

VDI

VDI Online Conference

Future of AI in Automotive

April 27-28, 2021, Online

- Anchoring AI across the Company, Improving Data Management & Data Architecture
- Safety & Security of AI-based Systems, Data Security by Design, Trust & Ethics in AI
- Accelerating Development Processes with AI, Leveraging AI in Automotive Manufacturing
- AI & Big Data Management for Autonomous Driving, AI for Perception & Decision-Making
- HMI & Conversational AI Systems, Explainability in Human-AI-Interaction

+ International Best Practices

+ Interactive Breakout Sessions

+ Panel Discussion

Meet international Experts from:



An event organized by VDI Wissensforum GmbH
www.vdi-international.com/01K0933021





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 renowned technical experts on the use of AI in the automotive industry.

Network with key decision-makers from international OEMs & suppliers.

Learn where the industry is headed & how to stay ahead of the curve.

Discuss technical challenges, current developments & newest solutions.

Benefit from interactive round-table discussions, inspiring keynotes, and in-depth presentations.

Prepare for two days full of insights, contacts & new ideas!



Upcoming Events

International VDI Conference

Cyber Security for Vehicles

June 22-23, 2021 Online

International VDI Congress

ELIV - Electronics In Vehicles

October 20-21, 2021 in Bonn

09:40 Chair's Welcome & Opening Address

Dr. Florian Baumann, CTO - Automotive & AI, Dell Technologies, Germany

10:00 AI Across the Automotive Domains

- Software & AI in autonomous driving, cockpit, e-powertrain & connected services
- Ingredients for success
- War for AI talent

Joachim Langenwalter, Sr. VP Software & Hardware
Stellantis, France



10:30 Unsupervised Learning Empowers AI – Where Do We Empower Trust & Ethical Deployment?

- Traditional supervised learning is far from intelligence – What is ahead of us?
- Technology needs to be beneficial to its users, to society, to the environment – such care must be extended to so-called AI methodologies
- What is AI?

Prof. Dr. Patrick van der Smagt, Director of AI Research, Volkswagen AG, Germany

11:00 ☕ Coffee Break

I. Building the AI-Powered Organisation

11:15 Leveraging the Potential of AI: The Project AI at BMW Group

- Hub- & spokes-approach enabling the organization to leverage the full technological potential
 - AI applications relevant & under development along the value chain
 - D³ use case portfolio accelerating technology scaling across the organization
- Daniela Rittmeier, AI Portfolio Manager, BMW Group, Germany

11:45 Increasing AI Maturity at Large Organizations: A Story from the Real World

- A framework for choosing organizational structures to boost ML capabilities
 - Assessing the current status & existing challenges with ML
 - Supplementing the framework with real-world examples
- Jan Zawadzki, Head of Artificial Intelligence, Cariad, Germany

12:15 Anchoring AI in an Automotive Supplier

- Artificial Intelligence as a key product differentiator
 - Where AI can add value to automotive supplier products
 - Anchoring AI in the organization
- Dr. Jürgen Bohn, Head of Innovation Cluster Artificial Intelligence, Schaeffler AG, Germany

12:45 🍴 Lunch Break

II. AI for Autonomous Driving

13:30 AI & Big Data Management for Autonomous Driving

- Safer driving today begins in the data center

- Data management & artificial intelligence
- AV workflow challenges & pain points

Frank Kraemer, IBM Systems Architect, IBM, Germany

14:00 Deep Teaching: A Scalable AI Approach to Autonomous Driving

- Corner case scenarios make developing safety critical AI for AD slow & costly
- Deep Teaching reduces the cost & time of development by allowing large scale training of neural networks without the bottleneck of human annotation & by tackling training in the small data regime

Vladislav Voroninski, CEO, Helm.ai, USA

14:30 An Optimal Sensor Set for Automated Driving Using AI

- Overview Valeo & sensor portfolio
- Automated driving sensor set & processing chain
- Valeo AI algos for cameras, LIDAR and ultrasonic sensors

Jörg Schrepfer, Head of Driving Assistance Research Germany, Martin Simon, Harald Barth, all: VALEO Schalter & Sensoren GmbH, Germany

15:00 ☕ Coffee Break

III. Safety & Security of AI

15:15 Must AI Have Common Sense in Order to Allow Guarantees?

- AI systems based on DL cannot be trusted with anything that has not been precisely anticipated by their designers
- AI needs to be able to deal with problems that are novel & variations that have not been seen before
- Some notion of common sense in AI is required to allow guaranteed behavior; promising research directions are explainable AI & hybrid AI

Dr. Christian Müller, Principal Researcher, Head of Competence Center Autonomous Driving, German Research Center for Artificial Intelligence DFKI, Germany

15:45 Determination & Establishment of Development Life Cycle for AI based on Automotive Cybersecurity Application

- Adapting a secured AI architecture should be encouraged as the basic AI architectures do not provide provision against security risks
- Performing adversarial attacks on AI should be mandatory activity as they showcase the security vulnerabilities while training and testing the AI model
- A development life cycle with security objectives helps in mitigating security vulnerabilities in AI

Philipp Veronesi, Managing Director, Narasimha Deshpande both: CYRES Consulting Services GmbH, Germany

16:15 Panel Discussion: Data Security by Design for AI

- Dr. Tobias Große-Puppendahl, AI Architect, Porsche AG, Germany
- Dr. Klaudius Kalcher, Chief Data Scientist, Mostly AI, Germany
- Robin Röhm, CEO & Co-Founder, Apheris, Germany
- Dr. Felix Schuster, Co-Founder, Edgeless Systems GmbH, Germany
- Jan Zawadzki, Head of Artificial Intelligence, Cariad, Germany



17:00 Chair's Closing Remarks & End of Day 1

IV. Data Management & Data Architecture

Opening
Keynote

10:00 Data & AI Organization in Groupe PSA & Data Sharing Initiatives

- Presentation of Data & AI organization in Groupe PSA
- Skills to set up Data Projects
- Data projects initiatives launched: Predictive maintenance, connected cars, parts conformity...

Guillaume Gruel, Head of Engineering & Quality Data & AI Department,

Matthieu Donain, Head of Openlab AI, both: Groupe PSA, France

10:30 PROMETHEA Project: Data Sharing for AI exploitation

- PROMETHEA : A virtuous loop for the product Life Cycle
- Definition of a standard data model leading to solutions homologation by GALIA
- Development of prototype exploiting measurements in production according to 3 use cases (Product/Process feasibility, convergence and quality monitoring)
- PROMETHEA Common data model based on STEP AP 242 xml overview

Alexandre Loire, Engineering Standardization Projects Director, GALIA, France

11:00 AI at the Edge: Building an Automotive Edge Computing Platform

- Fully automated setup of clusters on on-premise hardware & operating concept for a large number of clusters
- Self-service for platform services, multi-cluster management & centralized logging and monitoring

Dr. Tobias Bürger, Lead Big Data & AI Platform, BMW Group, Germany

11:30 ☕ Coffee Break

11:45 Breakout Sessions

Directly engage with international experts in these highly interactive sessions. Discuss current challenges, needs, and solutions with your peers!

- Manufacturing: When can we trust AI to make better decisions than humans – and what happens next? **Pierre Garrot**, AI Projects Director, Faurecia, France
- Physical vs. AI (Empirical) Models, **Dr. Marc Hilbert**, Team Lead – Machine Learning for Engineering & Production, Volkswagen Software Innovation Center – Data: Lab Munich, Germany
- Explainable AI: Theory and Industrial Applications, **Dr. Tarek R. Besold**, Head of AI, DEKRA Digital, Germany

12:30 🍴 Lunch Break

V. AI for Development & Engineering

13:15 Using AI to Accelerate & Automate Automotive Development Processes

- Unused potential for further automation in automotive R&D
- AI can help automate similar but not identical tasks significantly
- Example: Plausibility checks of data prior to actual task performed by a human

Dr. Mirko Knaak, Expert in Artificial Intelligence, IAV GmbH, Germany

13:45 Accelerating Product Development with AI-based Virtual Testing

- Introduction to our company & vision
- A platform leveraging AI for engineers
- Virtual testing applied to engine calibration

Dr. Joël Henry, Principal Engineer, Monolith AI, UK

VI. AI for Manufacturing & Production

14:15 Collaborative Learning as Enabler for Smart Automotive Services

- Automotive edge computing as fast-developing automotive technology bringing AI technologies into & facilitating intelligent services between vehicles
- Cars as platforms for local smart automotive services that support local communication between vehicles, but also interactions between drivers, passengers & external actors
- Collaborative learning as extension of federated learning supporting training & usage of AI-based services locally in cars

Univ.-Prof. Dr.-Ing. Wolfgang Maaß, Scientific Director & Head of Smart Service Engineering, German Research Center for Artificial Intelligence DFKI, Germany

14:45 ☕ Coffee Break

VII. AI for HMI & UX

15:00 What It Takes to Put Conversational AI Systems Into Cars – Lessons Learned

- Building Conversational AI assistants in cars
- AI technology is (only) the basis
- The crucial role of UX Research in the process
- Experiences gained from real projects

Dr. Nils Lenke, VP & GM Apps BU, Vanessa Tobisch, Senior User Experience Researcher, both: Cerence, Germany

15:30 Explainability in Human-AI-Interaction for Automotive Systems

- Interaction model for transparent communication
- Customer empowerment and positive UX with explanations
- From Explainable AI to system information for endusers

Dr.-Ing. Joana Hois, Artificial Intelligence Research, Mercedes-Benz AG, Germany

16:00 Chair's Closing Remarks & End of Conference



Become a speaker

Become a speaker at our VDI Automotive Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are i.a. looking for Speakers on: ADAS & Autonomous Driving, HMI & UX, Functional & System Safety, Testing & Validation, Automotive Sensor Systems.

Please submit your topic to:

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Product Manager International Business

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Conference venue

The VDI Conference "Future of AI in Automotive" will take place online

Conference attendance conditions and terms can be found on our website:

www.vdi-wissensforum.de/en/terms-and-conditions/

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Registration

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Register online!

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Yes, I will participate as follows:

Participation Fee + VAT

VDI Conference 27.-28.04.2021
(01K0933021) € 1290

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