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18th International Conference

Commercial Vehicles 2025

- Truck, Bus, Van, Trailer -

Key Topics:

- Hydrogen as an Energy Source
- Operating Strategies & Requirements
- Automated Driving
- Vehicle Concepts
- Verification/Validation E-Systems
- Trailer
- Architecture/Safety

+ Test drive on the ZF Erich Reinecke Test Track

+ Plant tour at VW Nutzfahrzeuge

+ Exhibition

+ Simultaneous interpretation

With Experts from:

Applus IDIADA | AVL List | Brudeli Green Mobility | CAN in Automation | CLEPA/Schaeffler | Daimler Buses | Ebertconsulting | EDAG Engineering | Fraunhofer IVI | H2 Green Power & Logistics | IAV | IPG Automotive | ITK Engineering | Iveco Group | Magna Powertrain Engineering Center Steyr | MAN Truck & Bus | P3 automotive | VW Nutzfahrzeuge | wisdommotor | ZF Group



First conference day
Wednesday, June 04, 2025

● 07:45 **Registration**

● 08:50 **Welcome and Opening of the conference**

Dr. Thomas Dieckmann, ZF Group, ZF CV Systems, Hanover



Plenary Speeches

● 09:00 **Mission Possible? Unleashing Innovation to Enhance Efficiency in the Heavy-Duty Vehicles**

- CLEPA's important contribution to the development of modern and sustainable mobility
- Summary of recent regulatory developments and forthcoming challenges
- Innovative technologies of Schaeffler in the field of Heavy-Duty

Matthias Zink, CEO Powertrain & Chassis and Member of the Executive Board, Schaeffler AG, and President, CLEPA – European Association of Automotive Suppliers, Belgium

● 09:30 **VW Commercial Vehicles: Strategic Product Portfolio**

- Model offensive
- Clear product strategy VW Commercial Vehicles
- Broad range of synergistic light commercial vehicles

Marcus Wilke, CSO Volkswagen Commercial Vehicles, Corporate Strategy, Cooperations and Product Management, Volkswagen Commercial Vehicles, Hanover



Hydrogen as an Energy Source I

Moderation: Prof. Dr.-Ing. Karl Viktor Schaller, TU Munich, School of Engineering and Design, Munich



Operating Strategies I

Moderation: Dipl.-Ing. Christian Müller, Daimler Buses, Neu-Ulm

● 10:00 **Bavarian Fleet – FuelCell Trucks for Long Distance Transportation**

- Truck concept
- Key components
- Challenges in the packaging
- Outlook tank technology

Dipl.-Ing. Markus Radix, Project Leader, Predevelopment Steering & Projects, Co-Author: Dipl.-Ing. Christian Gruber, both of MAN Truck & Bus SE, Munich

Predictive Energy Management Strategies to Improve Energy Consumption

- Current challenges for energy management improvements
- Detailed energy management strategy
- Use of simulation models for validation

Jayesh Jain, M. Sc., Vehicle System Simulation Engineer, Performance and Energy Management, Co-Author: Lutfullah Emre Top, M. Sc., both of Iveco Group, Ulm

● 10:30 **Roadmap to Sustainable Transport – Status of the Implementation of Hydrogen for Heavy Duty Iveco Vehicles in Europe**

- Propulsion selection
- Vehicle lay-out for hydrogen
- Engineering and validation status

Ing. Hans Breevoort, Head of Advanced Engineering Medium & Heavy Trucks, Technology & Digital, Iveco Group, Turin, Italy

Rolling Friction under Real Operating Conditions of City Buses

- Driving resistance of commercial vehicles
- Variation of rolling resistance in various typical city bus applications
- Simulation of energy consumption
- Energy efficiency of city buses

Dr. Stefan Knauf, Simulation Engineer, Product Engineering/Testing and Validation, Co-Authors: Dr. Dominik Herkommer, Isabel Hampe, B. Eng., all of Daimler Buses GmbH, Leinfelden-Echterdingen



● 11:00 **Coffee break and exhibition visit**



Hydrogen as an Energy Source II

Moderation: Dipl.-Ing. Thomas Nickels, TRATON SE, Munich



Operating Strategies I

● 11:30 **HDV Hydrogen Storage Technology Suitable for H2 Powertrains Market Introduction**

- 700-bar Hydrogen Storage Technology – Cost, performance, and component availability
- Hydrogen Refueling Infrastructure – Enabling supply chain technologies for stations
- Hydrogen Storage Evolution – Future outlook towards the end of the decade
- Technology Scaling – Infrastructure scale-up to support hydrogen adoption

Ing. Andrés Fernández Durán, Head of Hydrogen Technology and Fuel Cell Application, Technology & Digital, Electrification Technologies, Iveco Group, Ulm

Model Predictive Powertrain Management – A Key to Enhanced Efficiency in Commercial Vehicles

- Setup of virtual technology demonstrator: e-truck
- Development of model-predictive controller
- Target: Energy-efficient control of drive components and thermal system
- Outlook on planned further developments

Dr.-Ing. Kerstin Palm, Development Engineer, Commercial Vehicle Powertrain, Co-Authors: Dr.-Ing. Jelto Frerichs, Tim Zieger, all of IAV GmbH, Gifhorn

12:00 Bridging the Gap to the Competitive Use of Hydrogen Vehicles for Climate-Neutral Logistics

- H2 fueling network
- Service experience FCEV, truck, bus, midibus
- Chinese quality level FCEV supply
- Development status China versus Europe for FCEV

Prof. Dr. Jörg Ebert, Managing Director, Ebertconsulting GmbH, Cologne,
Dr. Otto Uhlhorn, COO, Management, H2 GREEN POWER & LOGISTICS GmbH,
 Münster, **Jingde Tang**, Sales director, Sales and Marketing Europe, Canada,
 wisdommotor Co., Ltd., Fujian, China

Optimizing Electric Powertrains for Commercial Vehicles: A Holistic Approach for Efficiency and Performance

- Holistic optimization of commercial vehicles
- Focus on achieving high system efficiency
- Informed decisions early in the development process

Dr., Dipl.-Ing. Stephan Stadlbauer, Manager Advanced Mobility Functions,
 Propulsion Systems, Co-Authors: Dipl.-Ing. Lukas Oberguggenberger,
 Dipl.-Ing. Julian Bodory, Dipl.-Ing. Josef Schaeffler, all of Engineering Center
 Steyr GmbH & Co KG/Magna Powertrain, St. Valentin, Austria

12:30 Lunch break and exhibition visit

14:00 Departure to the test drive and plant tour



Plant Tour and Test Drive

15:00 Test drive on the ZF Erich Reinecke Test Track

- Especially for developing and testing braking, stability and driver assistance systems for commercial vehicles
- 2 km oval with different road surfaces and friction coefficients
- 4km oval for testing driver assistance systems
- Driving dynamics surface, circular track, hills, rough road elements and other special test areas
- Comprehensive network with WLAN and a campus 5G network
- Total area 103 ha

Plant tour at VW Nutzfahrzeuge

- Guided tour through the production of the VW Commercial Vehicles brand, from body construction to final assembly with the wedding using ID Buzz
- Note: Maximum number of participants 25 persons, guided tour only in German
- Requirements: Sturdy shoes, no photography allowed

Note: The test drive and the company tour take place in parallel, i.e. only one event can be attended.

Duration: Approx. 1.5 hours



16:45 Transfer to the Get-Together from test track and plant tour

From 18:00 Get-together

To conclude the first conference day, the VDI Wissensforum invites you to a get-together. Take advantage of the relaxed atmosphere to expand your network and have in-depth discussions with other participants and speakers.



Second conference day
Thursday, June 05, 2025



Plenary Speech

08:45 **Modular Truck Chassis Kit for Various Zero-Emission Technologies**

- Impact of alternative drives on the chassis architecture
- One modular kit for zero-emission technologies as a response to the complex portfolio
- Further development and trends of driveline technologies towards electrification

Dr.-Ing. Jürgen Wagner, Senior Vice President/Head of Engineering Vehicle & External Engines, MAN Truck & Bus SE, Munich



Automated Driving

Moderation: **Enrico Wohlfarth**, Daimler Truck AG, Stuttgart



Vehicle Concepts

Moderation: **Lukas Schröder**, MBA, Iveco Group, Ulm

09:15 **Project Results ATLAS-L4: From the Law to the Street**

- Safety-concept for autonomous driving at level 4
- Test and validation methods
- Control center with technical supervision and operating area management

Sebastian Völl, Project Leader Autonomous driving, Predevelopment Steering & Projects, MAN Truck & Bus SE, Munich

REFLECTIVE and URBANIZED: Advancing Safe and Sustainable Urban Mobility Solutions

- Urban Vehicle Demand
- L7e heavy quadricycles and N1 light commercial vehicle
- REFLECTIVE and URBANIZED Projects
- Safety Disparities
- Sustainable Urban Mobility

Emilia Romero, R+D Project Leader Body Design & Mobility, Co-Author: Dipl.-Ing. Simona Roka, both of Applus IDIADA, Santa Oliva (Tarragona), Spain

09:45 **Adaptive Motion Control of Autonomous Commercial Vehicles Using Reinforcement Learning**

- Application of reinforcement learning for lateral control of autonomous commercial vehicles
- Investigation of three reinforcement learning methods with different kinematic knowledge
- Differences in the interpretability of the learned behavior

Dr.-Ing. Jonas Böttcher, Function Developer, Innovation – Automation & ADAS – ADAS, Perception & Intelligence, ZF Friedrichshafen AG Commercial Vehicle Control Systems, Co-Author: Simon Pauka, M. Sc., Leibniz Universität, both Hanover

Evaluation Criteria for the Sustainability of Vehicle Components Based on the End-of-Life Vehicle Directive

- Individual circular economy aspects: R-strategies, VDI 4800, and End-of-Life Vehicle Directive
- Development of evaluation criteria and methodological approach: Derivation and formulation of evaluation criteria & methodological application
- Practical application of the evaluation criteria: Implementation and assessment of recyclability based on a current seat concept

Dr. Dirk Clasen, Head of Equipment & Motorhome Systems, Co-Authors: Jana Wendt, both of Volkswagen Nutzfahrzeuge, Wolfsburg, Umut Volkan Kizgin, Niedersächsisches Forschungszentrum Fahrzeugtechnik, Braunschweig

10:15 **cubiX CV – Vehicle Motion Control as Enabler for Automated Trucks**

- Increase of efficiency and optimize logistical processes
- Complexity of vehicle configurations to be mastered under series production conditions
- Concept of safe and precise trajectory control in the sense of Vehicle Motion Control

Use of overarching synergies from a wide variety of application areas and bundle up its competencies from passenger cars and commercial vehicles

Dr. Claus Granzow, Head of R&D Digital Vehicle Solutions – CV, Co-Authors: Lukas Hildebrand, Frank Schmidt, all of ZF Friedrichshafen AG, Friedrichshafen

Optimized E-axle Control Solutions for Distributed Drivetrain Architectures

- Challenges and potentials in the control of distributed drive train architectures
- Scalable e-axle function architecture for different requirements
- Energy management strategy in distributed drive train architectures
- Self-learning and self-adapting vehicle traction control
- Optimization of power versus control efficiency in real vehicle applications

Dipl.-Ing. Bernhard Knauder, Skill Team Leader Software & Control Systems, CV Software & Control Systems, Co-Authors: Petr Micek, M. Sc., both of AVL List GmbH, Steyr and Graz, Austria, Peter Biro, M. Sc., AVL Hungary Kft., Budapest, Hungary

10:45 **Coffee break and exhibition visit**



Verification/Validation E-Systems

Moderation: **Dr. Linn Hackenberg**, Volkswagen AG, Wolfsburg



Trailer

Moderation: **Prof. Dr.-Ing. Jörg Ebert**, Ebertconsulting GmbH, Cologne

11:30 **DevOps meets HiL – Why DevOps is Essential for Agile Development and Testing of Autonomous Vehicles**

- Challenges in the development process of virtual test benches for testing autonomous vehicles
- Application of the DevOps methodology and its key technologies to HiL simulation
- Integration into the agile development of software for autonomous vehicles

David Schlatzer, M. Sc., PhD candidate, Vehicle Development, E/E-Integration & Verification, Volkswagen Nutzfahrzeuge, Wolfsburg

Bodies and Trailers Aerodynamics – Europe's Regulatory Status Quo

- Heavy-duty vehicles energy consumption
- Aerodynamics within the VECTO Tool
- Trailer Aerodynamic Devices

Albert Gascón-Vallbona, M. Sc., CFD Group Coordinator, Vehicle Body Performance, IDIADA Automotive Technology, Santa Oliva (Tarragona), Spain, Co-Authors: Dr. Martin Rexeis, Dipl.-Ing. Stefan Present, both of Graz University of Technology, Austria

12:00 Transformation of the Software Integration Process – From Classic Software Integration to Co-Integration

- Conception and implementation of automotive systems in transition
- Modern software integration process for maximum flexibility and speed
- Focus on new technologies (software packaging, continuous X, cloud solutions) in combination with established approaches (e.g. HiL-testing)

Dipl.-Ing. Andreas Bossert, Senior Expert Engineer, Data Driven Software and Sensors, Co-Author: Christopher Schwager, M. Sc., both of ITK engineering GmbH, Rülzheim

12:30 Release of Autonomous Commercial Vehicles: Best Practices from the Automotive Industry for Simulation-Based Releases

- Basis for development and release for OEMs and suppliers
- Simulation for CV in the context of validation and verification
- Review of established methods for the release of AD functions
- Continuous usage of simulation throughout the entire development process

Dr.-Ing. Sami Bilgic Istoc, Senior Consultant, Strategic Consulting & Engineering, IPG Automotive GmbH, Frankfurt am Main

13:00 Lunch break and exhibition visit



Architecture/Safety

14:30 Smart PDUs for BEV & FCEV Truck and Bus Applications

- Innovative, reliable & efficient solutions to enable powertrain electrification
- Comprehensive methodologies and technologies for smart and thorough power-distribution-unit (PDU) solutions
- Predefined designs for various applications
- Ready for verification and validation tests at the component level

Dipl.-Ing. Karl-Heinz Putz, Chief-Engineer E/E Functions & Systems, Co-Author: Dr. Christoph Priestner, Ralf Barna, all of AVL List GmbH, Graz, Austria

15:00 Advancements in Energy Management for Commercial Vehicles: Zonal Domains and Fuseless Distribution Architecture

- Zonal domain EE Architecture
- Fuseless power distribution
- Energy Management strategy
- Hierarchical power tree

Eng. Víctor Pascual, Electric and Electronics Architecture Project Manager Department, Electronics, Co-Author: Guillem Paris, Marc Homs, all of Applus IDIADA, Santa Oliva (Tarragona), Spain

15:30 Studies on Passive Pedestrian Protection in Heavy Commercial Vehicles

- Euro NCAP: Extension of passive safety in pedestrian protection to heavy trucks sector
- Status investigations regarding dummy impact in different front locations
- First optimization concepts and their influences
- Transfer of results to different heavy trucks front parts distribution concepts

Cornelius Vonderau, Project Manager, CAE & Vehicle Safety Fulda, Co-Author: Markus Rabich, B. Eng., Stefan Hundertmark, B. Eng., all of EDAG Engineering GmbH, Petersberg and Munich

16:00 Closing remarks

Markus Eisele, ZF Friedrichshafen AG, Friedrichshafen

16:10 End of the conference

Standardized CAN Networks for Commercial Vehicle Body Applications – In Towing and Towed Vehicles

- Refrigerating vehicles
- Refuse-collecting vehicles
- Fire-fighting vehicles
- Vehicle-mounted cranes

Dr. rer. nat. Martin Merkel, Technical Manager, CiA GmbH, Co-Author: Holger Zeltwanger, CAN in Automation (CiA) e. V., both Nuremberg

Regulation (EU) 2022/1362: Performance of Heavy-Duty Trailers

- VECTO
- Simulation Tool
- Energy consumption
- Heavy-Duty Vehicles

Àlex De la Cruz Gargallo, M. Sc., Product Manager, Homologation – Commercial Vehicles, IDIADA Automotive Technology S.A., Santa Oliva, (Tarragona), Spain

Requirements

Moderation: Dipl.-Ing. Martin Moser, Magna Powertrain Engineering Center Steyr GmbH & Co. KG, St. Valentin, Austria

Electrification of Distribution Transport – A Holistic Method for Techno-economic Site Evaluation

- Determining the daily energy requirements of a vehicle fleet
- Estimating performance data for potential charging strategies
- Economic evaluation of electrification measures
- Results and impact for industry

Dr.-Ing. Martin Ufert, Group Leader, Monitoring and Operating Strategies, Co-Author: Richard Kratzing, Erik Berendes, all of Fraunhofer-Institut für Verkehrs- und Infrastruktursysteme IVI, Dresden

Scenario-based exploration of the economic viability of autonomous trucking

- Analyzing the cost structure of autonomous trucking
- Exploring different scenarios and conditions that affect economic viability
- Understanding the implications for various stakeholders in the industry

Alexander Boll, M. A./M. Sc., Technology Lead, Technology Consulting/Autonomous Technologies, P3 automotive GmbH, Stuttgart

Simulation, Testing and Road Compliance of a Novel Series-Parallel Truck Drivetrain

- Novel high power hybrid powertrain
- Heavy-Duty Hybrid Electric Truck
- Road testing and simulation
- Optimal fuel-save and battery use

Geir Brudeli, M. Sc., CTO, Technical Department, Co-Author: Geraldo Francisco de Souza Rebouças, Ph.D., Arild Brudeli, B. Sc., all of Brudeli Green Mobility AS, Hokksund, Norway

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Enrico Wohlfarth, Daimler Truck AG, Stuttgart

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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.

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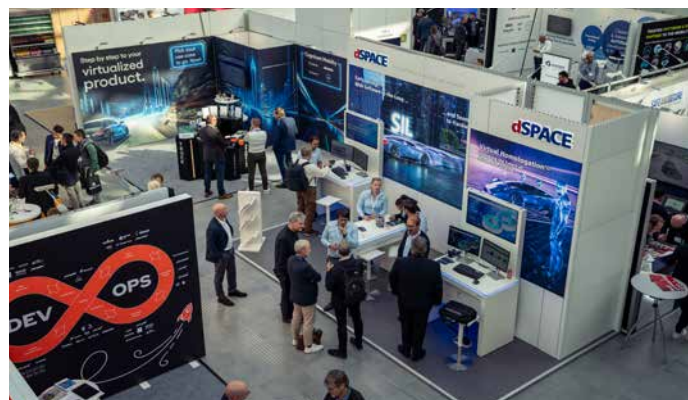
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- ZF Friedrichshafen AG
(Status Quo 03.03.2025)

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Your advantages

- Exchange on new technologies, further developments and innovations in the commercial vehicle sector
- Factory tour and test drives provide an insight into production and current developments
- Opportunity to expand and maintain your professional network during the breaks and at the get-together

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