

4th International VDI Conference 2017

Automated Driving

July 5–6, 2017, Berlin, Germany

- New Mobility Concepts and the Future of Urban Mobility
- Artificial Intelligence and Self-Driving Cars
- OEM Perspectives on Automated and Autonomous Driving
- Mapping Technologies and Traffic Data
- Sensors, Automotive 3D Reconstruction and Information Technology
- Security, Safety and Standards

+ International VDI Workshops

+ Panel Discussion: Revolution or Evolution from Automated to Autonomous Driving?

Meet experts from the following companies:

2getthere

AUTOSAR



Continental
The Future in Motion

CNI
INDUSTRIAL

DIBOTICS



vtraffic

NVIDIA

NXP

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TOMTOM

An event organized by VDI Wissensforum GmbH

www.vdi-international.com/automateddriving

CONCAR EXPO 2017

Includes free entrance to
the ConCarExpo 2017!

Who shall attend the International Conference Automated Driving?

This international conference is directed at engineers and automotive experts from all over the world. Engineers, designers and specialists from car makers and suppliers of the automotive industry should attend this technical event, in particular those working in:

- ADAS/Driver Assistance and Active Safety
- Prospective Autonomous Driving
- Electric/Electronics, Software and Car-IT
- Connectivity/Connected Vehicles

Explore the connected automotive Ecosystem

The **"Automated Driving"** is part of the ConCarExpo – The leading International Trade Fair for Connected Car & Mobility Solutions in Europe. The ConCarExpo unites four technical conferences, a huge range of international exhibitors, innovative start-up pitches and excellent networking opportunities in the connected automotive ecosystem.



Visit four parallel running conferences with one ticket

**4th International VDI Conference
Automated Driving**

**4th International VDI Conference
HMI & Connectivity**

**3rd International VDI Conference
IT Security for Vehicles**

**1st International VDI Conference
Digital Infrastructure
& Automotive Mobility**

Your benefits:

4 for 1
Four high class technical international conferences with one ticket

+ 100 International exhibitors
at ConCarExpo

+ 100 Speeches
at the four conferences
and on the exhibition floor

Over 500 Attendees
at the conferences and
1500 Trade Fair Visitors

Networking Hotspots
Huge evening reception,
roundtables, workshops,
world cafés

**+ 20% International
OEM Delegates**

**Car Pavillion and
User Experiences**

**16 Start
up-Pitches**

08:30 Registration & welcome coffee

**09:30 Opening Speech ConCarExpo at the ConCar Forum Stage:
Autonomous Driving, Digital Infrastructure & Mobility Solutions
as Key Drivers for the Automotive Industry**
Johannes Jungwirth, Chief Digital Officer, Volkswagen AG, Germany

10:10 Chair's welcome and opening address in the Automated Driving conference room

I. Future Mobility and Driverless Cars

10:15 The Future of Urban Mobility

- The concept of mobility faces enormous changes
- Car ownership and usage patterns will soon look different
- Ride sharing at the core of mobility, enabling potentials of autonomous driving

Roland Werner, Head of Government Affairs & Policy DACH, Uber Germany

10:45 Towards permanent Deployments with shared Autonomous Vehicles


- Shared autonomous vehicles
- Sensing, navigation and control
- Permanent deployments and semi controlled environments

Sjoerd van der Zwaan, M.Sc., Chief Technology Officer, 2getthere, The Netherlands

11:15 AI – The Solution to Self-Driving Vehicles and Transportation

- AI and DeepLearning software development
- AI computing and software platform for automated to self-driving vehicles
- Testing and validation in virtual and simulated environment for autonomous systems

Serkan Arslan, Director Business Development, NVIDIA GmbH, Germany

11:45  Networking & coffee break

II. OEM Perspectives on Automated and Autonomous Driving


12:15 Environment Model for Autonomous Driving – The upcoming Challenges

- Central sensor fusion for autonomous driving
- Challenges on meeting safety goals
- Test and validation of the environmental model
- Computing platform for sensor fusion and scene interpretation

Dr. Hariolf Gentner, Senior Manager, Environmental Model, Driver Model, Sensor Related Software, co-author: Dr. Michael Manz, both BMW AG, Germany

12:45 Cooperative Automated Driving

- Challenges in automated driving
 - The role and design of V2X in addressing current challenges
 - Case study: Cooperative mapping, perception
 - Importance of V2X standardization for automated driving applications
- Dr. Gaurav Bansal, Senior Researcher, Network Division, Toyota InfoTechnology Center, USA

13:15  Lunch & visit of the accompanying trade fair ConCarExpo

III. The Future of Self-Driving Cars

15:00 Driverless Cars – Revolution or Evolution from Automated to Autonomous Driving?

Panelists:

Serkan Arslan (NVIDIA), Roland Werner (Uber), Gaurav Bansal (Toyota ITC), Chan Lieu (Venable), Sjoerd van der Zwaan (2getthere)

Panel Discussion

16:00  Networking & coffee break

16:30 The Future of Self-Driving Cars – A US Perspective

- Overview of industry development efforts of self-driving vehicles
- US Department of Transportation's Federal Automated Vehicle Policy Guidance
- Timeline and expectations for developing regulations, standards, and effects on deployment

Chan Lieu, Senior Legal Advisor, Venable LLP and former Director of Government Affairs, Policy and Strategic Planning at NHTSA, USA

17:00 Thinking Outside the Box – Autonomous Tractors

- Autonomous vehicles in agriculture and concept vehicles
- Driverless vehicle challenges in agriculture
- Autonomous vehicle's place in agriculture

Frank Rabusic, B.Sc., Product Manager – AutoGuidance, Product Development, CNH Industrial, USA

Breakout: Tractors

17:30 Chair's remarks

**17:45 Evening Keynote on the ConCar Forum Stage:
Volvo Cars development of Autonomous Vehicles, in cooperation
with Uber and Zenuity**
Kent Melin, M.Sc., Senior Technical Leader, Electrical System Design,
Volvo Car Group, Sweden

18:30 End of conference day one



Get-together with Participants of all parallel Conferences
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.

IV. Mapping Technologies and Traffic Data

09:15 The Autonomous Driving Big Data Loop

- HD maps as “superhuman memory” in autonomous driving
- Precise localization with the help of map attributes
- The data cycle connecting car and cloud

Willem Strijbosch, M.Sc., Head of Autonomous Driving, TomTom, The Netherlands

09:45 Towards HAD-map-change Detection on Backend Server

- Publicly funded project Ko-HAF (Cooperative Highly Automated Driving): Summary and detailed information on backend server activities
- Fleet sensor data based aggregation for HAD maps
- Backend server based map representation
- Fleet sensor data format and requirements on processing

Dr.-Ing. Lukas Klejnowski, Research Engineer, co-authors: Dr. Markus Rausch, Dr. Artur Quiring, Dr. Holger Mielenz, all: Robert Bosch GmbH, Germany

10:15 Traffic Data in the Service of Delegated Driving

- Prospects for using the autonomous vehicle in real traffic conditions
- Exploring historical traffic data
- Adding a new experience level with data science to the car manufacturers in order to maximize promises to the drivers

Philippe Goudal, Director Quality & Innovation, Mediamobile, France

10:45  Networking & coffee break

V. Sensors and Information Technology

11:30 LiDAR Augmentation Techniques for Autonomous Driving

- Overview of LiDAR real-time data and what’s LiDAR Augmentation?
- Calibration-less, Synchronisation-less Sensor Fusion
- Augmented Perception through live 3D Mapping
- Map-less Segmentation

Raul Bravo, CEO co-founder, DIBOTICS, France

12:00 Automotive 3D Reconstruction based on Multi Pixel Headlight Systems


- Structured light outline
- Characterization of autonomous structured light
- Simulation environment structure and preliminary depth measurement

Christian Schneider, M.Sc., Development Engineer, Driver Assistance – Platform/Systems, Porsche AG, Germany

12:30 Humanlike AI for self-driving Cars

- Artificial intelligence and driverless cars
- Computer vision for automated driving
- Understanding state of mind of road users

Sid Misra, CEO, Perceptive Automata, **Sam Anthony**, Harvard University, both USA

13:00  Lunch & visit of the accompanying trade fair ConCarExpo

14:45 Multiple ADAS Systems Towards a Safe Autonomous Ride

- Autonomous Driving with radar, vision, lidar technologies
- Vehicle sensor fusion
- Higher level perception and mapping in the autonomous vehicle
- Object classification

Davide Santo, Product Line General Manager at Advanced Driver Assistance Systems, Automotive Microcontrollers and Processors, NXP Semiconductors, Germany

VI. Security, Safety and Standards

15:15 Secured & Failsafe Over The Air Upgrade of ECUs

- Secured data transfer over the air of the ECU firmware
- Delta upgrade of firmware image files
- Efficient OTA upgrade methods -Enabling normal ECU function execution during firmware programming
- Failsafe OTA upgrade methods – Effective handling of disruption during upgrade/download of firmware files or download of corrupted firmware files

Annie Smitha Paul, B.E., Manager, Transportation Business Unit, Tata Elxsi, India

15:45 AUTOSAR for Connected and Autonomous Vehicles – The AUTOSAR Adaptive Platform

- Overview and achievements
- New challenges and use cases
- AUTOSAR adaptive platform
- New cooperation model


Dr.-Ing. Thomas Scharnhorst, AUTOSAR Spokesperson, AUTOSAR Development Partnership, co-authors: Simon Fürst and Rinat Asmus, all: BMW AG, Germany

16:15 Safety for Automated Driving – From Practical Application Experiences to a New, Hazard-driven Acceptance Framework

- Application experiences with functional safety for automated vehicle prototypes
- Extension of classical safety approaches for automated vehicles functions (SOTIF)
- New hazard-based analysis methods (STPA, STAMP)

Hagen Böhmert, System Safety Engineer, Division Chassis and Safety Systems & Technology, Continental Teves AG & Co. oHG,

Harald Günther, Product Manager Automotive, Global Competence Center Functional Safety and Cyber Security, SGS-TÜV Saar GmbH, both Germany

16:45  Farewell coffee in the accompanying trade fair ConCarExpo

17:00 End of conference

International VDI Workshop

Impact of highly Automated Driving on Mobility Demand and Energy Consumption

Workshop Chair:

Patrick Will, Manager and Lead for Connected and Automated Vehicles and Tjark Eissfeldt, Consultant, both FEV Consulting GmbH

Date and venue:

July 4, 2017
Berlin, Germany

Time:

10:00 – 16:30

CONTENT

Besides changing the mobility demand and pattern of whole societies, self-driving vehicles have a strong potential to enhance safety and comfort as well as energy efficiency and drivability. Combining these objectives with the requirement of maintaining a human-like driving style poses many challenges. One, for example, is finding the right composition of powertrain type, configuration and self-driving software kit. An effective synthesis is expected to require contribution from both deep-learning as well as rule or model-based systems. The capabilities of these systems are constantly enhanced by experts in this field.

In this workshop, the major goal is to understand the impact of automated driving on the energy demand of the vehicle. This includes the right powertrain type / composition and software capabilities. The impact of artificial intelligence will be emphasized by addressing both the potential and the challenges.

Workshop outline:

Introduction

New mobility patterns, changed mobility demand

- Efficient and automated mobility solutions
- Shift in transportation types

Optimization of energy demand of automated vehicles

- Energy demand beyond 2030 and specific CO₂ emissions
- Right powertrain type / composition and software capabilities

Use-case based powertrain selection and configuration

Composition and methods of a self-driving software kit

- Deep-learning
- Rule or model-based systems

Summary and feedback

International VDI Workshop

Creating the Ultimate Parking Experience – A Design Thinking Approach

Workshop Chair:

Christian Adelsberger, CEO & Founder and Ivan Kasanicky, PhD, Head of Data Science, both Parkbob GmbH

Date and venue:

July 4, 2017
Berlin, Germany

Time:

10:00 – 16:30

CONTENT

Parking in cities is a hassle. It takes a lot of time, money and nerves and is a disaster for the environment. This workshop is intended for an audience interested on the last mile experience in a connected/automated car environment. While a fully automated experience is the ultimate goal, this workshop focuses on the various levels of autonomy where user decisions are still part of the game. The audience will co-create the ultimate parking experience based on design thinking methods. Our goal is to create a holistic understanding for an essential component shaping the last mile.

Workshop outline:

Introduction

Understand the day-to-day pain of parking in cities

- Deep dive into the existing user experience to carve out the problem
- Interviews with other attendees for first-hand feedback
- Identify the main areas of improvement from a user perspective

Ideation process for solutions to overcome the problem

- Brainstorming without limits based on identified improvement areas
- Synthesis of ideas and creation of roadmap

Let's prototype! What will it look like?

- Paper prototyping the future of parking
- Direct user interaction as part of the creation process

Wrap up session and feedback

Please note that the number of participants for our workshops is limited.

Automated Driving

is part of the ConCarExpo 2017

floor plan:



Sections of Trade Fair:

- Automated Driving and Driver Assistance Systems
- Electronic Components, Monitoring and Control Technology, Sensor Technology
- Software and Networked Systems, Infotainment
- Telematics and Navigation
- HMI, Operation and Display
- Diagnosis, Test, Integration, After-sales-service
- Traffic Engineering, Infrastructure, Automotive Mobility

91%

of visitors rate ConCarExpo 2016
as good to excellent

78%

rate the quality of visitors
as excellent

93%

of conferences delegates rate the
conference as good to excellent

82%

of exhibitors rate the marketing
platform ConCarExpo as very good

If you want to meet with and reach out to the first-rate experts attending the 4 International VDI Conferences and the International trade fair ConCarExpo and to powerfully present your products, become an exhibitor at ConCarExpo! For further information please contact our ConCarExpo-Team:

Martina Slominski, Project Consultant Exhibition & Sponsoring
Phone: +49 211 6214-385
martina.slominski@concarexpo.com

Mariya Petkova, Project Consultant Exhibition & Sponsoring
Phone: +49 211 6214-667
mariya.petkova@concarexpo.com

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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: Autonomous Vehicles (cars, trucks, busses, off-highway), Unmanned Aerial Vehicles, IoT, AI and Vehicle Tyres .

Please submit your topic to:

Katharina Neumann

Product Manager International Business Development

Phone: +49 211 6214-621

Email: neumann_ka@vdi.de

Registration

Terms and Conditions

Registrations: Registrations for conference attendance must be made in writing. Confirmation of your registration and the associated invoice will be mailed to you. Please do not pay your conference attendance fee until you have received our invoice and its invoice number to be stated for transfer. German VAT directives apply. Please state your VAT-ID with your registration.

Conference venue

ESTREL Hotel
Sonnenallee 225
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Website: www.estrel.com



You will find more hotels
close to the venue at
www.vdi-wissensforum.de/hrs

Hotel room reservation: A limited number of rooms has been reserved for the benefit of the conference participants at the ESTREL Berlin. Please refer to “VDI ConCarExpo”
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 July, 5, 2017, free admission to the parallel running conferences – HMI & Connectivity, IT Security for Vehicles and Digital Infrastructure & Automotive Mobility.

Conference attendance conditions and terms: By way of your registration you accept the conference attendance conditions and terms of VDI Wissensforum GmbH as binding. Any cancellation of your registration must be made in writing. We will charge you only an administrative fee of € 50.00 plus German VAT if you cancel your registration earlier than 14 days ahead of the conference date. Any cancellation that reaches us after this deadline will entail the conference attendance fee as stated in our invoice to be charged in full. The date of the post office stamp of your written cancellation will be the decisive criterion. In that case, we will gladly mail you the conference documents on request. Subject to agreement, you may name a substitute participant. Individual parts and sections of conferences and seminars cannot be booked. You will be informed without delay if an event has to be cancelled for unforeseeable reasons. In that instance, you will be entitled only to a refund of your conference attendance fee if already paid. We reserve the right to exchange speakers and/or change the program sequence in exceptional cases. In any case, the liability of VDI Wissensforum GmbH is restricted exclusively to the conference attendance fee.

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VDI Wissensforum GmbH | VDI-Platz 1 | 40468 Düsseldorf | Germany
www

VDI Wissensforum GmbH
P.O. Box 10 11 39
40002 Düsseldorf, Germany
Phone: +49 211 6214-201
Fax: +49 211 6214-154
Email: wissensforum@vdi.de
www.vdi-international.com/automatedddriving



Please choose your price category

Participation Fee + VAT <input type="checkbox"/> VDI Conference 05.–06.07.2017 (01KO903017) € 1,690	Workshop 04.07.2017 <input type="checkbox"/> Impact of highly Automated Driving on Mobility Demand and Energy Consumption (01ST171001) € 850	Workshop 04.07.2017 <input type="checkbox"/> Creating the Ultimate Parking Experience (01ST143001) € 850	Package Price Please tick the boxes (Conference and 1 workshop) € 2,280
Personal VDI members + VAT <input type="checkbox"/> VDI Conference 05.–06.07.2017 (01KO903017) € 1,590	Workshop 04.07.2017 <input type="checkbox"/> Impact of highly Automated Driving on Mobility Demand and Energy Consumption (01ST171001) € 800	Workshop 04.07.2017 <input type="checkbox"/> Creating the Ultimate Parking Experience (01ST143001) € 800	Package Price Please tick the boxes (Conference and 1 workshop) € 2,130

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