Powertrains and Energy Systems of Tomorrow 2022

Shaping the future open to all technologies

10 – 11 May 2022
Berlin, Germany or virtually via live stream

Hybrid event
Your choice:
Participate on site or virtually via live stream

KEYNOTE LECTURES

Arthur D. Little GmbH / Dr. Ing. h.c. F. Porsche AG / EWE AG / Hitachi, Ltd / Nel Hydrogen
Welcome

The defossilization of energy systems and transport toward renewable electricity-based solutions is the core challenge in climate protection. Fully electric and electrified drives are at the heart of future mobility. This can only be successfully implemented in close cooperation between the automotive and energy industries and policymakers.

A future global powertrain mix must systemically address the challenge of a sustainable and secure supply and distribution of energy. What is needed is an approach that is open to all technologies and considers energy resources and converters throughout the entire process. Only by shaping the technology discussion as a “not only, but also” approach towards next-generation engines in a sustainable energy system will it be possible to leverage the potentials for a targeted reduction in global CO₂. The perfect interaction between traffic concepts, vehicles with sustainable powertrains, and infrastructure is the prerequisite for market success.

We look forward to your participation in the hybrid event 16th International MTZ Congress on Future Powertrains.

On behalf of the Scientific Advisory Board

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Your Corona protection concept

- Comprehensive hygiene protection concept on site
- Participation option in parallel also via live stream with Q&A function, 1:1 video chat with participants and other useful functions
About the Event

**Powertrains and Energy Systems of Tomorrow**

The technological transformation in individual mobility on the basis of regenerative primary energy requires an intensified technical exchange of ideas between leading representatives of the automotive and energy industry on the one hand and science and politics on the other. For that reason, this congress will focus on topics that not only describe the change in vehicle powertrains, but also present technological solutions in the associated infrastructure, including the provision of primary energy. Discussions will concentrate on political framework conditions as well as on systemic innovations for the future and digital solutions.

**Scientific Advisory Board**

Our Scientific Advisory Board, which is made up of prominent experts in their respective fields, provides support during the planning phase of the congress and helps to identify suitable topics.

With its expertise the board has made a valuable contribution to the choice of themes for the lecture program.

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**Prof. Dr. Peter Gutzmer**
Editor-in-Charge ATZ | MTZ Group, Springer Nature

Scientific Director of the Congress

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**Day 1 & Day 2**

**Interdisciplinary Program**

**Parallel Strand 1**

**Interdisciplinary Program**

**Parallel Strand 2**

Accompanying exhibition on both days
08:30 Welcome and opening of the congress
Prof. Dr. Peter Gutzmer, Editor-in-Charge ATZ | MTZ Group;
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group

09:00 – 10:30, Plenum – Saphir
KEYNOTE LECTURES
Moderation: Prof. Dr. Peter Gutzmer, Editor-in-Charge ATZ | MTZ Group

09:00 Direct drive system to make in-wheel electric vehicles closer to a production reality
Dr. Akeshi Takahashi, Manager Research and Development Group, Hitachi, Ltd, Japan

09:30 How to solve the trade-off between vehicle dynamics, traveling time, and CO₂ emissions
Otmar Bitsche, Director E-Mobility, Dr. Ing. h.c. F. Porsche AG, Germany

10:00 Building the European high-power charging network of the future – Challenges and impact for infrastructure and energy systems
Alexander Krug, Partner, Arthur D. Little GmbH, Germany

10:30 Refreshment break with coffee and tea in the exhibition area

11:00 – 12:30, Parallel Strand I – Saphir
SYSTEM ARCHITECTURE
Moderation: Dr. Marco Warth, MAHLE GmbH

11:00 The emotional BEV between the conflicting objectives of efficiency and performance
Gerald Teuschl, Senior Product Manager Electrification, AVL List GmbH, Austria [in cooperation with AVL Software and Functions GmbH, Germany]

11:30 eConnect: efficient solutions for AWD BE
Alessio Paone, Manager Electrified Powertrain Technology – Mechanics, ZF Friedrichshafen AG, Germany

12:00 Balancing of efficiency, costs, and CO₂ footprint for future mobility
Dr. Christoph Danzer, Team Manager Powertrain Synthesis, IAV GmbH, Germany

12:30 Lunch in the exhibition area

11:00 – 12:30, Parallel Strand II – Rubin
GRID INFRASTRUCTURE
Moderation: Xaver Pfab, BMW Group

11:00 Automated grid compatibility tests and status/perspective for future grid stability
Reinhard Nenning, Head of Grid Planning and Power Quality, Vorarlberger Energienetze GmbH, Austria

11:30 Community based e-charging infrastructure – a solution for rural areas?
Prof. Dr. Jessica Rövekamp, Degree program in Energy Economics and Technologies, Hochschule Albstadt-Sigmaringen, Germany

12:00 Challenges in grid integration of electric vehicles in urban and rural areas
Jakob Gemassmer, Research Associate, Unit Mobility with Renewable Energy, Reiner Lemoine Institut gGmbH, Germany

The current congress program and further information can be found online:
www.atzlive.com/powertrain
13:45 – 15:15, Parallel Strand I – Saphir

**OVERALL SYSTEM**

Moderation: Prof. Dr. Uwe Dieter Grebe, AVL List GmbH

13:45  **Hybrid BEV for future LCV applications**
Dr. Tolga Uhlmann, Vice President Motor & Hybrid Powertrains, FEV Europe GmbH [in cooperation with FEV Vehicle GmbH], Germany

14:15  **Potential analysis of load profile predictions using the example of a predictive hybrid strategy**
Lukas Schäfers, Research Associate, RWTH Aachen University [in cooperation with FEV Europe GmbH], Germany

14:45  **Depending on lithium and cobalt – the impact of current battery technology and future alternatives**
Mareike Schmalz, Team Manager Battery Pre-Development, APL Automobil-Prüftechnik Landau GmbH, Germany

15:15  Refreshment break with coffee and tea in the exhibition area

15:45  **Ceremony of the Sustainability Award in Automotive**
A joint initiative of ATZ, MTZ and Arthur D. Little GmbH

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13:45 – 15:15, Parallel Strand II – Rubin

**GRID STABILIZATION SMART GRID**

Moderation: Dr. Kathrin Goldammer, Reiner Lemoine Institut gGmbH

13:45  **Smart Grid Integration – an IT-based approach to incentivize and coordinate private charging**
Michael Lehmann, Head of Process and IT Meter2Cash, Mitteldeutsche Netzgesellschaft STROM mbH, Germany

14:15  **Harmonics in industrial grids as a result of charging infrastructure in employee parking lots**
Julia Gartner, Electrical Engineering Planner, Volkswagen AG [in cooperation with TU Braunschweig], Germany

14:45  **Efficient charging of electric vehicles by intelligent load management**
Ursel Willrett, Senior Technical Consultant Infrastructure Systems E-Mobility, IAV GmbH, Germany

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16:45 – 18:15, Plenum – Saphir

**PANEL DISCUSSION WITH INTRODUCTORY PRESENTATION**

Moderation: Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group

16:45  **Introductory presentation**

17:15  **Will the penny drop – smart energy policy or dead end?**

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**CEREMONY OF THE SUSTAINABILITY AWARD IN AUTOMOTIVE**

The categories:
- Mobility Concepts
- Technology
- Start-up
- Overall Concepts and Systems

The Organizers:
ATZ | MTZ | Arthur D. Little

approx. 18:15  End of the 1st day of the congress

19:30  **Networking Dinner at the restaurant Umspannwerk Ost**
Enjoy a pleasant evening and interesting conversations over dinner with colleagues and speakers.
08:00 – 09:00, Plenum – Saphir

**KEYNOTE LECTURES**
Moderation: Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group

08:00 **Renewable hydrogen production via electrolysis: Current status and opportunities**
Dr. Katherine Ayers, Vice President of Research and Development, Nel Hydrogen, USA

08:30 **How do we get green electrons and green molecules into our vehicles in the future?**
Dr. Urban Keussen, Chief Technical Officer, EWE AG, Germany

09:00 – 10:00, Plenum – Saphir

**LCA**
Moderation: Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group

09:00 **Resilient supply chains and robust strategies for the transformation of the automotive industry**
Sylvia Stieler, Project Staff Member Automotive, IMU Institut GmbH [in cooperation with DLR e. V.], Germany

09:30 **CO₂-optimized design for a sustainable product life cycle**
Martin Rothbart, Senior Product Manager Energy & Sustainability, AVL List GmbH, Austria

9:00 **LCA**
Plenum – Saphir

10:00 **Refreshment break with coffee and tea in the exhibition area**

10:30 – 12:00, Parallel Strand I – Saphir

**SYSTEM OPTIMIZATION**
Moderation: Prof. Dr. Michael Bargende, University of Stuttgart

10:30 **System optimization for 800V e-drive systems in automotive applications**
Dr. Viktor Warth, Senior Manager Electrified Powertrain Technology System (EDPS), ZF Friedrichshafen AG, Germany

11:00 **High voltage architectures for 800V vehicles**
Stefan Schmalzl, System Engineer, Vitesco Technologies GmbH, Germany

11:30 **High voltage up to 1000V: enabler for efficient EV powertrains**
Mathias Deiml, Head of E-Drive Innovation Center, AVL Software and Functions GmbH, Germany [in cooperation with AVL List GmbH, Austria]

10:30 – 12:00, Parallel Strand II – Rubin

**CHARGING INFRASTRUCTURE**
Moderation: Prof. Dr. Hans-Christian Reuss, University of Stuttgart

10:30 **Technological solution for the control of energy flows**
Dr. Axel Schild, Senior Technical Consultant, IAV GmbH, Germany

11:00 **Future electric filling station – 20x 750kW power with intelligent load and tariff management**
Sebastian Ewert, Founder & Head of chargeBIG, MAHLE GmbH, Germany

11:30 **Intelligent charging load management in combination with local energy systems for residential, commercial, and industrial applications**
Dr. Dirk Pietruschka, Managing Partner, enisyst GmbH, Germany

12:00 **Lunch in the exhibition area**
13:00 – 15:00, Parallel Strand I – Saphir

**FCEV AND H₂ TECHNOLOGY**

Moderation: Dr. Benedikt Schauder, ZF Friedrichshafen AG

13:00  **FCTRAC and BioH₂Modul – a way to zero emission mobility in agriculture**  
Veronica Gubin, Project Assistant, ICEBE; Christian Varlese, Project Assistant, IFA, TU Vienna, Austria

13:30  **Systems engineering for fuel cell vehicles: from simulation to prototype**  
Dr. Daniel Ritzberger, Development Engineer PEM Fuel Cell Systems, AVL List GmbH, Austria

14:00  **Hydrogen is electric, too – Status quo and future perspectives for transport applications**  
Dr. Andreas Janssen, Hydrogen Commercial Head Europe, Shell Deutschland GmbH, Germany

14:30  **Sustainability assessment of an integrated value chain for the production of e-fuels**  
Jana Späthe, Research Associate, Institute for Technology Assessment and Systems Analysis (ITAS), Karlsruhe Institute of Technology (KIT), Germany

15:00  Refreshment break with coffee and tea in the exhibition area

15:30 – 17:00, Plenum – Saphir

**MARKETS & CUSTOMERS**

Moderation: Dr. Norbert Alt, FEV Group GmbH

15:30  **Creating and sustaining user engagement in bidirectional charging**  
Franziska Kellerner, Project Leader, CENTOURIS Institute; Johanna Zimmermann, Research Associate, Chair of Marketing and Innovation, University of Passau, Germany

16:00  **The energy transition in Germany: CO₂ neutrality balancing energy demand and energy supply**  
Matthias Böger, Engine Analysis Engineer, Porsche Engineering Services GmbH, Germany

16:30  **Still in the black with green mobility?**  
Pascal Mast, Director New Technologies and Sustainability, TÜV SÜD Auto Service GmbH, Germany

17:00  Closing remarks

13:00 – 15:00, Parallel Strand II – Rubin

**BIDIRECTIONAL CHARGING**

Moderation: Ursel Willrett, IAV GmbH

13:00  **Grid integration of a vehicle fleet using V2G technologies**  
Lucas Mödder, Research Associate, Teaching and Research Area Mechatronics in Mobile Propulsion (MMP), RWTH Aachen University [in cooperation with FEV Europe GmbH], Germany

13:30  **Bidirectional charging management – a highly integrated system**  
Xaver Pfab, Project Manager E-Mobility Grid Integration, BMW Group [in cooperation with Kostal Industrie-Elektrik GmbH and Bayernwerk Netz GmbH], Germany

14:00  **Regulatory challenges for the provision of ancillary services from electric vehicles**  
Erdem Uzun, Project Manager, TenneT TSO GmbH [in cooperation with e3 consult GmbH and Bayernwerk Netz GmbH], Germany

14:30  **Project “bidirectional charging management” – insights and evaluation of the field trial**  
Adrian Ostermann, Research Associate, FfE München, Germany
IAV

With more than 8,000 employees, the tech solution provider IAV is one of the world’s leading engineering partners for the automotive industry. The company has been developing innovative concepts and technologies for future vehicles for more than 35 years, and in 2020 it sold around 896 million euros. Customers worldwide include all well-known automobile manufacturers and supplier. In addition to vehicle and drive development, IAV has already entered the e-mobility and autonomous driving at an early stage and is today one of the leading development service provider in these areas. In addition to the development centers in Berlin, Gifhorn and Chemnitz/Stollberg, IAV has other locations in Munich, Sindelfingen and Ingolstadt, as well as in Europe, Asia, North and South America.

Your presentation platform

Take this opportunity to present your latest products and services to the specialist audience: as an exhibitor in our exclusive exhibition and/or as a sponsor with an attractive advertising presentation. Make use of this industry meeting place to make valuable contacts with customers.

For information on the various presentation options, please contact:

Mr. Alex Woidich
Phone +49 611 7878-206
alex.woidich@springernature.com

COOPERATION PARTNER

Your presentation platform
Due to their importance for the economy and society, the automotive industry and mobility providers bear special responsibility for achieving climate protection and general sustainability goals.

The Sustainability Awards in Automotive, which are jointly organised by the ATZ/MTZ Group and sustainability and industry experts from the consultancy Arthur D. Little, recognise outstanding examples of sustainable contributions to mobility.

**The categories:**
- Mobility Concepts
- Start-up
- Technology
- Overall Concepts and Systems

**Registration fee**

**Participation on site:** € 1,395.– plus VAT

**Participation via live stream:** € 995.– plus VAT

This includes the conference documentation, the catering during breaks and the evening event on 10-05-2022. Virtual participation does not include the catering during breaks and the evening event.

**Date**

10 – 11 May 2022

**Venue**

Radisson Collection Hotel Berlin or virtually via live stream

Karl-Liebknecht-Straße 3

10178 Berlin, Germany

**Languages used in the presentations**

German and English with simultaneous interpreting (German – English / English – German)

**Hotels**

Some hotels have room blocks at reduced prices for the participants. You can find more information on the events page of our website.

**Participants**

This ATZlive congress is aimed at executives and engineers as well as experts in industry, authorities, NGOs, and scientific institutes who are involved in powertrain development, the generation and distribution of hydrogen and electricity, the expansion and integration of the power grid, international markets, production networks, and supply chains.

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**Sustainability Award in Automotive**

[Logo]

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Further Information and Online Registration:

www.atzlive.com/powertrain

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Your contact partner
Marc Vestweber
Abraham-Lincoln-Straße 46
65189 Wiesbaden, Germany
Phone +49 611 7878-132
Fax +49 611 7878-452
ATZlive@springernature.com

Organizer

ATZlive Spotlight on Powertrain and Vehicle Engineering

Our events are firm fixtures in the diaries of automotive engineers and engine specialists. We offer a range of innovative conferences on the latest topics in the world of automotive engineering and engine technology, from the perspective of research, development and applications.

Our close collaboration with the editorial teams of our specialist magazines ATZ and MTZ keeps us fully up-to-date on the latest topics and trends on the market.

Springer, with its automotive technology brands in the ATZ and MTZ Group, is part of Springer Nature, one of the world’s leading publishing groups for scientific, educational and specialist literature.