

The leading international congress for electrified powertrains, systems, components and methods

Main topics:

Vehicle propulsion systems from 48V MHEV to 800V BEV
Architecture, Design, Operational Strategy

Highly efficient Electric Drive Systems and Components
E-Motor, Power Electronics, Energy Storage and Management

Digitalization, AI, Intelligent Control

System Integration and NHV
Thermal Management, Acoustics, EMC

Sustainability and CO₂ Neutrality

Transmission Systems, Fluids and Components

Dritev interactive

Poster exhibition | Speakers corner | Dritev Summer Night | Car presentation | Workshops

Meet international experts from:



Workshops (in German)

- KI verstehen und anwenden – Grundlagen für Kosteneinsparung und Prozesseffizienz
- Akustik und Schwingungen – Grundlagen und Messtechnik in Anwendung

Accompanying event

- 9th International VDI Conference
- Powertrain Systems in Mobile Machines



Program overview

Workshops





Monday, June 29, 2026, Kongresshaus Baden-Baden, Germany

Only held in German!

09:00 - 17:00	KI verstehen und anwenden – Grundlagen für Kosteneinsparung und Prozesseffizienz (01ST807026)	Akustik und Schwingungen – Grundlagen und Messtechnik in Anwendung (01ST808026)
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1st Congress day

Tuesday, June 30, 2026

09:00	Welcome address			
09:10	Plenary speeches (Auditorium) 			
10:50	Coffee break and visit of the exhibition 			
11:30	Auditorium	Room 2	Room 3	Room 1
	Electric Drive Units	Range Extender	EV Topologies	Accompanying conference Powertrain Systems in Mobile Machines 2026 Process Drives
13:00	Lunch and visit of the exhibition 			
14:30	AI in the Product Development Process	Materials and Sustainability in E-Motors	Trends in Power Electronics for Drivetrains	Traction Drive
16:00	Coffee break and visit of the exhibition 			
16:45	Optimized E-Drives	Customer, Regulations, Environment	Bearing Currents	Electric Systems Architecture
18:15	End of the 1st congress day			
18:45	Dritev Summer Night			

2nd Congress day

Wednesday, July 1, 2026

08:30	Auditorium	Room 2	Room 3	Room 1
	Immersion Cooling	E-Drive Topologies	Architecture	Accompanying conference Powertrain Systems in Mobile Machines 2026 Real World Experience of Electrification
10:30	Coffee break and visit of the exhibition 			
11:15	Integrating AI into Products	Lubrication	Manufacturing Technology	Powertrain Comparison
12:45	Lunch and visit of the exhibition 			
14:15	Plenary speeches with subsequence discussion (Auditorium) 			Systemic Developments
16:00	Awarding of the Best Presentation Award for Young Engineers (Auditorium)			
16:05	Closing remarks			
16:15	End of the congress			

Program

1st Congress day
Tuesday, June 30, 2026

■ 08:00 Registration

Auditorium – Plenary

■ 09:00 Opening and welcome address

Dipl.-Ing. Thomas Pfund, Schaeffler Automotive, Bühl, Germany



Plenary speeches

Dipl.-Ing. Thomas Pfund, Schaeffler Automotive

■ 09:10 **Europe, China and the AI Revolution: What does this Mean for Powertrain Technology?**

- As USA and China lead in AI technology, do we still have a chance on the application side?
- Will the leadership in AI contribute to the success of Chinese automotive industries?
- What are the opportunities and challenges posed by AI for the automotive sector and drive train technology?

Prof. Dr. Hans Uszkoreit, Scientific Director, German Research Center for Artificial Intelligence, Berlin, Germany



■ 09:35 **Faster, higher, stronger: The rise of Chinese competition and what it means for Europe's automotive industry**

- The unique reasons, from politics to technology, that make Chinese competition so challenging
- Future trajectory of Chinese competitors – in China and around the globe
- Chinese competition as a wake-up call for European automotive companies

Björn Conrad, CEO and co-founder of China-focused consultancy Sinolytics, Berlin, Germany and Beijing, China



■ 10:00 **Global economy: Geopolitics meets technological disruptions**

- Global growth has been below its long-term for the last 7 years
- In many markets, the advance of Chinese competitors and disruptive technological changes have challenged existing business models
- The apparent changes in the geopolitical landscape add to adjustment costs of industries

Dr. Thomas Hueck, Chief Economist, Robert Bosch GmbH, Stuttgart, Germany



■ 10:25 **Powering progress – Electrification as a catalyst for sustainable mobile machinery**

- Electrification is more than a trend – It's a transformation that is revolutionizing mobile machinery across the agricultural, construction, and marine sectors
- Sustainability and performance can go hand in hand: Regulatory pressure, market demand, and advances in battery and charging technologies drive greener, efficient machines
- Collaboration fuels innovation: Automation, fast charging, battery swapping, smart grids, and AI-driven vehicle-to-grid solutions enable reliable and performant fleet operation
- The future is now – Let's lead it with deeply modernized, resilient grids for a renewable-powered world

Dr.-Ing. Udo Scheff, President, KREISEL Electric GmbH, Rainbach i.M., Austria



☕ 10:50 **Meet & Greet** - Coffee break in the exhibition area and car presentation

■ 11:30 **Change to the parallel sessions**



Dritev

Your international technology congress for powertrain developers in Baden-Baden, Germany!

Auditorium



Electric Drive Units

Dr.-Ing. Carsten Gitt,
Mercedes-Benz AG

11:30 Advanced electric drive architecture of the Mercedes-Benz EQS

- All-electric drive architecture of the Mercedes-Benz EQS
- Technical design of the drive components
- Integrated interaction of the drive technologies
- Operating strategy and operating characteristics

Michael Weiss, Tech. Sen. Manager E-Drive Large Cars & Testing, Development Drive-system e-Drive, Co-authors: Gregor Paul, Daniel Hopp, all Mercedes-Benz AG, Sindelfingen, Germany

12:00 Bosch eAxle Platform: Building blocks to provide worldwide eAxle solutions

- eAxle platform
- Building blocks
- Worldwide application
- Primary and secondary drives

Dr. Quentin Werner, Expert Team Leader eAxle Performance, Co-authors: Dr. Peter Dengler, Artur Angersbach, all Robert Bosch GmbH, Schwieberdingen, Germany

12:30 Compact, cost-efficient, modular and sustainable: Transferring latest technology into next generation EDU for compact and medium size electric vehicles

- Transfer of high-speed concepts into high volume segments
- Packaging and weight optimization
- Fulfillment of modularity requirements
- Scalability and producibility in higher volume

Dipl.-Ing. (FH) Patrick Schatz, EMBA, Global Technical Director Electrification, Co-authors: Dipl.-Ing. (FH) Wilhelm Vallant, both AVL List GmbH, Graz, Austria, Dipl.-Ing. (FH) Mathias Deiml, AVL Software and Functions GmbH, Regensburg, Germany

Room 2



Range Extender

Dipl.-Ing. (FH) Udo Sommerhalter,
Valéo Group

New generation of powertrain platform for range extender electric vehicles

- Industry-leading efficiency of direct-connected REV generator
- Deeply integrated 2-in-1 drive generator module
- Ultra-low auxiliary drive drag loss design
- Excellent NVH performance

Jiayu Cheng, Director of PowerTrain at Li Auto Germany R&D Center GmbH in Munich, Germany, Co-authors: Lifu Zheng, Ding Jia all LI Auto Inc, Shanghai, China

Potential analysis of range extended two-drive-powertrains

- Two downsized electric motors for lower iron losses and higher efficiencies at partial loads
- Economic long-range capability due to parallel-serial range-extender
- Multi-speed Dedicated Range-Extender Transmission (DRT) for efficient driving
- Use of cost-effective components thanks to operating point selection via multi-speed gearbox

Aaron Kappes, M. Sc., Research Associate, Co-author: Prof. Dr.-Ing. Stephan Rinderknecht, both Institute for Mechatronic Systems, Technical University of Darmstadt

Range extenders with dual rotor, radial flux machines for compact and efficient hybrid architectures

- US/China: Range-extender serial hybrids remain key (distance, charging limits)
- DeepDrive MG250: novel, highly integrated range-extender technology
- Dual-rotor radial-flux motor + integrated SiC inverter in a compact package
- 120 kW continuous / 24 kg / up to 96.9 % efficiency – ideal for PHEV & E-REX

Dr. Alexander Rosen, Chief-Engineer and Co-Founder, Co-authors: Tristan Völker, Adrian Wanner, all DeepDrive GmbH, Garching, Germany

Room 3



EV Topologies

Prof. Dr.-Ing. Karsten Stahl,
Technical University of Munich

Multi-criteria optimization of innovative multi-gear and multi-motor electric powertrains

- Problem definition and overview
- Methodology
- Results and convergence analysis
- Outlook

Christopher Reus, M. Sc., Research Associate, Co-author: Prof. Dr.-Ing. Stephan Rinderknecht, both Institute for Mechatronic Systems, Technical University of Darmstadt

Pioneering the future of low-cost BEVs: Design and development of a novel automatic powershift transmission

- A fully mechanical, actuator-free two-speed transmission that automatically adapts to load conditions for improved efficiency and performance
- Smooth, torque-continuous shifting and stable hysteresis verified through bench testing and hardware-in-the-loop vehicle simulations
- A lightweight, low-cost drivetrain technology enabling greater range, efficiency, and practicality for next-generation small battery-electric vehicles

Dipl.-Ing. Dr.techn. Jürgen Tromayer, Senior Scientist, Design, Co-authors: Dipl.-Ing. Christof Napetschnig, Dipl.-Ing. David Stückler, all Institute of Thermodynamics and Sustainable Propulsion Systems, Technical University of Graz, Austria

High performance in wheel platform for seamless integration in electrified vehicles

- Integration of an in-wheel system in an existing vehicle chassis, overview of changes and components
- In-wheel drive characteristics and thermal performance
- High speed slip control impact on vehicle performance

Jurij Kern, Product Manager, Co-author: Blaž Grafenauer, both Elaphe Propulsion Technologies Ltd., Ljubljana, Slovenia

13:00 **Time for Business Lunch** – Meet & Greet in the exhibition area with car presentation

Program

Auditorium



AI in the Product Development Process

Daniel Borowitzka, M. Eng.,
BMW AG

14:30 Data-driven prediction of acoustic properties for electric drives in gear manufacturing using machine learning

- Gear manufacturing
- Machine Learning
- Acoustic prediction electric drives

Bastian Friedrich, M. Sc., Axle and Electric Transmission Technologist, Co-authors: Felix Leng, M. Sc., both BMW AG, Dingolfing, Germany, Dr. Andrea Turcati, OmegaLambdaTec GmbH, Munich, Germany

15:00 Data-driven virtual powertrain development: From requirements to smart automotive systems through MBSE & AI-enhanced digital twins

- Data-driven virtual powertrain development through integrated MBSE frameworks
- AI-enhanced Digital Twins and RAG for virtual powertrain validation
- Continuous system validation via DevOps/MLOps CI/CD workflows
- Live power electronics validation demo showcasing automotive business case
- Scalable strategy for digital transformation in automotive engineering

René Honcak, M. Sc., Head Of Digital Twin Powertrain Solution, ZF Friedrichshafen AG, Friedrichshafen, Germany

15:30 LI Auto digitalization and artificial intelligence in the new generation of electric drive powertrain platform

- Edge AI solution for new feature in electric drive system, using simple neural network in uC of inverter
- Cloud based predictive diagnosis solution for product reliability, using complex neural network in cloud
- AI agent solution for R&D efficiency improvement
- Fine-tuning of VLM for manufacturing quality improvement

Dr. Xiang Liu., E-drive Intelligence Manager, Co-authors: Yong Ma, Yi Feng, all LI Auto Inc, Shanghai, China

16:00 **Meet & Greet** – Coffee break in the exhibition area with car presentation

Room 2



Materials and Sustainability in E-Motors

Prof. Dr.-Ing. Yves Burckhardt,
Technical University of Darmstadt

Raw material prices as a decision basis: Motor type selection in e-mobility

- Analysis of how raw material price fluctuations impact the economics and sustainability of electric motors
- Comparison of PSM, ASM, and FSM under different price and scenario assumptions
- Effects on costs, CO₂ footprint, and material efficiency across the supply chain
- Strategic recommendations for technology decisions and sourcing in a volatile market

Johannes Flemming, M. Sc., Team Lead E-Drive, P3 group GmbH, Stuttgart, Germany

Sustainability potentials for e-motors in a circular economy

- Circular economy as a response to global uncertainties
- Status quo and potentials of r-strategies for HV e-motors
- Practical approaches and potentials through state-of-health monitoring
- Technologies in focus: Impact of e-motor design and new e-motor technologies

Dr.-Ing. Daniel Heinrich, Expert Load Cycles & Test Development, Co-authors: Dr.-Ing. Benedikt Groschup, both Schaeffler Automotive Buehl GmbH & Co. KG, Bühl, Germany, Maximilian Miereisz, M. Sc., Schaeffler Technologies AG & Co. KG, Herzogenaurach, Germany

Rotor shaft as the center of traction motor – From the idea to the series production of a three-part rotor shaft with polygonal tube

- Innovative rotor shaft with polygon tube: Setting new standards in assembly, cooling, and lightweight construction thanks to its three-part design
- Cold joining instead of heating: Energy-efficient manufacturing with CO₂ savings and simplified assembly
- More than just a carrier: How the rotor shaft becomes a functional platform for sensor technology, grounding, and cooling
- Validated innovation: Presentation of experimental results on cold joining, cooling performance, and lightweight construction potential

Hüseyin Gürbüz, M. Sc., Head of Product Engineering Rotor Shaft, Co-author: Dr. Ing. Benjamin Dönges, both Muhr und Bender KG, Weitefeld, Germany

Room 3



Trends in Power Electronics for Drivetrains

Dr. Henning Wöhl-Bruhn,
Volkswagen AG

Demonstration of the first automotive traction inverter with GaN Power Stage for a passenger car

- Wide band gap semiconductors GaN, applications, robustness
- Driver circuit for GaN-Power Stage
- Cost outlook, comparison to SiC-semiconductors
- Usage in a Tesla S Democar, performance, measurements

Dipl.-Ing. Mathias Deiml, Pre-Development, AVL Software and Functions GmbH, Regensburg, Germany, Co-authors: Dipl.-Ing. (FH) Werner Ness, Dipl.-Ing. (FH), Dipl. Wirtschaftsing. (FH) Johann Winter, both VisIC Austria GmbH, Wien, Austria

Enabling high-performance electric drive units through 900V system architectures and inverter innovation

- Automotive inverters
- Electric drive unit platforms
- Power electronics
- 900 V technology

PhD Andreas Andersson, Principal Engineer Electric Drives, Co-authors: Dr. Håkan Sandquist, Dr. Simon Klacar, all InfiMotion Technology Europe AB, Gothenburg, Sweden

The future of automotive power electronics: Potential of high-level integration

- High-level integration as a key to cost and assembly space optimization
- Synergetic component utilization among power electronics modules
- Modular integration approach for use across different vehicle segments

Cornelius Rettner, M. Sc., Head of Advanced Development Power Electronics, Volkswagen AG, Gaimersheim, Germany

Auditorium



Optimized E-Drives

Dipl.-Ing. Thomas Landsherr,
TRATON R&D Germany GmbH

- 16:45 **Investigations on the efficiency and heat balance of highly integrated E-Drives with high power density**
- Development trends and challenges in the design of modern electric drive units
 - Simulative determination of the efficiency of an electric drive unit
 - Calculation of the temperature distribution and heat balance of a highly integrated electric drive unit, taking into account different lubrication and cooling concepts
 - Outlook: Experimental investigations to compare the values determined by simulation
- Bjarne Schwarz, M. Sc.**, Research Associate, EHL-Tribological-Contact and Efficiency, Co-authors: Prof. Dr.-Ing. Karsten Stahl, Dr.-Ing. Thomas Lohner, all Institute of Machine Elements, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

- 17:15 **Multi-objective optimization of a modular eDrive platform for truck portfolios considering transmission lifetime and load capacity**
- Reduction of component and production costs through increasing drivetrain commonality
 - Trade-off between cost and efficiency in drivetrains
 - Assessment of potential drivetrain oversizing due to component commonality
 - Necessary drivetrain adaptations due to insufficient load capacity requirements
- Philip Hätscher, M. Sc.**, Research Associate, Co-authors: Prof. Dr. André Casal Kulzer, both, Institute for Automotive Engineering Stuttgart, Germany, Dr. Sven Köller, Daimler Truck AG, Leinfelden-Echterdingen, Germany

- 17:45 **Harmonic current injection in electric drive systems: Impacts on NVH, temperatur, and reliability**
- System-level simulation of HCI considering electrical, mechanical, and thermal interactions
 - Impact of inverter switching frequency on NVH behavior, losses, and temperature rise
 - Analysis of HCI-induced mechanical loads on gearings and bearings
 - Evaluation of trade-offs between noise reduction, efficiency, and thermal limits
- Marc Janousek, M. Sc.**, Application Engineer, AST Mechanic, Co-authors: Dr. Denis Werner, both AVL Deutschland GmbH, Munich, Germany, Dipl.-Ing. Michael Schrottner, AVL List GmbH, Graz, Austria

- 18:15 **End of the 1st congress day**

- 18:45 **Dritev Summer Night at Kurhaus Baden-Baden – The place you have to be!**

Room 2



Customer, Regulations, Environment

Dipl.-Ing. Georg Bednarek

- The future of drivetech – How electrification and digitalization reshape the market**
- Current market and technology trends in the electrified powertrain
 - Impact of transformation on value creation, portfolios, and R&D structures
 - Key success factors: Strategic focus, organizational transformation, partnerships
- Dr.-Ing. Michael Hein**, Senior Project Manager, Co-author: Dr.-Ing. Hans-Josef Mayer, both Radermacher & Partner GmbH, Starnberg, Germany

- Legal requirements at one click using generative AI methods**
- Generative AI as an innovation driver for the automotive industry
 - Application of generative AI for specifying legal requirements
 - Traceable results for extraction, updating & comparison of requirements through decomposition method
 - Significant effort reduction while improving quality
- Dr.-Ing. Lukas Schäfers**, Team Lead Systems Engineering & AI Solutions, Co-authors: Dr.-Ing. René Savelsberg, Fabian Schmidt, all FEV Europe GmbH, Aachen, Germany

- CO₂ footprint of alternative powertrain solutions for commercial**
- Comparative life cycle analysis of alternative drive concepts for heavy commercial vehicles
 - Influence of renewable energies in combination with alternative powertrain concepts on long-distance transport
 - Ecological break-even of battery-electric commercial vehicles
- Özcan Deniz, M. A.**, System Engineer Vehicle Systems, Mahle International GmbH, Stuttgart, Germany

Room 3



Bearing Currents

Dipl.-Ing. (FH) Andreas Deimel,
Audi AG

- Parasitic bearing currents in oil-cooled electric motors – fundamentals and initial results**
- Parasitic bearing currents
 - Electric motors for 800 V DC-link voltage
 - Direct oil cooling
 - HF model
- Robin Charissé, M. Sc.**, Research assistant Electric Drive Systems, Technical University of Darmstadt, Germany, Co-author: Stefan Paulus, M. Sc., RPTU Kaiserslautern-Landau, Germany

- Simulation of parasitic currents in drive train systems**
- Electric modelling of contacting components (bearings, gears, brushes)
 - Lumped models for the excitation of parasitic currents in electric motors (EDM, circular)
 - Influence of inductances of shafts and housings
- Dr. Bernhard Jakob**, Specialist Technical Calculation, R&D Analysis Methods Fundamentals, Co-authors: Martin Correns, Dr.-Ing. Dominik Stretz, all Schaeffler Technologies AG & Co. KG, Herzogenaurach, Germany

- Insulation solutions for e-drives: Because sparks belong in romance, not bearings**
- EV voltage surge: Higher voltages increase bearing electrical corrosion, threatening e-drive reliability.
 - Current fixes fall short: Ceramic hybrid bearings insulate well but are costly and size-limited
 - Polyimide insulation: Unreinforced polyimide delivers strong insulation, ceramic-like impedance, heat tolerance, and cost efficiency for e-axles
 - Smart integration – Shaft, housing or bearing: Direct integration into the housing during aluminum die casting or alternatively press-fit onto the shaft/bearing
- Dipl.-Ing. Ruth Jackowiak**, Technical Consultant Industrial Solutions, Co-authors: Philippe Pauchard, B. Sc., both DuPont Specialty Products Operations Sàrl, Switzerland, Christoph Berger, M. Sc., DuPont de Nemours Deutschland GmbH, Neu-Isenburg, Germany

2nd Congress day Wednesday, July 1, 2026

Auditorium



Immersion Cooling

Dr.-Ing. Jens Lüder,
Robert Bosch GmbH

08:30 Introduction of battery immersion cooling into the vehicle thermal system

- Uniform temperature distribution over lifetime
- Integration into the vehicle thermal system
- Cost considerations

Dr. rer. nat. Stefan Scherer, Systems Engineering Oil Flow Controls, Robert Bosch GmbH, Schwieberdingen, Germany,
Co-authors: Dr. Thomas Raffius, Alexander Fuchs, M.Sc., Robert Bosch GmbH, Stuttgart, Germany

09:00 Multi-scale CFD study of flow guide designs in immersion cooled prismatic cell battery module

- Multi scale modelling: Coupled lumped-parameter, 2D CFD, and 3D CFD approaches to evaluate cooling performance of prismatic battery modules
- Flow guider concept development: Design and assessment of simple, easily applied, internal flow guide geometries to reduce hotspots and improve surface temperature uniformity on immersion cooled batteries
- 2D vs. 3D simulation insights: Use of 2D sliced CFD models for optimizing design for cooling performance, and capture the 3rd dimension effects by 3D finalized CFD study
- Performance optimization metrics: Evaluation of flow uniformity, pressure drop, and surface temperature gradients to enable higher C rate capability with minimal architectural changes

Dr. Guven Ogus, Research Engineer, MotionS Corelab – Drivetrain Technologies, Flanders Make NV, Leuven, Belgium, Co-author: Lander Cnudde, University of Gent, Belgium

09:30 Switch ON an electric future – Immersion cooling with dielectric fluids for EV batteries: Enhancing performance, safety, and sustainability

- Increased battery health
- Enhanced safety
- Performance benefits

Dr. Esther Nieland, Technologist PD Thermal Management Fluids, Castrol Germany GmbH, Hamburg, Germany

Room 2



E-Drive Topologies

Jens Saberi, M. Sc.,
Magna PT B.V. & Co. KGaA

High revolution drive: High-rpm concept for electric drives

- E-motor with about 30.000 rpm leads to significant weight reduction
- Reduction gear with high ratio and challenges of NVH and efficiency
- Entire system weight benefit more than 20 % possible

Dr. rer. nat. Stephan Demmerer, Head of Advanced Engineering E-Drives, Co-authors: Dr. Christian Gürlich, Dipl.-Ing. (FH) David Jonak, all ZF Friedrichshafen AG, Friedrichshafen, Germany

Next generation drivetrain, without rare earths

- State of the art motor technologies without rare earths and their issues
- Why induction motors are no longer used as primary drives
- How the combination of axial flux and induction technology changes the game
- Mass production issues of axial flux machines and how EMIL wants to solve them

Maximilian Güttinger, CEO & Co-Founder, Emil Motors GmbH, Hersbruck, Germany

Advanced winding technology for axial flux motors to enhance performance and efficiency

- Challenges in winding design for axial flux motors (AFM)
- Advantages and challenges of distributed winding topologies for AFM
- Example designs of distributed windings based on continuous wave winding technology
- Development of a prototype process chain for the associated manufacturing technology

Dr.-Ing. Florian Sell-Le Blanc, Manager Advanced E-Motor Technology, Co-authors: Dr.-Ing. Andreas Langheck, both Schaeffler Automotive Buehl GmbH & Co. KG, Bühl, Germany, David Drexler, M. Sc., RWTH Aachen University, Aachen, Germany

Room 3



Architecture

Dr.-Ing. Gerd Rösel,
Schaeffler Technologies AG & Co.

Virtual acoustic development of electric drives considering realistic inverter effects

- From idealized to real phase current waveforms: Realistic acoustic simulation of electric drives through coupled inverter/magnetic field simulation
- Accurate air gap forces as input for structural dynamic calculations and reliable noise predictions
- Early optimization of the inverter operating strategy improves acoustics, efficiency, and development time

Dipl.-Ing. Marcus Kruse, Development Engineer Simulation and Acoustics, Co-author: Marco Brüggemann, both Volkswagen AG, Baunatal, Germany

AI-powered optimization for engineering design of e-drive systems

- Bi-level AI-driven design framework: Integration of reinforcement learning with non-linear constrained optimization for automated gearbox synthesis
- Solver-in-the-loop learning: Real-time coupling between a CasADi-based NLP (IPOPT/SQP) and the RL agent for physics-consistent feedback and feasibility
- Physics-informed decision intelligence: Embedding domain knowledge to enhance feasibility and improve sample efficiency
- Application to e-drive gearbox design: Demonstration of fast Pareto-optimal trade-off exploration (efficiency vs. mass) across multiple gearbox architectures

Prof. Dr. Ir. Theo Hofman, Group leader, Professor, Co-author: Ir. Jorn van Kampen, both Eindhoven University of Technology, Eindhoven, The Netherlands

X-in-1 Power Electronics: Battery vs. axle? Optimal integration strategies for future EV architectures

- Optimal integration strategies for power electronics (x-in-1) in electric vehicles (EVs)
- Analysis of integration locations (battery vs. e-axle) and key components (inverters, DC/DC, AC chargers)
- Challenges: OEM vs. Tier-1, packaging constraints, thermal management, EMC, NVH, cost, manufacturability
- Emphasis on modularity and system-wide optimization for scalability and future EV architectures

Dipl.-Ing. Jens Ritzert, Project Manager Predevelopment for Electric Powertrain Traction Inverter, Co-authors: Dr. Hans Christian Krahl, Tobias Tippelt, all Robert Bosch GmbH, Schwieberdingen, Germany

10:00 From regulation to innovation: Tackling thermal runaway propagation through simulation and immersion cooling

- Get insights on the global regulatory landscape: How stricter global safety standards are reshaping requirements for thermal runaway propagation
- Learn how advanced simulation approaches help design solutions for thermal runaway propagation mitigation and reduce the need of testing
- Discover how immersion cooling can help mitigate propagation risks

Fabian Menz, M. Sc., CAE-Engineer Business-Unit Battery Technologie, Co-authors: Dr. Moritz Pausch, Jeanne Fauß, all Elring-Klinger AG, Neuffen, Germany

10:30 Meet & Greet – Coffee break in the exhibition area with car presentation

Auditorium



Integrating AI into Products

Dr.-Ing. Gerd Rösel,
Schaeffler Technologies AG & Co.

11:15 A cloud-based approach: Neural networks for live temperature monitoring in a PHEV

- AI-based thermal modeling of an electric motor in a PHEV with neural networks
- IoT device uploads real vehicle data (CAN and sensor data) to the cloud via mobile network
- Cloud data is used for temperature monitoring and further training of the neural networks
- Potentials for cost reduction and improvement of model accuracy are demonstrated

Marcel Adrian, M. Sc., System Engineer, Advanced Development Concepts, Co-authors: Dr. Georg Göppert, both Schaeffler Automotive Buehl GmbH & Co. KG, Bühl, Germany, Krisztián Gere, B. Sc., Schaeffler Savaria Kft., Szombathely, Hungary

11:45 AI-based virtual sensors and their applications in vehicles

- Virtual sensors
- AI
- Neural networks

Dr. rer. nat. Jochen Fiedler, Research Associate, Mathematics for Vehicle Engineering, Co-author: Dr. Michael Burger, both Fraunhofer Institute for Industrial Mathematics (ITWM), Kaiserslautern, Germany

2-speed electric drive unit with dual rotor electric machine and modular range extender variant

- Description of drive unit architecture
- Efficiency advantage in combination with dual rotor electric machine
- Electromechanical actuation system
- Modular range-extender option with parallel drive

Dr.-Ing. Gereon Hellenbroich, Manager E-Drive & Transmission, Co-authors: William Lee, Valeriy Shapovalov, all FEV Europe GmbH, Aachen, Germany

Room 2



Lubrication

Prof. Dr.-Ing. Karl Viktor Schaller,
Technical University of Munich

Smartification of electric oil pumps using multiple flow to optimize powertrain efficiency

- Challenge & solution: Multiflow pumps offer an integrated solution for intelligent flow control and efficiency optimization
- Key benefits: Demand-based flow, reduced complexity, lower production & carbon footprint
- Dynamic adaptability: Multi-flow pumps adapt dynamically to vehicle requirements, maximizing the efficiency of the entire powertrain
- Presentation Content: Design, structure, pros & cons of various pump types (G-rotor, vane, gear pump)

Philip Bahr, M. Eng., Application Leader Electric Oil Pumps, Hydraulic Systems, Valeo, Ebern, Germany

Future transmission fluids for electrified drivetrains with integrated wet clutch brakes and enhanced efficiency

- Innovative formulation strategies and the potential of viscosity reduction to uncover pathways to improved energy efficiency without compromising hardware integrity
- Driving sustainability through circular lubricant ecosystems and multifunctional fluids
- Requirements on lubricants to enable the integration of wet clutch brakes (not only) in electrical vehicles

Dipl.-Chem. Vera Zahari, Senior Technologist PD Driveline & Advanced Electrification Fluids, Co-authors: Dr. Christian Nörnberg, Dr. Thomas Hellwig, all Castrol Germany GmbH, Driveline Technology Centre, Glinde, Germany

In-house development and design of an EMC filter for unshielded 800V drive systems

- EMC filter design
- Unshielded 800V high-voltage systems
- Simulation-based EMC filter development

Dr. rer. nat. Peter Olbrich, Hardware Development Engineer (EMC), Co-authors: Jens-Peter Nickel, Dr. Bastian Arndt, all Volkswagen AG, Baunatal, Germany

Room 3



Manufacturing Technology

Prof. Dr.-Ing. Yves Burkhardt,
Technical University of Darmstadt

Impact of different stacking technologies & material types on e-motor core properties

- Challenges in implementation of trends (E-motor cores)
- Customer demands and market offer (E-Mobility)
- Field analysis: Impact of technology selection on product properties
- Conclusion & recommendations

Duncan Kirigo, M. Eng., Senior Adhesive Expert, Research & Development, Co-authors: Dipl.-Ing. Markus Lock, Björn Böker, all Feintool System Parts Sachsenheim GmbH, Sachsenheim, Germany

Sustainable rotor shaft manufacturing: Reducing the CO₂-footprint with cold forming innovations

- Reduction of CO₂-footprint
- Sustainable production of rotor shafts
- Simulation, analytical and experimental results
- Helical gear manufacturing by innovative cold forming process

Dr.-Ing. Nadezda Missal, Director Technology Center, Co-authors: Stefanie Schwertel, Maximilian Ludwig, all Felss Systems GmbH, Königsbach-Stein, Germany

12:15 Sensitivity analysis and surrogate modeling of geometric and material tolerances in an axial flux machine

- Axial flux machines enable high torque density and a compact axial design, making them well-suited for electric vehicle applications
- 2D finite element simulations, modeled as linear motor slices, combined with surrogate models, allow a reduction in simulation time of up to 95 % compared to full 3D FE
- Air gap variations, adhesive layer thickness, and remanent flux density of permanent magnets are among the most significant parameters, strongly affecting performance variation
- Adhesive gaps result in higher magnetic reluctance and promote leakage flux

Karsten Müller, PhD candidate, Predevelopment Drive unit & Mechatronics, Mercedes-Benz Group AG, Stuttgart, Co-authors: Prof. Dr.-Ing. Herbert De Gerssem, Prof. Dr.-Ing. Yves Burkhardt, both Technical University of Darmstadt, Germany

Low viscosity heavy-duty EV fluids: How esters can contribute

- Heavy-duty e-driveline
- Lubricating oil
- Low viscosity
- Ester base fluid

Dipl.-Ing. (FH) Marco Auerbach, Technology Development Manager, Cargill Bioindustrial, Gouda, The Netherlands

Implementation of machine learning in definition and production of transmissions for electric vehicles

- Transmissions for electric vehicles
 - Micro geometry of helical gears
 - Parametrisation and pattern recognition
 - Correlation and machine learning
- Dr. Artur Grunwald**, Manager Mechanical System Development, Co-authors: Dr.-Ing. Peter Geradts, Rudolf Schlack, all Dauch, Germany

12:45 Time for Business Lunch – Meet & Greet in the exhibition area with car presentation

Auditorium – Plenary

Dipl.-Ing. Thomas Pfund, Schaeffler Automotive

14:15 Joint electrification technologies for BEVs and hybrid – Synergies, scaling and trends

- Market trends in BEV, hybrid & REEV
- Requirements for powertrain platforms
- Holistic solutions to maintain competitiveness

Dr. Otmar Scharrer, Head of R&D Powertrain Technologies, ZF Friedrichshafen AG, Friedrichshafen, Germany

14:45 Software Defined Vehicle (SDV), future challenges and opportunities for vehicle powertrain systems

- From conventional powertrains to software-defined systems
- New opportunities enabled by connectivity, AI, and over-the-air updates
- Intelligent control of efficiency, range, and comfort
- Power on Demand and highly personalized driving experiences in the SDV era

Derek de Bono, Software Defined Vehicle Vice President, Valeo

15:15 tba

15:45

Plenary discussion

Dipl.-Ing. Thomas Pfund, Schaeffler Automotive

16:00 Awarding of the Best Presentation Award for Junior Engineers

16:05 Closing remarks

16:15 End of the congress

Scientific support of the congress

The VDI Society Product and Process Design (GPP)

The VDI Society Product and Process Design (VDI-GPP) and its technical divisions provide all sectors with verified knowledge on the design of products and processes and their optimization in terms of quality and the time- and cost-benefit ratio. This verified knowledge covers the entire product lifecycle, from the product idea and product development, marketing and service to recycling using optimized methods, tools and systems, including the necessary information technology. This ensures the successful connection of market and technology for the purpose of sustainable growth and profit. The VDI-GPP – as the largest technical division in the VDI – provides a platform for specialist discussion and cooperation ranging from the technological state of the art and continuous improvement to trends in development. The task of the VDI-GPP is to concentrate the extensive range of services of the VDI in these fields, display them in summary and constantly improve them. This also includes the lively exchange of ideas with other VDI societies. The activities of the society are planned and coordinated by an advisory board staffed with decision-makers working on an honorary basis.

www.vdi.de/gpp

The VDI Society Automotive and Traffic Systems Technology (FVT)

The VDI Society Automotive and Traffic Systems Technologies (FVT) with its five Technical Divisions offers a home for engineers from a wide range of disciplines in the fields of “road”, “rail”, “air” and “water” transport. Through active interplay with the working groups of the VDI Regional Associations, the students and young engineers as well as the other VDI Technical Societies, the VDI FVT is networked nationally and internationally with other cooperation partners. The stated task of the VDI FVT is to strengthen the perception of the engineering profession and to establish the VDI as a technical-scientific opinion leader in professional circles, politics and society. The aim here is to promote the interaction of the various mobility areas and to provide technical impetus, as well as to develop perspectives for cross-sectional topics relating to “People and Mobility” and “Means of Transport and Infrastructure”.

www.vdi.de/fvt

Dritev interactive – Adding value to your business

Speakers Corner

Ask the drive system experts

Do you still have questions? You are welcome to meet our speakers in the speakers corner following the sessions. Straightforward, subject-specific and instantaneously.

Dritev Summer Night

Your networking hub for the international powertrain community

Your networking spot for the international powertrain community: Meet colleagues and project partners and use the informal atmosphere to get to network anew.



Car Presentations

Powertrain systems with an emotional appeal

Whether it's a serial production vehicle, a fancy roadster or an eyecatcher – even the best drive unit needs its customised appearance. Experience the latest vehicle concepts and find out more from experts on site about the special features of the vehicles and the integration of the different drive solutions.

The following vehicles will be shown*:

- Infimotion
- Kistler Instrumente GmbH
- Liebherr
- Mercedes-Benz
- Opel
- Tremec
- Volkswagen

*March 2026



Dritev interactive – Adding value to your business

Poster Exhibition*

Innovation powered by high-fidelity multiphysics modeling: A holistic system optimization of BorgWarner's next generation integrated drive modules

Dr. Pascal David, Senior Engineering Manager Technologies and Innovations Systems Simulations Electric Drives, Borg-Warner Luxembourg Automotive Systems S.A., Hautcharage, Luxembourg

Accelerated bottom-up development of an electric motor drive simulation toolset with low resource utilization

Máté Horvát, Lead Motor Control Engineer, EXEDY Clutch Europe Ltd., Towcester, United Kingdom

MAGIT® gas injection technology for innovative hollow structures in die casting – a DC-DC heat sink case study

Dipl.-Ing. Marcel Op de Laak, CEO and Head of Development, TiK – Technologie in Kunststoff/Produktentwicklung und Prüf-dienstleistungen GmbH, Teningen, Germany

Efficient simulation of electrical circuits for inverter software development in electric vehicles

Dr. Felix Pfister, Lead Global Sales Strategy Manager, IPG Automotive GmbH, Karlsruhe, Germany

Development of an optimized experimental design for degrading modeling of PEM fuel cells under real driving profiles

Sarah Roeck, M. Sc., Doctoral Researcher, IPEK – Institute of Product Engineering at KIT (Karlsruhe Institute of Technology), Karlsruhe, Germany

Next generation of ultra-high-strength fastener

Dipl.-Ing. (FH) MBA Florian Johannes Heine, Manager Application Engineering, KAMAX Automotive GmbH, Homberg, Germany

AI-powered requirements engineering & design optimization of electric powertrains

Dipl.-Ing. Dr.techn. Martin Hofstetter, Head of E-Mobility and Alternative Drivetrains Research Group, Technical University of Graz, Austria

Design optimization of a two-stage EV gearbox using the multiverse optimization algorithm based on real-world load duration distribution

Dong-jo Moon, PhD Candidate, Biosystems Engineering, Seoul National University, Südkorea

Development of an electrified tracked-vehicle simulation model for optimal steering performance

Gyuha Han, PhD Candidate, Biosystems Engineering, Seoul National University, South Korea

Efficient robust systems engineering for accelerated product maturity

Dipl.-Ing. Ralph Fleuren, Senior Produkt Manager, Electric Powertrain, FEV Europe GmbH, Aachen, Germany

Tailor-made refrigerant valves for your system

Max Podszun, M. Eng., Technical Project Leader, Hilite Germany GmbH, Marktheidenfeld, Germany

Function development and optimization of drive components in a customized test environment

Prof. DI Dr. Michael Bader, Institute of Machine Components and Methods of Development, Technical University of Graz, Austria

Requirements and strategies for the integration of hydrogen fuel cell systems in mobile machines

Johann von Harling, M. Sc., Research Associate Hydrogen Technologies, Production Engineering of E-Mobility Components (PEM), RWTH Aachen University, Germany

Generating hydrogen where it is needed – decentralized supply concepts for mobile machines in open-cast mining

Maximilian Bayerlein, M. Sc., Group Lead Alternative Powertrain Technologies, Production Engineering of E-Mobility Components (PEM), RWTH Aachen University, Germany

Increasing the storage density and energy efficiency of emission-free drives through the use and intelligent integration of liquid hydrogen storage systems and fuel cells

Fabian Jonen, M. Sc., Research Associate Hydrogen Technologies, Production Engineering of E-Mobility Components (PEM), RWTH Aachen University, Germany

Simulative powertrain design of electrified working machines based on real usage data

Michael Siegel, M. Eng., Research Associate, Faculty of Mechanical and Civil Engineering, Hochschule Landshut, University of Applied Sciences, Landshut, Germany

New electric dynamic shift drive

Moritz Euler, M. Sc., Development Engineer, Design & Development, Antriebstechnik-Roth GmbH, Much, Germany

*March 2026

Powertrain Systems in Mobile Machines 2026

Visit for free



Chair: Prof. Dr. Ludger Frerichs, Director, Institute of Mobile Machines and Commercial Vehicles (IMN), Technische Universität Braunschweig, Germany

1st Conference day Tuesday, June 30, 2026

- 09:10 **Plenary speeches with KREISEL Electric, DFKI, Robert Bosch**
Dipl.-Ing. Thomas Pfund, President Business Unit E-Motors, Schaeffler Automotive, Bühl (Details on page 3)
- 10:50 **Meet & Greet – Coffee break**
- 11:25 **Opening of VDI Conference Powertrain Systems in Mobile Machines**
Prof. Dr. Ludger Frerichs, IMN, Technische Universität Braunschweig
Caroline Körber, VDI Wissensforum
- Process drives**
- 11:30 **New powertrain for a next generation of large square balers**
Dipl.-Ing. Andreas Roth, Antriebstechnik-Roth
- 12:00 **Electrification of special construction method cutter soil mixing (CSM)**
Dr.-Ing. Hans-Philipp Otto, BAUER Maschinen
- 12:30 **New clutch-controlled CVT in fertiliser spreader operation**
Moritz Euler, M. Sc., Antriebstechnik-Roth
- 13:00 **Time for Business Lunch**
- Traction drive**
- 14:30 **Line traction advantages and solution for automatic power distribution to all wheels in practice**
Stefan Herr, M. Sc., former MOBIMA, Karlsruher Institut für Technologie (KIT)
- 15:00 **Dual-speed transmission for electric off-highway machines**
Lorenzo Serrao, Ph.D., Allison Off-Highway Drive and Motion Systems
- 15:30 **A case study on a 7-ton parallel-series hybrid wheel loader**
Dr.-Ing. Joschka Schaub, FEV Europe & **Yuki Kakichi, M. Sc.**, Yanmar Holdings
- 16:00 **Meet & Greet – Coffee break**
- Electric systems architecture**
- 16:45 **Innovative drive and charging solution for automated field work**
Dr.-Ing. Sven Klausner, Fraunhofer Institute for Transportation and Infrastructure Systems IVI
- 17:15 **System architecture development for advanced cooling and heating systems in electrified agricultural machinery**
Benjamin Wilk, M. Sc., CLAAS Industrietechnik
- 17:45 **Challenges with the electrification of construction machinery beyond the machine itself**
Dipl.-Ing. Daniel Bachmann, Liebherr Energy Solutions
- 18:15 **End of the 1st conference day**
- 18:45 **Get-together: Dritev Summer Night**

2nd Conference day Wednesday, July 1, 2026

- Real world experience of electrification**
- 08:30 **10 years of electrification of mobile machinery with automotive components: Experiences, challenges and solutions**
Dipl.-Ing. Stephan Dirnberger, Bosch Engineering
- 09:00 **From prototype to production vehicle: Development of an electrified tractor**
Tobias Steidle, M. Eng., AGCO
- 09:30 **Drivetrain design for a battery electric, agricultural, utility, tractor**
Eli Van Boening, John Deere
- 10:00 **Successful electrification of towbarless aircraft tractors – How to transform an industry through customer value**
Dipl.-Ing. Martin Rieser, Goldhofer
- 10:30 **Meet & Greet – Coffee break**
- Powertrain comparison**
- 11:15 **System follows application: Architectures in mobile working machines**
Dr.-Ing. Thomas Woopen, AVL Deutschland
- 11:45 **Hydrogen engine or fuel cell tractors? Comparison of operational performance on medium-scale german farms**
Timo Wyszynski, M. Sc., IMN, Technische Universität Braunschweig
- 12:15 **Electrifying agriculture: Exploring hybrid powertrain solutions for tractors**
Dr. Dipl.-Ing. Christoph Schörghuber, AVL List
- 12:45 **Time for Business Lunch**
- Systemic developments**
- 14:15 **Electrification of Off-Highway machinery and modular battery swapping: Practical advantages and technical challenges**
Sebastian Schlegel, M. Sc., raumideen | ONOX
- 14:45 **Hydrogen in agriculture – An energy self-supply-concept for an agricultural business**
Hendrik Vorjans, M. Sc., ika, RWTH Aachen University
- 15:15 **Mining reinvented: The T 264's journey to zero emissions**
Dr.-Ing. Isabelle Ays, MBA, Liebherr-Mining Equipment Colmar
- 15:45 **Closing remarks**
Prof. Dr. Ludger Frerichs, IMN, Technische Universität Braunschweig
- Joint plenary session**
- 16:00 **Awarding of the best presentation for junior engineers**
- 16:05 **Common closing remarks**
- 16:15 **End of the International VDI congress**

Sign up and details
www.vdicongress.com/01TA807026



The brains behind the Congress – The Program Committee



1st row from left to right

Dr. Norbert Alt, COO & Executive Vice President, FEV Europe GmbH, Aachen, Germany

Dipl.-Ing. Georg Bednarek, formerly Director Regulations & Certification, Stellantis N.V., Rüsselsheim, Germany

Daniel Borowitzka, M. Eng., Head of Advanced Development Chassis and Drive Systems, BMW AG, Munich, Germany

Prof. Dr. Carsten Bündler, Mechanical Engineering, SRH University of Applied Sciences Heidelberg, Germany

Prof. Dr.-Ing. Yves Burkhardt, Head of the Institute for Electrical Energy Conversion – Electrical Drive Systems, Technical University of Darmstadt, Germany

Dr.-Ing. Thomas Casper, Manager Combustion- & Hybrid-Drivetrain-system, Transmission and Hybridcomponents, Dr. Ing. h.c. F. Porsche AG, Weissach, Germany

Dipl.-Ing. (FH) Andreas Deimel, Head of Design Engineering Transmissions/Powertrain Audi AG, Ingolstadt, Germany

Dr.-Ing. Carsten Gitt, Senior Manager Advanced Engineering Drive Units & Mechatronics, Mercedes-Benz AG, Stuttgart, Germany

Dipl.-Ing. Thomas Landsherr, Section Head of Driveline Components, TRATON R&D Germany GmbH, Munich, Germany

Dr.-Ing. Jens Lüder, Vice President Engineering, Robert Bosch GmbH, Stuttgart, Germany

2nd row from left to right

Dr.-Ing. Florian Mulzer, AGCO Transmission Specialist, AGCO GmbH, Marktoberdorf, Germany

Dipl.-Ing. Thomas Pfund, President Business Unit E-Motors, Schaeffler Automotive Buehl GmbH & Co. KG, Bühl, Germany (Chair)

Prof. Dr.-Ing. Stephan Rinderknecht, Professor and Head of the Institute for Mechatronic Systems in Mechanical Engineering, Technical University of Darmstadt, Germany

Dr.-Ing. Gerd Rösel, Head of Innovation, E-Mobility, Schaeffler Technologies AG & Co., Regensburg, Germany

Jens Saberi, M. Sc., Director Advanced Engineering & E-Propulsion, Magna PT B.V. & Co. KGaA, Untergruppenbach, Germany

Dr. Christoph Sasse, Vice President Electrified Powertrain Technology, ZF Friedrichshafen AG, Friedrichshafen, Germany

Prof. Dr.-Ing. Karl Viktor Schaller, Honorary Professor, TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Andreas Sehr, Director Customer Engineering, Dauch, Lohmar, Germany

Dr.-Ing. Kristin Sittig, Head of Powertrain Module Development, Group Components, Volkswagen AG, Baunatal, Germany

3rd row from left to right

Dipl.-Ing. (FH) Udo Sommerhalter, MBA, Customer Chief Eng., Valeo Powertrain Systems Business Group, Bietigheim-Bissingen, Germany

Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Dipl.-Ing. Patrick Vikari, Managing Director, hofer driveTec GmbH – part of hofer powertrain company, Stuttgart, Germany

Dr. Michael Wagner, Vice President Engineering Drivetrain and Morse Systems, BorgWarner Drivetrain Engineering GmbH, Heidelberg, Germany

Dipl.-Ing. Carsten Weber, Manager, Propulsion Systems Research & Advanced Engineering, Ford Werke GmbH, Cologne, Germany


Dr. Henning Wöhl-Bruhn, Head of Technical Development, Inverter Electric Drives, Volkswagen AG, Wolfsburg, Germany

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KI verstehen und anwenden – Grundlagen für Kosteneinsparung und Prozesseffizienz

 **Ihre Leitung: Dipl.-Ing. Sascha Ott**, Direktor in der Institutsleitung des IPEK – Institut für Produktentwicklung & Geschäftsführer des Zentrums Mobilitätssysteme am Karlsruher Institut für Technologie (KIT)

Zielsetzung

Der Spezialtag vermittelt praxisnahes Wissen rund um den Einsatz Künstlicher Intelligenz im Ingenieurwesen. Teilnehmende lernen, wie KI-Methoden die Entwicklung, Produktion und Entscheidungsprozesse verbessern. Anhand von Beispielen aus Maschinenbau, Elektrotechnik und der Produktentwicklung werden konkrete KI-Werkzeuge, wie z.B. Agenten, Workflowautomatisierungen und Chat-Bots eingeführt. Chancen und Grenzen werden diskutiert und anhand konkreter Fallbeispiele gezeigt, wie man Fehler reduzieren und die Wirksamkeit des Einsatzes deutlich verbessern kann. Der souveräne Einsatz von KI setzt Kenntnisse über technische Funktionen, rechtliche und ethische Hintergründe voraus. Diese werden im Rahmen der Veranstaltung eingeführt und diskutiert. Die Teilnehmenden können eigene Fallbeispiele und Fragen im Workshop interaktiv bearbeiten.


Inhalte des Spezialtages

- Grundlagen der KI sicher verstehen und fachlich einordnen
- KI-Werkzeuge effektiv einsetzen und eigene Lösungen weiterentwickeln
- Technische Aufgaben schneller, zuverlässiger und innovativer bearbeiten
- Praktische KI-Tools gezielt im technischen Alltag nutzen
- Daten und Modelle kritisch bewerten und projektbezogen einsetzen
- Prozesse durch intelligente Systeme effizienter gestalten
- Innovations- und Nachhaltigkeitspotenziale mit KI erschließen

Mehr Details unter: www.vdi-wissensforum.de/01ST807026



Akustik und Schwingungen – Grundlagen und Messtechnik in Anwendung

 **Ihre Leitung: Alexander Pfaff, M. Eng.**, Geschäftsführer, HoloMetrix GmbH, Wiesbaden

Zielsetzung

Der Spezialtag vermittelt fundierte Grundkenntnisse zu akustischen und schwingungstechnischen Zusammenhängen. Teilnehmende lernen, wie sich Signale zuverlässig erfassen, analysieren und fachgerecht bewerten lassen. Praktische Messaufbauten ermöglichen die direkte Anwendung der Theorie. Nach Abschluss können sie grundlegende NVH-Messungen durchführen und Ergebnisse sicher interpretieren.

Inhalte des Spezialtages

- Grundlagen relevanter akustischer und schwingungstechnischer Größen
- NVH-Phänomene analysieren, Ursachen systematisch eingrenzen und daraus wirksame Verbesserungsmaßnahmen ableiten
- Einblick in relevante Normen und Richtlinien (DIN EN ISO 3744, ISO 9614)
- Messaufbau, Sensorik und Signalaufnahme sicher planen und durchführen
- Einblicke in FFT-Analysen, Modalanalyse, Schalldruck- und Intensitätsmessungen sowie Verfahren zur SchalleLeistungsbestimmung
- Durchführung praktischer Messungen mit direkter Auswertung von Luft- und Körperschall

Mehr Details unter: www.vdi-wissensforum.de/1ST8082026



Where ideas become Reality: The Dritev exhibition

Innovation ranging from classic drive technology to electric motors, inverters, batteries, fuel cells, and charging systems – directly in dialogue with experts.

The **Dritev exhibition** is more than just an accompanying program – it is the centerpiece and meeting hub of the event. It shows where the powertrain industry is heading and creates the **ideal environment for genuine networking and in-depth, peer level exchange.**

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Vanessa Ulbrich

Project Consultant Exhibition & Sponsoring

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The participants – Your customers

Attendees by company type

System and component suppliers

45 %

OEMs

20 %

Plant and mechanical engineering

15 %

Engineering services

14 %

Metal processing industry

6 %

Function

Specialists

31 %

Head of Department

28 %

Project Manager/Team Leader

18 %

CEOs/Managing Director

15 %

Others

8 %



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Workshop, June 29, 2026 Please choose one workshop only. Workshops will only be held in German.

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Venue: Kongresshaus Baden-Baden, Augustaplatz 10, 76530 Baden-Baden, Germany, www.kongresshaus.de/en

Accommodation: A limited number of rooms have been reserved for congress participants. A reservation form can be found at www.dritev.com

Information: The price includes congress documents (e-book), coffee breaks, beverages during breaks, lunches and the evening reception (congress).

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