

VDI

7th International VDI Conference

Connected Off-Highway Machines

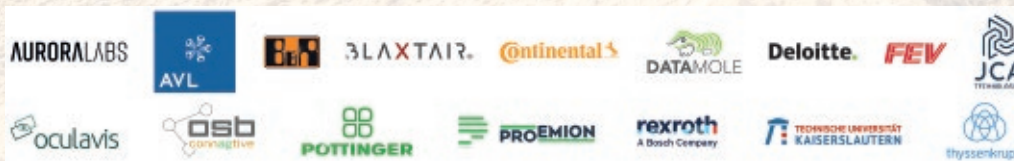
From Smart Sensors to Smart Systems

May 16-17, 2022, Dusseldorf, Germany

- The Future of Autonomous Mobile Machines
- Connected Vehicle Technology
- Machine Maintenance and Remote Monitoring
- Importance of Data Management
- Safety & Security of Connected Off-Highway Machines
- Digital Solutions for Fleet Management & Fleet Operations

+ **Start-Up Session**

Meet international Experts from:



An event organized by VDI Wissensforum GmbH
www.vdi-international.com/01K0902022



09:00 Registration & Welcome Coffee

10:00 Chair's Welcome and Opening Address:

Anton Demarmels, Innovation Coach, Swissmem, Switzerland

10:15 EaaS – Changing the Game or just a Buzzword?

- Rationale for change
- Going beyond Rolls-Royce's Power-by-the-Hour
- What works in real life and what doesn't
- Why we can only win with the right ecosystem
- What comes after EaaS

Jonas S. Janik, Senior Manager, Deloitte Consulting GmbH, Germany

Opening
Keynote

I. Autonomous Mobile Machine

10:45 Autonomous Off-Road Driving Using the Example of an Unimog

- Challenges & requirements for autonomous off-road navigation
- Permanent description of the environment via the fusion of different sensor systems
- Safe navigation in uneven terrain using the example of an autonomously controllable Unimog

Axel Vierling, Robotics Research Lab - Department of Computer Science, University of Kaiserslautern, Germany

11:15 Complex Navigation in Autonomous Agriculture Applications

- Autonomous machines need to operate across varied use cases based on the task, and in any number of unique and complicated scenarios
- An overview is provided of approaches to guidance and navigation to adapt to these complex use cases and scenarios
- Includes integration of multiple sensor types for localization and methods for adapting navigation methods on the fly to respond to needs of the agricultural tasks and environment

Darcy Cook, General Manager, VP Engineering, JCA Technologies, Canada

II. Connected Vehicle Technology

11:45 What Protocol Will Rule the Era of Ethernet-based Mobile Automation?

- What protocol properties must be covered?
- Which solutions are available?
- How is OPC UA fulfilling the mobile needs?

Stefan Messerklinger, Product Management Mobile Automation, B&R Industrial Automation GmbH, Germany

12:15  Lunch

13:45 Vehicle-to-Anything Use Case Design for Off-Highway Vehicles

- Comparison of direct (IEEE802.11p, C-V2X) and indirect (4G/5G) communication
- Standardization state of the nation and the C-ITS stack
- Today: Use case design on standard broadcast messages...
- ... and tomorrow: Outlook on connected and collaborative ADAS/AD functions

Dr. Dirk Macke, Head of Connectivity Solutions, BU Intelligent Mobility and Software & **Jörg Kottig**, Team Lead Connectivity Solutions, BU Intelligent Mobility and Software, both: FEV Europe GmbH, Germany

III. Start-Up Session

14:15

- **Synergies of Agricultural Robotics with AgriPV**
Josef Franko, AI.Land GmbH
- **Digital Solutions and Automation of Construction Machines**
Agnes Petit, MOBBOT AG
- **Data Curation for Machine Learning**
Matthias Heller & Igor Susmelj, Lightly AG

15:15  Networking & Coffee Break

IV. Data Management & Data Privacy

15:45 How AI Can Save Software Testing and Validation

- How do OTA updates change the landscape for software functionality testing and validation?
- Why is software testing exponentially more complex today?
- How can you be compliant with regulations (WP.29) with minimum effort?
- What can AI do for software development & validation?

Mr. Roger Ordman, Executive Vice President, Aurora Labs, Israel

16:15 Case Study: A Structured Analysis of Machine-Related Data to Increase Machine Quality and Reliability

- Tooling and types of data used for the analysis
- Types of performed analysis
- Derivation of measures

Victor Klüber, Team Lead Field Application Engineer, Proemion, Germany

16:45 Why you Need an IoT Platform?

- Life with an IoT platform
- Life without an IoT platform
- How to start and how not to fail

Jan Kučera, Product Manager, Datamole, Czech Republic

17:15 End of Conference Day One



17:30 Get-together:

Relaxed and informal atmosphere for in-depth conversations

08:45 Registration & Welcome Coffee

09:25 **Chair's Opening:** Dan Danford, Global Industry Relations Manager, CNH Industrial America LLC, USA

V. Maintenance & Monitoring of Connected Off-Highway Machines

09:30 **Challenge Accepted: How to Remotely Update Machines in a Mixed E/E-Environment**

- FOTA
- Campaign management
- Mixed E/E architecture

Dr. Christian Grabe, Business Owner Telematics & Digital Business, Bosch Rexroth AG, Germany

10:00 **Next Service Date Forecasting for a Global Fleet of Connected Agricultural Vehicles**

- Usage profiles extraction from telemetry data
- Telemetry dataset enrichment with historical weather conditions information
- Feature engineering and selection based on the enriched dataset
- Application of machine learning for future operating hours and next service date prediction

Chiara Gei, Big Data Intelligence Department/Data Scientist & **Milan Zivadinovic**, Big Data Intelligence Department/Lead Engineer Data Science & **Dominik Brunner**, Commercial Vehicle SW & Control Systems/Lead Engineer Integration & Validation, all: AVL List GmbH, Austria

10:30 **You'll Never Walk Alone in a Tough Environment - Close to Mining Customers with Remote Services**

- Rebuilding and updating existing services by new technical set-up on a big scale, developing and implementing new sustainable digital services on customer site
- Transferring technical expert knowledge across the world without having to travel for it
- Redefining interaction with machinery and equipment to make industrial processes more resilient

Hakan Keser, Product Manager Digital Service Solution, thyssenkrupp Mining Technologies & **Nikhil Venkateshan**, Business Development Manager, oculavis GmbH, Germany

11:00  Networking & Coffee Break

VI. Digital Fleet Management & Fleet Operations

11:30 **Managing a Harvest Chain via Smartphone App. Consumer Electronics instead of Expensive Special Hardware**

- How can low-cost consumer electronics and a smartphone app be utilized to control and manage a grass silage harvesting chain?
- The challenges of simple onboarding and ease of use
- The new challenge for a machine manufacturer when it comes to service and customer enquiries of an app

Stephan Ackermann, Director Product Management, Pöttinger Landtechnik GmbH, Austria

12:00 **Digital Solution for Smart and Connected Off-Highway Machines**

- Connected solutions
- Scalable telematic platform
- Improved operations via digital solutions

Michael Christian Lorenz, Head of Digital Solutions & eBusiness, Commercial Specialty Tires & **Raimund Varnhagen**, Head of Product Management Connectivity Commercial & Off-Highway Vehicles, both: Continental Automotive GmbH, Germany

12:30  Lunch

VII. Safety & Security of Off-Highway Machines

14:00 **Zero Touch Provisioning - Security Aspects in the Lifecycle of Connected Off-Highway Machinery**

- Onboarding and provisioning
- Hardware security
- IoT device management

Roland Marx, Specialist Embedded Security, OSB connagive GmbH, Germany

14:30 **A Smart Pedestrian Detection System to Improve Workplace Safety**

- Workplace safety
- Artificial intelligence
- Pedestrian recognition

Sabri Bayouhdh, Head of Innovation & **Jean-Gabriel Pointeau**, Sales Director, both: blaxtair, France

15:00 **Conference Chair's Closing Remarks**

15:30 End of Conference



6th International VDI Conference

Smart Farming

Date and venue:

16 -17 May
Dusseldorf, Germany

Renowned speakers will present their results on the following topics:

- The state of AgTech in Europe and how it compares to the US
- Farming Technologies: Optimizing the Use of Robotics, AI and more
- A Question of Data: How Standards pave the Way for Smart Farming Worldwide
- Safety Requirements for Autonomous Agricultural Machinery
- What's going on in the AgTech StartUp Community?

<https://www.vdiconference.com/12K0100022>

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6th International VDI Conference

Autonomous Trucks

Date and venue:

16 -17 May
Dusseldorf, Germany

Renowned speakers will present their results on the following topics:

- New Business Solutions & Digital Services for Commercial Vehicles
- Use Cases for Hub-to-Hub, confined Areas and Last Mile Delivery
- Safety and Security Development
- Data Handling, Connectivity and on-board Software
- Legal Frameworks, Sensor Control, and Sensor Fusion

<https://www.vdiconference.com/01K0915022>

Parallel running
conferences



Supporting Experts

Michael Gomes, V.P., Strategic Business Development, Topcon Agriculture, USA
Anton Demarmels, Innovation Coach, Swissmem, Switzerland
Martin Frank, Senior Specialist Smart Systems, Research Program Owner, Volvo Construction Equipment Germany GmbH, Germany
Eugen Schobesberger, Managing Director, Liebherr-EMtec GmbH, Germany
Dan Danford, Global Industry Relations Manager, CNH Industrial America LLC, USA



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: Automotive Sensor Systems, Cyber Security for Vehicles, Smart Construction Equipment and Future of Buses.

Please submit your topic to:

Annick Cathrin Pauwels

Product Manager International Business

Phone: +49 211 6214-864

E-Mail: Pauwels@vdi.de



Upcoming Events

International VDI Conference

Cyber Security for Vehicles

July 06-07, 2022 in Dusseldorf

International VDI Conference

Automotive Sensor Systems

July 20-21, 2022 in Munich

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:

Van der Valk Airporthotel Düsseldorf
Am Hülserhof 57
40472 Düsseldorf, Germany
Phone: +49 211/20063-0
Email: dusseldorf@valk.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 Van der Valk Airporthotel Düsseldorf. 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 May 16, 2022.

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

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Exhibition / Sponsoring

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

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Register online!

www.vdi-international.com/01K0902022



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Yes, I will participate as follows:

Participation Fee + VAT

VDI Conference 16.-17.05.2022
(01K0902022) € 1890

I am interested in sponsoring and/or exhibition

Participation Fee VDI-Members* Save 50 € for each Conference Day.

* For the price category 2, please state your VDI membership number

VDI membership no.

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Please register at www.vdi-international.com. Your credit card information will be transmitted encrypted to guarantee the security of your data.