



APPLY & INNOVATE

**THE EXPERT FORUM
FOR VIRTUAL TEST DRIVING**

September 20–21, 2022 in Karlsruhe

PROGRAM OVERVIEW



08:00–09:00 a.m. Registration and breakfast

09:00–09:15 a.m. Welcome and opening

09:15–10:00 a.m. **Keynote**

**Cars in the Cloud –
Enabling Modern Software Development Methods with Large Scale Testing and Simulation for ADAS/AV**

Luke Harvey, Principal Partner Solutions Architect, Automotive | Amazon Web Services Inc.

10:00–10:30 a.m. Coffee break and accompanying exhibition

10:30 a.m.–12:00 Parallel sessions: **Hybrid, EV and fuel cell & Scenario-based testing**

Development and Optimization of Hypercar Performance

Tajana Hrbud | Bugatti Rimac d.o.o.

**Battery-Related Testing for EV Simulation
When Needed – A CarMaker Extension
As-A-Service for Battery-Related Testing**

Dr. Matthias Meyer | Pass Testing Solutions GmbH

**A Novel Test Bed Setup for Method Verification
on the Example of a Shiftable Electric Axis**

Dr. Felix Matthies | IAV GmbH,
Hyundai Motor Europe Technical Center GmbH

**Evaluating the Actual Criticality of Safety-Critical
Driving Situations – A Use Case for Neuro-Cognitive Traffic
Models in Simulation**

Lukas Brostek | cogniBIT GmbH

**An Application of Scenario Exploration
for Finding New Scenarios – Development and Testing of
Automated Driving Systems in Urban Scenarios**

Barbara Schütt | FZI Research Center for Information Technology

**Risk Assessment in AD for the Generation of
Virtual Testing Scenarios – An Innovative Tool for
Sensor and Driving Function Validation**

Thomas Freudenmann | EDI GmbH

12:00–01:30 p.m. Lunch break and accompanying exhibition

01:30–03:00 p.m.

Parallel sessions: **CI/CT/CD & Advanced driver assistance systems**

Application of a CI/CT/CD Environment to develop ADAS Functions

Axel Schneider | Continental Engineering Services GmbH

MeaSURE Drive: Methods and Sensors to Understand and Regard Driver Attentiveness in Autonomous Vehicles

Eva-Maria Knoch | Karlsruhe Institute of Technology

Modular Virtual Assembly and Integration for SIL and HIL – Supporting Testing during the Complete Development Cycle

Mattias Eriksson | Volvo Car Corporation

waveBEE V2X/C-V2X Integration with CarMaker

Niels Lichtblau | NORDSYS GmbH

CarMaker for FDTech Digital Twin – How FDTech Utilizes CarMaker for Developing HAD Functions

Andre Müller, Dirk Martin | FDTech GmbH

VIL Testing: Importance of Precise Reference Motion and Navigation Sensing

Laurent Chalard | GeneSys Elektronik GmbH

03:00–03:30 p.m.

Coffee break and accompanying exhibition

04:00–05:00 p.m.

Parallel sessions: **Development methods and test processes & Sensors**

Simulation for All - Automated Tool Chain

Liam Barry, Francisco Collado | Rivian United Kingdom Ltd.

ADAS Cross-Domain Simulation Platform – Software-In-The-Loop Solution for ADAS Systems

Irina Kaiser | Bosch Engineering GmbH

Enabling Development of Power Supply System, Management and Prediction to Validate Major and Minor Changes in Co-Simulation

Stefan Kurtz | BMW Group

Road to Lab – Validation of ADAS/AD Functions in Automotive with Real Sensors

Henrik Liebau | Keysight Technologies Deutschland GmbH

From 05:00 p.m.

End of day 1 and transition to evening event (Start: 07:00p.m.)

08:45 a.m. Start

09:00–09:30 a.m. **Development methods and test processes**

Development of Chassis Software with Virtual Prototypes – Co-Simulation of CarMaker with Synopsys virtual ECU

Andreas Schmidt | AUDI AG, e:fs TechHub GmbH

09:30–09:45 a.m. Coffee break and accompanying exhibition

09:45–10:45 a.m. Parallel sessions: **HPC und cloud computing & Heavy-duty vehicles and motorcycles**

Scalable ADAS/AD Cloud Simulation for L2+ SOP Autonomous System Using Ontology-Based Testing

Jianbo Tao | AVL List GmbH

Whole Motorcycle In-the-Loop for Control Logics Best Tuning and Verification

Marco Pezzola | Soluzioni Ingegneria srl

Sensor Modelling and Virtual Testing in Cloud Infrastructures

Sören Böttger, Marcel Liebald | IAV GmbH

Energy-Efficient and Semi-Automated Truck Platooning – High-Fidelity Co-Simulation-Based Validation of Advanced Truck Platooning Control

Alexander Lukas Gratzler | Technische Universität Wien

10:45–11:00 a.m. Coffee break and accompanying exhibition

11:00 a.m.–12:00

Parallel sessions: **Sensors & Hybrid, EV and fuel cell**

Development of Ray-Tracing-Based Automotive LiDAR Sensor Model with Standardized Interfaces

Arslan Haider | Kempten University of Applied Sciences

V2X-Based Hybrid Powertrain Control Design and Simulation Under Connected Environment

Tielong Shen | Sophia University

Co-Simulation of CarMaker and Ansys AVxcelerate – Proof of Concept for Automotive Camera and Radar

Ketan Bavalia | Valeo GmbH, David Auger | ANSYS, Inc.

Energy Management Study Introducing Fuel Cell Technology – Coupling IPG Automotive Tools with Simulink Fuel Cell Models

Guillaume Bruniquel | Sherpa Engineering SA

12:00–01:30 p.m.

Lunch break and accompanying exhibition

01:30–03:00 p.m.

Parallel sessions: **Development methods and test processes & Advanced driver assistance systems**

DDS Integration within CarMaker – Integration for Enabling Connection with AD/ADAS Software

Francisco Navas | Volvo Car Corporation

Simulation-Based Benefit Estimation of Automatic Emergency Braking in Vehicle to Pedestrian Collisions

Hironori Chaya | Toyota Motor Corporation

Hardware-In-The-Loop Simulation with Extended Physical Tire Models for Virtual Testing of Control Units

Francesco Calabrese | Fraunhofer Institute for Industrial Mathematics ITWM

Proving Ground Automation and Digitalization as Part of the Tool Chain for Validation of Automated Driving Functions

Uwe Burkhardt | DEKRA Automobil GmbH

Use of Driving Simulators with CarMaker – Applications and Potential

Stefan Vorderobermeier | AB Dynamics Ltd., Kempten University of Applied Sciences, MdynamiX AG

Run-Time Verification and Virtual Homologation of ALKS – Legal Requirements as a Service

Jinwei Zhou | Kontrol GmbH

03:00–03:30 p.m.

Coffee break and accompanying exhibition

03:30–04:30 p.m.

Parallel sessions: **Scenario-based testing & Heavy-duty vehicles and motorcycles**

AI-Based Generation of Safety-Critical Scenarios for Automated Driving – Automated, Continuous and Systematic Identification of System Issues

Dr. Raphael Pfeffer | RevoAI GmbH

AgriSim, the Agricultural Vehicle Dynamics and Precision Farming Simulation Platform

Elisabetta Leo | Soluzioni Ingegneria srl and CREA

ARTS: Implementation of an Adaptive Replay-To-Sim Approach Within a Scenario-Based Simulation Platform for the Safety Validation of AD Systems

Nico Weber | Opel Automobile GmbH (Stellantis N.V.),
Technische Universität Darmstadt

Keeping with the Standard – The KION HIL Calibrator – A Test System for Test Systems

Mario Kuhn, Thorsten Pendzialek | Linde Material Handling
(KION Group AG)

04:45–05:30 p.m.

Keynote

Title to be announced soon

Hui Zhang, Group Vice President | NIO

05:30–05:45 p.m.

Closing

Members of the program advisory committee

- **Dr. Stefan Bernsteiner**
Magna Steyr Fahrzeugtechnik
AG & Co KG
- **Dr. Christian Donn**
APL Automobil-Prüftechnik
Landau GmbH
- **Prof. Dr. rer. nat. Frank Gauterin**
Institute of Vehicle Systems
Technology (FAST), Karlsruhe
Institute for Technology
- **Dipl.-Ing. Christoph Gumbel**
future matters AG
- **Dipl.-Ing. (FH) Karl Michael Hahn**
Stellantis N.V.
- **Dipl.-Ing. Stephan Hakuli**
Continental Engineering
Services GmbH
- **Dipl.-Ing. Klaus Hassel**
Dr. Ing. h.c. F. Porsche AG
- **Dipl.-Ing. (FH) Christian Heiduschke**
IAV GmbH
- **Dr.-Ing. Henning Holzmann**
AUDI AG
- **Dipl.-Ing. Jochen Köhler**
ZF Friedrichshafen AG
- **Dipl.-Ing. (FH) Rafael Kumschier**
Continental Teves AG & Co. oHG
- **Dr. Richard Rapp**
Valeo Schalter und Sensoren GmbH
- **Dr. Hellmar Rockel**
Schaeffler Technologies AG & Co. KG
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Hyundai Motor Europe
Technical Center GmbH
- **Dipl.-Ing. Ulrich Schulmeister**
Robert Bosch GmbH
- **Dipl.-Phys. Martin Sevenich**
Continental AG
- **Dr. Paul Spannaus**
Elektronische
Fahrwerksysteme GmbH
- **M.Sc. / M.Eng. Robert ter Waarbeek**
Ford-Werke GmbH

Chairman

- **Dipl.-Ing. Steffen Schmidt**
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