

VDI

6th International VDI Conference

Connected Off-Highway Machines

From Smart Sensors to Smart Systems

October 26-28, 2021, Online

- Connected Vehicle Technology
- The Future of Autonomous Mobile Machines
- Data Management & Data Privacy
- Maintenance & Monitoring of Connected Off-Highway Machines
- Safety and Connected Off-Highway Machines
- Fleet Management & Fleet Operations
- Electrified Off-Highway Machines

+

Meet international Experts from:



An event organized by VDI Wissensforum GmbH
www.vdi-international.com/01K0902021



13:45 Technical Opening

14:00 Chair's Welcome and Opening Address:

Michael Gomes, Vice President, Topcon Agriculture, USA

I. Connected Vehicle Technology

14:15 A Bold View on the Future of Connected Off-Highway Machines

- Taking the ecosystem perspective
- Fight for the digital layer
- Developing new business opportunities
- Outlook and key takeaways

Opening
Keynote

Andreas Baier, Partner Industrial Goods & Services & Oliver Dolny, Manager Industrial Goods & Services, both: Porsche Consulting GmbH, Germany

14:45 Perspectives of a Connected and Automated Construction Site

- Wireless communication systems for construction sites: Comprehensive data flow between machines, assets and a central management instance
- Key requirements for automated machine operation and construction work driven by digital models
- Research project "Bauen 4.0" – from simple asset tracking devices to machine on-board systems up to site planning and management software

Prof. Dr.-Ing. Frank Will & Volker Waurich, both: Stiftungsprofessur für Baumaschinen, TU Dresden, Germany

15:15 Why the Process Is the Best Interface between Connected Machines

- Lean construction & smart equipment
- Human machine interaction
- Data driven continuous improvement

Dr. Lucas J Winter, Managing Director, CONTACT GmbH, Austria

15:45  Networking Break

16:15 Solving Connectivity Challenges for a Autonomous excavator

- Remote control – a step towards the autonomy
- Varying data use cases and their throughput, delay requirements: Control, sensors, video
- Real life connectivity implementation solving the issues

M.Sc.Eng Heikki Keränen, Head of Technology, Satel, Finland

II. The Future of Autonomous Mobile Machines

16:45 Hardware and Software Platforms for Autonomous Operations

- Advanced automation and autonomy pose new challenges for hard- and software developers
- Higher performance requirements are emerging together with the need for increased safety levels

- The adoption of new technologies will re-define the collaboration between the operator and the machine

Dipl. Ing. Andreas Locatelli, Senior Product Manager, TTCControl GmbH, Austria

17:15 Digital Transformation of Earthmoving: Keep the Distance by Digital Assistance

- Assisted automation in the movement of earth and measurement of terrain
- Digital transformation: From data to knowledge
- Digital twinning of processes and remote jobsite management

Karsten Elles, Smart Construction Market Development Manager n, Komatsu Europe International, Germany



17:50 VDI Afterhour

13:45 Technical Opening

14:00 Chair's Opening

III. Maintenance & Monitoring of Connected Off-Highway Machines

14:15 The Journey from Smart Data to Smart Service

- Fuchs digital journey
- Integration and combination of digital services
- The added value for all stake holders
- Projections and visions about the next level and generation of smart service

Opening
Keynote

Dominik Vierkotten, General Manager & Thomas Sandrock, Director Product Support & Quality, both: Terex Deutschland GmbH, Germany

14:45 Smart Camera AI/From Optical Perception to Intelligent Processing on the Edge

- Smart camera AI – the intelligent key sensor in off-highway machines
- Combining robustness, powerful artificial intelligence and machine learning features in one device
- Local data processing, filtered data transfer to the cloud and faster decision-making right on the spot
- Use cases: Feature extraction, people and object detection, area surveillance, predictive maintenance

Sven Salzer, Managing Director, Ark Vision Systems, Germany

IV. Data Management & Data Privacy

15:15 Data Platform Serving Multiple Stakeholders

- What defines a "data platform serving multiple stakeholders" and what are decision criteria for choosing the right platform?
- Why do IoT initiatives fail and what challenges do customers face in IoT projects?
- Ready made IoT solutions for customers within a powerful IoT platform environment

Reinhard Musser, Project Manager, t-matix solutions GmbH, Austria

15:45  Networking Break

16:15 Governments are Catching Up: Requirements & Impact on Connected Machinery

- Data Governance rules in the EU
- OEMs must balance data privacy, data sharing, cybersecurity

Vik Vandecaveye, Cybersecurity & IoT Regulatory Compliance, CNH Industrial, Belgium

V. Electrified Off-Highway Machines

16:45 Electric Machinery in Construction and Agriculture: Opportunities and Challenges of a new "EcoSystem" Onsite

- Zero emission solutions: a complete range of products for the "emission-free" construction site
- Challenges in application on construction sites and in agriculture
- Opportunities for alternative drives and supporting technologies

Alexander Greschner, Chief Sales Officer, Wacker Neuson SE

17:15 On- and Off-Grid Charging Solutions for Off-Highway Machines

- Global Challenges – Climate change drives trend towards electrification
- Construction Site of the Future – Diesel Generator hybridisation
- Energy Storage Solutions for On- and Off-Grid

Shaun Montgomery, Chief Sales Officer, xelectrix POWER GmbH

17:45 Mobile Powerstations for Off-Highway Machines

Speaker to be announced



18:30 VDI Afterhour

Thursday, October 28, 2021

3rd day

13:45 Technical Opening

14:00 Chair's Opening

VI. Safety and Connected Off-Highway Machines

14:15 Develop Safe & Certifiable Software: Learnings from the Passenger Vehicle Industry

- Key trends and challenges in developing the software defined off-highway vehicle of the future
- Layered software architectures (e.g. AUTOSAR) to manage software complexity
- Toolchain definition and integration for safety standard compliant development (e.g. ISO 26262 / ISO 25119 etc.)
- Automated processes to reduce efforts in achieving compliance and (re-) certification

Gaurav Tomar, Automotive Industry Manager EMEA & Mohammad Abu-Al-qumsan, Product Manager, IEC Certification Kit, both: MathWorks, Germany

14:45 Environment Detection and Safe Decision Making for Off Highway Mixed Traffic Operation of Mobile Machines

- Environment recognition for automatic motion of mobile machines
- None of the long range environment recognition systems available today used for guidance are functional safe
- Sensor diversity and redundancy
- Processing by certified PLd/Cat3 mobile safety controllers
- Functional safe decision making basing on the available environmental sensor data and the driving situation

Dr. Christoph Mueller, CEO, MobileTronics GmbH, Germany

15:15 LiDAR in Off-Road – Use Cases, Challenges and Solutions

- Applications and uses cases in agriculture, mining and construction
- Challenges of esthetical and reliable integration
- Handling of contamination
- Using AI to cover safety and automation tasks
- Robust sensor technology and manufacturability

Karsten Bronowski, Business Development Manager, Xenomatix, Belgium

15:45  Networking Break

VII. Fleet Management & Fleet Operations

16:00 Feature-On-Demand & Fleet-On-Demand: How On-demand Solutions Conquer the Construction Site and What Effects This Has on OEM's

- On-demand solutions
- Differentiation via software
- Smartphone on the construction site
- Impact on OEMs

Stefan Öttl, Irdeto B.V., Director Business Development, Off-Highway, Austria

16:30 Fleet Management

Speaker to be announced

17:00 Conference Chair's Closing Remarks

17:15 End of Conference

All times refer to Central European Summer Time

International VDI Conference

Smart Farming

Parallel
running
conference

Date and venue:

October 26-28, 2021

Online

Renowned speakers will present their results on the following topics:

- Automation and Robotics in Agriculture
- AI empowered Modular Robotic Farming – Towards affordable Solutions
- Smart Sensor Technology – How a Tractor Implement obtains Intelligence?
- Data Rights and Data Transactions for Smart Farming
- Accelerating Crop Innovation with CRISPR Technology

+ Interactive Round Table Discussions

+ Startup Session: Transforming the Agriculture Sector

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Save the Date

VDI International Conferences 2022

Date and venue:

May 16-17, 2022

Dusseldorf, Germany

Connected Off-Highway Machines

Electrified Off-Highway Machines

Smart Farming

Connected Off-Highway Machines

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Conference venue
Online

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Registration

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Register online!

www.vdi-international.com/01K0902021



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Yes, I will participate as follows:

Participation Fee + VAT

VDI Conference 26.-28.10.2021
(01K0902021) € 1290

I am interested in sponsoring and/or exhibition

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

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VDI membership no.

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