairperson's Remarks
Weihan Li, Young Research Group Leader, RWTH Aachen University

14:40 Machine Learning R&D at Northvolt
Siddharth Khullar, PhD, Director, Machine Learning, Northvolt

Northvolt's machine learning R&D pioneers advancements in battery technology, employing sophisticated algorithms to optimise performance and enhance energy efficiency. The team focuses on pushing the boundaries of machine learning applications to drive innovation in sustainable energy storage solutions.

15:00 Polymer Cell Development
Sungbin Park, PhD, Department Leader, LG Energy Solution

15:20 Presentation to be Announced

15:40 MODERATED Q&A: Session Wrap-Up
Moderator: Weihan Li, Young Research Group Leader, RWTH Aachen University
Panelists:
Siddharth Khullar, PhD, Director, Machine Learning, Northvolt
Sungbin Park, PhD, Department Leader, LG Energy Solution

16:00 Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

BATTERY MATERIAL DEVELOPMENT

16:30 Physics-Based Machine Learning for Battery Modelling
Changfu Zou, PhD, Associate Professor, Electrical Engineering, Chalmers University of Technology

Current practices of physics-based machine learning mainly focus on data-driven surrogates generated to replace physics-based models. These models often trade accuracy for speed, but lack generalisability, adaptability, and interpretability, which are qualities crucial for optimisation and control purposes. To bridge the gap, we propose a novel machine-learning architecture—termed model-integrated neural networks—and demonstrate its successful application in modelling different batteries and electrode materials.

16:50 Machine Learning for the Advanced Characterisation and Design of Battery Electrodes
Samuel J. Cooper, Senior Lecturer, Electrochemical Science & Engineering Group, Imperial College London

In this talk, Sam will explain the various microstructural characterisation and analysis methods developed by his team, including some novel machine learning approaches. He will also propose a workflow for optimising the manufacturing parameters of these materials that use generative adversarial networks and Bayesian optimisation.

17:10 Modelling of Solid-State Battery Materials with Machine Learning
Nongnuch Artrith, Assistant Professor, Materials Chemistry and Catalysis, Utrecht University

Here, we give an overview of recent methodological advancements of ML techniques for atomic-scale modelling and materials design. We review applications to materials for solid-state batteries, including electrodes, solid electrolytes, coatings, and the complex interfaces involved.

17:30 MODERATED Q&A: Session Wrap-Up
Moderator: Weihan Li, Young Research Group Leader, RWTH Aachen University
Panelists:
Changfu Zou, PhD, Associate Professor, Electrical Engineering, Chalmers University of Technology
Samuel J. Cooper, Senior Lecturer, Electrochemical Science & Engineering Group, Imperial College London
Nongnuch Artrith, Assistant Professor, Materials Chemistry and Catalysis, Utrecht University

17:50 Networking Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

19:00 Close of Day

THURSDAY 16 MAY

8:00 Registration and Morning Coffee

LIFETIME PREDICTIONS

8:40 Organizer's Remarks
Victoria Mosolgo, Conference Producer, Cambridge EnerTech

8:45 Chairperson's Remarks
Remus Teodorescu, PhD, Professor, IEEE Fellow, Villum Investigator, Aalborg University

8:50 Sponsored Presentation *(Opportunity Available)*

9:10 Battery Lifetime Prediction with Machine Learning: From Laboratory Data to Field Data
Weihan Li, Young Research Group Leader, RWTH Aachen University

Reliable and accurate degradation prediction remains challenging due to the nonlinear nature of lithium-ion batteries that stems from internal electrochemical reactions and intrinsic parameter variability across cells. In this talk, we will introduce our current work in battery ageing trajectory prediction with machine learning with case studies of both testing data in the laboratory and large-scale field data from 60 electric vehicles.

9:30 Smart Battery Technology for Lifetime Improvement
Remus Teodorescu, PhD, Professor, IEEE Fellow, Villum Investigator, Aalborg University

Smart Battery is a novel BMS concept that brings together cells with power electronics and AI for transportation and grid storage, with significant extended lifetime and high potential for second-lifetime application. The key feature is the bypass device for cell-level load management, allowing complete balancing of SoC, SoT, and SoH, along with square pulse excitation for online impedance measurement and fault-tolerant operation AI-based health and safety management.

9:50 Automatic Aging Prediction for Li-ion Batteries
Michael Hess, PhD, CEO, R&D, Battronics

Data evaluation of battery aging matrices is very time consuming as tests from different SoC, Temp, DoD, and C-rates have to be evaluated. We show how this can be facilitated by online-based automatic aging analysis which is also used for phys. & ML aging prediction to judge remaining battery life.

10:10 MODERATED Q&A: Session Wrap-Up
Moderator: Remus Teodorescu, PhD, Professor, IEEE Fellow, Villum Investigator, Aalborg University
Panelists:
Weihan Li, Young Research Group Leader, RWTH Aachen University
Michael Hess, PhD, CEO, R&D, Battronics

10:30 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

BATTERY INTELLIGENCE

Using Machine Learning and Artificial Intelligence to Optimise Battery Development from Materials to Manufacturing

DIGITAL TWINS

11:00 AI-Based Digital Twin—Anomaly Detection and Diagnostics for HV Battery Behaviour and Performance
Alwin Tuschkan, Project Manager, IODP, AVL List GmbH
Automotive HV batteries are demanding a focussed effort on safety and failure prevention. Conventional methods for health monitoring fall short due to their supervised nature, relying on historical fault data. This presentation shows an innovative approach involving the implementation of an AI-based digital twin leveraging a graph neural network for unsupervised anomaly detection in fleet data. Furthermore, our approach incorporates domain knowledge to proactively prevent HV battery failure.

11:20 Multi-Scale Modelling of Battery Degradation and the Pathway to Battery Digital Twins
Billy Wu, PhD, Associate Professor, Dyson School of Design Engineering, Imperial College London
In this talk, we explore multi-scale battery degradation. At the particle level, we show how phase field fatigue models can describe fracture behaviour. Continuum-scale models can then describe how mechanical stresses are dynamically distributed through an electrode and how this changes with composite graphite-silicon electrodes. At the pack level, we explore how current heterogeneities further exacerbate this problem, and how digital twins provide a route to extend cell lifetime.

11:40 Presentation to be Announced

TWAICE

12:00 MODERATED Q&A: Session Wrap-Up
Moderator: Remus Teodorescu, PhD, Professor, IEEE Fellow, Villum Investigator, Aalborg University
Panelists:
Alwin Tuschkan, Project Manager, IODP, AVL List GmbH
Billy Wu, PhD, Associate Professor, Dyson School of Design Engineering, Imperial College London

12:20 Networking Lunch *(Sponsorship Opportunity Available)*

13:00 Dessert Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

13:30 Chairperson's Remarks
Weihan Li, Young Research Group Leader, RWTH Aachen University

13:35 Next-Generation Intelligent Battery Management System with Enhanced Safety for Transportation Electrification
Sheldon Williamson, PhD, Professor & Canada Research Chair, Electrical & Computer & Software Engineering, University of Ontario Institute of Technology
Range anxiety is a key reason that consumers are reluctant to embrace electric vehicles (EVs). However, none of today's EVs allow fast charging in cold or even cool temperatures due to the risk of lithium plating, the formation of metallic lithium that drastically reduces battery life and even results in safety hazards. Here, we present an approach that enables 15-minute fast charging of Li-ion batteries at any temperature (-50 °C).

13:55 Battery Lifetime Prediction with Machine Learning: From Laboratory Data to Field Data
Mona Faraji-Niri, PhD, Assistant Professor, Energy Systems, Energy Innovation Centre, University of Warwick
Reliable and accurate degradation prediction remains challenging due to the nonlinear nature of lithium-ion batteries that stems from internal electrochemical reactions and intrinsic parameter variability across cells. In this talk, we will introduce our current work in battery ageing trajectory prediction with machine learning with case studies of both testing data in the laboratory and large-scale field data from 60 electric vehicles.

14:15 Battery Modelling and Data-Driven Health Estimation
David A. Howey, PhD, Professor, Engineering Science, University of Oxford
This talk will discuss recent research in battery modelling, focussing on diagnostics from field data, including combining of machine learning and circuit models to allow flexibility in fitting from data while retaining the transparency of physical models. It will conclude with some thoughts on how data-driven models can accelerate progress in batteries.

14:35 MODERATED Q&A: Session Wrap-Up
Moderator: Weihan Li, Young Research Group Leader, RWTH Aachen University
Panelists:
Sheldon Williamson, PhD, Professor & Canada Research Chair, Electrical & Computer & Software Engineering, University of Ontario Institute of Technology
David A. Howey, PhD, Professor, Engineering Science, University of Oxford

14:55 Session Break

BATTERY DEVELOPMENT

15:10 Sponsored Presentation *(Opportunity Available)*

15:30 Performing Microscale Simulations of Long-Term SEI Growth in Li-ion Batteries
Falco Schneider, PhD, Scientist, Flow and Material Simulation, Fraunhofer ITWM
Li-ion batteries are exposed to a variety of degradation effects, causing cell aging over time. One major contributor to capacity and power fade of the cell is growth of the solid electrolyte interphase (SEI). In this talk we will discuss how the long-term growth behaviour of the SEI can be captured with fully coupled electrochemical simulations. Furthermore, we present numerical methods to enable long-term aging studies of such detailed models.

15:50 From Battery Development to Battery Passports: Electrochemical Insights at-Scale
Eli Leland, PhD, CTO and Co-Founder, Voltaiq, Inc.
From development to production to battery passports, the imperative to understand battery quality, performance, and health at every stage is clear. Rather than assemble a patchwork of siloed systems to meet these needs, companies that take an integrated, full-lifecycle approach to achieving electrochemical insights at-scale will learn faster than the competition, serve customer needs better, and ultimately win in the marketplace.

16:10 MODERATED Q&A: Session Wrap-Up
Moderator: Weihan Li, Young Research Group Leader, RWTH Aachen University
Panelists:
Falco Schneider, PhD, Scientist, Flow and Material Simulation, Fraunhofer ITWM
Eli Leland, PhD, CTO and Co-Founder, Voltaiq, Inc.

16:30 Close of Conference

15-16 MAY 2024 | STRASBOURG, FRANCE

HYDROGEN & FUEL CELLS

Hydrogen Fueling a Zero-Emissions Future

Co-Located Event

Hydrogen has gained global prominence due to its impressive energy-to-weight ratio and its potential to contribute to achieving emissions-free transportation goals. Within the United States, California is at the forefront of efforts to decarbonize and expand hydrogen usage. California has made a commitment to replace all in-state sales of new passenger cars and trucks with zero-emission vehicles by the year 2035. This year's Hydrogen & Fuel Cells conference will provide valuable insights into the current hydrogen market, covering aspects ranging from funding and policies to sourcing and infrastructure development. Furthermore, as a co-located event with the 14th international Advanced Automotive Battery Conference Europe, the conference will also delve into hydrogen fuel cell technologies and related policies.

PRESENT A POSTER AND SAVE €150

LEARN MORE

POSTER INFORMATION

AABC encourages attendees to gain further exposure by presenting their work in the poster sessions. To secure an onsite poster board and/or ensure your poster is included in the conference materials, your full submission must be received, and your registration paid in full by 12 April 2024.

Register and indicate that you would like to present a poster. Once your registration has been fully processed, we will send an email with a unique link and instructions for submitting your materials.

Full time graduate students including Masters, PhD Candidates and post-docs presenting a poster can attend the conference sessions for €399.

Reasons you should present your R&D findings at this conference:

- Your poster will be seen by this exclusive group of technical and business development executives from major European and international battery companies, automotive technology centers and the global materials and energy industries
- Discuss your research and collaborate with interested attendees and speakers
- Your poster will be published in our conference materials
- Receive a €150 discount off your registration

FREE Battery Pavilion Space

IN THE EXHIBIT HALL FOR AUTOMOTIVE OEMs

Contact Dave Mello at **dmello@CambridgeEnerTech.com or visit our website for more information.**

Be a Participant

AABC is now accepting applications from automotive OEMs to showcase their battery technology at the Battery Pavilion at AABC in Strasbourg, France.

LEARN MORE

BENEFITS INCLUDE:

- Facilitate detailed communication with the entire automotive battery supply chain
- Receive valuable feedback from colleagues in industry, government, and academia
- Strengthen your brand by showcasing your technology at the preeminent advanced automotive battery event
- Battery Pavilion participants will be featured in an exclusive email to more than 75K energy storage researchers
- Benefit from high-quality exposure on the AABC website, print brochure, and official Program Guide
- Receive the prestige of having your battery and brand on display in the Exhibit Hall
- NO COST for exhibit space or graphics – OEMs only responsible for shipping and material handling

Sponsorship and Exhibit Opportunities

Signature Sponsorship

- Networking Dinner Mixer
- Company logo on lanyards
- Four Main Conference Registrations
- Private meeting room for two full days
- Logo on AAB home webpage with a link to your company's homepage
- Full page color advertisement in the Conference Materials

Platinum Sponsorship

- Choice of VIP Dinner (up to 15 guests plus 3 members of your staff) or Session Sponsorship (sponsor will select session)
- Two main conference registrations
- Full page color advertisement in the Conference Materials

Diamond Sponsorship

- Choice of Ride and Drive, or Exclusive Luncheon
- Company logo on lanyards
- Three main conference registrations
- Full page color advertisement in the Conference Materials

Keystone Sponsorship

- Networking Mixer
- Company logo on lanyards
- Three main conference registrations
- Logo on AAB home webpage with a link to your company's homepage
- Full page color advertisement in the Conference Materials

Gold Sponsorship

- Choice of 20-Minute Presentation, Exclusive Tote Bag Sponsorship, or 6 – 8 One to One Meetings
- One main conference registration to display literature in the resource centre

Silver Sponsorship

- Coffee & Refreshment Break or private meeting room
- One main conference registration
- Opportunity to display literature in the resource centre

Bronze Sponsorship

- Choice of Meter Board, or Chair Drop
- Two main conference registrations
- One booth staff pass

Included with all Sponsorship Levels

- A 2 x 3 meter exhibit space
- Logo on AAB sponsors webpage with a link to your company's homepage
- Company logo featured on program guide and on conference signage
- Discount for additional delegate conference registrations
- Conference website listing with URL link back to your corporate website
- One-time use of pre and post-conference mailing lists (for a physical mailing) using our 3rd party mail house or your mail house
- Company listing including contact information and 50- word description (deadlines permitting) included in Conference Materials
- Company name and URL link included in Conference Proceedings package delivered electronically
- Co-operative email campaign inviting your clients and prospects to attend at a discount

For more information regarding sponsorship opportunities, please contact:

Companies A-Q
Sherry Johnson
Senior Business Development Manager
+1 781.972.1359
sjohnson@cambridgeenertech.com

Companies R-Z
Rod Eymael
Senior Business Development Manager
+1 781.247.6286
reymael@cambridgeenertech.com

Sample List of 2023 Delegates

- Amazon, Sr Mgr
- Andreas Stihl AG & Co KG, Purchaser Production Material Battery Cells, Battery Technnology
- Audi AG, N EM 552
- BMW Grp, Head, Research Battery Technology
- BP, Technologist Expert, Research
- Castrol Germany GmbH, Sr Technologist PD Driveline & EV Fluids, Driveline Technology Ctr
- Daimler Truck AG, Mgr, HV Battery Dev
- Dyson Ltd, Cell Design Mgr, Energy Storage
- Elkem, Specialist, ESPD Silicon Innovation
- ExxonMobil Chemical Central Europe GmbH, Global Fluid Technology Advisor, Performance Liquids Technology
- Ferrari SpA, Engineer
- Fraunhofer Institute for Material & Beam Technology, Process Engineer, Chemical Surface & Battery Technology
- General Motors Co, Lead Engineer, Advanced Battery Pack Engineering
- Hyundai Mobis Co Ltd, Principal Research Engineer, ePT Core Technology
- LG Chem, GM, Battery R&D Center
- McKinsey & Co Inc, Expert Assoc Partner
- Mitsubishi Materials Corp, Sales Rep, MMC RYOTEC Corporation
- Mitsui & Co Ltd, Mgr, Battery Materials & Recycling Business
- NASA Johnson Space Ctr, Asst Dir of Energy Conversion, Power Systems
- Natl Renewable Energy Lab, Chief Energy Storage Engineer, Ctr for Mobility
- Natl Taiwan University of Science & Technology, Prof, Advanced Electrochemical Battery & Biosensor Lab
- Nissan Motor Co Ltd, GM, Powertrain & EV Engineering
- Panasonic Industry Europe GmbH, Expert, Battery Cell & Energy Solutions
- Phillips 66, Mgr of Special Carbons, Bus Dev
- Porsche AG, Sr Dev Engineer, Dev HV Battery Systems BEV
- Saint Gobain, Sr Research Engineer
- Samsung SDI, Professional, Next Generation Product Planning
- Subaru Corp, Sr Engineer, Electrified Power Unit Design
- Toyota Motor Europe, Sr Engineer, Advanced Powertrain
- Volkswagen AG, Developer, CoE Grp of Components & Battery Cathode Materials
- Volvo Grp, Performance Engineer, Energy Storage Systems
- Webasto SE, Lead Engineer Dev, R&D

2023 Sponsors & Exhibitors

- 4a engineering GmbH
- 6K Inc
- Alkegen
- Altech Chemicals Ltd
- Amionx
- Arbin Instruments
- Argus Media
- Arkema
- Armor Battery Films
- Asahi Kasei Europe GmbH
- Ascend Elements
- Aspen Aerogels
- Atotech Deutschland GmbH
- AVL Deutschland GmbH
- BenQ Materials Corp
- Bio Logic Science Instruments GmbH
- Bitrode Corp
- Blue Solutions
- Brenntag SE
- Bry Air Asia Pvt Ltd
- CAMX Power
- CHASM Advanced Materials
- Clarios
- Current Chemicals
- CUSTOMCELLS
- Denka Chemicals GmbH
- Digatron Power Electronics GmbH
- EK Technologies GmbH
- Elkem ASA
- Factorial Inc
- Farasis Energy Europe GmbH
- FEV Europe GmbH
- Freudenberg FST GmbH
- Fullsight
- GMCC Electronic Technology Wuxi LTD
- Gotion Inc
- Hammer IMS
- Hans Schumann Energy AG
- HCM Co Ltd
- HIOKI EUROPE GmbH
- Hitachi High Technologies Europe GmbH
- Hosokawa Alpine Aktienge-sellschaft
- Impact Clean Power Technology SA
- Individual Consultant
- Interco A Metaltronics Recycler
- JEOL Germany GmbH
- JobsOhio
- Keysight Technologies
- Korea Zinc Co Ltd
- Laminar Co Ltd
- Lincoln Electric
- MACCOR Inc
- Meet Battery Research Ctr
- Molicel
- Morgan Advanced Materials
- Munters GmbH
- Nanoramic Labs
- Natl Instruments Germany GmbH
- NETZSCH Feinmahltechnik GmbH
- Neuman & Esser Grp USA
- Nuvvon Inc
- NXP Semiconductors
- Onejoon Thermal Solutions GmbH
- OnTo Technology LLC
- PEC
- Petronas
- PI KEM Ltd
- PowerCo SE
- Princeton NuEnergy
- rhd instruments GmbH & Co KG
- RISE Research Institutes of Sweden
- Shmuel De Leon Energy Ltd
- Sino Applied Technology Taiwan Co Ltd
- Solid Power Inc
- Solvay SA
- Sovema Group SpA
- SQM Europe
- Suzhou Botree Cycling Sci & Tech Co Ltd
- SynQuest Labs Inc
- Thermal Hazard Technology
- TI Automotive
- Titan Advanced Energy Solutions
- Topsoe AS
- TotalEnergies Lubrifiants
- Trion Energy Solutions Corp
- TWAICE Technologies GmbH
- Umicore
- UniverCell Holding Gmbh
- Voltaiq Inc
- Wildcat Discovery Technologies Inc
- WPX Faserkeramik GmbH

Hotel & Travel Information

Join us in Strasbourg!

ABOUT THE HOTEL

The AC Hotel and Residence Inn are two brand new hotels in Strasbourg. Some features you will enjoy....

- Location is just a quick 5 min walk from the Convention Centre.
- Both hotels are housed in the same building with a shared roof top terrace.
- Modern spacious rooms for a comfortable stay.
- The hotel restaurant, Archipel, has become one of the premier foodie establishments in Strasbourg with breathtaking views of the city.

For hotel reservations, please go to the Travel page of AdvancedAutoBat.com/Europe

CONFERENCE VENUE:

Strasbourg Convention Ctr
Place de Bordeaux
67082 Strasbourg cedex, France

HOST HOTEL:

AC Hotel & Residence
Inn Strasbourg
4 -6 Boulevard de Dresde
Strasbourg, France, 67000

DISCOUNTED ROOM RATE:
€159,00 Single / €179,00 Double **Breakfast Included

DISCOUNTED ROOM RATE CUT-OFF DATE: 4 April 2024

Can't Join Us In Person?

Connect from anywhere.

Join via our robust virtual platform and access these dynamic features:

- INTUITIVE INTERFACE
- COMPANY BRANDING (LOGO)
- VIRTUAL BOOTH
- INTERACTIVE DISCUSSIONS
- DOWNLOADS
- LIVE CHAT
- LIVE SESSIONS
- RECORDED SESSIONS
- POSTER SESSIONS