

11th International VDI Conference

# Connected Off-Highway Machines

April 29 and 30, 2026, Aschheim near Munich

- Connected and Software-Defined Off-Highway Machines
- Autonomous Mobile Machines
- Defence-Oriented and Dual-Use Off-Highway Applications
- Functional Safety, Cybersecurity & Regulatory Compliance
- Standardization, Interoperability & Digital Data Ecosystems

+ Round Table Session

+ Parallel Conferences: Smart Farming & Autonomous Trucks

Meet international Experts from:



8:30 Registration & welcome coffee

### 09:30 Chair's Welcome and Opening Address

Dr.-Ing. Patrick Wolf, Senior Safety Engineer, IESE Fraunhofer, Germany

### 09:45 From Firefighting to Foresight: How Connected Services are shifting Business in the field

- Connected technologies breakthrough traditional business
- Turning Data into relationship improvements
- Automation Empowering People: a new era for customer support

Edoardo Dioni, Digital Product Manager, Connected Services, CNH, Italy

Keynote

## I. Cyber Security & Functional Safety

### 10:15 Unifying Quality, Functional Safety and Cybersecurity through Model-Based Engineering Approaches

- The advantages of Model-Based Systems Engineering (MBSE)
- Support of standards compliance through Model-Based Design (MBD)
- Early requirement validation and rapid design iteration through simulation

Dr. Mohammad Abu-Alqumsan, Product Manager IEC Certification, MathWorks, Germany

10:45 ☕ Networking & coffee break

### 11:30 Securing Off-Highway Autonomy: Cyber Risks, Standards and Regulatory Readiness

- Expanded cyber risk landscape for off-highway machines
- Structured and proactive approach to cybersecurity across the entire lifecycle
- Standards and regulations provide guidance for building resilient digital ecosystems in the off-highway sector

Patrick Faye, Head of Cybersecurity, Software & Digital Mobility, UTAC, France

### 12:00 Off-Highway Cybersecurity: What's Next?

- Increased cyber attack surface of off-highway machinery
- Regulatory frameworks impact product development and lifecycle processes
- Cybersecurity is a strategic necessity to ensure safety and reliability

Dr. Tobias Oder, Expert Consultant Hardware Security, act digital, Germany

12:30 🍴 Lunch

## II. Connected Mobile Machines

### 14:00 RTK Bridging in Construction: Technical Feasibility and Value of Smart NTRIP Correction Distribution

- Introduction of the RTK technology and its relevance for high-precision positioning applications in the construction domain
- Technical feasibility study of an RTK bridging solution
- Demonstration of key findings and customer value for construction industry

Dr. Michael Schwall, Volvo Construction Equipment, Germany; Heikki Keränen, Head of Technology, Satel Oy, Finland

### 14:30 Connectivity for Construction Sites: Requirements, Challenges and Performance

- Diverse environmental conditions and high demands on networked construction sites
  - Construction operations require real-time or near real-time connectivity
  - Measurements highlight the need for adaptive, redundant communication
- Thorsten Köstermeyer, Development Engineer, Advanced Development, BOMAG, Germany; Dr. Wolfgang Kiess, Hochschule Koblenz, Germany

### 15:00 Radio Remote Controlled Trucks as Functional Safe Mobile Machine Platforms

- Electronic control of heavy truck driving functions opens new applications and enables cost and design efficiencies
- Integration complexity from differing vehicle vs. machine safety standards, shown through practical system integration examples

Christoph Müller, CEO, MobileTronics, Germany

15:30 ☕ Networking & coffee break

## III. Defence Applications

### 16:15 Deterministic Software Foundations for Defence Off-Highway and Autonomous Ground Systems

- Deterministic MOSA-based software stack for autonomous defence off-highway systems
- Real-time mixed-criticality runtime integrating vehicle control and AI
- Platform-agnostic deployment of reusable autonomy software

Thomas Wambara, Vice President Business Development, Apex.AI, Germany

### 16:45 Putting Generative AI behind the Wheel in Defence Applications

- Vision-language models add language-grounded scene understanding to autonomous defence vehicles
  - Better handling of novel obstacles, terrain, and long-tail edge cases
  - Deployment of VLMs on embedded automotive-grade hardware
- Peter Kristiansen, Head of Business Development, Embedl, Sweden

17:15 End of 1st Conference Day



### 1111 Get-together

At the end of the first conference day, we kindly invite you to our evening get-together where you can use the relaxed and informal atmosphere for in-depth conversations with other participants and speakers.

**9:00 Interactive Round Table Session**

During the interactive Round Table Session, we invite you to engage directly with other experts in interactively moderated conversations on various topics. Discuss and identify challenges within the industry as well as problems, needs, and solutions

**IV. Off-Highway Autonomy**

10:00 ☕ Networking & coffee break

**10:45 Building the Foundation for Safe and Scalable Off-Highway Autonomy**

- The infinity loop during the development of autonomous off-highway machines: Understanding the continuous cycle of data collection
- Cloud-Based Data Curation at Scale
- AI-powered Semantic Scenario Search Capabilities
- High-Quality Training Data: Reducing labeling costs and improving data quality

**Eleonora Scherl**, Product Strategy Manager & Business Development, AWS, Germany

**11:15 Middleware-Centric Approach for Development of Autonomy of Software-Defined Off-Highway Machines**

- Off-Highway autonomy is becoming more complex
- Reliable autonomy software requires deterministic data handling, modular integration, and reproducible testing
- A middleware-centric approach enables synchronized multi-sensor data processing, scalable data pipelines, and hardware abstraction

**Gautam Dobariya**, Business Development Automated Driving & Software Solutions, dSpace, Germany

**11:45 Human-Like Semantic Navigation for Off-Road Autonomy in GPS-Denied Environments**

- Unreliable GPS, missing maps, and dynamically changing terrain challenge autonomous mobile machines
- driveblocks uses real-time semantic mapping to build a rich understanding of the environment
- Safe, context-aware navigation in unstructured terrain through geometric reasoning and multi-modal sensor fusion

**Leonhard Hermansdorfer**, Co-Founder & CTO, Driveblocks, Germany

12:15 🍴 Lunch

**V. Data Management in Software Defined Machines****13:45 De-risking Software-Defined Transitions in Off-Highway Machines**

- The transition from hardware-centric to software-defined, connected, and data-driven machines
- Improved Functional safety, cybersecurity, and compliance through a phased, brownfield modernization roadmap
- AI, reusable components, digital twins, and test automation accelerate the modernization

**Mohideen Farouk**, Director Engineering Services Trucks & Off-Highway, L&T Technology, Germany

**14:15 AgIN Connects Data, Machines and People**

- AgIN is a global agricultural data space enabling secure, cross-vendor data exchange
- Connection of manufacturer systems and data hubs
- AEF is enabling farmers to access multi-brand machine telemetry in a single portal

**Franziska Bucher**, Project Coordinator Connectivity, Agricultural Industry Electronics Foundation e.V.; **Slawi Stesny**, Senior Manager Connectivity and Data, AGCO GmbH, Germany

**14:45 MiC 4.0 – One Digital Language**

- MiC 4.0 establishes a uniform, manufacturer-independent digital language for construction machinery
- The shared data model is developed jointly with OEMs and construction companies
- Tools such as the MiC 4.0 TestTool and Database make data quality and digitalization levels transparent and verifiable

**Dr. Darius Soßdorf**, CEO, Machines in Construction MiC 4.0, Germany

**15:15 Closing Remarks**

15:30 End of conference

## 8th International VDI Conference Smart Farming

**April 29 and 30, 2026, Aschheim near Munich**

- AgTech Trends & Market Development
- Automation & Farming Technologies
- Optimizing the Use of Robotics, AI & more
- Ag Data Interoperability and Standards
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- Standardized Safety Testing under the New EU Machinery Directive and AI Act Reaching full Autonomy on the Farm
- + Interactive Round Table Discussions



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## International VDI Conference Autonomous Trucks

**April 29 and 30, 2026, Aschheim near Munich**

- Autonomous Trucking Ecosystems
- Commercial Deployment & Scaling
- AI, Data & Simulation S
- Sensor Technology & LiDAR
- Software-Defined Vehicles (SDV)
- + Panel Discussion



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## Supporting Experts

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**Dr. Patrick Wolf**, Senior Safety Engineer, Fraunhofer-Institute für Experimentelles Software Engineering IESE, Kaiserslautern

**Dipl.-Ing. (FH) Martin Frank**, Specialist Intelligent Machines, Research Engineer, Volvo Construction Equipment Germany GmbH, Konz

**Dipl.-Ing. Eugen Schobesberger**, Managing Director Engineering, Liebherr-EMtec GmbH, Kirchdorf

**Ove Luehrs Sr.**, Director Autonomy, Topcon Deutschland Positioning GmbH, Hamburg

**Mattia Gabetti**, Head of Service Development, CNH Industrial Italia S.p.A., Torino

**Dr.-Ing. Stephan Hammes**, Leiter Vorentwicklung, BOMAG GmbH, Boppard



## Exhibition / Sponsoring

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**Vanessa Ulbrich**

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Business Services

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## Registration

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## Terms and Conditions

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### Conference venue

NH München Ost Conference Center  
Einsteinring 20, 85609 Aschheim, Germany  
Phone: +49 89 940096-0  
Email: [nhmuenchenost@nh-hotels.com](mailto:nhmuenchenost@nh-hotels.com)



You will find more hotels  
close to the venue at

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**Hotel room reservation:** A limited number of rooms has been reserved for the benefit of the conference participants at the conference hotel. Please refer to "VDI Conference".

**VDI Wissensforum service package:** The conference package includes the conference documents (online), beverages during breaks, lunch and the get-together on April 29, 2026.

**Conference attendance conditions and terms** can be found on our website:  
[www.vdi-wissensforum.de/en/terms-and-conditions/](http://www.vdi-wissensforum.de/en/terms-and-conditions/)

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Please submit your topic to:

**Niklas Franz**

Product Manager Automotive

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Email: [niklas.franz@vdi.de](mailto:niklas.franz@vdi.de)

# Connected Off-Highway Machines



## Register online!

[www.vdi-international.com/01K0902026](http://www.vdi-international.com/01K0902026)



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