

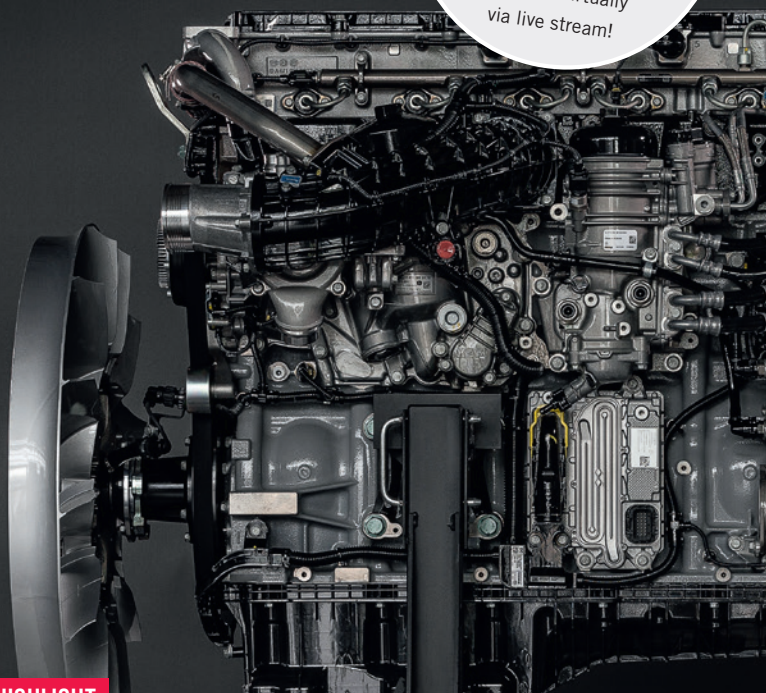
Heavy-Duty, On- and Off-Highway Engines 2020

Internal combustion engines
and hybrid powertrains

10 – 11 November 2020
Mannheim, Germany

HYBRID EVENT

Alternatively
bookable virtually
via live stream!



HIGHLIGHT

Factory tour
Daimler Truck AG

KST.

RICARDO

Internal combustion engines and hybrid powertrains

/ NEW DIESEL, GAS, AND DUAL-FUEL ENGINES

Development trends and new components

/ CO₂ AND POLLUTANT EMISSIONS

Legal requirements and solutions

/ FUELS AND INJECTION

New concepts and functions

KEYNOTE SPEAKERS

Börge Nielsen, Daimler Truck AG

Dr. Heinz-Jürgen Büchner, IKB Deutsche Industriebank AG

Prof. Dr. Christopher Hebling, Fraunhofer Institute for Solar Energy Systems



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

Welcome

For commercial vehicles and heavy-duty engines, the rapid introduction of synthetic fuels from renewable resources and second-generation biofuels is hugely important. The Euro VII emissions standard can only be achieved with a well-to-wheel approach, as the special challenges of this sector and life cycle perspectives mean that electric mobility is not a viable solution for most products.

For that reason, this 15th ATZlive Conference “Heavy-Duty, On- and Off-Highway Engines” will focus among other things on future powertrains, emission technologies, spark-ignition engines, and fuels. The program will be rounded off by an accompanying exhibition and a factory tour of the Daimler Truck AG plant. Take this opportunity to gain information on the very latest solutions, expand your network, and make valuable contacts.

I look forward to welcoming you to the conference.

On behalf of the Scientific Advisory Board

Your Corona protection concept

In order to ensure that the ATZlive conference is safe and successful for all participants, even in times of Corona, we have drawn up a wide-ranging hygiene protection concept and are making detailed arrangements with the event partners. If you would prefer to participate virtually in the event for health reasons or due to travel restrictions, this year we will offer you a live stream with Q&A function, 1:1 video chat with participants and other useful functions in parallel.

Heavy-Duty, On- and Off-Highway Engines

Manufacturers of large engines and related components face mounting pressures: they are expected to meet rising demands for engine output, while also reducing fuel consumption, emissions and assembly space.

New concepts for engines, emissions reduction and drivetrain optimization are called for in order to overcome these challenges. Combining presentations, in-depth discussions and networking possibilities, the international MTZ Conference “Heavy-Duty, On- and Off-Highway Engines” offers you the ideal platform.



Scientific Advisory Board

Our Scientific Advisory Board, which is made up of prominent figures from the relevant field, provides support during the planning phase of the conference and helps to identify suitable topics.

With its expertise the board has made a valuable contribution to the choice of themes for the lecture program.



Prof. Dr. Peter Eilts
Technical University
of Braunschweig

Scientific Director of the Conference

Detlev Baudach
Tenneco GmbH

Rolf Brück
Vitesco Technologies Emitec GmbH

Dr. Heiner Bülte
DEUTZ AG

Bernd Danckert
ICCL Ltd.

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

Dr. Michael Krüger
Robert Bosch GmbH

Werner Kübler
MAN Truck & Bus SE

Dr. Rainer J. Lehnen
Eberspächer Exhaust Technology
GmbH & Co. KG

Dr. Andreas Lingens
Woodward L'Orange GmbH

Börge Nielsen
Daimler Truck AG

Prof. Dr. Gerhard Reiff
KST-Motorenversuch GmbH & Co. KG

Jörg Rückauf
MAHLE GmbH

Dr. Hans-Josef Schiffgens

Andy Skipton-Carter
Ricardo plc

Dr. Martin Teigeler
Rolls-Royce Power Systems AG

Dr. Ioannis Vlaskos
Winterthur Gas & Diesel Ltd.

Prof. Dr. Georg Wachtmeister
Technical University of Munich

Dr. Wolfgang Warnecke
Shell Global Solutions (Deutschland) GmbH

Ulrich Weiss
Liebherr Machines Bulle SA

08:45

Welcome and opening of the conference
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group

09:00 – 10:30

KEYNOTE LECTURES

Moderation: Prof. Dr. Peter Eilts, Head of Institute of Internal Combustion Engines (ivb), Technical University of Braunschweig, Germany

- 09:00

KEYNOTE

The way forward to alternative powertrains for commercial vehicles at Daimler Truck AG
Börge Nielsen, Head of Product Development Electric Powertrains, Daimler Truck AG, Germany
- 09:30

KEYNOTE

The impact of the coronavirus crisis on the global supply and value chains
Dr. Heinz-Jürgen Büchner, Managing Director Industrials, Automotive & Services, IKB Deutsche Industriebank AG, Germany
- 10:00

KEYNOTE

Hydrogen as an enabler for sustainable mobility
Prof. Dr. Christopher Hebling, Co-Director Division Energy Technology and Systems, Director Division Hydrogen Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany

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

11:00 – 13:00

NEW CONCEPTS

Moderation: Dr. Ioannis Vlaskos, Senior Advisor Research & Development, Winterthur Gas & Diesel Ltd., Switzerland

- 11:00

Detroit DD15: the new Daimler Truck heavy-duty diesel engine
Wolfgang Weller, Head of Engine Design, Daimler Truck AG, Germany
- 11:30

The new MAN marine hybrid system
Georg Silberhorn, Function Development Engineer Engine Control Unit, MAN Truck & Bus SE, Germany
- 12:00

Future heavy truck propulsion system solutions including their impact on total cost of ownership
Andy Skipton-Carter, Head of Commercial Vehicle and Off-Highway – Europe, Ricardo plc, United Kingdom
- 12:30

Mild hybrid powertrain concepts for off-highway applications
Dr. Joschka Schaub, Department Manager Controls and Powertrain Concepts Diesel Powertrains, FEV Europe GmbH, Germany [in cooperation with VKA, RWTH Aachen University, Germany]

13:00 Lunch in the exhibition area

14:15 – 15:45

EMISSION TECHNOLOGIES I

Moderation: Dr. Heiner Bülte, Head of Performance & Emissions, DEUTZ AG, Germany

- 14:15

Meeting the challenge of Euro VII emissions legislation
David Bennet, Chief Engineer Heavy Duty Propulsion, Ricardo plc, United Kingdom
- 14:45

Heavy-duty exhaust systems for low NO_x applications: thermal management and monitoring
Dr. Manuel Presti, Director Program Management VT S&A CTF CV, Vitesco Technologies GmbH, Germany
- 15:15

CatVap® – new heating measure for HDD exhaust aftertreatment systems – very promising test results
Robert Szolak, Head of Group Process Development Hydrogen Technologies, Fraunhofer Institute for Solar Energy Systems (ISE), Germany [in cooperation with ICCL, Integrated Consulting Company Ltd., Cyprus]

15:45 Refreshment break with coffee and tea in the exhibition area

HIGHLIGHT

16:10 **Factory tour Daimler Truck AG**

- 19:15



Networking dinner at Bootshaus Mannheim
Enjoy a pleasant evening and interesting conversations over dinner with colleagues and speakers.

08:30 – 10:00

SI ENGINES

Moderation: Børge Nielsen, Head of Product Development
Electric Powertrains, Daimler Truck AG, Germany

- 08:30

HoLeGaMo research project: a high-performance natural gas engine for industrial applications
Benedikt Nork, Development Engineer Thermodynamics,
DEUTZ AG, Germany
- 09:00

A dedicated spark-ignition heavy-duty engine for multiple future fuels
Trevor Downes, Chief Engineer Engines & Emissions Controls,
Ricardo Automotive & Industrial, United Kingdom [in cooperation
with Ricardo Energy & Environment, United Kingdom]
- 09:30

SI engines for alternative fuels – the trade-off between ignitability and spark plug wear
PhD Jakob Ångeby, Director Research, SEM AB, Sweden
[in cooperation with Lund Technical University, Sweden]

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

10:30 – 12:30

FUELS / INJECTION

Moderation: Dr. Hans-Josef Schiffgens

- 10:30

Engine tests for GTL and Hexanol blends with B5 applied to a EURO V engine
Prof. Dr. Gerald Ruß, Head of Engine Laboratory, Mechanical and
Plastics Engineering/Internal Combustion Engines, Darmstadt
University of Applied Sciences, Germany [in cooperation with
KST-Motorenversuch GmbH & Co. KG, Germany and ISUZU
Motors Germany GmbH, Germany]
- 11:00

Further development of Liebherr LI1 injector with ITC (Injection Timing Control) function
François Masson, Head of Department Control and Calibration,
Liebherr Machines Bulle SA, Switzerland [in cooperation with
Liebherr-Components Deggendorf GmbH, Germany]
- 11:30

Woodward L'Orange's new injector generation – an ideal platform for the combustion of e-fuels
Dr. Michael Willmann, Head of Advanced Development,
Woodward L'Orange GmbH, Germany
- 12:00

Impacts of e-fuels on injection, combustion, and emissions in a large diesel engine
Benjamin Stengel, Scientific Assistant, Chair of Piston Machines and
Internal Combustion Engines (LKV), University of Rostock, Germany
[in cooperation with FVTR GmbH, Germany]

12:30 Lunch in the exhibition area

13:30 – 14:30

COMPONENTS / METHODS

Moderation: Andy Skipton-Carter, Head of Commercial Vehicle and
Off-Highway – Europe, Ricardo plc, United Kingdom

- 13:30

Evaluation of the impact of the biodiesel blend on engine-out emissions using machine learning techniques
André Pelisser, Field Application Engineer, ETAS Inc., Brazil
[in cooperation with ETAS GmbH, Germany and IAV do Brasil,
Brazil]
- 14:00

Automated turbocharger development for future engine generations at Daimler Truck AG
Matthias Abel, R&D Engineer, Daimler Truck AG, Germany
[in cooperation with Mercedes-Benz AG, Germany]

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

15:00 – 16:30

EMISSION TECHNOLOGIES II

Moderation: Dr. Michael Krüger, Senior Vice President
Engineering Commercial and Off-Road Vehicles, Robert Bosch GmbH,
Germany

- 15:00

Diesel Dynamic Skip Fire: simultaneous CO₂ and NO_x reductions
Dr. Hans-Josef Schiffgens, Business Development Executive,
Tula Technology Inc., United States
- 15:30

Assessment of the catalyst state during real-life use
Nicolas Hummel, Research Assistant, Institute for Internal
Combustion Engines and Powertrain Systems (VKM),
TU Darmstadt, Germany
- 16:00

Efficient commercial powertrains – achieving the European 2025 and 2030 HD on-road GHG reduction targets
Dieter van der Put, Vice President Commercial Engines,
FEV Group GmbH, Germany [in cooperation with VKA, RWTH
Aachen University, Germany and FEV Europe GmbH, Germany]
- 16:30

Closing remarks
Dr. Alexander Heintzel, Editor-in-Chief ATZ | MTZ Group



Ricardo

Ricardo is a global engineering, technical, environmental and strategic consultancy business: the trusted partner for clean, efficient, integrated propulsion and energy solutions for our worldwide transportation customers. We also manufacture and assemble low-volume, high-quality and high performance products. Furthermore, we develop advanced virtual engineering tools for conventional and electrified powertrains as well as for complex physical systems.

In the field of heavy-duty and large engines, Ricardo has a wide range of experience, from research to the support of series programmes. Ricardo provides low-emission, efficient and powerful propulsion system solutions for conventional and electrified powertrains. Ricardo has also developed a wide range of solutions for exhaust aftertreatment to meet European, Japanese and US legislation, and low-cost solutions for emerging markets.

Ricardo delivers concept development, simulation, design work, product development, application, and testing. Our test facilities include more than 30 modern engine test beds for heavy-duty and large engines, battery, e-machine and powertrain testing, enabling us to develop the next generation of low-emission and efficient propulsion systems for commercial vehicles for on- and off-highway, marine, rail, clean energy and power generation applications and meet the standards for future emission and greenhouse gas legislation.

Cooperation partner



www.ricardo.com

KST-Motorenversuch GmbH & Co. KG

As an innovative and certified test facility with long-standing tradition we offer our global customer pool from the automotive, heavy duty and non road mobil machinery sectors highly dynamic test benches with state-of-the-art measuring technology for combustion engines (up to 4MW), hybrid drive trains and electric engines.

KST's range of services comprises the following technical areas:

- Electric and Hybrid Drive
- Realtime Motor Emulation (EME)
- Combustion Engines
- Heavy Duty Engines
- Transmissions, Drive Trains
- Component Testing
- Real Driving Emissions (RDE)
- Lubricants and Fuels
- On-Road Tests

We invite you to try out and test our services and opportunities. Convince yourself of our competence! We will actively support you and address your specific needs!

Cooperation partner



www.kst-motorenversuch.de

Your presentation platform

Take this opportunity to present your latest products and services to the specialist audience: as an exhibitor in our exclusive exhibition and/or as a sponsor with an attractive advertising presentation. Make use of this industry meeting place to make valuable contacts with customers. For information on the various presentation options, please contact:

Elke van Lon
Phone +49 611 7878-320
elke.vanlon@springernature.com

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Media partners



Registration fee

At the location:
€ 1.395,- plus VAT

Virtually via live stream:
€ 995,- plus VAT

This includes the conference documentation, the catering during breaks and the evening event on 10-11-2020. With the live stream booking option, catering during the breaks, soft drinks and the evening event are not available..

Date

10 – 11 November 2020

Venue

Congress Center Rosengarten or virtually via live stream
Rosengartenplatz 2
68161 Mannheim, Germany

Languages used in the presentations

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

Hotels

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

**Online Registration
and Further Information:**

www.atzlive.de/en/heavyduty

**Participants**

The MTZ Conference “Heavy-Duty, On- and Off-Highway Engines” is aimed worldwide at experts from engine and vehicle manufacturers in the fields of commercial vehicles, off-highway and marine applications, stationary engines, suppliers and development partners, teaching staff and research assistants from universities, representatives of authorities and associations and engineers active in these fields.

Further Information and Online Registration:

www.atzlive.de/en/heavyduty



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10 – 11 November 2020, Mannheim, Germany

HYBRID EVENT

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via live stream!

Your contact partner

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The organizer

ATZlive // Spotlight on Powertrain and Vehicle Engineering

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