



# 8<sup>th</sup> International MinNO<sub>x</sub> Conference for Sustainable Mobility

October 26–27, 2022,  
nHow, Stralauer Allee 3, 10245 Berlin



# Program committee



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IAV



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Volkswagen AG



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Aristotle University  
Thessaloniki



**Dr. Volker Schmeißer,**  
Daimler Truck AG



**Dr. Andreas Broda,**  
MAN Truck & Bus

# Foreword

The debate about urban air quality and NO<sub>x</sub> emissions from pre-RDE diesel vehicles is known to us all. It has impacted our community in many ways. EU6d proves that NO<sub>x</sub> emissions can be reduced significantly under a wide range of RDE conditions. These developments have already brought new vehicles close to “zero impact” in terms of urban air quality.

## Zero impact as a basic requirement

Nonetheless, most of us expect upcoming legislative steps to bring about further reductions in the limits. Our community should anticipate these steps, not only because the remaining development time may be short, but also in order to demonstrate the feasibility of a “real zero impact” emission level as a basis for future-proof, competitive ICE powertrains.

## Ecological competitiveness

In the long-run, powertrain competitiveness will depend on the environmental impact from cradle to grave and the cost of fulfilling specific mobility requirements. ICE-powered vehicles will be the best way of fulfilling mobility requirements for medium and long distances, at least for the next decade. Continued access to urban areas and acceptance

of ICEs in society depends crucially on achieving further progress towards a real zero-impact emission level and towards the usage of renewable energy carriers instead of fossil fuels.

## Let's discuss new ideas together

In the 8<sup>th</sup> MinNO<sub>x</sub> conference we would like to follow this line of thought and discuss with you the latest ideas and developments with regard to “Minimization of pollutant emissions and environmental impacts from combustion engines”. As before we look forward to a good technical dialog between international experts during the lectures and at the accompanying exhibition.

On behalf of IAV and the conference committee, I would like to cordially invite you to join the 8<sup>th</sup> International MinNO<sub>x</sub> Conference for Sustainable Mobility to be held on October 26<sup>th</sup> and 27<sup>th</sup> in Berlin. Keep the MinNO<sub>x</sub> spirit alive!

Yours,

**Dr. Maximilian Brauer, IAV**

# General Information

## Date and venue

October 26 – 27, 2022  
Hotel nHow  
Stralauer Allee 3, 10245 Berlin

## Conference director

Dr. Maximilian Brauer, IAV

## Presenter

IAV GmbH  
Carnotstr. 1, 10587 Berlin  
www.iav.com

## Organization

UNIVERSAL Kongress &  
Event Marketing GmbH  
Musäusstraße 6, 14195 Berlin

Claudia Böckermann,  
Tel. +49 30 31018550  
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## Lecture languages and duration

Presentations will be held in English and  
last 20 minutes followed by discussion.

## Conference fees

Participant: € 990  
University participants: € 550  
(verification requested)

Stated prices do not include VAT.

## Form of payment

Bank transfer upon billing or credit card.

## Exhibition

The event also includes an accompanying exhibition. This will give you the opportunity to present your products and services to an engaging expert audience. The event's organization team will be pleased to provide you with details.

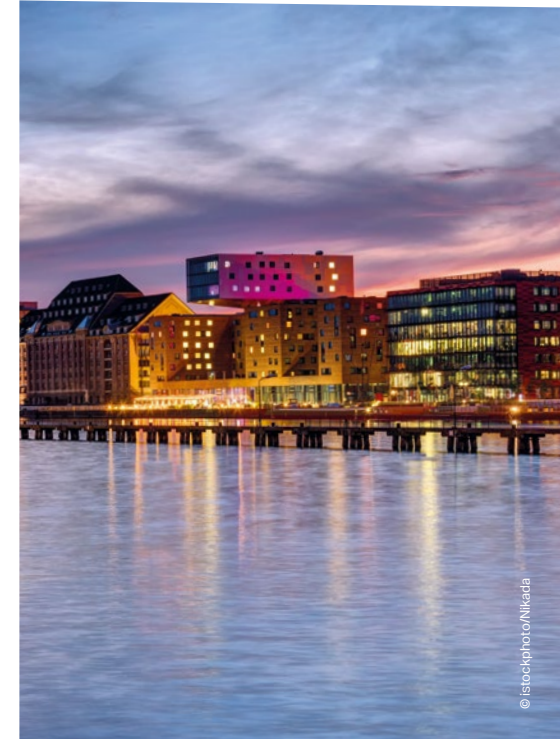
# Venues and Hotels

## Conference venue and hotels

Hotel nHow  
Stralauer Allee 3, 10245 Berlin

## Evening event on October 26<sup>th</sup>, 2022. Start at 19:00

The evening event offers an ideal setting in which to analyze the presentations, maintain networks, and to establish new contacts. As the conference is well known for its jam sessions, networking will be supported on and off-stage! The event will take place at "Kochbox" Dircksenstrasse 96, 10178 Berlin. It is a special cooking Event with an interactive character. The participants have the possibility to be part of the preparation of their own dinner. Enjoy the cooking and dinner!



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## Registration and hotel booking

Please click here on [Registration](#) to go to our registration page. For more information, please visit our website at [IAV.com](#)

We look forward to your participation.



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# October 26<sup>th</sup>

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**08:00**     **Registration**

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**09:00**     **Introduction by Chairman**

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**Session**   **Future Boundary Conditions**

*Dr. Maximilian Brauer*

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09:15     How far are best in class Euro 6d vehicles to meet Euro 7?  
*Victor Valverde, JRC European Commission*

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09:45     Reliable clean air: Compliance to immission limits with latest technology and synthetic fuel  
*Tim Steinhaus, TU Darmstadt / VKM*  
*Co-author: Christian Beidl, TU Darmstadt / VKM*

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10:15     From WHTC to RDE – methodological differences and challenges in type testing for commercial vehicles  
*Florian Walde, MAN Truck & Bus SE*  
*Co-authors: Florian Lindner, Florian Walde, Stephan Schraml, Andreas Broda, MAN Truck & Bus SE*

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**10:45**     **Coffee Break, Vehicle Demonstration & Poster Discussion**

Production forecasts are volatile and trends are shaken: how to prepare an SCR system fit for the future?  
*Joël Op de Beeck, Plastic Omnium*  
*Co-authors: Clément Durand, Plastic Omnium*

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**Session**   **Catalyst Technology – Chemistry**

*Dr. Torsten Neubauer / Rui Marques*

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11:15     Effect of O<sub>2</sub> variation on NH<sub>3</sub>-SCR over a Cu-CHA catalyst: transient redox behavior  
*Enrico Tronconi, Nicole Daniela Nasello, Politecnico di Milano / Mercedes-Benz AG*  
*Co-authors: Nicole Daniela Nasello, Federica Gramigni, Isabella Nova, Politecnico di Milano; Simone Dieterich, Frank Hofmann, Michel Weibel, Mercedes-Benz AG*

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11:45     2021: Catalytic Low-Temperature NO<sub>x</sub> Reduction by H<sub>2</sub> in Diesel Exhaust  
*Enno Eßer, TU Freiberg / TU Braunschweig*  
*Co-authors: Lukas Heckemüller, Institute of Internal Combustion Engines; Sven Kureti, Institute of Energy Process and Chemical Engineering; Peter Eilts, Institute of Internal Combustion Engines*

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12:15     Comparison and Evaluation of SCR catalysts for hydrogeninternal combustion engines  
*Matthias Geist, Dinex Deutschland GmbH*  
*Co-author: Thomas Wolff, Dinex Deutschland GmbH*

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**12:45**     **Lunch break**

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**Session**   **Catalyst Technology – Innovative Components**

*Dr. Volker Schmeißer / Claus-Dieter Vogt*

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13:45     Electrochemical Urea Decomposition for Low and High Temperature NO<sub>x</sub> Reduction  
*Tobias Morawietz, Uni Stuttgart / DLR*  
*Co-authors: Schwan Hosseiny, Wendelin Waiblinger, German Aerospace Center (DLR), Institute of Engineering Thermodynamics; K. Andreas Friedrich, University of Stuttgart, IGTE*

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14:15     Electric Heating for Exhaust Converters: System & Performance  
*Emmanuel Jean, Faurecia Clean Mobility*  
*Co-author: Claudia Herbers, Faurecia Clean Mobility*

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14:45     Developments in multifunctional catalyst (MFC) technologies in the close-coupled position for future HDD emissions legislations  
*Jan Martin Becker, BASF Catalyst Germany GmbH*  
*Co-authors: K. Beard, R. Dorner, E. Huennekes, M. Kalwei, T. Paul, W. Tang*

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15:15     Developing new NO<sub>x</sub> and PN catalysts for diesel emissions control, through testing & modelling of challenging conditions, as expected for future emissions legislation.  
*Abdulwaris Tetlay, Johnson Matthey*  
*Co-authors: Paul Phillips, Wolfgang Strehlau, Abdulwaris Tetlay, James Wylie, Johnson Matthey*

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**15:45**     **Coffee Break, Vehicle Demonstration & Poster Discussion**

A novel non-pgm diesel exhaust catalyst for low-temperature NO<sub>x</sub> adsorption and high-temperature NO<sub>x</sub> reduction  
*Prateek Khatri, Indian Institute of Technology*  
*Co-author: Divesh Bhatia, Indian Institute of Technology*

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# October 27<sup>th</sup>

Session	Application
	<i>Dr. Andreas Broda / Patrick Stracke</i>
16:15	Zero-impact emissions with advanced emission control systems and sustainable renewable fuels <i>Joachim Demuynck, AECC</i> <i>Co-authors: Pablo Mendoza Villafuerte, Dirk Bosteels, AECC; Andreas Kuhrt, Frank Bunar, Maximilian Brauer, IAV</i>
16:45	Influence of Pre-Turbo EAT systems on NO <sub>x</sub> and CO <sub>2</sub> <i>Ferhat Inci, TU Berlin</i>
17:15	Diesel aftertreatment in the post Euro 6 scenarios: a synergical experimental and virtual approach <i>Chiara Pozzi, PUNCH Torino SpA</i> <i>Co-authors: Valentina Beneduce, Claudio Ciaravino, Paolo Ferreri, Giuseppe Previtero, PUNCH Torino SpA; James Romagnolo, Powertech Engineering Srl</i>
17:45	<b>End of First Conference Day</b>

08:30	<b>Welcoming Coffee</b>
Session	<b>Modelling / Controls / OBM</b> <i>Prof. Grigoris Koltsakis / Dr. Frank Bunar</i>
09:00	Simulation Tools for Near Zero Emissions Engineering <i>Chandan Paul, Gamma Technologies</i>
09:30	Model-based Emission Capability Assessment via Integrated Engine & Aftertreatment System Model <i>Cetin Gurel, Ford Otosan / Koc University</i> <i>Co-authors: Yusuf Togay, Deniz Şanlı, Ford Otosan R&amp;D Center; Selmi E. Bozbağ, Department of Chemical &amp; Biological Engineering, Koc University; H. Barkın Özener, Ford Otosan R&amp;D Center; Can Erkey, Department of Chemical &amp; Biological Engineering, Koc University; Gökhan Hisar, Ford Otosan R&amp;D Center</i>
10:00	Approaches of Periodical Technical Inspection of Vehicles with SCR Systems <i>Danilo Engelmänn, AFHB/VERT</i> <i>Co-authors: Pierre Comte, Jan Czerwinski, AFHB / University of Applied Sciences; Andreas Mayer, Volker Hensel, VERT</i>
10:30	<b>Coffeebreak &amp; Poster Discussion</b> Danish Road Traffic authorities effort toward manipulation with the SCR system on HDV <i>Signe Shim, M.Sc.Eng, Ph.D., Motor Vehicle Advisor, Climate and new mobility, Færdselsstyrelsen</i> <i>Danish Road Traffic Authority</i>
11:00	Raw-Emission Modelling in the Context of EU7 OBD/OBM <i>Patrick Stracke, IAV</i> <i>Co-authors: Marco Moser (IAV), Philipp Brinkmann (IAV), Max Brauer (IAV)</i>
11:30	<b>Networking, Vehicle Demonstration &amp; Exhibition time</b>
12:00	<b>Lunch Break, Vehicle Demonstration &amp; Exhibition Time</b> <i>AECC Gasoline &amp; Diesel Vehicle, MAN H<sub>2</sub> Truck, IAV Zero Air Quality Impact Research MHEV Diesel Vehicle</i>

19:00 Start of the evening event  
Bustransfer to the venue from nHow hotel at 6.45 pm.  
Back to the hotel at 10.30 pm.



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**Session Future Fuels – Performance & Emission Effects**

*Michael Riess / Dr. Reza Rezaei*

13:00 Influence of fleet compatible Climate Fuels on Emissions and Consumption of modern passenger cars  
*Thomas Garbe, VW*

13:30 Experimental investigation of the influence of OME/diesel blends on the exhaust gas aftertreatment system  
*Philipp Demel, TU Darmstadt / VKM*  
*Co-authors: Friedemar Knost, Alexander Mokros, Christian Beidl, TU Darmstadt / VKM*

14:00 Avoidance of nitrogen oxides through the latest generation of hydrogen combustion engines  
*Jürgen Nadler, Sousa Alvaro, KEYOU GmbH*

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**14:30 Coffeebreak & Poster Discussion**

Simulation Study on Real Driving Passive Soot Regeneration in a Dual-Stage SCR System for EUVII  
*Reza Torbati, NGK Europe GmbH*  
*Co-authors: Dr. Ansgar Wille, Claus-Dieter Vogt, NGK Europe GmbH; Dr. Reza Rezaei, Martin Weber, IAV*

15:00 Advanced Exhaust After-treatment System Development for Future Emission Regulation for Heavy-Duty Hydrogen Engines  
*Martin Weber, IAV*  
*Co-authors: Dávid Kovacs, Reza Rezaei, IAV*

15:30 The advanced H<sub>2</sub>-ICE engine for LCV's – Clean, efficient and robust  
*Thomas Körfer, FEV Group GmbH*

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**Session Future Fuels – Emission Control Technology**

*Dr. Volker Schmeißer / Claus-Dieter Vogt*

16:00 Emission Control and Exhaust Gas Aftertreatment of Hydrogen Engines  
*Sebastian Roiser, TU Graz Institute for Thermodynamics and Sustainable Propulsion Systems*  
*Co-authors: Eberhard Schutting, Helmut Eichelseder, Institute for Thermodynamics and Sustainable Propulsion Systems; Sascha Kleiber, Susanne Luchs, Institute of Chemical Engineering and Environmental Technology*

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16:30 Design and evaluation of a Pt-based H<sub>2</sub>-deNO<sub>x</sub> catalyst for lean hydrogen combustion engines

*Enno Eber, TU Freiberg / Keyou GmbH*

*Co-authors: Daniel Koch, Keyou GmbH; Sven Kureti, Institute of Energy Process and Chemical Engineering, TU Freiberg*

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**17:00 Closing Remarks and End of Conference**

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