

4th International VDI Conference

Future of AI in Automotive

October 19 and 20, 2022, Munich/Aschheim

- Chances and challenges of AI on the Horizon to Autonomous Driving
- On the Horizon of AI Powered Vehicles
- Self-Learning AI Systems for Autonomous Driving
- AI Regulatory and Certification
- Data Management and Architecture
- Safety and Security of AI
- Safe AI for Automated Vehicles

+ Panel Discussion: AI in the Mobility Sector – Trust through or despite Technology?

Meet international Experts from:





About us

VDI

The Association of German Engineers (VDI) is one of the largest technical-scientific associations in Europe. Throughout the years, the VDI has successfully expanded its activities nationally and internationally to foster and impart knowledge about technology-related issues. As a financially independent, politically unaffiliated and non-profit organization the VDI is recognized as the key representative of engineers both within the profession and in public.

Reasons to attend

Meet industry leaders and Start Ups to debate on the future of AI and required research

Learn about limitations and opportunities of AI for the development of AV's

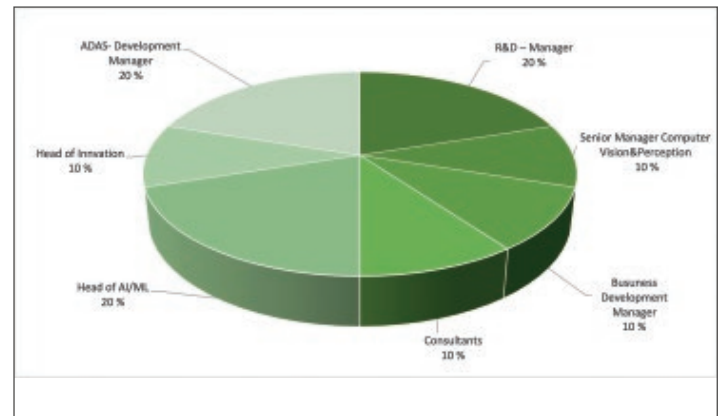
Get informed from key industry players how AI can be used as a tool within the enterprise

Discover the latest developments in AI to see how the path is being forged towards level 5 autonomous driving

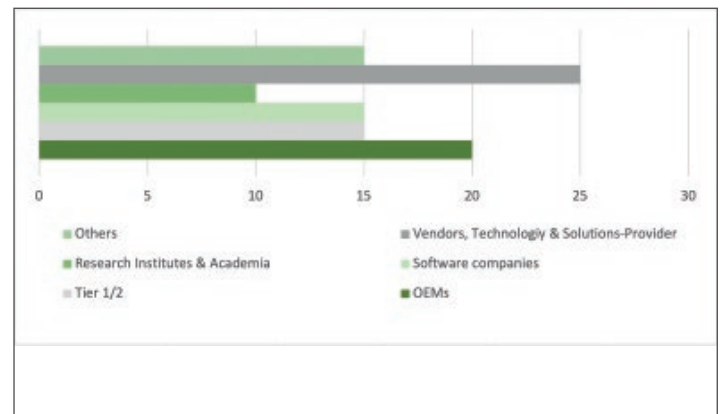
Hear from key industry players how AI can be used as a tool within the enterprise

Discuss the legal, regulatory and ethical frameworks of AI Engage with internationally renowned AI specialists during interactive sessions, breaks and at the evening reception

Expected Participants according to Functions



Expected Participants according to Industries



09:00 Registration & welcome coffee

10:00 Chair's welcome and opening address

10:15 Ice Breaker

I. On the Horizon to AI powered Vehicles

10:30 On the Way to Autonomous Mobility

- Sensor suite and central computing platforms for Assisted and Automated Driving
- Complementary sensor technology
- Sensor fusion and comprehensive environmental model
- Safety, performance and robustness

Dr. Sascha Semmler, Head of Innovation, Business Area Autonomous Mobility, Continental AG, Germany

11:00 The path of AI taking the driver seat.

- How AI will define the future of the automotive ecosystem
- What we have to do today, to get there safely

Timo Pfister, Client Engineering Manager, IBM Deutschland GmbH, Germany

Keynote

11:30 Mind the Gap: Building Trust in AI-based Perception

- The perception challenge and the semantic gap
- An effective model for safety assurance of ML-based functions
- A peek into the black box: Understanding Insufficiencies
- Doubt your senses: Uncertainties and AI monitoring

Karsten Roscher, Head of Dependable Perception & Imaging, Fraunhofer Institute for Cognitive Systems IKS, Germany

12:00  Lunch

II. Data Management & Architecture

13:30 Safe AI for Automotive Perception: Challenges, Approaches, and Future Developments

- Simple ODD for System Development
- Safety by Design & Safety Pattern
- Solving the Data Problem for AI with Self-Supervision
- Formal Verification of AI & new Methods

Stefan Milz, CEO, Spleen Lab, Germany

14:00 How AI is Affecting Compute Architectures in Automotive

- Machine learning is the dominant compute for high levels of autonomy
- Continuous updates on algorithms due new data requires a flexible architecture
- And it all has to be safe

Gilberto Rodriguez, Director of product management for Automotive compute, Imagination Technologies, United Kingdom

14:30 Data-centric AI: How to Build better Models through better Data

- Data curation to increase data quality and model performance
- Automated data feedback through active-learning
- Data Loop: Data collection via customer fleet cars

Matthias Heller, Co-founder, lightly.ai, Switzerland

15:00  Networking & coffee break

III. AI Regulatory & Certification

15:30 Trustworthy AI – How Technology, Standards and People Interact to Make AI Safe and Secure for Everyone

- Approaching the topic of AI quality/"trustworthy AI" from the perspective of the automotive industry
- Providing an overview of the current state-of-the-art approaches for testing AI components in mobility systems
- Giving an introduction to ongoing regulatory developments regarding AI
- Discussing the necessary interplay between industry, regulators, and third-party inspectors

Jörg Firnkorn, Senior Manager AI Quality Consulting, Dekra Digital GmbH, Germany

16:00 CertAI - Bridging the Trust Gap of AI

- Trustworthy AI becomes relevant: Why and what does it mean?
- Ecosystems as success factors in mastering complexity of AI
- CertAI could create a competitive edge in Automotive

Dr. Oliver Maguhn, Munich Re, Co-founder, CertAI, Germany

17:00 Panel Discussion: AI in the Mobility Sector – Trust through or despite Technology?

- **Kenza Ait Sit Abou**, Director Clients IBM AI, book author, TEDx Speaker, IBM Deutschland GmbH, Germany
- **Anita Klingel**, Co-Lead Research Group AI, PD-Berater der öffentlichen Hand GmbH, Germany
- **Xavier Valero**, Head of Applied AI, Dekra Digital GmbH, Germany
- **Mirko Knaak**, AI Safety Leader and AI Advisor, IAV GmbH, Germany

18:00 End of Conference Day 1



Get-together

At the end of the first conference day we kindly invite you to use the relaxed and informal atmosphere for in-depth conversations with other participants and speakers

09:00 Chair's Opening Remarks

IV. AI for Autonomous Driving

09:15 AI Synergy: Achieving AI Autonomy with Custom Silicon, Next-Generation Multimodal Learning and Petascale ASICs for Edge

- Challenges for self-driving vehicles
- Petascale ASICs opportunities and AI/ML pipeline/software stack
- Connected car, sensor fusion, 5G and data privacy re vision and AI
- Co-emerging trends in industrial robotics, digital twins, robotic surgery and automation

Mr. Andrew Grant, Partner, Artificial Intelligence and Automotive, Dx3 (Dx-cu-bed), United Kingdom

Keynote

09:45 Cloud infrastructure for AI-first autonomous driving

- How have cloud computing requirements for AD/ADAS development evolved in the last 5 years?
- What is AVOps?
- Mainstreaming reinforcement learning and unsupervised learning training
- AD/ADAS validation and cloud computing

Aditya Sharma, Senior Program Manager Autonomous Driving on Azure, Microsoft Corporation, USA

10:15 Self-Learning AI for Autonomous Driving

- Unsupervised learning
- Little data - No labels
- Signature-based AI and its Implications on Automotive Safety
- Low power, low compute

Nils Berkemeyer, VP Corporate Developmen, AutoBrains Technologies, Israel

10:45 Fully Autonomous Driving The Reality or a Fiction?

- Can human driving behavior be replaced by autonomous driving and how?
- The goals of autonomous vehicles (AV)
- How to build the autonomous driver?
- How to scale intelligence of the AI driving agent system?
- What does it take to develop a better driver?

Davor Andric, Global Technology Leader Autonomous Vehicles, AWS, Germany

11:15 ☕ Networking & coffee break

V. Safety & Security of AI

11:45 Functional Safety – Cyber Security – SOTIF: Conflict or Synergies?

- The relevant standards for safety, security and SOTIF
- Lever 1: Complexity of Safety and Security
- Lever 2: Updateability - Clear definition and handling of updateable areas needs to be considered in system design
- Lever 3: Availability - Focus set during system Design

Dr. Jens Henkner, CEO, CertX, Co-Author: Andreas Gruber, Head of Functional Safety, both: CertX, Switzerland

12:15 🍽️ Lunch

VI. Safe AI for Automated vehicles

13:30 Safe Artificial Intelligence for Automotive Software

- Use cases and technologies of safety-critical AI in automated driving
- Challenges for Safety in Automated Driving
- Approaches for solving those challenges

Peter Schlicht, Head of Safe AI and AI Innovations, Cariad SE, Germany

14:00 Enhanced Safety with 3D Thermal Ranging Using AI for ADAS/AV Applications

- Safety as paramount issue for ADAS/AV
- Lack of thermal capabilities for current ADAS/AV sensors
- Improving Safety by Monocular 3D Thermal cameras
- Derivation of Ultra-High-Density range maps

Chuck Gershman, CEO, co-founder Company, Owl Autonomous Imaging (Owl AI), United States

14:30 Semiconductor Industry - Trends and Outlook for the Automotive Environment

- Reason for today's supply chain constraints and future prospects
- Electrification and ADAS - opportunities and challenges
- Global semiconductor trends and the impact on the automotive industry

Thomas Foj, Director Vertical Markets - Member of the Executive Team, Avnet Silica, Germany

15:00 Closing Remarks

15:15 End of Conference

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If you want to meet with and reach out to the first-rate experts attending this VDI conference and to powerfully present your products and services to the well-informed community of conference participants, please contact:

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Become a speaker

Become a speaker at our international VDI Automotive Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are looking for speakers on: ADAS & Autonomous Driving, Data Management, Safety & Security, Testing & Validation and Safe AI.

Please submit your topic to:

Birgit Bremer
Product Manager
International Business Development
Phone: +49 211 6214-273
Email: Birgit.Bremer@vdi.de

Registration

Terms and Conditions

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Conference venue
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You will find more hotels
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Hotel room reservation: A limited number of rooms has been reserved for the benefit of the conference participants at the NH München Ost Conference Center. Please refer to "VDI Conference". For more hotels: www.vdi-wissensforum.de/hrs

VDI Wissensforum service package: The conference package includes the conference documents (online), beverages during breaks, lunch and the get-together on October 19, 2022.

Conference attendance conditions and terms can be found on our website:
www.vdi-wissensforum.de/en/terms-and-conditions/

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Register online!

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Yes, I will participate as follows:

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VDI Conference 19.-20.10.2022
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