THE WORLD’S LEADING INTERNATIONAL CONFERENCE & EXHIBITION
FOR DESIGN, DEVELOPMENT & TESTING OF AUTONOMOUS VEHICLES

5, 6, 7 JUNE 2018, MESSE STUTTGART, GERMANY

LATEST UPDATES ANNOUNCED!
MORE REASONS TO ATTEND THAN EVER BEFORE
OUR BIGGEST EVENT TO DATE!

150+ speakers
Over 500 delegates expected
An Integral part of
Pass includes Nvidia & Siemens workshops
Welcome

We are fast approaching the biggest autonomous vehicle event in Europe, taking place this June in Stuttgart. There will be 150+ expert speakers and over 500 delegates taking part across three conferences, and 80+ leading AV technology companies exhibiting. We also have two exclusive workshops from Nvidia and Siemens taking place on 7 June, both of which are included in the delegate pass fee. You can read more about the workshops on page 21.

This programme is divided into three distinct sections – one for each symposium. Please take time to read about each speaker and their presentation synopsis, to better understand what can be learned and to realise the great networking opportunities that can be gained by meeting the speakers.

For 2018, we have created a ‘one pass, access all areas’ for delegates. This means that your pass will grant you access to the Autonomous Vehicle Test & Development Symposium, Autonomous Vehicle Interior Design & Technology Symposium, Autonomous Vehicle Software Symposium, the Nvidia and Siemens workshops, plus the Autonomous Vehicle Technology World Expo. Of course, your refreshments and lunch will be provided across all three days, and we invite you to attend the pre-event opening networking breakfast on Day 1 and the evening drinks reception on Wednesday 6 June.

We look forward to welcoming you to Stuttgart on 5, 6 and 7 June.

Best regards,
Andrew Boakes, conference director

*OVER 150 SPEAKERS • MORE THAN 500 DELEGATES ATTENDED IN 2017
• ATTENDEES VISITED FROM OVER 40 COUNTRIES IN 2017 • HELD ALONGSIDE AUTONOMOUS VEHICLE TECHNOLOGY WORLD EXPO – MEET OVER 80 EXHIBITORS!

ONE PASS GIVES ACCESS TO ALL EVENTS AT NO EXTRA COST!

CONFERENCE PASS RATES & PACKAGE

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- Access to the proceedings of those conferences attended
- Networking drinks reception
- VIP delegate and speaker dining
- Entry to Nvidia and Siemens workshops

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*Contact: andrew.boakes@ukimediaevents.com

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* Expected numbers

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An integral part of Autonomous Vehicle Technology World Expo 2018
Autonomous Vehicles in Real-Life Environments

14:15 - Using the StreetWise scenario base for virtual safety assessment
Dr. Alfred Kless, business development manager, Bosch GmbH, Germany

14:45 - Complete approach for testing automated vehicles on real-world driving ground Dr. Houssam Abtalibat, global head autonomous driving at Bosch, Bosch GmbH, Germany
The physical testing of highly automated vehicles is a key aspect when bringing them to the real world. However, a fully automated and repeatable replay of complex maneuvers must be achieved on the real ground to justify the ability of automated vehicles to cope with different situations. For this purpose, we present a complete technical solution for the testbed ecosystem for on- and off-road testing. The testbed ecosystem is based on real-world driving data. Parametrized observed variants of the scenarios are stored. When using the database for virtual testing, the test engineer can select a suitable set of test scenarios for the system under test. A data-driven approach for the validation of the relevant parts of the scenario is presented. Also, the interface “scenario parameters” – a major source of transparency. Technical details and demonstrations are provided in this talk.

15:15 - Enabling autonomous vehicles in inclement weather
Phil Magnor, manager and principal, VIsta Labs, USA
Enabling automated driving in inclement weather is a challenge where a vast variety of lane-keeping impairing factors are involved. However, there are new testing methods that are capable of capturing the performance of automated vehicles. In this presentation we will show how we have developed a framework to improve the AV performance in poor weather. By using different methods of localization against the present map, VISTA will discuss how to use HD maps to improve the performance and safety of automated vehicles, even when raining situations are covered or absent.

15:45 - 17:00 - Break

16:30 - Integration of solid-state lidar in vehicles: best practices for superior object detection
Filip Dejonckheere, XenomaX, Belgium
Technology choices for autonomous lidar must be based on how well the lidar can be integrated into vehicles. This integration impacts the lidar technology as well as the vehicle architecture. One example is the need for the new generation of mobile solid-state lidar systems to continue to grow, considerations about sensor positioning and ways to achieve reliable alignment of the lidar system are important. This presentation will report on some of the outcomes from the research cooperation with Tiers 1 partners for specific and integrated lidar positioning. The use of lidar as a reference or complementary system for camera- based or sensor-fused detection will also be addressed with regard to the lidar vs. camera positioning. 17:00 - Determining precise pose/alignment of a lidar for autonomous driving
Richard Sands, application engineer, OxTerra Technical Solutions Ltd, UK
This presentation covers a recent case study that demonstrates the critical importance of precise alignment of lidars in an inertial navigation system for automated driving applications. An approach to a method to remove systematic errors caused by misalignment is presented and real-world measurements used to validate the calibration result, along with specific findings that will help to improve confidence in open road sensor testing and validation projects.

17:30 - Challenges of multi-sensor and fusion ECU measurement for autonomous vehicles
Dr. Lee Williams, R&D Engineering Manager, Monza Elettronica, Ireland

18:30 - Challenges of multi-sensor and fusion ECU measurement for autonomous vehicles
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19:00 - Registration closing

The presentation will address the challenges and solutions for a complete ADAS logging approach including multichannel vehicle bus logging – CAN-FD, FlexRay, LIN, Auto-ECN, radar measurement technology for raw data as well as object data, high-fusion and fusion ECU measurement with multi-ECU architecture based on Autocar and Autoware adaptive operating systems, and various advanced and intelligent reference camera measurement, other sensors such as laser scanners, LiDARs and GPS. The unique solution covers the usage of the commercial NDS tool on the virtual object display overlay, and “Tail Drive model”.

14:15 - Complete approach for testing automated vehicles
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DAY 1

19:30 - Impact of real-time deployment of autonomous vehicles on mobility services
Raphael Grindat, CEO, Bosch, Switzerland

The demonstration of autonomous vehicles will be directly影响 the impact on mobility services and their integration in the current transportation system. In June 2016, Sweden was one of the first countries to set up a service of electric autonomous shuttles circling through a city centre network. The layout of the city is specifically designed for testing. Today, deployments of autonomous shuttles are blossoming worldwide, and are crucial to address challenges inherent in public acceptance of and trust in the integration of autonomous vehicles in urban areas.

The presentation will offer a deep dive into existing autonomous vehicle deployments around the world.

17:00 - Exploring automated bus transportation and cooperation initiatives
Dr Aris Pavan De Bekker, assistant professor, University of Twente, Netherlands

Robust automation within complex situations, especially in cities, is challenging.

For city transport, municipalities lose high costs of bus lines. These seem favourable, but in reality, municipalities need to offer basic transport facilities. Because the main reason is labour costs, these bus lines are operating automated buses within their towns. To optimize automation and with other operators, a system design is being explored with small bus units that individually drive autonomously in dedicated lanes and drive cooperatively with a manual lead bus in town.

17:30 - Panel Discussion – Harnessing the power of simulation
High-quality data generation, public perception, repeatable real-world scenarios – we discuss how to get the most from your real-world testing programmes.

Jo Henrici, programme director, Digital Engineering & Test Centre, UK
Caius Ciosco, application engineer, dSPACE GmbH, Germany

Simulation is (extraordinarily) validating autonomous driving application. In this discussion, we will reach further into virtual environment, SIL, HIL and virtual data creation.

18:45 - 20:30 - Working Dinner

DAY 2 WEDNESDAY 6 JUNE

09:00 - Training and validating automated driving applications using physics-based sensor simulation
Robin Schütz, simulation consultant, Aimsun, USA

Simulation platforms proprietary to validated virtual sensor data that is necessary to simulate modern traffic scenarios such as the Mentis Graphics DR360D and Nicki Dr10 for virtual validation of automated driving applications are necessary.

The PreScan simulation platform can be used to generate virtual sensor data and all sensor technologies relevant to automated driving, such as camera, radar, lidar, ultrasound and GNSS. In this presentation we also present the added value of using synthetic sensor data directly into the simulation platforms, which are in the field of traffic simulation.

10:30 - 11:15 - Break

11:15 - New sensor simulation concept for virtual test drives
Casus Corian, application engineer, dSPACE GmbH, Germany

The market introduction of autonomous vehicles is on this horizon. A crucial element of these systems is the reliable environment in participation by maps, radar and lidar sensors. Functions for autonomous driving have to be tested hundreds of millions of kilometres. This is possible using virtual test vehicles and SIL/HIL simulation only. In this context, appropriate sensor simulation is an essential component of highly automated driving functions. A scenario captures a large number of concrete test cases in an informal way. It must permit the definition and execution of scenarios that are automated. And the collection of scenarios must cover all behaviour that needs to be tested. And the scenario's language needs sophisticated constructs to cover the complex, reactive patterns of road traffic. And the test specification must allow overlapping of cases to be systematically covered with.

14:45 - The structure of test specifications for highly automated driving functions
Dr David Haug, team leader verification and validation methods, German Aerospace Center (DLR), Germany

Currently, scenarios are considered as main elements of the description of highly automated driving functions. A scenario captures a large number of concrete test cases in an informal way. It must permit the definition and execution of scenarios that are automated. And the collection of scenarios must cover all behaviour that needs to be tested. And the scenario’s language needs sophisticated constructs to cover the complex, reactive patterns of road traffic. And the test specification must allow overlapping of cases to be systematically covered with.

09:00 - Testing autonomous vehicles in harsh winter conditions – key step to reaching market success
Harri Santamarta, CEO, Sensatec 4-Lit, Finland
Sensatec 4-Lit, a start-up focusing on automation technologies under harsh conditions and varying environments, will take its self-driving vehicle into the winter test environment in Scandinavia during the winter of 2017-2018 as part of the Aurora Access to markets and efficient autonomous control and multi-sensor redundancy and software development. In this presentation we will describe validation test arrangements, technology, key findings and results obtained.

12:45 - 14:15 - Lunch

16:30 - Importance of real-life deployment of autonomous vehicles
Jo Henrici, programme director, Digital Engineering & Test Centre, UK

This presentation discusses the questions of real-world deployment of autonomous vehicles can be solved by any autonomous vehicle system in the context, including the development, validation, certification and deployment of autonomous vehicles.

Simulation also offers a way to speed up real-world deployment, but will certainly not be the only way. In this presentation, we will highlight the challenges and opportunities of using simulation to speed up real-world deployment.

17:30 - The connected testing vehicle Rissaro Trampers, manager Connected Car Competence Centre, Debra, Spain

The connected vehicle landscape is complex, with different technologies and standards involved. Successfully implementing and verifying the safety applications in the connected car requires testing and validation of systems and functions, including the physical layer, the protocols and the algorithms. In this paper, we will discuss the testing of the application in this paper, a comprehensive approach for testing all these different layers is presented, showing laboratory and in-field testing processes.

10:00 - Applying proven methods for quantifying test results and test coverage
Rainer Ström, CISO, CAVIA strategy, FBV Europe, Germany

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15:15 - Aurora Borealis Intelligent Corridor for connected urban and rural areas. Reija Viinanen, director Aurora collaboration

17.00 - Massively parallel simulation for testing and validating autonomous vehicles. Christopher Moyle, technical director, fjom, UK

17.15 - Panel Discussion – The role of transport authority in developing and implementing V2X technology.

Many believe that true L5-AV’s cannot be achieved without C-ITS. Here we will discuss the role of transport authorities in creating a robust V2X network.

09:00 - 18:00 - Room C - Connected Vehicle & Infrastructure Technology

Reija Viinanen, director Aurora collaboration, Finnish Transport Agency, Finland

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**DAY 3 THURSDAY 7 JUNE**

**09:00 - 10:30 - Room A - Using a Test Facility to Advance Testing Programmes**

- **09:00 - Introducing the CARISSMA control, regulated test environment for connected and automated vehicles. Peter Stoker, chief engineer, vehicle, systems & software, Zala Operations AG.** The CARISSMA control, regulated test environment for connected and automated vehicles revolves around the need for validation of systems and technologies in a controlled environment. The critical need for a semi-controlled or realistic urban test environment is crucial to ensure that vehicles are safe and reliable in all driving conditions. This is where Zala Operations AG comes in, with the Whole Vehicle Laboratory (WVL) - a unique test environment for future mobility.

- **09:30 - Proving Ground Zaia - a unique test environment for future mobility. Zoltán Hamar, technical director, Automated Proving Ground Zaia Ltd, Hungary.** Proving Ground Zaia is a unique test site where the fusion of classic dynamic test elements and test elements of future technologies are realised on a 250km² area.

- **10:00 - Autonomous highway driving in undefined weather conditions. Dr Sergiy Shevchenko, scientific advisor, BasF, Germany.** Throughout the presentation, Dr. Shevchenko will discuss the challenges and opportunities of autonomous highway driving in undefined weather conditions. The presentation will cover various aspects of autonomous driving in extreme conditions, such as heavy rain, snow, and fog.

- **10:30 - It’s all corner cases: teaching autonomous vehicles to learn. Bruno Fernandez Ruiz, co-founder of Deep Mobility.** The presentation will focus on how to teach autonomous vehicles to learn from corner cases. It will cover the latest industry trends and best practices, and be able to network with others in the industry who are developing autonomous vehicle technologies.

Nicholas Keel, group manager – DAQ and control product management, National Instruments

**17:00 - Panel Discussion – How do we develop, test and verify AVs to protect vulnerable road users?**

Vulnerable road users and pedestrians create unique challenges for AV test programmes. In this discussion, we will evaluate current and future testing methods for VRUs and pedestrians.

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DAY 3

11:15 - A case study of Level 4 test and validation in Korea Youngja Song, CEO, SpringCloud Inc, Korea

This presentation will cover self-driving cars and their test and validation procedure. The system consists of multiple systems and a control of target vehicles (conventional vehicle and EV). Based on a case study, this talk will illustrate the steps of Level 4 test and validation. It will also provide technical solutions as the defined.

11:45 - Autonomous vehicle mode-based testing: generating test cases for 3D simulator Fabian Teubner, head of test system, Continental management, Abteilung, France

In this presentation the main function of autonomous vehicle testing will be presented. The speaker will present the Multi-Modal-Based Testing process, in which weather, crash, infrastructure, other motorized behavior, EGO system, road events, etc. are designed. He will also explain how to design deterministic test cases with great variability. From this, the Multi-Modal is, the speaker will show the automatic generation of a combination of scenario samples using Gibbs sampler algorithms, to automatically output CSV/SAHAM scripts for 3D simulation run.

12:15 - Chasing critical situations in large parameter spaces Dr Nugar Talar, managing director, Trionic GmbH, Germany

It is commonly agreed that testing and validating highly automated driving functions will involve a mixture of tests in real and simulated environments. Even when a functional decomposition in several classes of base scenarios there exist many parameters with a huge number of possible values. Testing all combinations of values is impossible. In the presentation we discuss possible approaches and challenges in experimenting the large parameter spaces in the search for hidden faults and critical situations.

12:45 - 14:15 - Lunch

14:15 - Assurance of autonomous vehicles with authentic data recordings Bernhard Kocketh, technology scout, VISEM GmbH, Germany

Autonomous driving Ledger 3-5 is based on a growing number of safety-related systems that must be secured with billions of kilometers. Automated test communications and raw data from sensors, cameras, lidar and radar, as well as real-time data are necessary and actual maps, must be recorded, authenticated. An 8-nm drive test results produce 40TBs of data, not 20 to 100TBs. The data must then be fed to the target system, without causing long-term vehicle testing. The enormous amount of data becomes a challenge for measurement equipment in autonomous environments. New concepts and solutions are presented to meet sophisticated requirements.

14:45 - Meeting the high demand for automated testing - the TestCodeGenerator Tobias Weisgerber, developer for system and software development, MicroNav AG, Germany

The number of tests required for autonomous and electric vehicles has increased dramatically compared with established standards in the automotive industry. This demand can only be handled by means of automation and speeding up existing processes. Therefore, we developed a new software for the test automation software E2E2, called the TestCodeGenerator. Its purpose is to generate test cases automatically from test standards. New test designers are able to handle from 10 to 50 test cases, deliver test results earlier and cover more requirements.

15:15 - ADAS testing advanced BD target mover Dirk-Arp, executive director, Measuring Systembau MSG GmbH, Germany

Pedestrians and cyclists account for a significant proportion of road deaths worldwide. Current ADAS test systems are tackling this challenge, but are limited in their design for a single or two-dimensional motion. With this setup, particularly during acceleration processes, it is also genuinely possible. The concept of hanging dummies from above creates new possibilities for more like human-like trajectories with high degrees of freedom. The speaker will introduce new standards in precision and repeatability through the ability to reproduce real-life human motion sequences and imitate them virtually – for example, based on data from a motion capture system. The conference will present the latest in ADAS testing and show how new test cases can be designed. He will also introduce solutions for the combination test automation and adapting existing processes. Therefore, this demand can only be handled with the huge combinatorial tasks in ADAS simulation and testing. The enormous amount of data becomes a challenge.

17:00 - 18:30 - Networking evening - Round C - V2X Testing & Validation

WEDNESDAY 6 JUNE, 18:00hrs, Exhibition Hall 5

All delegates and speakers are invited to attend our complimentary networking evening.
**DAY 1 TUESDAY 5 JUNE**

**09:00 - 12:45: Keynote Opening Session**

- **10:00 - Benefits of augmented-reality head-up displays for automated driving**
  Bettina Leuchtienberg, expert HMI, ergonomics and usability, Continental Automotive GmbH, Germany.

- **11:15 - New challenges for HMI in the age of autonomous driving**
  Rashmi Rao, senior director, advanced engineering, Surf & Curve, UK.

- **12:45 - Lunch**

**14:15 - 18:00: Afternoon Session**

- **14:15 - The automotive cocoon**
  Dr Dominique Miaszna, product manager - HMI, Elektrobit Automotive, Germany.

- **14:45 - Will parallel industries and non-traditional OEMs drive the autonomous cars of the future?**
  John Tugia, design director, ZF TRW, UK.

- **15:15 - Real-estate design opportunities of autonomous cars**
  Richard Seale, lead automotive designer, Segnospowell, UK.

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**14:15 - THE AUTOMOTIVE COCCON**

Dr Dominique Miaszna, product manager - HMI, Elektrobit Automotive, Germany.

Integrated by rapidly evolving connected smart technology and new automotive business models, the car is a new connected object that is set to become an extension of someone’s home and office. This raises an interesting question: what factors need to be taken into consideration when creating automotive interiors? This presentation will provide insights into emerging challenges for automotive user interface design and then focus on how in-car interfaces can be designed to deliver an experience that is specific to the user. The tools one needs to create these interfaces, and the roles usage, user- and context-specific information will play, make the user feel freedom when in autonomous mode.

**14:45 - WIL PARALLEL INDUSTRIES AND NON-TRADITIONAL OEMS DRIVE THE AUTONOMOUS CARS OF THE FUTURE?**

John Tugia, design director, ZF TRW, UK.

Through several years of experience and understanding of customer behaviour within aircraft and many other transport fields, ZF looks at the story of Panoram’s X-plane in 10-15 years, what their needs will be, what will be available to them, what is relevant and how this will influence the autonomous vehicle interior design of future. We will discuss the packaging and seating layout, which is one of the most important factors when designing successfully for autonomous cars. In what we’ve witnessed coming from automotive brands often seems to be blinkered and anchored in the past, which brings risk of being leapfrogged by those outside the traditional automotive industry.

**15:15 - REAL-STATE DESIGN OPPORTUNITIES OF AUTONOMOUS CARS**

Richard Seale, lead automotive designer, Segnospowell, UK.

The advent of autonomous technologies will have a huge effect on the real estate that designers have to play within, significantly opening the functional and aesthetic potential for our future vehicles and travel. This shift will be largely led by both the change in safety regulations, and the switch from a driver-based mode to a passenger-based mode – bringing unparalleled opportunities to our customers. The session will use the unique opportunity to open Pandora’s box, and likewise will be more obvious than the effects will make us believe. We will explore original concepts in this presentation.
5, 6, 7 JUNE 2018, MESSE STUTTGART, GERMANY

DAY 3

14:15 - 18:00 - Afternoon Session

15:15 – 16:00 - Level 1 supplier day For today’s advanced driver assistance systems and for the robes in autonomous driving, it is important to have a clear understanding of the sensor sensing infrastructure based around time-of-flight (3D) sensors and UCL’s algorithms combined with embedded processing provides the necessary sensor data to recognize driver and passengers. Based on the driving model, increased safety through precise obstacle detection and a broad array of comfort functions for all users can be realized. A contrast and user awareness of the system enable a more intuitive user experience and new HMI.

16:45 - Individual differences in trust, perception and use of autonomous vehicles Dr Tanja Schweizer, manager, autonomous solutions, 3D Power Europe GmbH, Germany Recent 3D power international studies performed in the USA, China and Germany show many cultural differences concerning individuals’ “trust” in automated vehicles. A deep look showed that besides cultural differences there are also many age and gender differences that need to be considered when developing these autonomous systems. These differences concern not only the trust in these systems, but also the perception and usage of them, including many interior and HMI aspects.

14:15 - Levelling up: an HMI roadmap for Level 2 autonomous driving Dereck Vita, senior analyst, in-vehicle UX service at AWS, USA What lessons have we learned from robotics’ long journey toward early autonomous systems? What are the best practices and future directions for in-vehicle HMI designs of these systems? And what lessons can we apply to improve the usability of autonomous vehicles in a more automated systems? In this presentation we will analyze at the current state of an industrial autonomous HMI, how it has been affected in interest and attitudes towards autonomous transport, and next steps for more automated transport and, based on the lens of the world’s massive consumer research.

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cockpit. Automation Levels 3 and 4 bring connectivity and AI-enabled adaptive and personalized content allowing the future cockpit to be highly focused on the human. The presentation investigates on its Cockpit 2025 concept for intuitive driving and traveling of future highly digital users.

10:30 - 11:15 - Break

11:15 - HMI for intuitive and adaptive transitions
Dr Alessia Knosa, research specialist, Autoliv Research, Sweden
The introduction of automated functions in vehicles brings a new set of possibilities, but also several challenges. It is no longer just the driver using the vehicle as a tool for transportation; instead, the driver and the vehicle work together as a team. ADAS&ME is an EU-funded project targeting the development of adaptive ADAS, able to decide when and how the vehicle needs to take over or recover control based on driver’s state and the environmental context. This approach uses adaptive HMI strategies to assist the driver with automation when needed, and to achieve smooth transitions between automated and manual driving.

11:45 - Human and automation as team members: the AutoMate project
Dr Andreas Lüdtke, group manager, OFFIS, Germany
The presentation describes the concept, process and findings of the AutoMate project. The vision of AutoMate is a novel driver–automation interaction and cooperation concept to ensure that highly automated driving systems will reach their full potential and can be commercially exploited. This concept is based on viewing and designing the automation as the driver’s transparent and comprehensible cooperative companion or teammate. This kind of system can enhance safety and comfort by using the strengths of both the automation and the human driver in a dynamic way.

12:15 - VI-DAS Project – a novel approach to next-generation vehicle interaction
Dr Oihana Otaegui, head of ITS and engineering department, Vicomtech, Spain
VI-DAS will progress the design of next-gen 730° connected ADAS (scene analysis, driver data). Advances in sensors, data fusion, machine learning and user feedback provide the capability to better understand driver, vehicle and scene context, facilitating a significant step along the road towards truly semi-autonomous vehicles. Predictions on outcomes in a scene will be created to determine the best reaction to lead to a personalized HMI component that proposes optimal behavior for safety, efficiency and comfort.

12:45 - 14:15 - Lunch

14:15 - Feeling your car: HMI as an element to make the vehicle as a tool for transportation; instead, the driver and the vehicle work together as a team. ADAS&ME is an EU-funded project targeting the development of adaptive ADAS, able to decide when and how the vehicle needs to take over or recover control based on driver’s state and the environmental context. This approach uses adaptive HMI strategies to assist the driver with automation when needed, and to achieve smooth transitions between automated and manual driving.

14:15 - Driver-state-based HMI in automated driving: the ADAS&ME approach
Stella Nikolaou, researcher, CERTH/RTC, Greece
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10:00 - Cognitive IT with storage and software defined solutions for ADAS
Frank Kraemer, systems architect, IBM, Germany
Advanced driver assistance systems (ADAS)/
anomalous driving) are becoming part of all vehicles. All
major OEM and Tier-1 auto manufacturers are
implementing and testing AD facilities. It is now common
to access real-time sensors, big data computing, data
storage and data analytics are integrated in today’s ADAS/
AD systems, providing a revolution associated with
practices for workflow design, testing and development,
data storage and sharing, applicable to all industry and
avenues. Come have a fascinating investigation of an industrial
technology that will soon affect us all, every day.

10:15 - Complex deep learning software
Fabiio Ursino, business development manager,
Sensa2015, Germany
Complex deep learning software solutions
are needed to handle the growing amount of autonomous
vehicles to navigate complex and unexpected scenarios,
and to evaluate that. As a substitute for the hours of
training of an automotive AI system, a method to create
training datasets that combine vehicle, obstacles, pedestrians,
weather and traffic conditions that provide a high level of
functionality in order to create a robust model. The use of
Tensorflow as a use case demonstrates how a platform running
deep learning algorithms can provide insights and
understanding of how simulation could

11:15 - Autonomous connected
and autonomous vehicles through open-source
software
Dan Cachau, executive director, Automotive Grade
Linux, The Linux Foundation, USA
The open source software development
strategy used for autonomous car software
is the only way to keep the system
innovative and smart, making decisions
in real-time and keeping the new technology
available to all. This talk will provide insight
and showcase demonstrations of the existing
work in development and in production, as well
discuss the steps to fully autonomous Level 5 ( Plato’s)

12:45 - Lunch

14:15 - Autonomous fleet management – challenges and opportunities
Pejvan Beigui, CTO, EasyMile, France
Fleet management is a key component of the coming
autonomous vehicle-based mobility as a service
revolution. At EasyMile, we are at the centre of this
revolution as we have been designing both the E20 autonomous
shuttle and the software stack for autonomous
driving. We have helped transport operators around the world with operating fleets of
E20. For this reason, we will present an overview of the
software stack architected for high availability, fault tolerance and
scalability, while meeting real-time or adhering to a schedule while
adhering to different regulations. The paper will
demonstrate the capabilities of such a platform.

14:45 - 18:00 Afternoon Session

14:45 - Virtual validation techniques for
CNC-based ADAS/AD system
Vignesh Radhakrishnan, senior ADAS/AD
engineer, Adasens Automotive GmbH, Germany
Virtual validation will become an important aspect of ADAS/AD
development. For virtual validation to become a reality, there will
need to define techniques for validating AI-based
ADAS/AD systems. Due to the stochastic nature of AI
systems, the challenge is to make sure the systems
act as per defined requirements. AVL is leading a
collaborative project – SAVY (Graz ADAS Verification &
Validation Methodology) – funded by Innovo
Austria to research on the challenge of defining a
descriptive test process to validate CNC-based ADAS/AD systems.

15:15 - Complex deep learning software solutions
Fabiio Ursino, business development manager,
Sensa2015, Germany
Complex deep learning software solutions
are needed to handle the growing amount of autonomous
vehicles to navigate complex and unexpected scenarios,
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functionality in order to create a robust model. The use of
Tensorflow as a use case demonstrates how a platform running
deep learning algorithms can provide insights and
understanding of how simulation could
**NEW FOR 2018!**

**EXCLUSIVE HANDS-ON WORKSHOPS FOR ACCELERATING AI AND DEEP LEARNING AND END-TO-END DEVELOPMENT OF AUTONOMOUS VEHICLES**

**10:30 - 12:00 - Morning Workshop**

**14:15 - 16:15 - Afternoon Workshop**

Join us for a hands-on DLI workshop called Introduction to Object Detection with TensorFlow. This workshop is a lightning introduction to object detection and image segmentation for data scientists, engineers and technical professionals. This task of computer-based image understanding permeates many major fields such as advertising, smart cities, healthcare, national defence, robotics and autonomous driving. Ultimately, the goals of this course are to provide a broad context and clear roadmap from traditional computer vision techniques to the most recent state-of-the-art methods based on deep learning and convolution neural networks (CNNs).

If you do not have any experience with deep learning, we recommend you take at least the Image Classification with DIGITS lab from www.nvidia.co.uk/digits prior to attending.

We are delighted to announce that Siemens will be hosting a world-first workshop in Stuttgart this year. Co-hosted with Mentor and TASS International, this session will provide insight on the end-to-end development of autonomous vehicles, with subjects including:

- Model-based development, verification and validation framework for automated vehicles
- Framework consisting of advanced simulation environments (MIL, SIL, HIL, VIL) as well as physical testing facilities (laboratories, test tracks, public roads)
- Facilitating the full spectrum of automated driving technology, ranging from system-on-a-chip design, sensor development and systems integration to full-vehicle performance evaluation and traffic impact analysis

All delegates are welcome to attend this exclusive workshop. The Siemens team are focused on delivering an educational platform for participants that will result in a more streamlined, robust and faster automated vehicle development process.

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**NETWORKING EVENING PARTY**

Wednesday 6 June, 18:00hrs, Exhibition Hall 5

All delegates and speakers are invited to attend our complimentary networking evening.

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**DAY 3 THURSDAY 7 JUNE**

**14:00 - 15:00 - Afternoon Workshop**

Sébastien Christiaens, department manager, FEV Europe GmbH, Germany

Autonomous driving vehicles are complex systems. Existing processes for component-orientated development reach a limit. New approaches are required to provide safe and affordable solutions. System modelling approaches offer the opportunity to face in the near future to enable all that innovation in vehicles in a sustainable way. He will focus on delivering and maintenance processes and practices.

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**16:30 - 18:30 - Break**

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**17:30 - The zero-defect software factory – myth or reality?**

Ingo Nickles, senior field application engineer, Vector Software, Germany

Software development can no longer be considered as a creative process leading to making of how the function and task is expressed in the application’s lines of code. Because the role of software is to deliver key features and safety-critical functions in such many pieces of equipment and systems, it now needs to be constructed with the precision and quality that can be seen in any modern manufacturing process. This presentation will discuss whether a zero-defect software factory can be a reality.

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Access to both workshops is included in the delegate pass fee!
EVENT INFORMATION

STUTTGART
Messe Stuttgart
Due to its location between the airport and motorway, Messe Stuttgart Trade Fair Centre has an incomparable traffic infrastructure. Direct connections to the A8 motorway, the B27 trunk road, the airport, the S-Bahn (rapid-transit railway) – and, in future, the planned railway station for local and long-distance trains – ensure that visitors and exhibitors will be able to travel quickly and easily to the Trade Fair Centre.

The journey times to a large number of hotels are also surprisingly short. Stuttgart city centre can be reached in around 20 minutes by S-Bahn.

The City
Stuttgart is a city with many varied attractions, Porsche and Mercedes-Benz museums, a world-renowned ballet, excellent cultural and sporting highlights, diverse leisure and accommodation possibilities and an international variety theatre.

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• Access to all conferences at the Autonomous Vehicle Test & Development Symposium 2018
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• Pre-conference coffee on arrival
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• Assorted complimentary refreshments during the conference networking breaks
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OPENING TIMES
Tuesday 5 June
Networking Breakfast 08:15 – 08:50
Conference Opening Hours 09:00 – 18:00

Wednesday 6 June
Conference Opening Hours 09:00 – 18:00

Thursday 7 June
Conference Opening Hours 09:00 – 16:15

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The Autonomous Vehicle Technology World Expo encompasses three conferences that are dedicated to autonomous vehicle design, engineering, possibilities and validation. The event features a number of unique exhibits from pioneering companies who are focused on autonomous vehicle technologies, and is held alongside Automotive Testing Expo Europe, Automotive Interiors Expo, Engine Expo, and Global Automotive Components and Suppliers Expo, with 800+ exhibits. In short, if you are working on an autonomous vehicle project, you need to attend this event.

5, 6, 7 June 2018, Messe Stuttgart, Germany

Visit the website for the latest updates.

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