



International VDI Conference

Automotive Batteries - Cells, System and Beyond

November, 20-21, 2024, Berlin

- Battery Performance
- Battery Understanding
- Battery Costs
- Battery Safety
- Battery Maintenance

+ Opening Keynote: Prof. Dr. Achim Kampker

+ Session Panels

Meet international Experts from:



An event organized by VDI Wissensforum GmbH
www.vdiconference.com/ 01K0961024





About us



The Association of German Engineers (VDI) is one of the largest technical-scientific associations in Europe. Throughout the years, the VDI has successfully expanded its activities nationally and internationally to foster and impart knowledge about technology-related issues. As a financially independent, politically unaffiliated and non-profit organization the VDI is recognized as the key representative of engineers both within the profession and in public.



Upcoming Events

VDI Congress
PIAE 2025
March 26- 27, 2025 in Mannheim

Register now for the PIAE – the world's largest congress for plastics in cars:
<https://www.vdicongress.com/piae/>



Reasons to attend

Gain valuable insights into the latest trends, challenges, and innovations within the Battery industry.

Connect with industry experts, professionals, and potential collaborators

Stay updated on emerging technologies and their impact on the Automotive Battery Industry.

Explore the latest products, tools, and solutions designed specifically for Automotive Batteries

Engage with internationally renowned Battery specialists during interactive sessions, breaks and at the evening reception

09:00 Registration & Welcome Coffee

10:00 Chair's Welcome and Opening Address

Dr. Philipp Rose, Director, Strategy&, Berlin, Germany

10:15 Potential in the Battery Value Chain

Prof. Dr. Achim Kampker, Chair of Production Engineering of E-Mobility Components (PEM), RWTH Aachen University, Germany

I. Battery Understanding - Cell Design, Technology and Development

10:45 One Fits All? What Is Really Necessary for Competitive, Emission-Free Mobility

- Overview of mobility variants: BEV, PHEV, FCEC
- The current situation with cell manufacturers
- Which trends in cell development are currently visible

Dr. Franz Geyer, Head of Technology Cluster, BMW AG, Munich, Germany

11:15 Battery Cell Design Revealed – Why Batteries Are Built The Way They Are

- We will discuss different performance targets of battery cells like energy, power or fast-chargeability and how these are affected by material choice and cell design
- We will illustrate the fundamental sensitivities of performance targets on specific cell design parameters by virtually designing and re-designing different cells and studying the impact on cell performance
- We will reveal cell design trends of the market and derive fundamental cell design principles for cell design on target

Dr.-Ing. Adrian Schmidt, Application Specialist Battery Simulation; Co-Authors: Dr.-Ing. Michael Schönleber and Dr. rer. nat. Lukas Wehrle, Batemo GmbH, Karlsruhe, Germany

11:45 ☕ Networking & Coffee Break

12:15 Trends on Automotive Battery Design - Findings from Empirical Data and Research Projects

- Trends on battery formats, battery chemistries and cell design for automotive applications
- Requirement-orientated battery designs: trucks versus cars

Steffen Link, Competence Center Energy Technology and Energy Systems, Fraunhofer Institute for System and Innovation Research ISI, Karlsruhe, Germany

12:45 Session Panel

Moderated discussion among the session speakers, focusing on the latest advancements in battery cell developments, design, and technology

13:15 🍴 Lunch

II. Battery Costs

14:45 Reducing Cost and Development Time of Battery Products with Artificial Intelligence

- Key bottlenecks in battery production and EV development
 - A new form of Artificial Intelligence - Foundation AI models
 - Highly agnostic simulation of cell design, SOH, performance & quality
- Dr. Lukas Lutz**, Co-Founder, Sphere Energy, Grossaitingen, Germany

15:15 How to make European-LFP a commercial success?

- Development of relevant Performance KPIs of LFP-based battery cells
- Material Cost Development with focus on LFP Supply Chain
- Production Cost of LFP-based battery cells

Jan-Hendrik Bomke, Senior Manager, Strategy&, Berlin, Germany

15:45 Session Panel

Moderated discussion among the session speakers, focusing on the battery costs and their impacts on the automotive industry

16:15 ☕ Networking & Coffee Break

III. Battery Maintenance

17:00 Increase Crash Resistance of More Sustainable Battery Designs

- New Adhesive Tape Technologies in E-Mobility
- Battery Performance: Cell-to-Pack (CTP) and Cell-to-Chassis (CTC); Maximized Energy Density, Structural Integrity and bonding strength
- Battery Sustainability: Increased demand for efficient rework and repair solutions

Jan Otto, Head of EV Battery Europe, Tesa SE, Hamburg, Germany

17:30 Maintainable Traction Battery

- Exchange single cells in high voltage batteries
 - Compliance with battery passport regulation
 - Find new business models in successful application of the „R-Rules“
- Dr. Stephan Revidat**, Manager Electrification Development - Battery; Co-Author: Simon Gellineck Senior Engineer Electrification Development - Battery, both Hyundai Motor Europe Technical Center GmbH, Frankfurt, Germany

18:00 End of conference day one

18:30 👥 **Get-together**



At the end of the first conference day, we kindly invite you to use the relaxed and informal atmosphere for in-depth conversations with other participants and speakers.

IV. Battery Performance

09:30 AI Driven Development Methods for Improved Battery Performance

- Battery health monitoring is essential for ensuring the performance, safety, and lifetime of batteries in electric vehicles and other applications.
- Data analytics and artificial intelligence can help to accelerate the development cycles, reduce the testing and warranty costs, and optimize the operation and reuse strategies of batteries.
- A comprehensive and standardized platform for transforming data streams into insights and decisions, with the integration of engineering expertise and domain knowledge

Dr. Nikolaus Keuth, Head of Product and Solution Management; Co-Author: DI Gerhard Schagerl, Product Manager, both AVL List GmbH, Austria

10:00 tba

10:30  Networking & Coffee Break

11:15 Innovative Battery Solutions for Future-Proof Products

- Pouch cells offer significant benefits that extend beyond common perceptions
- Offering high-energy-density battery applications
- Superior safety features and No Thermal Propagation (NoTP) capabilities
- Demonstration of how we integrate ultra-high-performance pouch cells into modules and packs
- Showcasing innovative approaches to customer collaboration and illustrating how these methods lead to optimal performance, enhanced sustainability, and reduced costs

André Gronke, Head of Overseas Product Development, Farasis Energy Europe GmbH, Frickenhausen, Germany

11:45 Session Panel

moderated discussion among the session speakers, focusing on the latest advancements in battery performance

12:15  Lunch

V. Battery Safety

13:30 How Predictive Field-Data Analytics Enhances Safety, Longevity, and Performance of Electric Vehicle Batteries

- Usage of field data to create valuable insights for electric vehicle operation
- Early detection of potential safety issues, preventing failures and ensuring the safe operation of electric vehicles
- Field-data based state-of-health estimation and prediction. Enhancement of longevity of electric vehicle batteries

Marc Locke, Head of Customer Success, ACCURE Battery Intelligence GmbH, Aachen, Germany

14:00 Innovative Materials for Development of Safe Battery Systems

- Introduction in risks of EV batteries and importance of battery safety
- Development of various materials for battery safety
- Application-related testing procedure for material evaluation

Dr. Kim D. Kreisköther, PD Battery Solution / Specialist Battery Cell & System; Co-Author: Dr. Keon Lee, PD Battery Solution, Senior Manager PD Battery Solutions, both: Henkel AG, Düsseldorf, Germany

14:30 Closing Remarks

15:00 End of conference

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Conference venue
Holiday Inn Berlin City West
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13629 Berlin, Germany
Phone: +49 30/38389-0
Email: info.ber03@gchhotelgroup.com



Hotel room reservation:
A limited number of rooms has been reserved for the benefit of the conference participants at the Holiday Inn Berlin City West. Please refer to "VDI Conference". For more hotels: www.vdi-wissensforum.de/hrs

VDI Wissensforum service package:
The conference package includes the conference documents (online), beverages during breaks, lunch and the get-together on November 20, 2024.

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VDI Wissensforum GmbH
P.O. Box 10 11 39
40002 Düsseldorf, Germany
Phone: +49 211 6214-201
Fax: +49 211 6214-154
Email: wissensforum@vdi.de
www.vdiconference.com/ 01K0961024

VDI Wissensforum GmbH | VDI-Platz 1 | 40468 Düsseldorf | Germany
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