

ATZ live

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Electrified Mobility

Improving customer focus,
reducing costs
and increasing profitability

2nd International ATZ Congress

12 and 13 November 2019 | Mannheim | Germany

Grid Integration of Electric Mobility

Customer focus –
one key to success

4th International ATZ Conference



/// KEYNOTE LECTURES

Klaus Baumgärtner, BridgingIT GmbH | **Prof. Dr. Uwe Dieter Grebe**, AVL List GmbH |
Dr. Falko Schappacher, MEET Battery Research Center, Münster University (WWU)

BMW i. 

 **bridging IT**
Menschen Methoden Lösungen

SCHAEFFLER

- 9:00 **Welcome and opening of the congress**
Dr. Johannes Liebl, Editor-in-Charge ATZ | MTZ | ATZelektronik, Springer Nature

KEYNOTE LECTURES I

Moderation: Dr. Johannes Liebl, Editor-in-Charge ATZ | MTZ | ATZelektronik, Springer Nature

ELECTRIFIED MOBILITY

GRID INTEGRATION OF ELECTRIC MOBILITY

- 9:10 **How sustainable is electric mobility? Cradle-to-cradle study of different drive systems**
Prof. Dr. Uwe Dieter Grebe, AVL List GmbH, Austria
- 9:35 **How to develop customer-centric ecosystems? Agile, digital and open**
Klaus Baumgärtner, BridgingIT GmbH
- 10:00 **Joint app-based discussion of the keynote lectures**
- 10:30 Refreshment break with coffee and tea in the exhibition area

WORKSHOP

Room Franz Xaver Richter

- 10:30 **Developing customer-centric electric mobility ecosystems**
“How can we establish an agile, open and connected electric mobility ecosystem, where vehicles can be charged just as easily as they can be refilled with conventional fuels and where new business models covering all aspects of value added services are set up?”
In this interactive workshop, which is being held separately from and in parallel with the lectures of each conference, representatives of the automotive, energy and IT industries will be able to discuss this question.
- Moderators:
Lars Christiansen, BridgingIT Group
Dr. Reha Tözün, BridgingIT Group

approx.
17:45 End of the first day of the congress

- 19:30 **Networking Dinner at the restaurant “Symphonie”, Dorint Hotel**
Enjoy a pleasant evening and interesting conversations over dinner with colleagues and speakers.

NATIONAL AND INTERNATIONAL CONDITIONS

Moderation: Prof. Dr. Hans-Christian Reuss, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS)

- 11:00 **General conditions for the introduction of zero-emission buses in public transport – the Clean Vehicle Directive**
Minh-Thuy Truong, Association of German Transport Companies (VDV)
- 11:30 **How can the Stuttgarter Straßenbahnen AG comply with air pollution control legislation?**
Markus Wiedemann, Stuttgarter Straßenbahnen AG (SSB)
- 12:00 **Comprehensive assessment of critical raw materials for BEVs and FCEVs**
Aline Hendrich, B. Reuter, J. Hengstler, S. Kupferschmid, M. Schwenk, thinkstep AG
- 12:30 Lunch in the exhibition area

ENERGY STORAGE SYSTEMS I

Moderation: Prof. Dr. Hans-Christian Reuss, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS)

- 14:00 **Second life: Benefiting from the untapped potential of EV batteries**
Florian Mayr, Apricum GmbH
- 14:20 **Battery-as-a-Service: the key to the crucial cost reductions in electric mobility**
Dr. Wolfgang Bernhart, Roland Berger GmbH
- 14:40 **Battery cell production in Germany – from plan to implementation at CAT**
Matthias Zentgraf, CATL GmbH
- 15:00 **Joint app-based discussion of the energy storage systems I session**
- 15:30 Refreshment break with coffee and tea in the exhibition area

INTRODUCTORY PRESENTATION AND PANEL DISCUSSION

Moderation: Markus Schöttle Senior Editor Automotive Developments, Springer Fachmedien Wiesbaden GmbH, Germany; Prof. Dr. Hans-Christian Reuss Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS), Germany

- 16:00 **Introductory presentation: Demystifying electric mobility – how to scale up a sustainable and profitable industry?**
Patrick Schaufuss, McKinsey & Company, Inc.
- 16:20 **Panel discussion: Cost down and scaling up – electric mobility in ramp-up mode, but with modern costing models**
Prof. Dr. Uwe Dieter Grebe, AVL List GmbH, Austria
Franco Bellillo, Deputy General Manager, Beijing Electric Vehicle Co. Ltd., China
Dr. Wolfgang Bernhart, Roland Berger GmbH
Patrick Schaufuss, McKinsey & Company, Inc.

ELECTRIC CHARGING

Moderation: Markus Schöttle, Senior Editor Automotive Developments, Springer Fachmedien Wiesbaden GmbH

- 11:00 **Smart Charging Guide**
Frank Geerts, ElaadNL, Netherlands
- 11:30 **What economic and technical benefits do integrated charging solutions bring for high power charging (HPC) parks?**
Roman Scholdan, S. Schrader, P3 group GmbH
- 12:00 **Wireless charging of electric vehicles – from pre-development to volume production – a field report**
Thomas Nindl, BRUSA Elektronik (München) GmbH;
H. Stauss, BRUSA Elektronik AG, Switzerland
- 12:30 Lunch in the exhibition area

VEHICLES

Moderation: Markus Schöttle, Senior Editor Automotive Developments, Springer Fachmedien Wiesbaden GmbH

- 14:00 **The differing electric mobility market expectations of China and Europe – challenges from the perspective of Chery Automobile**
Jochen Tüting, Chery Europe GmbH
- 14:20 **Electric mobility in China – China revolutionizes the car market by taking a leading role**
Franco Bellillo, Beijing Electric Vehicle Co. Ltd., China
- 14:40 **nextmove – Long-term experience of 400 rental cars from various manufacturers in an everyday EV test**
Stefan Moeller, O. Raguse, nextmove
- 15:00 **Joint app-based discussion of the vehicles session**
- 15:30 Refreshment break with coffee and tea in the exhibition area

BASIC CHARGING EQUIPMENT

Moderation: Dr. Katrin Goldammer, Reiner Lemoine Institut gGmbH

- 11:00 **Grid Integration – Lessons learned and call for action**
Veronika Brandmeier, The Mobility House GmbH
- 11:15 **Charging stations in 2019: an impenetrable jungle and excessive costs – the customer's perspective**
Gero Lücking, LichtBlick SE
- 11:45 **Electric mobility 2030 – on the road to sector coupling**
Dr. Jan Strobel, BDEW Bundesverband der Energie- und Wasserwirtschaft e. V.;
M. Roemheld, Volkswagen AG
- 12:15 **Backbone grid – requirements and rules for the successful grid integration of electric mobility**
Florian Regnery, Network Technology/Network Operation Forum of the VDE (FNN)
- 12:45 Lunch in the exhibition area

MANAGED CHARGING

Moderation: Xaver Pfab, BMW Group

- 14:00 **Key findings and recommendations for grid integration – Meta-study highlights the status quo**
Florian Regnery, Network Technology/Network Operation Forum of the VDE (FNN)
- 14:30 **The digitization of the energy transition: the next steps**
Dr. Guido Wustlich, Federal Ministry for Economic Affairs and Energy (BMWi)
- 15:00 **Moderated discussion**
Safe grid operation of the low-voltage level by optimising the charging processes of electric vehicles
Sebastian Deters, Stromnetz Hamburg GmbH
- Electric Mobility Avenue – Electric mobility needs strong power grids**
Dr. Hendrik Adolphi, Netze BW GmbH
- 15:30 Refreshment break with coffee and tea in the exhibition area

BIDIRECTIONAL CHARGING I

Moderation: Gero Lücking, LichtBlick SE

- 16:00 **Integration of electric vehicles into the electricity grid: hardware, software and the customer proposition**
Tom Pakenham, OVO Group, UK
- 16:30 **Integration of distributed flexibility into the power system: requirements and needs of the transmission grid**
Axel Kießling, TenneT TSO GmbH
- 17:00 **Reverse power flow as an addition to charging functionalities**
Dr. Gunnar Steg, Volkswagen Group Charging GmbH

MANAGEMENT AND MARKETS

Moderation: Prof. Dr. Hans-Christian Reuss, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS)

- 9:00 **Future multi-modal mobility**
Jürgen Schlaht, Siemens Mobility GmbH
- 9:30 **The role of a contract manufacturer in the era of electrification**
Kurt Bachmaier, Magna Steyr Fahrzeugtechnik AG & Co KG, Austria
- 10:00 **A coming and going in the Start-up (Auto-Mobility) scenes – analyses after current trips in the USA, in China and Europe**
Wolfgang Sczygiol Consultant, Sczygiol Automotive Technology Consulting
- 10:30 Refreshment break with coffee and tea in the exhibition area

ENERGY STORAGE SYSTEMS II

Moderation: Prof. Dr. Hans-Christian Reuss, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS)

- 11:00 **Battery pack design: the challenges and benefits of modular battery modules – the LIGHT battery: a modular, cylindrical system design**
Tobias Mayer, E. Donzow, LION Smart GmbH
- 11:30 **Sustainable, resource-efficient manufacturing of high-quality battery cells using digitization and Industry 4.0 tools**
Max Weeber Deputy Head of Center for Battery Cell Manufacturing, Fraunhofer Institute for Manufacturing Engineering and Automation (IPA)
Co-authors: Prof. Dr. K. P. Birke, Institute for Photovoltaics (ipv); J. Wanner, Institute for Energy Efficiency in Production (EEP), University of Stuttgart
- 12:00 Lunch in the exhibition area

SOLUTIONS FROM GRID OPERATORS

Moderation: Prof. Dr. Hans-Christian Reuss, Research Institute of Automotive Engineering and Vehicle Engines Stuttgart (FKFS)

- 13:00 **A transnational approach to a DSO-controllable electric mobility charging infrastructure**
Reinhard Nenning, Vorarlberger Energienetze GmbH, Austria
- 13:30 **Providing a grid-friendly, large-scale, affordable chargeBIG infrastructure using intelligent load and charge management**
Sebastian Ewert, MAHLE Filtersysteme GmbH
- 14:00 **Developing customer-centric electric mobility ecosystems**
Presentation of the workshop results
Lars Christiansen, BridgingIT Group
- 14:30 Refreshment break with coffee and tea in the exhibition area

FUEL CELLS

Moderation: Markus Schöttle, Senior Editor Automotive Developments, Springer Fachmedien Wiesbaden GmbH

- 9:00 **Technology, infrastructure and costs – challenges, but no Bermuda triangle for the fuel cell!**
Prof. Dr. Christian Mohrdieck, Mercedes-Benz Fuel Cell GmbH
- 9:30 **PEM fuel cell stack for automotive applications**
Dr. Mohsine Zahid, Dr. M. Quintus, A. Diez, ElringKlinger AG
- 10:00 **Moving toward volume production – Industrialization of fuel cells for the commercial vehicle industry**
Dr. Manfred Stefener, Freudenberg Sealing Technologies
- 10:30 Refreshment break with coffee and tea in the exhibition area

THERMAL MANAGEMENT FOR BATTERIES & E/E

Moderation: Markus Schöttle, Senior Editor Automotive Developments, Springer Fachmedien Wiesbaden GmbH

- 11:00 **Driving and charging – TWO worlds – ONE thermally balanced wiring system! Tracing the link from contact physics to safe operation**
Uwe Hauck, Dr. Michael Ludwig, Dr. H. Schmidt, Dr. M. Leidner, M. Wolf, TE Connectivity Germany GmbH
- 11:30 **New high-performance and high-efficiency high-voltage batteries – thanks to innovations in thermal management**
Jürgen Hofmann, R. Schmidt, C. Riester, Fritz Dräxlmaier GmbH & Co. KG
- 12:00 Lunch in the exhibition area

BIDIRECTIONAL CHARGING II

Moderation: Dr. Gunnar Steg, Volkswagen Group Charging GmbH

- 9:00 **Bidirectional charging management**
Xaver Pfab, Mark Pilkington, BMW Group
- 9:30 **Enhancement of electric mobility standards toward bidirectional charging**
Dr. Ingo Diefenbach, Westnetz GmbH
- 10:00 **Bidirectional charging: a regulatory framework**
Sarah Schweizer, A. Matzner, Schweizer Legal
- 10:30 Refreshment break with coffee and tea in the exhibition area

RESEARCH FACTORS I

Moderation: Prof. Dr. Ulrich Wagner, TU Munich

- 11:00 **The Global Grid Integration Project GGIP – Growing an interoperable ecosystem through a common testing approach**
Dr. Harald W. Scholz, Joint Research Centre European Commission (JRC);
T. Eberz, Ford-Werke GmbH; O. Logvinov, IoTecha Corp.; B. Sole, H.Selle,
Dr. Ing. h.c. F. Porsche AG; K. Hardy, Argonne National Laboratory; L. Driessen,
ElaadNL; and the whole GGIP Team
- 11:30 **The importance of electric vehicle infrastructure planning in road networks for the German energy system**
Dr. Katrin Goldammer, O. Arnhold, J. Gemassmer, J. Hartmann, A. Windt,
Reiner Lemoine Institut gGmbH
- 12:00 Lunch in the exhibition area

BUSINESS MODELS FOR ELECTRIC MOBILITY

Moderation: Prof. Dr. Ulrich Wagner, TU Munich

- 13:00 **Developing customer-centric electric mobility ecosystems**
Presentation of the workshop results
Lars Christiansen, BridgingIT Group



RESEARCH FACTORS II

Moderation: Prof. Dr. Ulrich Wagner, TU Munich

- 13:30 **Environmental impact of electric vehicles – influence of intelligent charging strategies**
Steffen Fattler, A. Regett, Forschungsstelle für Energiewirtschaft e. V. (FfE)
- 14:00 **Preferences and perceptions of bidirectional charging from the customer's perspective**
Bettina Kämpfe TU Chemnitz
Johanna Zimmermann, University of Passau
- 14:30 Refreshment break with coffee and tea in the exhibition area

KEYNOTE LECTURES II

Moderation: Dr. Johannes Liebl, Editor-in-Charge ATZ | MTZ | ATZelektronik, Springer Nature

ELECTRIFIED
MOBILITYGRID INTEGRATION
OF ELECTRIC MOBILITY

- 15:00 **Research into the production of battery cells –
What does it mean to be Germany's leading institute in this field?**
Dr. Falko Schappacher, Münster University (WWU)
- 15:25 **Size, Speed, Soundness - an international analysis of success factors in the
transformation process of the automotive industry**
Franz Loogen, e-mobil BW GmbH
- 15:50 **Politics is not everything, but without politics everything is nothing –
how "sector coupling" must also take**
Prof. Dr. Andreas Knie, WZB Berlin Social Science Center
- 16:15 **Joint app-based discussion of the keynote lectures**
Dr. Johannes Liebl Editor-in-charge ATZ | MTZ | ATZelektronik Springer Nature
Markus Schöttle Senior Editor Automotive Developments, Springer Fachmedien
Wiesbaden GmbH
- 16:30 **Closing remarks**
Dr. Johannes Liebl, Editor-in-Charge ATZ | MTZ | ATZelektronik, Springer Nature
- approx.
16:45 End of the congress