

In cooperation with

**VDA**

automotive engineering **iauv**

**Program**

# Powertrains of the Future

Berlin Powertrain Symposium  
December 3 and 4, 2019, Berlin



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# Come and Join Us!

What will future powertrains look like?

Powertrains are increasingly diverse. At the same time, demands on part of the society, ambitious emission/CO<sub>2</sub> limits and the growing diversity of mobility concepts dictate framework conditions that make it necessary to adapt and combine drive system solutions.

For powertrains, this means that development engineers have to assess the combination of resource availability for the individual applications, costs and handling by end users together with the technical challenges and opportunities. This is joined by efforts to decarbonize the primary energy sources as a means of combating climate change.

The Berlin Powertrain Symposium provides a dialogue platform for the political/social and the economic/technological perspectives as a stage for discussions of future mobility concepts and powertrain solutions.

Attention will focus on the following questions:  
What kind of demands are being made of mobility concepts by society and policymakers?  
What are the medium- and long-term objectives?  
Which technical challenges require a cross-sectoral approach?  
How are powertrains and their components going to develop in this setting in future?  
Which are the most efficient engineering methods?

It is time for all affected industries to work together at these questions! You can look forward to keynote speeches by political makers and shakers of the energy and transport transition and take this opportunity for discussions with leading experts from the automotive industry.

See you there!



Matthias Kratzsch, IAV  
CTO and Conference Chair



Dr.-Ing. Joachim Damasky, VDA  
Chief Executive Officer

# Key Contents



## Framework conditions

### What moves us?

- Society and politics
- Energy policy roadmap
- Legislation objectives
- Primary energy sources
- Energy carriers of the future: new fuels
- Industry and sector coupling
- CO<sub>2</sub>-neutral transport
- Emission legislation
- Local regulations

## Technical complexity

### How do we deal with it?

- Diversity of requirements and architectures
- Design complexity
- New infrastructures
- User behavior
- Individualization

## Technical solutions

### What will future powertrains look like?

- Powertrains for new vehicle concepts
- Architectures for the overall powertrain
- Impacts on e-components, combustion engines and transmissions
- Local zero emission
- New approaches to engineering and manufacturing

# Topic Cafés

## Framework conditions. What moves us?

- 1. Future energy carriers**  
Which energy carriers will be the future basis for mobility?
- 2. Implementing new infrastructures**  
What is needed to make climate-neutral mobility and logistics acceptable?
- 3. Industry and sector coupling**  
How can we work together to shape sustainability?
- 4. Future legislation and local regulations**  
How do we create a common understanding of the objectives?
- 5. Climate protection and the national economies**  
How do they go together?

## Technical solutions. What will future powertrains look like?

- 6. User behavior and individualization**  
What will dictate purchasing behavior in future?
- 7. Powertrains for new vehicle concepts**  
Which technology mix do we have to expect?
- 8. Local zero emission**  
Stab in the back for the combustion engine or incentive for engineers?
- 9. Diversity of requirements and architectures for the overall powertrain**  
The engineer as complexity manager between customer and technology?

# Keynote Speakers



**Guido Beermann**  
State Secretary at the  
Federal Ministry of  
Transport and Digital  
Infrastructure



**Markus Schäfer**  
Member of the Board of  
Management of Daimler  
AG Group Research &  
Mercedes-Benz Cars  
Development



**Prof. Dr. Anders  
Levermann**  
Research Director,  
Potsdam Institute for  
Climate Impact Research



**Dr. Joachim Damasky**  
Managing Director  
Technology and  
Environment, VDA



**Prof. Dr. Henning  
Kagermann**  
Chair, National Platform  
"Future of Mobility"



**Christian Hochfeld**  
Executive Director,  
Agora Verkehrswende



**Stefan Siegemund**  
Acting Head of Division  
Renewable Energies and  
Mobility, dena (German  
Energy Agency)



**Wolfgang Maus**  
CEO, WM Engineering &  
Consulting

# Tuesday, December 3, 2019

Time	Content	Speaker
<b>Session 1</b>	<b>Politics meets industry</b>	
09:00 – 09:15	Welcoming address and introduction	Matthias Kratzsch, President and CTO, IAV
09:15 – 09:45	Requirements for climate-friendly mobility	Thorsten Herdan, Head of Energy Policy – Heat and Efficiency, Federal Ministry for Economic Affairs and Energy
09:45 – 10:15	Keynote	Politics, OEM
10:15 – 10:45	End-to-end approach to future mobility	Prof. Dr. Henning Kagermann, Chair, National Platform "Future of Mobility"
10:45 – 11:15	Coffee break	
<b>Session 2</b>	<b>Energy and transport transition</b>	
11:15 – 11:45	Powertrains of the future for cars and commercial vehicles as seen by the VDA	Dr. Joachim Damasky, Managing Director Technology and the Environment, VDA
11:45 – 12:15	Transport transition 2030: general political and fiscal conditions	Christian Hochfeld, Executive Director, Agora Verkehrswende
12:15 – 12:45	Power fuels: missing link in a global energy transition	Stefan Siegmund, Acting Head of Division Renewable Energies and Mobility, dena (German Energy Agency)
12:45 – 14:00	Lunch break	
<b>Session 3</b>	<b>Climate and mobility</b>	
14:00 – 14:30	Do we need a global energy transition?	Prof. Dr. Anders Levermann, Research Director, Potsdam Institute for Climate Impact Research
14:30 – 15:00	Energy and mobility mean prosperity – from the past to the future, based on physics	Wolfgang Maus, CEO, WM Engineering & Consulting
15:00 – 15:30	Will driving get more expensive? Implications of the energy transition at the expense of driving a car	Christian Malorny, Partner, Dr. Felix Spangenberg, Manager, A.T. Kearney
15:30 – 16:00	Coffee break	
<b>Session 4</b>	<b>Interaction</b>	
16:00 – 17:00	Topic cafés	
17:00 – 17:45	Summary of the topic cafés with discussion	Johannes Winterhagen, moderator
17:45 – 18:00	Summary	Matthias Kratzsch, President and CTO, IAV
19:30	Evening event at the Arminiusmarkthalle	



# Wednesday, December 4, 2019

Time	Content	Speaker
<b>Session 5</b>		
<b>Politics meets industry</b>		
08:45 – 09:00	Welcoming address and warm-up	Matthias Kratzsch, President and CTO, IAV
09:00 – 09:20	The Future of Research and Development in Times of Transforming Mobility	Markus Schäfer, Member of the Board of Management of Daimler AG Group Research & Mercedes-Benz Cars Development
09:20 – 10:00	Panel discussion The future of powertrains – opportunities and challenges	Markus Schäfer, Member of the Board of Management of Daimler AG Group Research & Mercedes-Benz Cars Development Kirsten Lühmann, Member of the German Parliament and spokesperson for the working group on transport and digital infrastructure, SPD Prof. Dr. Peter Gutzmer, Chief Technology Officer, Schaeffler Dr. Ulrich Eichhorn, Chairman of the Managing Board, IAV
10:00 – 10:30	Coffee break	
<b>Session 6</b>		
<b>New mobility</b>		
10:30 – 11:00	Electrification for the future	Dr. Tobias Lösche-ter Horst, Director Battery Innovation, Volkswagen
11:00 – 11:30	Perspectives and requirements of CO <sub>2</sub> -free mobility	Guido Beermann, State Secretary at the Federal Ministry of Transport and Digital Infrastructure
11:30 – 12:00	Digitization in the automotive industry from the IT point of view	Jan Hördt, Chief Technologist, Hewlett Packard Enterprise
12:00 – 13:00	Lunch break	
<b>Session 7</b>		
<b>Complexity of technical solutions</b>		
13:00 – 13:30	The challenge of sustainable future mobility: combining renewable energy carriers with power unit products	Eisuke Kimura, Senior Chief Engineer, Honda R&D Co., Ltd.
13:30 – 14:00	From mobility requirements to future modular powertrains	Dr. Christoph Danzer, Team Manager Powertrain Synthesis, IAV
14:00 – 14:30	Overall optimization approach to improving the environment: future prospects for combustion engines	Mitsuo Hitomi, Senior Innovation Fellow, Mazda Motor Corporation
14:30 – 15:00	Quantifying real driving emissions by means of driving statistics based on a virtual development environment	Dr. Heiner Markert, Senior Manager, Bosch Center of Artificial Intelligence
15:00 – 15:30	Coffee break	
<b>Session 8</b>		
<b>Fuels and commercial vehicles</b>		
15:30 – 16:00	CO <sub>2</sub> legislation for trucks: VECTO as pioneer for new technologies to minimize CO <sub>2</sub> , illustrated by WHR	Hannes Marlok, Project Manager Waste Heat Recovery, Mahle
16:00 – 16:30	Comparison of future hydrogen-based drive concepts for commercial vehicles	Robin Tempelhagen, Chair for Energy Conversion Systems for Mobile Applications, Otto von Guericke University Magdeburg
16:30 – 17:00	Studies of fuels with medium ethanol concentrations (E20–E25)	Dr. Andreas Kolbeck, Technology Expert, Shell
17:00 – 17:15	Summary and end of the event	Matthias Kratzsch, President and CTO, IAV

# General Information

## Date

December 3 and 4, 2019

## Venue

Axica  
Pariser Platz 3  
10117 Berlin

## Conference fee

€ 1,650 plus 19 % VAT

## Organization

UNIVERSAL Kongress & Event Marketing GmbH  
Giesebrechtstrasse 10  
10629 Berlin  
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## Conference languages

German and English with simultaneous translation

## Public Transport

City railway station: Brandenburger Tor (S1, S2, S25, S26)  
Underground station: Brandenburger Tor (U55)  
Underground station: Mohrenstrasse (U2)

## Parking

Parking Garage at Hotel Adlon,  
Unter den Linden 77, 10117 Berlin  
(Entrance on the Behrenstrasse)

APCOA Parking at Sony Center,  
Potsdamer Strasse 6, 10785 Berlin

Public Parking Places:

Strasse des 17. Juni, Hannah-Arendt-Strasse

# Evening Event



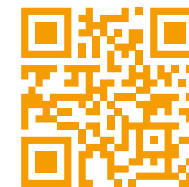
**December 3, 2019, 19:30 h**

**Arminiusmarkthalle**

**Arminiusstrasse 2-4, 10551 Berlin**

You are cordially invited to join us at Arminiusmarkthalle to review the day's impressions and discussions. Use this opportunity to cultivate your existing contacts and expand your network in an inspiring setting.

**Directions and other information**



[bit.ly/IAV-Symposium](https://bit.ly/IAV-Symposium)



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