The Powertrain of Tomorrow

Hybrid and Electric Powertrain Concepts

11th International MTZ Conference on Future Powertrains
25 and 26 January 2017 | Frankfurt/Main | Germany

/// KEYNOTE LECTURES

Prof. Dr. Peter Gutzmer, Schaeffler | Prof. Dr. Ferit Küçükay, TU Braunschweig
Dr. Christian Landerl, BMW | Dr. Oliver Maiwald, Continental

REQUIREMENTS
Legislation and customer expectations

DRIVE SYSTEMS
Components and systems

CONTROL SYSTEMS
Energy and thermal management

Now International with Simultaneous Interpreting German and English
WELCOME

More stringent legislation on CO₂ emissions and new, tougher test cycles involving real-life driving situations are leading to a paradigm shift within the industry. Advances are being made in the field of electrification and powertrains are increasingly being designed as integrated systems consisting of combustion engines, gearboxes and electric motors. As a result of these changes and with the help of the Scientific Advisory Board, we have cautiously taken the well-established MTZ conference “The Powertrain of Tomorrow”, which has been held for more than 10 years, in a noticeably new direction. We will be meeting for the first time in Frankfurt and the conference will have an even more international focus.

The main theme will be the synthesis of powertrains, with an emphasis on components and integration in vehicles, because the interdependencies are increasingly complex. Digitization is becoming more widespread, a range of different markets are opening up and we are facing many challenges that also represent interesting new opportunities. This is clearly reflected in the lectures that you can attend at the congress. A system-based approach, intelligent management and new development methods will be the key features.

The friendly atmosphere of the event remains unchanged. Our long-term partners Schaeffler and Volkswagen have supported and helped to define the new direction taken by the congress and we would like to thank them very much. I would like to invite you to attend the 11th International MTZ Conference “The Powertrain of Tomorrow”. We are looking forward to some interesting discussions!

On behalf of the Scientific Advisory Board

Dr. Johannes Liebl
Editor-in-Charge ATZ | MTZ | ATZelektronik

PARTICIPANTS

The MTZ Conference “The Powertrain of Tomorrow” is aimed at managers and experts in powertrain development and electrification. It is a must-attend event for engine and vehicle manufacturers, their suppliers and development partners, teaching staff and engineers from universities, representatives from authorities and associations, and technicians active in this field.
KEYNOTE LECTURES

Moderator: Dr. Johannes Liebl, Editor-in-Charge ATZ | MTZ | ATZelektronik

9:30  Future global powertrains from a supplier's perspective
Prof. Dr. Peter Gutzmer, Deputy CEO, Chief Technology Officer, Schaeffler AG

10:00  The petrol engine – obsolete or fit for the future?
Dr. Christian Landerl, Director Development Petrol Engine, BMW Group

10:30  Predictive energy management – further potential for CO₂ reduction in micro and mild hybrids
Dr. Oliver Maiwald, Senior Vice President, B. Klein, F. Graf, Continental Automotive GmbH

11:00  Refreshment break with coffee and tea in the exhibition area

SYSTEM REQUIREMENTS

Moderator: Dr. Marco Warth, Director Corporate Advanced Engineering, MAHLE International GmbH

11:30  Strategic optimization of powertrain technology portfolios by means of market simulation
Nils R. Neumann, Research Assistant, J. Bavendiek, Prof. Dr. L. Eckstein, ika, RWTH Aachen University

12:00  Dimensioning of battery electric vehicles in accordance with legal standards and manufacturers’ and customers’ requirements
Dr. Fabian Schüppel, Project Engineer, M. Schlüter, Dr. J. Gacnik, IAV GmbH

12:30  Lunch in the exhibition area

DRIVE SYSTEMS I

Moderator: Prof. Dr. Bernhard Geringer, Director, IFA, Vienna University of Technology, Austria

14:00  48V – where to place the e-machine?
Thomas Pels, Head of Advanced Systems Engineering and Powertrain Electrification, AVL SCHRICK GmbH; Dr. R. Ellinger, V. Davydov, Dr. W. Schöffmann, AVL List GmbH, Austria
14:30 Synthesizing different hybrid powertrains
Andreas Englisch, President Business Unit Hybrid Drives,
T. Pfund, D. Reitz, M. Rauch, Dr. C. Lauinger,
Schaeffler Technologies AG & Co. KG

15:00 Tailored diesel engines for electrical propulsion systems or
tailored electrification for future diesel powertrains
Thomas Körfer, Group Vice President, W. Bick, B. Lindemann,
Dr. T. Hülschorst, J. Ogrzewalla, FEV GmbH

15:30 Refreshment break with coffee and tea in the exhibition area

ENERGY MANAGEMENT

Moderator: Prof. Dr. Jens Hadler, CEO,
APL Automobil-Prüftechnik Landau GmbH

16:00 The intelligent operating strategy of the
Mercedes-Benz plug-in hybrid electric vehicles
Dr. Daniel Görke, Development Engineer, J. Strenkert,
S. Schmiedler, T. Schürmann, Daimler AG

16:30 Thermal management of a fuel-cell range-extended
electric vehicle
Johannes Höflinger, Project Assistant, Prof. Dr. P. Hofmann,
IFA, Vienna University of Technology, Austria

PANEL DISCUSSION

Moderators: Dr. Alexander Heintzel, Editor-in-Chief, and
Martin Westerhoff, Vice Editor-in-Chief MTZ

17:00 CO₂ and air quality – do we need new powertrains?
Participants: Prof. Dr. Uwe Dieter Grebe, AVL List GmbH
Prof. Dr. Peter Gutzmer, Schaeffler AG
Prof. Dr. Jens Hadler, APL Group
Dr. Christian Landerl, BMW Group
Dietmar Winkler, asp/AUTOHAUS

19:30 Evening of encounters at the
“Gesellschaftshaus Palmengarten”
Enjoy a delightful evening and interesting conversations
over dinner with colleagues and speakers.
KEYNOTE LECTURE

Moderator: Uwe Wagner, Senior Vice President R&D Automotive and Industrial, Member of the Management Boards Automotive and Industrial, Schaeffler Technologies AG & Co. KG

8:30 Highly fuel-efficient gearbox and powertrain concepts
Prof. Dr. Ferit Küçükay, Director, L. Li, A. Lange, Institute of Automotive Engineering (IAE), TU Braunschweig

COMPONENTS

Moderator: Andreas Englisch, President Business Unit Hybrid Drives, Schaeffler Technologies AG & Co. KG

9:00 Innovative e-machines for the electric powertrain of the future
Dr. Martin Braun, Director, R. Schmid, Dr. S. Usbeck, Robert Bosch GmbH

9:30 Improved performance and packaging with bi-stable tensioner design for mild-hybrid accessory belt drives
Ron Farewell, Design Group Supervisor, T. Neudorf, Litens Automotive Group, Canada

10:00 Protection for HV battery systems – humidity control
Dr. Michael Harenbrock, Business Development Manager, J. Kosicki, MANN+HUMMEL GmbH

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

DEVELOPMENT METHODS I

Moderator: Dr. Norbert Alt, CEO, FEV GmbH

11:00 Battery-electric vehicle efficiency potential assessment and thermal aging investigation
Alessandro Colla, Analysis Engineer, Dr. F. Diwoky, AVL List GmbH, Austria; K. Walter, AVL Software and Functions GmbH; T. Katrašnik, LiCeM, University of Ljubljana, Slovenia

11:30 Methodical synthesis and simulation-assisted analysis of electrified vehicle concepts
Hendrik Piechottka, Doctoral Candidate, Dr. S. Grams, AUDI AG; Prof. Dr. F. Küçükay, IAE, TU Braunschweig

12:00 Lunch in the exhibition area
DEVELOPMENT METHODS II

Moderator: Prof. Dr. Michael Bargende, Director, Chair in Automotive Powertrains, IVK, University of Stuttgart

13:00  A comprehensive methodology for improving the efficiency of petrol engines with intake manifold fuel injection in hybrid powertrains
Harry Hamann, Doctoral Candidate, Dr. D. Münning, Dr. M. Zillmer, Volkswagen AG; Prof. Dr. P. ElIts, ivb, TU Braunschweig

13:30  The interaction between tribology and emissions under real driving conditions (RDE)
Christian Lensch-Franzen, Head of Engineering, Prof. Dr. J. Hadler, Dr. M. Gohl, Dr. J. Becker, T. Mink, J. Wang, APL Automobil-Prüftechnik Landau GmbH

14:00  Real-time capable model environment for developing and testing hybrid and battery electric vehicles
Dr. Christian Donn, Business Development Manager Powertrain, V. Bensch, IPG Automotive GmbH

14:30  Refreshment break with coffee and tea in the exhibition area

DRIVE SYSTEMS II

Moderator: Prof. Dr. Uwe Dieter Grebe, Executive Vice President Global Business Development, Sales and International Operations, AVL List GmbH, Austria

15:00  Dynamic downsizing gasoline demonstrator
Dr. Mike Bassett, Chief Engineer, J. Hall, T. Cains, Dr. S. Borman, S. Reader, MAHLE Powertrain Limited, UK

15:30  Potential of the hybrid operating modes of the plug-in hybrid powertrain concept “Two-Drive Transmission with Range Extender” (DE-REX)
Sebastian Fischer, Research Assistant, Prof. Dr. C. Beidl, VKM, A. Viehmann, R. König, Prof. Dr. S. Rinderknecht, IMS, TU Darmstadt

16:00  Plug-in fuel cell vehicles
Jürgen Ogrzewalla, Vice President Electronics and Electrification, FEV GmbH; M. Walters, VKA, RWTH Aachen University

16:30  Closing remarks
Dr. Johannes Liebl, Editor-in-Charge ATZ | MTZ | ATZelektronik
THE CONFERENCE IS SUPPORTED BY SCHAEFFLER AG

The Schaeffler Group is a globally active, integrated automotive and industrial supplier. Highest quality, outstanding technology, and strong innovative ability are the basis for the company’s continuing success. In 2015, the number of patent registrations amounted to 2,334, making Schaeffler Germany’s second most innovative company according to the German Patent and Trademark Office.

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The Volkswagen Group with its headquarters in Wolfsburg is one of the world’s leading automobile manufacturers and the largest carmaker in Europe.

Due to difficult market conditions in 2015, the number of Group vehicles delivered to customers dropped to 9.931 million (2014: 10.137 million). The share of the world passenger car market amounts to 12.3 percent.

In Western Europe, nearly one in four new cars (24.4 percent) is made by the Volkswagen Group. Group sales revenue in 2015 totaled € 213 billion (2014: € 202 billion).

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As of: 31.12.2015

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REGISTRATION FEE

€ 1,295.– plus VAT

This includes the conference documentation, coffee breaks, soft drinks, two lunches and the evening reception.

VENUE

Gesellschaftshaus Palmengarten
Palmengartenstraße 11
60325 Frankfurt am Main | Germany
(Palmengarten parking lot, Siesmayerstraße 61)

HOTELS

The hotels have room blocks at reduced prices for the participants. Please make your reservation quoting the reference “The Powertrain of Tomorrow” by 13 December 2016 (Novotel) or 27 December 2016 (Motel One).

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Lise-Meitner-Straße 2
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LANGUAGES USED IN THE PRESENTATIONS

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

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ATZworldwide AND MTZworldwide

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CONDITIONS

No cancellation charge is due if registration is cancelled by 27 December 2016. Cancellations made after that date will incur a charge of 35% of the registration fee. For cancellations made after 3 January 2017 the full registration fee is payable. Cancellations must be made in writing. The date of the postmark will determine whether the deadline has been met. If you are unable to attend, we will be happy to accept a substitute participant.

Should a speaker be unable to attend at short notice by reason of force majeure, illness, accident or other circumstances for which ATZlive cannot be held responsible, another qualified person will be appointed to the exclusion of any claim for compensation. Should the event be cancelled altogether, we will of course refund the registration fee.

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THE ORGANIZER

ATZlive
// Spotlight on Powertrain and Vehicle Engineering //

ATZlive organizes its high-caliber conferences for vehicle and engine specialists together with key representatives from research and industry to ensure that they are tailor-made to the needs of the participants and address the very latest issues. 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.

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