ATZ live

CONFERENCES ON VEHICLE AND POWERTRAIN DEVELOPMENT

www.ATZlive.com

chassis.tech plus 2024

4 congresses in one event

4 – 5 June 2024
Munich, Germany
or virtually via live stream

chassis.tech plus

chassis.tech
steering.tech
brake.tech
tire.wheel.tech

Hybrid event

Your choice:
Participate on site or virtually via live stream

© TÜV SÜD PRODUCT SERVICE GMBH

KEYNOTE LECTURES

Huawei Technologies Duesseldorf GmbH / JTEKT Corporation
Manufacture Française des Pneumatiques Michelin / Dr. Ing. h.c. F. Porsche AG
Volkswagen do Brasil / ZF Friedrichshafen AG

TÜV SÜD

ONE FOR ALL
4 congresses in one event

chassis.tech plus
Holistic chassis systems –
Validating and accelerating the development processes of manual to autonomous driving

The integrated chassis –
Greater interlinking of components, modules, and systems for automated driving

chassis.tech
Innovative chassis systems –
Using software tools, driving simulators, virtual tests, and road tests for optimum vehicle dynamics

steering.tech
Smart steering systems –
Meeting the challenges of steering feel, take-over, and steer-by-wire

brake.tech
Modern brake systems –
Mastering brake technology, brake blending, and recuperation as well as environmental aspects in the development process

tire.wheel.tech
Reliable tire-wheel components –
Sustainably developing processes and methods for low-emission, lightweight, and energy-efficient products

15TH INTERNATIONAL MUNICH CHASSIS SYMPOSIUM

The choice is yours: attend on site or virtually via live streams of all sessions.

Prof. Dr. Peter E. Pfeffer
Hochschule München University of Applied Sciences
Scientific Director of the Symposium

Welcome

Current and future chassis and vehicle dynamics systems need to meet a variety of requirements. They should not only ensure safety through stability, braking ability, and controllability, but also enhance comfort at the same time. They are also expected to deliver optimum performance with the best possible driving experience, driving enjoyment, and handling. What is more, the systems should also be able to adapt to different driving and road conditions. At the same time, there is a demand for increased efficiency in order to reduce energy consumption and cut exhaust and noise emissions. In an era of connected, software-based, and autonomous vehicles, support for connectivity and automation is crucial for optimum performance.

This wide range of topics sets the scene for the 15th International Munich Chassis Symposium chassis.tech plus. It brings together numerous experts in suspension systems, steering, brakes, tires/wheels, and automated driving for an exchange of ideas and experience.

Innovative research and development activities will be presented for the first time, forming the basis for constructive discussions. You can look forward to more than 50 lectures on a variety of topics, with keynotes from Dr. Ingo Albers (Porsche), Dr. Cyrille Roget (Michelin), Dr. Navid Samadi (Huawei), and Dr. Robert Fuchs (JTEKT) on the first day of the symposium, as well as an interactive discussion with the plenum. On the second day, Dr. Peter Holdmann (ZF) and Dr. Thomas Kersten (Volkswagen do Brasil) will present their keynote lectures.

We look forward to welcoming you to the Bayerischer Hof in the center of Munich or virtually via our live stream and hope you have an exciting and informative conference.

Stay at the cutting edge!

- Highly relevant technical papers presented by renowned speakers
- Networking in the international expert community
- Innovative products and services

One for all – 4 congresses in one event

The International Munich Chassis Symposium with its accompanying trade exhibition is the key worldwide meeting place for the chassis community in the fields of the chassis, steering, brakes, and tires/wheels.

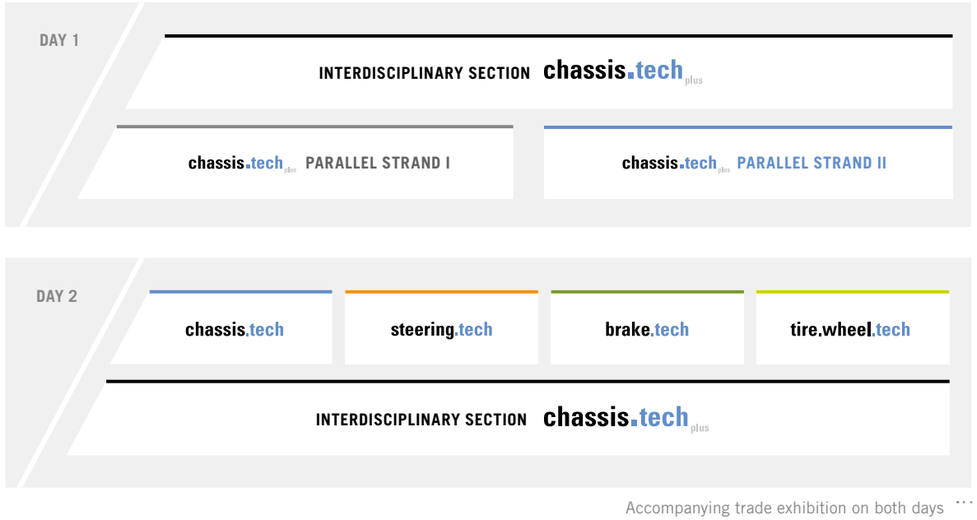
The 1st day will be taken up by the interdisciplinary section chassis.tech plus with two parallel sessions of lectures in the afternoon.

The symposium will focus on overriding issues relating to chassis systems and vehicle dynamics, before dividing up on the 2nd day into the following four parallel sections concentrating on the chassis, steering, brakes, and tires/wheels:

- chassis.tech
- brake.tech
- steering.tech
- tire.wheel.tech

In the afternoon, the parallel sections will merge together again for the interdisciplinary section chassis.tech plus.

The focus of the 2024 symposium will include current aspects of automated driving and steer-by-wire systems, taking into account development methods and cost-effectiveness. It will continue to examine market and regulatory requirements, driving simulators and virtual product validation, artificial intelligence, chassis control, requirements, and evaluations. Topics will also include brake control systems and brake particle emissions, as well as tires and wheels for a better environment and tire testing, tire wear, and tire simulation.



Accompanying exhibition

Throughout the entire conference, the accompanying exhibition will take place in the foyers on site and virtually in the digital event platform. Manufacturers and suppliers from the automotive industry will present innovative products and services in the field of chassis technology to the specialist audience.

Participants

- Manufacturers of passenger cars and commercial vehicles and their suppliers
- Development service providers
- Universities and research institutes
- Manufacturers of measuring, testing, and simulation systems
- Authorities, associations, and testing institutes

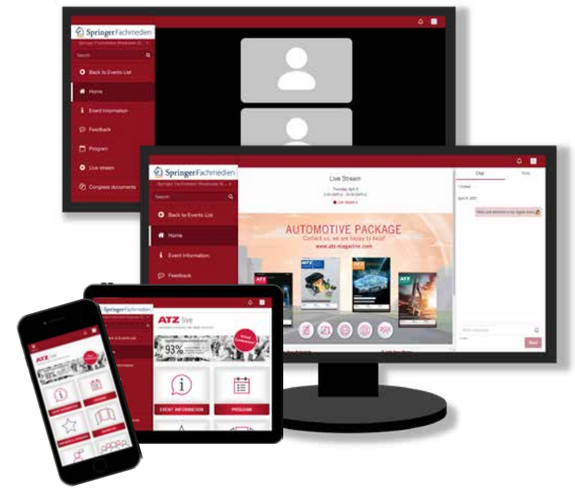
chassis.tech plus 2024 as a hybrid event

The choice is yours: attend on site or virtually via live streams

The streaming package includes the keynote lectures and all lectures of the two parallel strands on the 1st day as well as the four parallel sections on the 2nd day as live streams.

The digital event platform offers you

- Q&A feature in the live streams
- 1:1 video chats with attendees, exhibitors, and speakers
- live polls
- your personal program overview
- a virtual exhibition
- all available conference documents in one place for download
- as well as other useful functions



Evening reception in Munich Ratskeller

Tuesday, 04-06-2024 from 18:30 in Munich Ratskeller, Marienplatz 8, 80331 Munich

Experience a cosy evening in the traditional Ratskeller. We are happy to invite you to attend an evening of stimulating conversation with colleagues and to offer you the chance to enjoy Bavarian culinary delicacies.

The foundation stone of the Ratskeller was laid on 25 August 1867. However, the first landlord and landlady did not move into the premises of the new town hall until 1 August 1874, the date when the city council started its activities there.

In accordance with the Romantic spirit of the age, Georg von Hauberisser designed the edifice as well as the furnishings of the Ratskeller in the 16th-century Gothic style. Munich painters such as Heinrich Schlitt and Josef Rösl designed the various vaults.

The Ratskeller, established ever since then as a place of civic hospitality, extends a hearty welcome with its typical Bavarian charm.

Prof. Dr. Peter E. Pfeffer
Hochschule München University of Applied Sciences

Scientific Director of the Symposium, Head of chassis.tech plus section

Dr. Alexander Heintzel
Editor-in-Chief ATZ | MTZ Group, Springer Nature

Michael Reichenbach
Vice Editor-in-Chief ATZ, Springer Nature

Our four Scientific Advisory Boards, which are made up of prominent experts in their respective fields, provide support during the planning phase of the conference and help to identify suitable topics.

chassis.tech

Martin Schwarz
BMW Group

Head of chassis.tech section

Klaus Baltruschat
TÜV SÜD Product Service GmbH

Prof. Dr. Lutz Eckstein
RWTH Aachen University

Friedrich Eichler
CNH Industrial Österreich GmbH, Austria

Kenneth Ekström
Volvo Car Corporation, Sweden

Dr. Christoph Elbers
ZF Group

Dr. Christian Hartweg
Opel Automobile GmbH

Prof. Hideo Inoue
Kanagawa Institute of Technology, Japan

Dr. Thomas Kersten
Volkswagen do Brasil, Brazil

Thomas Kutsche
ZF Group

Heinz Müllner
MAN Truck & Bus SE

Prof. Bernhard Schick
Kempten University of Applied Sciences

Timo Schöning
Hyundai Motor Europe Technical Center GmbH

steering.tech

Dr. Christoph Bittner
Dr. Ing. h. c. F. Porsche AG

Head of steering.tech section

Thilo Bitzer
ZF Group

Prof. Dr. Dr. Hans-Hermann Braess
(Honorary Chairman)

Jennifer Endres
Robert Bosch Automotive Steering GmbH

Frank Esser
Ford-Werke GmbH

Dr. Robert Fuchs
JTEKT Corporation, Japan

Hans Joachim Kieserling
Mercedes-Benz AG

Bertram Möller
Nexteer Automotive Germany GmbH

Prof. Dr. Manfred Plöchl
TU Vienna, Austria

Kristof Polmans
thyssenkrupp Presta AG, Liechtenstein

Dr. Matthias Schölzel
BMW Group

Dr. Yasuji Shibahata
Hitachi Astemo, Ltd., Japan

Dr. Christian Strümpler
Joyson Safety Systems Aschaffenburg GmbH

brake.tech

Alexander Gaedke
Robert Bosch GmbH

Head of brake.tech section

Moritz Bolay
Mercedes-Benz AG

Prof. Dr. Eberhard Drechsel
formerly Hochschule München University of Applied Sciences

Dr. Falk Hecker
Knorr-Bremse SfN GmbH

Tobias Linke
MAN Truck & Bus SE

Prof. Dr. Giampiero Mastinu
Politecnico di Milano, Italy

Prof. Dr. Ralph Mayer
TU Chemnitz

Alexander Prahst
Dr. Ing. h.c. F. Porsche AG

Dr. Albert Schlecht
AUDI AG

Dr. Ralf Stroph
BMW Group

Prof. Dr. Rüdiger Tiemann
htw saar

Dr. Thorsten Ullrich
Continental Automotive Technologies GmbH

tire.wheel.tech

Ralf Schweizer
AUDI AG

Head of tire.wheel.tech section

Stephane Bertoldi
Michelin Reifenwerke AG & Co. KGaA

Stefan Dittmar
TÜV SÜD Product Service GmbH

Ralf Duning
Maxion Wheels Holding GmbH

Dr. Michael Frey
Karlsruhe Institute of Technology (KIT)

Prof. Patrick Gruber
University of Surrey, UK

Klaus Krause
Hankook Tire Co. Ltd.

Prof. Dr. Günter Leister
tire.wheel.mobility solutions

Michael Staude
TÜV SÜD Product Service GmbH

Edwin van der Stad
Nexen Tire Europe s.r.o.

Prof. Dr. Andreas Wagner
University of Stuttgart

Prof. Dr. Burkhard Wies
Continental Reifen Deutschland GmbH

Prof. Dr. Makoto Yamakado
Kanagawa Institute of Technology, Japan

Keynote lectures

In their keynote lectures, renowned speakers from the industry will provide forward-looking insights that go beyond the technical contents and illuminate the current issues from many different perspectives. In this way, the lectures, with their international focus, will be particularly important as a trend barometer for the conference.

TUESDAY, 04-06-2024 / MORNING / FESTSAAL

KEYNOTE

09:30

Dr. Ingo Albers
VP Drive System, Dr. Ing. h.c. F. Porsche AG, Germany

Next Level: Porsche Active Ride in the new Panamera and the new Taycan

KEYNOTE

09:55

Dr. Cyrille Roget
Scientific & Innovations Communication Director, Manufacture Française des Pneumatiques Michelin, France

Life cycle assessment to identify key levers in order to decrease tire environmental footprint

KEYNOTE

11:10

Dr. Navid Samadi
Chief Engineer, Intelligent Chassis and Vehicle Performance, Huawei Technologies Duesseldorf GmbH, Germany

Utilizing the advantage of an E-drivetrain to increase driving dynamics

KEYNOTE

11:35

Dr. Robert Fuchs
ADAS/AD Executive Professional and Head of Systems Innovation Research Department, JTEKT Corporation, Japan

Steer-by-wire system in a software-defined vehicle: now – next – later

WEDNESDAY, 05-06-2024 / AFTERNOON / FESTSAAL

KEYNOTE

15:15

Dr. Peter Holdmann
Executive Vice President Division Chassis Solutions, ZF Friedrichshafen AG, Germany

ZF cubiX® – software solution for centralized vehicle motion control in SdV

KEYNOTE

15:45

Dr. Thomas Kersten
Director, Chassis, ADAS, Powertrain Development, Volkswagen do Brasil, Brazil

Consequences of decarbonization targets and sustainability on chassis development for OEMs in South America

chassis.tech plus

08:00 **Registration at the check-in for on-site participants**

09:00 **Start of the live stream for virtual participants**

09:15 **Welcome and opening**
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group, Springer Nature;
Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Hochschule München University of Applied Sciences

09:30 – 10:20, Plenary section – Festsaal

KEYNOTE LECTURES I

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Hochschule München University of Applied Sciences

09:30 KEYNOTE
Next Level: Porsche Active Ride in the new Panamera and the new Taycan
Dr. Ingo Albers, VP Drive System, Dr. Ing. h.c. F. Porsche AG, Germany

09:55 KEYNOTE
Life cycle assessment to identify key levers in order to decrease tire environmental footprint
Dr. Cyrille Roget, Scientific & Innovations Communication Director, Manufacture Française des Pneumatiques Michelin, France

10:20 Opening of the accompanying trade exhibition and refreshment break in the exhibition area

11:10 – 12:00, Plenary section – Festsaal

KEYNOTE LECTURES II

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Hochschule München University of Applied Sciences

11:10 KEYNOTE
Utilizing the advantage of an E-drivetrain to increase driving dynamics
Dr. Navid Samadi, Chief Engineer, Intelligent Chassis and Vehicle Performance, Huawei Technologies Duesseldorf GmbH, Germany

11:35 KEYNOTE
Steer-by-wire system in a software-defined vehicle: now – next – later
Dr. Robert Fuchs, ADAS/AD Executive Professional and Head of Systems Innovation Research Department, JTEKT Corporation, Japan

12:00 – 12:45, Plenary section – Festsaal

INTERACTIVE PANEL DISCUSSION: HOW IMPORTANT ARE INNOVATIVE CHASSIS TECHNOLOGIES FOR NEW VEHICLES?

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Hochschule München University of Applied Sciences;
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group, Springer Nature

Participants: Dr. Ingo Albers, VP Drive System, Dr. Ing. h.c. F. Porsche AG, Germany; Dr. Robert Fuchs, ADAS/AD Executive Professional and Head of Systems Innovation Research Department, JTEKT Corporation, Japan; Dr. Cyrille Roget, Scientific & Innovations Communication Director, Manufacture Française des Pneumatiques Michelin, France; Dr. Navid Samadi, Chief Engineer, Intelligent Chassis and Vehicle Performance, Huawei Technologies Duesseldorf GmbH, Germany

12:45 Lunch in the exhibition area

PARALLEL STRAND I

14:00 – 15:30, Parallel strand I – Festsaal

CHASSIS AND SYSTEMS

Moderation: Dr. Christoph Elbers, Vice President Car Chassis Technology Development, ZF Friedrichshafen AG

14:00 **Optimizing efficiency and sustainability through chassis contributions: a case study of VW's ID.7**
Christoph Weber, Head of Project Management Chassis & ADAS ID.Family, Volkswagen AG, Germany

14:30 **Using high-bandwidth direct-drive architecture for new motion control capabilities**
Dr. Gorazd Gotovac, CTO, Elaphe Propulsion Technologies Ltd., Slovenia

15:00 **Innovations and overview of SbW – impact on technology, customers, and business**
Martin Rittler, Lead Architect Steer-by-Wire, Volvo Car Corporation, Sweden

16:00 – 18:00, Parallel strand I – Festsaal

CHASSIS COMPONENTS

Moderation: Heinz Müllner, Senior Vice President Engineering Complete Vehicle Truck, Head of Vehicle & Product Architecture, MAN Truck & Bus SE

16:00 **mHiL test bench for the development of active chassis systems in a virtual environment**
Thomas Unkrig, Test Engineer Chassis Testing Facilities, Dr. Ing. h.c. F. Porsche AG, Germany

16:30 **Potential analysis of a semi-active anti-roll bar based on MR technology**
Tobias Tarne, Senior Engineer Vehicle Dynamics – ADAS/AD, MdynamiX AG, Germany [in cooperation with INVENTUS Development GmbH, Austria]

17:00 **From customer requirements to individual contact points within rotation-translation converters**
Bernhard Wiesneth, Manager Applications Ball Screw Drives, Dr. Simon Merz, Senior Specialist Validation & Verification, Schaeffler Technologies AG & Co. KG, Germany

17:30 **Development and validation of a novel chassis concept with a level adjustment function**
Alexander Merk, Data Engineer, e:fs TechHub GmbH, Germany

PARALLEL STRAND II

14:00 – 15:30, Parallel strand II – Palaishalle

MARKET REQUIREMENTS AND REGULATORY DEMANDS

Moderation: Klaus Baltruschat, Strategic Account Manager, Head of Sales: Tires & Wheels, TÜV SÜD Product Service GmbH

14:00 **Latest rating updates for ADAS systems**
Andreas Rigling, Senior Manager, Test Center Mobility, ADAC e. V., Germany

14:30 **ETRTO abrasion testing with vehicle method – validation results**
Dr. Benjamin Oelze, Head of Test Method Development Tire Wear, ETRTO European Tyre & Rim Technical Organisation/Continental, Germany;
Frédéric Biesse, Senior Fellow for Tire Physics and Modelization, ETRTO European Tyre & Rim Technical Organisation/Michelin, France

15:00 **OBWE – on board weighing equipment**
Davide Ferrario, Chief Technical Officer (CTO), Streparava S.p.A, Italy

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

16:00 – 18:00, Parallel strand II – Palaishalle

DEVELOPMENT METHODS

Moderation: Dr. Daniel Wegener, Head of Chassis & NVH, fka GmbH

16:00 **Deployment of a new vehicle dynamics and chassis design simulation platform at Renault**
Dr. Marc Alirand, Vehicle System Dynamics and Chassis Specialist, Siemens Industry Software SAS [in cooperation with Renault Group], France

16:30 **Evaluation method for ride/harshness with detailed suspension, tire, and body characteristics by 1D-CAE**
Taichi Fujita, Senior Engineer, Integrated CAE and PLM, Nissan Motor Co., Ltd., Japan

17:00 **Holistic evaluation methodology of the user experience of driver assistance systems in the combination of human-machine-interface and functional performance**
Seda Aydogdu, Senior Project Manager, ADAS and Automated Driving, MdynamiX AG, Germany;
Dr. Thomas Kersten, Director, Chassis, ADAS, Powertrain Development, Volkswagen do Brasil, Brazil [in cooperation with Kempten University of Applied Sciences, Germany]

17:30 **Targeted driving fun**
PhD Zoltan Hankovszki, Lead Engineer Chassis & Driving Functions, Dr. Jan Loof, Lead Engineer Chassis & Driving Controls, AVL List GmbH, Austria

18:30 **Evening reception in Munich Ratskeller**
Enjoy interesting conversations with colleagues and speakers in a pleasant atmosphere.

chassis.tech

08:30 – 10:00, chassis.tech section – Palaishalle

DRIVING SIMULATORS

Moderation: Dr. Christian Hartweg, Head of Vehicle Dynamics, Opel Automobile GmbH

08:30 **Comparison of real-time capable multi-body simulation models and map models on the dynamic driving simulator**
Robert Schurmann, Simulation Engineer Wheel Guidance System and Vertical Dynamics, Volkswagen AG [in cooperation with TRE GmbH, cosin scientific software AG and Universität der Bundeswehr München], Germany

09:00 **Driver-centric development leveraging on remotized hardware-in-the-loop and dynamic simulators**
Alessio Anticaglia, PhD Student, Meccanica 42 S.r.l. [in cooperation with Maserati S.p.A., VI-grade S.r.l. and University of Florence], Italy

09:30 **Virtual scene generation: developing, testing, and validating autonomous vehicle functions**
Tim Rothmann, Senior Scientist, Dynamics, Loads, and Environmental Data, Fraunhofer Institute for Industrial Mathematics (ITWM), Germany

steering.tech

08:30 – 10:00, steering.tech section – Festsaal

INNOVATIVE STEERING SYSTEMS

Moderation: Roland Greul, Director Advanced Engineering, Robert Bosch Automotive Steering GmbH

08:30 **Alternative HMI's in steer-by-wire vehicles**
Thomas Maier, Test Engineer Vehicle Dynamics & Testing, thyssenkrupp Presta AG, Liechtenstein

09:00 **Presentation of a steer-by-wire force feedback actuator with a direct drive e-motor and MR brake**
Matthias Niegl, Senior Engineer, Vehicle Dynamics, MdynamiX AG, Germany [in cooperation with Hochschule München University of Applied Sciences, Germany; INVENTUS Development GmbH and STIWA Group, Austria]

09:30 **Conception and prototypical implementation of an integral steering and drive module**
Torben Dittmar, Managing Chief Engineer, Institute for Automotive Engineering (ika), RWTH Aachen University, Germany

brake.tech

08:30 – 10:00, brake.tech section – Fürstensalon

BRAKE SYSTEMS AND CONTROL

Moderation: Dr. Falk Hecker, VP Technology – Driver Assistance and Automated Driving, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

08:30 **Roadmap to act-by-wire**
Dr. Michael Kunz, Vice President Engineering Platform Brake System and Software, Robert Bosch GmbH, Germany

09:00 **Electromechanical brake systems – architectures and applications**
Martin Baechle, Director System Development Future Brake Systems, Continental Automotive Technologies GmbH, Germany

09:30 **ABS exploiting forces at the wheel – a motorsport investigation**
Prof. Dr. Giampiero Mastinu, Full Professor, Department of Mechanical Engineering, Politecnico di Milano [in cooperation with Brembo S.p.A.], Italy

tire.wheel.tech

08:30 – 10:00, tire.wheel.tech section – Königssaal

TIRES AND WHEELS AND THE ENVIRONMENT

Moderation: Ralf Schweizer, Head of Development Wheels, Tires, Tire Pressure Monitoring Systems, AUDI AG

08:30 **Wheel sustainability and performance label**
Karl Rode, Director Global Steel Wheel Engineering, Maxion Wheels Holding GmbH, Germany

09:00 **Analysis of airborne and non-airborne tire road wear particles generated by a vehicle**
Frédéric Biesse, Senior Fellow for Tire Physics and Modelization, Manufacture Française des Pneumatiques Michelin, France

09:30 **Tire wear particle evaluation**
Dr. Benjamin Oelze, Head of Test Method Development Tire Wear,
Nadine Aschenbrenner, Test Engineer – Global Tire Testing, Wear, Continental Reifen Deutschland GmbH, Germany

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

chassis.tech

10:30 – 12:00, chassis.tech section – Palaishalle

ARTIFICIAL INTELLIGENCE

Moderation: Martin Schwarz, Head of Development Steering Gear Upper Midsize Class, Luxury Class and Rear Axle Steering, BMW Group

10:30 **Exploring the limits of driving stability using reinforcement learning for vehicle dynamics simulation**
Dr. Mark Wielitzka, Senior Technical Consultant Software & Function Development, IAV GmbH, Germany

11:00 **Innovative kinematic metamodeling: pioneering AI-enhanced suspension tolerance analysis**
Alexander Großberger, Research Assistant Virtual Chassis Development, Chair of Automobile Engineering, Dresden Institute of Automobile Engineering, TU Dresden [in cooperation with AUDI AG], Germany

11:30 **AI and 5G for CCAM – the case of a roundabout**
Dr. Lorenzo Uccello, Researcher, Department of Mechanical Engineering, Politecnico di Milano [in cooperation with Italtel S.p.A., TECH – CRF S.C.p.A., Fondazione Bruno Kessler and Athonet Italy], Italy

steering.tech

10:30 – 12:00, steering.tech section – Festsaal

DEVELOPMENT PROCESS AND STANDARDIZATION

Moderation: Dr. Christoph Bittner, Director Development Vehicle Dynamics Systems, Dr. Ing. h.c. F. Porsche AG

10:30 **Standardization for a steer-by-wire vehicle**
Alexander Ein Waldt, Technical Expert Steering Systems, Ford-Werke GmbH, Germany

11:00 **SbW development of safety & steering performance avoiding unintended interference**
Carsten Maziul, SbW Lead Project Manager, ZF Active Safety GmbH, Germany

11:30 **Driving simulator study on the acceptance of take-over concepts of a steer-by-wire functionality**
Hendryk Lausch, Research Associate 3F-Methodology, SiL & HiL, Institute of Automotive Engineering (IfF), Technical University of Braunschweig, Germany

12:00 Lunch in the exhibition area

brake.tech

10:30 – 12:00, brake.tech section – Fürstensalon

SIMULATION AND TESTING

Moderation: Prof. Dr. Rüdiger Tiemann, Head of Chassis and Vehicle Dynamics, Automotive Engineering, htw saar – University of Applied Sciences

10:30 **Implementation of a real-time ESC simulation environment into a dynamic driving simulator (SiL/DiL)**
Sang Min Park, Principal Investigator Dynamics Concept Development Team, Hyundai Motor Company, South Korea [in cooperation with MdynamiX AG and Kempten University of Applied Sciences, Germany]

11:00 **Better together! New testing methodologies for innovative brake systems – applications and benefits**
Dr. Felix Pfister, Business Development Manager, IPG Automotive GmbH, Germany [in cooperation with Volvo Car Corporation and IPG Automotive Sweden AB, Sweden; LINK Group, USA]

11:30 **Validation gap between hardware- and software-in-the-loop brake system simulation**
Anton Tworek, Development Engineer Test Systems, MdynamiX AG [in cooperation with Hochschule München University of Applied Sciences], Germany

tire.wheel.tech

10:30 – 12:00, tire.wheel.tech section – Königssaal

TIRE TESTING AND SIMULATION

Moderation: Prof. Dr. Andreas Wagner, Holder of the Chair of Automotive Engineering, Institute of Automotive Engineering Stuttgart (IFS), University of Stuttgart

10:30 **Influence of tire deformation on vehicle aerodynamics**
Johannes Burgbacher, Research Associate, Institute of Automotive Engineering Stuttgart (IFS), University of Stuttgart [in cooperation with Research Institute for Automotive Engineering and Powertrain Systems Stuttgart (FKFS)], Germany

11:00 **A novel simulator setup: combining full FTire dynamics with highly accurate steering feel emulation**
Dr. Benjamin Rieff, Real-Time Solutions Architect, cosin scientific software AG [in cooperation with MdynamiX AG], Germany

11:30 **Virtual investigation of tire-vehicle handling performance using outdoor and indoor tire characteristics**
Dr. Konstantin Sedlan, Senior Specialist Chassis Development & Simulation, Volkswagen AG;
Dr. Christian Cramer, Senior Engineer Vehicle Dynamics Testing & Simulation, Continental Reifen Deutschland GmbH, Germany

chassis.tech

13:15 – 14:45, chassis.tech section – Palaishalle

CHASSIS CONTROL

Moderation: Timo Schöning, Head of Department Chassis, Hyundai Motor Europe Technical Center GmbH

13:15 A study of roll angle control based on a passenger comfort index
Masayoshi Kimura, Technical Manager, Research and Development, Hitachi Astemo Europe GmbH, Germany [in cooperation with Hitachi Astemo, Ltd., Japan]

13:45 Development of integrated chassis control systems in a DiL environment
Javier Gutierrez, Product Coordinator, Vehicle Dynamics, IDIADA Automotive Technology S.A., Spain

14:15 ABS next generation – nonlinear model-based slip estimation and control
Bianka Weber, Expert Vehicle Dynamics Management, Bosch Engineering GmbH, Germany; Michele Sigilló, Founder, SIGICONTROL s.r.o., Czech Republic

steering.tech

13:15 – 14:45, steering.tech section – Festsaal

REQUIREMENTS AND EVALUATION

Moderation: Bertram Möller, EPS Technology Manager and Managing Director, Nexteer Automotive Germany GmbH

13:15 Subjective and objective evaluation of steering feel on a steering HiL test bench
Alexander Haas, Development Engineer Steering Systems, Dr. Ing. h.c. F. Porsche AG [in cooperation with University of Duisburg-Essen], Germany

13:45 Power supply requirements for a steer-by-wire system
Götz-Philipp Wegner, SW Functional Safety Engineer Steering Systems, Ford-Werke GmbH, Germany

14:15 Centralized steering functions for the software-defined vehicle
Michael Story, Engineering Manager R&D Software and Electrical Application, Nexteer Automotive Corp., USA

brake.tech

13:15 – 14:45, brake.tech section – Fürstensalon

BRAKE EMISSIONS

Moderation: Prof. Dr. Ralph Mayer, Professorship Vehicle Systems Design, Chemnitz University of Technology

13:15 Influence of powertrain electrification on brake wear particle emissions
Dr. Toni Feißel, Systems Engineer, IAV GmbH, Germany

13:45 A methodology for emulating the WLTP brake cycle on public roads
Boris Angelike, Project Manager CoC Brake System, EDAG Engineering GmbH, Germany

14:15 Research of a long-life brake disk manufactured using a forming process
Falko Wagner, Research Assistant, Vehicle System Design, Chemnitz University of Technology, Germany

tire.wheel.tech

13:15 – 14:45, tire.wheel.tech section – Königssaal

INNOVATIONS IN TIRES AND WHEELS

Moderation: Stefan Dittmar, Head of Wheels, TÜV SÜD Product Service GmbH

13:15 Development and manufacturing of aluminium wheels with low carbon footprint alloys
Claudio Sorlini, Product Engineering Director, Cromodora Wheels S.p.A., Italy

13:45 Anti-lock brake system (ABS) enhancement with intelligent tires
Dr. Seyed Amin Sajadi Alamdari, Research Engineer, Intelligent Tire Group, The Goodyear Tire & Rubber Company, Luxembourg [in cooperation with Netherlands Organization for Applied Scientific Research (TNO), Netherlands]

14:15 Challenges and opportunities of intelligent tires to support vehicle performance and services
Dr. Timur Yilkiran, Senior Engineer Tire Development, Continental Reifen Deutschland GmbH, Germany

14:45 Refreshment break with coffee and tea in the exhibition area

chassis.tech plus

15:15 – 16:15, Plenary section – Festsaal

KEYNOTE LECTURES III

Moderation: Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Hochschule München University of Applied Sciences, Germany

15:15 KEYNOTE
ZF cubiX® – software solution for centralized vehicle motion control in SdV
Dr. Peter Holdmann, Executive Vice President Division Chassis Solutions, ZF Friedrichshafen AG, Germany

15:45 KEYNOTE
Consequences of decarbonization targets and sustainability on chassis development for OEMs in South America
Dr. Thomas Kersten, Director, Chassis, ADAS, Powertrain Development, Volkswagen do Brasil, Brazil

16:15 Closing remarks
Prof. Dr. Peter E. Pfeffer, Automotive Engineering, Hochschule München University of Applied Sciences;
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group, Springer Nature

The current program is also available online:
www.atzlive.de/en/chassis

Eventual program changes reserved

TÜV SÜD

Generating competitive edge through the smart use of knowledge.

TÜV SÜD is a premium quality, safety, and sustainability solutions provider that specializes in testing, inspection, auditing, certification, training, and knowledge services. Since 1866, the company has remained committed to its founding principle of protecting people, property, and the environment from technology-related risks.

Headquartered in Munich, Germany, TÜV SÜD is represented in more than 1,000 locations worldwide. TÜV SÜD operates globally with a team of more than 26,000 multi-disciplinary experts recognized as specialists in their respective fields. By combining impartial expertise with invaluable insights, the company adds tangible value to businesses, consumers and the environment.

The aim of TÜV SÜD is to support customers with a comprehensive suite of services worldwide to increase efficiency, reduce costs, and manage risk. As an innovative service provider to the automotive industry, TÜV SÜD operates a global network of testing laboratories and facilities for homologation services, tire analysis and tire testing, electrical and functional safety tests, alternative powertrain systems, and tanks and tank systems.

Exhibitors

The following exhibitors have already registered:

AB Dynamics Ltd
Angst Pfister AG
AVL List GmbH
EJOT SE & Co. KG
Exquisite Automotive Systems Co., Ltd (EA)
Fraunhofer Institute for Industrial Mathematics (ITWM)
Hitachi Astemo Europe GmbH
HOERBIGER Automotive Komfortsysteme GmbH
IAMT Engineering GmbH & Co. KG
IAV GmbH
INVENTUS Development GmbH
IPG Automotive GmbH
KOSTAL Automobil Elektrik GmbH & Co. KG
Link Engineering Company
MdynamiX AG
Oiles Deutschland GmbH
Rollax GmbH & Co. KG
Schaeffler Technologies AG & Co. KG
Streparava S.p.A.
Vector Informatik GmbH
VI-grade GmbH

As of 23-05-2024

Registration fee

Participation on site

€ 1,695.– plus VAT

This includes the conference documentation, the accompanying trade exhibition, the use of the digital event platform, as well as the catering during breaks and the evening event on 04-06-2024.

Participation virtually via live stream

€ 995.– plus VAT

This includes the conference documentation as well as the use of the digital event platform with virtual exhibition.

Participants can change between the parallel sections at any time for both participation variants.

University members of the IAVSD receive a 50 % discount on the registration fee.

Languages used in the presentations

On site: German and English with simultaneous interpreting (German – English / English – German)

Virtually via live stream:
English with simultaneous interpreting (German – English)

Further Information and Online Registration:

www.atzlive.de/en/chassis

Date

4 – 5 June 2024

Venue

Hotel Bayerischer Hof or virtually via live stream
Promenadeplatz 2 – 6, 80333 Munich, Germany

Hotels

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

Evening reception in Munich Ratskeller

Tuesday, 04-06-2024 from 18:30 in Munich Ratskeller, Marienplatz 8, 80331 Munich, Germany

Cooperation partner

www.tuvsud.com

Media partners

ATZ ATZ elektronik

Scientific partner

www.iavsd.org

Springer Professional

Germany's large specialist library for your success

Springer Professional offers you more than 3.5 million documents from books and magazines to enhance your knowledge edge in the fields of business and technology and provide a decisive head start. Take advantage of the possibility of a demo account for companies with access to all content – contact us at **beratung@springerprofessional.de**

You can find more information online at **www.springerprofessional.de**

M dynamiX

CREATE CARS PEOPLE LOVE.

THE FREE DRIVING EVENT ACCOMPANYING THE CHASSIS.TECH PLUS CONGRESS

Test the consistency of the development process – from simulation to the road

chassis.Xperience – the free driving event to experience chassis systems and advanced driving assistance systems **by yourself on site**. Get to know innovative development methodologies by testing driving characteristics both in **real-life driving tests** and on the **dynamic driving simulator** – the digital twin.

We cordially invite you to our new company headquarters, Shelter16 in Benningen (near Allgäu Airport). You can expect an exciting and eventful day, practical methods as well as technologies and interesting discussions – the ideal warm-up for **chassis.tech plus**.

PROGRAM HIGHLIGHTS

- **SiL/MiL:** experience **steering feel in the early stages**
- **HiL:** test the simulation of a realistic steering & driving experience on a dynamic driving simulator
- **Road/Testing:** compare the latest technologies in driving sessions
- Experience **attribute-based live evaluation** using the example of automated parking, including **ground truth methods**
- **Photogrammetry** – learn about our simple, highly accurate & efficient measurement method for test engineers to calibrate vehicles

EXPERIENCE SEAMLESS INTEGRATION FROM CONCEPT TO STREET REALITY

Our goal is to support **consistency in the development process** with our methods & products and to follow an attribute-based approach.

With the **chassis.Xperience**, we offer you the opportunity to try out and compare these methods and products yourself at the various stations.

From SiL/MiL to HiL incl. dynamic driving simulator to the real vehicle with attribute-based live evaluation.

MORE INFORMATION ON SCHEDULE, REGISTRATION & GTC:

www.mdynamix.de/en/chassis-xperience-drivingevent

marketing@mdynamix.de

JUNE **3**

MDYNAMIX AG
Junkersstr. 4 | Shelter16
87734 Benningen

SEMINAR LEADERS

Prof. Dr. Peter E. Pfeffer
MdynamiX AG,
University of Applied Sciences Munich

Prof. Bernhard Schick
MdynamiX AG,
University of Applied Sciences Kempten

BOOK HERE FREE OF CHARGE

In collaboration with: ATZ live · Hochschule Kempten · IFM · HM

Organised by: MdynamiX AG • Junkersstraße 4 | Shelter 16 • 87734 Benningen • www.mdynamix.de

ATZ live

CONFERENCES ON VEHICLE AND POWERTRAIN DEVELOPMENT

www.ATZlive.com

Further Information and Online Registration:

www.atzlive.de/en/chassis

chassis.tech plus 2024
4 – 5 June 2024, Munich, Germany or virtually via live stream

Your contact person

Hannah Klusmann
Abraham-Lincoln-Straße 46
65189 Wiesbaden, Germany

Phone +49 611 7878-321
ATZlive@springernature.com

The organizer

ATZlive // Spotlight on Powertrain and Vehicle Engineering

Our events are firm fixtures in the diaries of automotive engineers and powertrain specialists. We offer a range of innovative conferences on the latest topics in the world of automotive engineering and powertrain 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.