

Your proposal for the
future development of
powertrain engineering!

Call for Papers

23rd International VDI Congress
Dritev

Submit your abstract covering following topics:

- **Environment, Resources, Sustainability and Resilience in the Powertrain**
- **Powertrain architectures and system optimisation**
- **Powertrain-induced vehicle characteristics**
- **Powertrain mechanics**
- **Electric motor**
- **Power electronics**
- **Subsystems and mechanical/mechatronic/electrical drive components**
- **Digitalisation: data and safety in the drive system**
- **Development, testing and validation**
- **Value engineering/value analysis**
- **Drive requirements, legislation, market and customer**



+ **Accompanying conference**
Drivetrain Solutions for Commercial Vehicles

+ **Exhibition**
with more than 100 exhibitors



Exhibition

The International VDI Congress Dritev belongs to the most prestigious events of the automotive industry in the world. In 2023 more than 100 companies will be presenting innovative and trendsetting products and services turning the exhibition into the central market place of the congress.

Who should exhibit?

Manufacturers and service providers focusing on the following:

- Powertrain concepts and transmissions for cars, commercial vehicles and mobile machinery
- E-machines and power electronics
- Mechatronic and electronic transmission components
- Other components relevant to propulsion
- Oils and lubricants
- Evaluation and simulation
- Testing and metrology
- Production of drivetrains and components

Participate in the exhibition for excellent return or show thought leadership by sponsoring the event!

Details about the exhibition and the sponsorship program 2023:

Contact

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Partners

VDI Society Product and Process Design (GPP)
VDI Society Vehicle and Transport Technologies (FVT)



Program Committee



1st line, from left to right

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Daniel Borowitzka, Head of Advanced Development Chassis and Drive Systems, BMW AG, Munich

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Andreas Deimel, Head of Transmission/Powertrain Development, Audi AG, Ingolstadt

Dr. Thomas Hackl, Vice President Engineering & Advanced Engineering, Hofer AG, St. Ulrich bei Steyr

2nd line, from left to right

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Dr. Keiwan Kashi, Vice President Engineering – ePowertrain, GKN Automotive, Lohmar

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Dipl.-Ing. Konstantin Neiß, Director Transmission & Electric Drivetrain, Daimler AG, Stuttgart (Vice Chair)

Thomas Pfund, Senior Vice President R&D Automotive Systems, Schaeffler Automotive Buehl GmbH & Co. KG, Buehl

3rd line, from left to right

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

Dr. Gerd Rösel, Head of Innovations and eProductHouse/Electrification Technology (ET) Business Unit, Vitesco Technologies, Regensburg

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

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Ralf Schmid, Senior Vice President E-Machine, Robert Bosch GmbH, Stuttgart

Udo Sommerhalder, BG Customer Chief Eng., Valeo Powertrain Systems, Bietigheim-Bissingen

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Prof. Dr.-Ing. Karsten Stahl, Professor and Head of the Institute for Machine Elements/FZG, Technical University of Munich, Garching

Prof. Dr.-Ing. Peter Tenberge, Chair of Industrial and Vehicle Drives, Ruhr University Bochum

Carsten Weber, Manager, Engine & Powertrain Systems Research & Advanced Engineering, Ford Motor Company, Cologne

Dipl.-Ing. Matthias Zink, CEO Automotive Technologies, Schaeffler AG, Buehl (Chair)

Submit your abstract now!

Call for submission of contributions

Is your expertise focused on any of the areas concerning the main topics? If so, we'd be delighted for you to contribute with a presentation.

Please submit a brief abstract of max. one A4 page by

October 21, 2022, summarising your presentation. You can submit your paper at www.dritev.com.

Dates:

- Submission of abstracts by **October 21, 2022**
- Information about acceptance to authors by **mid-December 2022**
- Submission of manuscripts by **March 24, 2023**

The summary must include:

- The contact details of the speaker and any co-authors
- A table of contents with the key messages of your contribution
- Details about any of your own previous publications on this subject
- A comment on the degree of innovation
- **The precise title and key points of your presentation for publication in the program brochure (obligatory)**

German and English are the approved languages for presentation.

The permitted presentation time is 20 minutes, with additional time for discussion afterwards. Presentations and manuscripts must be submitted in **English**.

Based on the abstract, the program committee will decide on the acceptance and order of presentation in the Dritev congress program, optionally also in the parallel running program of the conference "Powertrain Systems in Mobile Machines".

Each applicant will be informed about the results in writing and will receive information about further steps. Speakers (one author per article) participate free of charge.

Authors of the accepted presentations undertake to submit a manuscript (12–16 pages). The manuscripts of the accepted presentations are published via a citable medium.

Publish your research results in a scientific journal

The scientific journal "Forschung im Ingenieurwesen" (Engineering Research) gives you the opportunity to publish an extended version of your conference publications. Expand your conference contribution by going into more detail about the underlying theories, methodology used and the results of your study. You can then submit your manuscript via the following link:

www.editorialmanager.com/fiin (online submission) taking the formal submission requirements into account.

If your contribution passes the initial publisher's review, it will be further reviewed by independent experts in a double-blind process (peer review).

www.springer.com/journal/10010



Best Presentation Award for Junior Engineers

The best lecture of one Junior Engineer (up to 33 years old) will be honoured with the Best Presentation Award for Junior Engineers "Dritev 2023".

Speakers, who would like to participate in this contest, are requested to state their date of birth with their contact details.

Topics

1. Environment, resources, sustainability and resilience in the powertrain

- 1.1. Circular Economy
- 1.2. Reuse, Reduce, Recycle
- 1.3. Sustainability (recycling, resource conservation, end-of-life, manufacturing...)
- 1.4. Carbon neutral, carbon negative
- 1.5. Influences of change in the automotive industry on strategic and operational development work (supply chains, ...)
- 1.6. Mobility concepts, urban ecosystems

2. Powertrain architectures and system optimisation

- 2.1. Powertrain topologies
- 2.2. Impact of energy sources on powertrain architecture
- 2.3. Integration of electrified powertrains
- 2.4. EE architectures
- 2.5. On-board power supply 12V, 48V, 400V, 800V
- 2.6. EMC
- 2.7. Functional safety, high voltage safety, crash safety
- 2.8. Impact of E-concepts on transmission solutions
- 2.9. Weight/power density
- 2.10. Efficiency/system efficiency
- 2.11. Storage systems
- 2.12. Driving profiles and load collectives
- 2.13. Operating strategy

3. Powertrain induced vehicle characteristics

- 3.1. NVH
- 3.2. Thermomanagement
- 3.3. Driveability
- 3.4. Homologation

4. Powertrain mechanics

- 4.1. Transmission concepts (EV, ICE, Hybrid)
- 4.2. Axle drives and torque vectoring, disconnect
- 4.3. All-wheel drive systems

5. Electric motor

- 5.1. Technologies
- 5.2. Scaling (power, package)
- 5.3. Dimensioning, calculation
- 5.4. Installation conditions/tolerances/dynamic proposals
- 5.5. Cooling concepts
- 5.6. Insulation systems

6. Power electronics

- 6.1. Housing, cooling, scaling of integrated circuits
- 6.2. Wide Band Gap Semiconductors – the influence on the powertrain

- 6.3. Dimensioning, calculation, simulation
- 6.4. On-board charging systems
- 6.5. Functional and physical integration

7. Subsystems and mechanical/mechatronic/electrical drive components

- 7.1. Influences on components
- 7.2. Integration
- 7.3. Vibration damping/NVH
- 7.4. Transmission components (couplings, gears, synchronisers, bearings...)
- 7.5. Lubrication and tribology
- 7.6. Sensor and actuator technology
- 7.7. Cables, connectors and shielding components

8. Digitalisation: data and safety in the drive system

- 8.1. Strategies and technologies
- 8.2. Cyber security
- 8.3. Networking/Over-the-Air Updates
- 8.4. Influences and opportunities with ADAS and autonomous driving
- 8.5. Function on Demand
- 8.6. Artificial Intelligence

9. Development, test and validation

- 9.1. Innovative development methods and tools
- 9.2. Modelling and simulation
- 9.3. Real and virtual verification
- 9.4. aSpice development processes

10. Value engineering/value analysis

- 10.1. Modularity
- 10.2. Cost-oriented planning
- 10.3. Production engineering

11. Drive requirements, legislation, market and customer

- 11.1. Market diversification and regional solutions
- 11.2. Regional strategies for future energy sources in transport
- 11.3. System performance today and tomorrow (efficiency, range...)

Questions concerning the content of the congress?



Contact

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The participants

Attendees by company type

System and component suppliers

45 %

OEs

20 %

Engineering services

15 %

Construction and mechanical engineering

14 %

Metal processing industry

6 %

Function

Specialists

37 %

Head of department

21 %

Project manager

19 %

CEOs / Managing director

14 %

Others

9 %