

VDI

5th International VDI Conference

Smart Construction Equipment

November 29-30, 2022, Munich, Germany

- Insights in the Construction Site of the Future
- Connected Construction Equipment & Big Data
- Latest Developments in Autonomous & Smart Construction Equipment
- The Use of Virtual Reality at Construction Sites
- Security of Automated Machines

+ International Best Practices

+ Interactive World Café Session

Meet international Experts from:

ARCURE
X



BOSCH
refinerySite

INTER
CONTROL

KEWAZO

KOMATSU

MOB:ION

MobileTronics

Robert
Berger

TIERRA

TECHNISCHE
UNIVERSITÄT
DRESDEN



An event organized by VDI Wissensforum GmbH
www.vdi-international.com/01K0916022





About us



The Association of German Engineers (VDI) is one of the largest technical-scientific associations in Europe. Throughout the years, the VDI has successfully expanded its activities nationally and internationally to foster and impart knowledge about technology-related issues. As a financially independent, politically unaffiliated and non-profit organization the VDI is recognized as the key representative of engineers both within the profession and in public.

Reasons to attend

Learn about current challenges and opportunities in construction brought about by digitalization

See how construction processes can be optimized

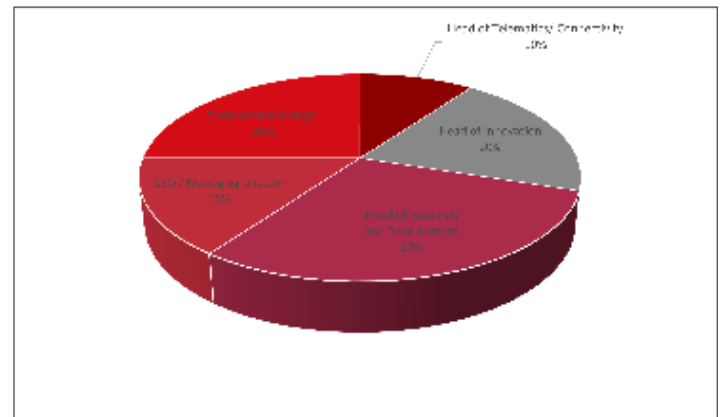
Discuss the future possibilities that AI will bring to the construction site

Network with internationally renowned experts

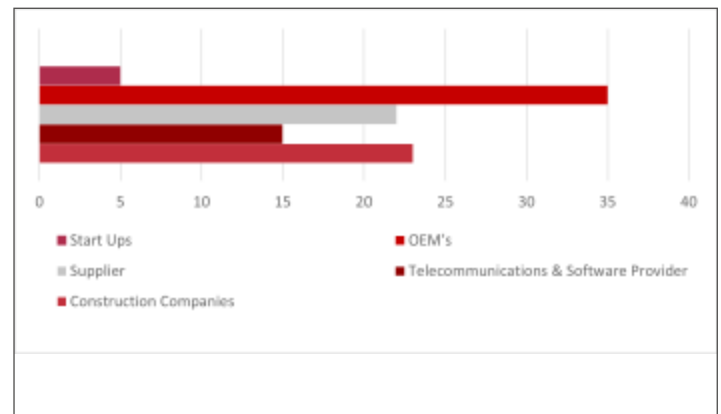
Supporting Expert

Dr. Oliver Geibig, Managing Director Business Units & Engineering, fischer group of companies

Expected Participants according to Functions



Expected Participants according to Industries



09:00 Registration & Welcome Coffee

10:00 Chair's Welcome and Opening Address:

Dr. Oliver Geibig, Managing Director Business Units & Engineering, fischer group of companies, Germany

10:10 Say Hello & Meet your Peers!

Have your business cards on hand and discover who else is joining the event!

I. Construction Site of the Future

10:15 Digitalization & Disruption of Business Models in Construction

- Digitalization of all areas of the construction industry leads to a change of the traditional business models of all actors
- Increased productivity and optimization of the cooperation of architects, planners, construction companies, suppliers and craftsmen
- New digital business models in the construction industry

Dr. Kai-Stefan Schober, Senior Partner & Co-Head of Client Team Materials & Process Industries, Roland Berger GmbH, Germany

10:45 Application of a Digital Twin for Teleoperation of Construction Machinery

- Teleoperation of construction machinery typically relies on videostreams as the main feedback channel with several drawbacks as transmission delays and reduced depth perception.
- A Digital Twin, i.e. a digital representation of the construction machine and its working process can be used for a realtime 3D visualization of the process.
- A realtime 3D visualization can extend ordinary cameras based teleoperation by providing advantages as low latency, better visibility and operator assistance.

Dr.-Ing. Volker Waurich, Research Assistant, Chair of Construction Machinery & **Prof. Dr.-Ing. Frank Will** Chairholder, Chair of Construction Machinery, both: TU Dresden, Germany

11:15 Bosch RefinemySite - Building a Connected Construction Ecosystem with Lean, BIM & IoT

- Bosch's project RefinemySite is a cloud-based construction collaboration platform that uses Lean principles to enable the entire construction team — from owners to trade contractors — to plan accurately, communicate clearly, and execute work efficiently
- Needs on a construction site are: empowered teams, building of trust, creation of a culture of responsibility, and enhanced communication
- Bosch Power Tools vision for RefinemySite is to build a connected ecosystem for Lean, BIM, and the IoT

Dr. Sebastian Max Jackisch, Head of Global Operations, Business Team Digital Construction, Robert Bosch Power Tools GmbH, Germany



11:45 On-site Logistics Automation via Robotics and Data Analytics

- KEWAZO automates on-site material flow by using robotics and data analytics
- As the first step, KEWAZO is focusing on the vertical material transport in the \$50B scaffolding industry
- By having robots used on-site, operational data is collected, enabling digital services that were not possible before.

Artem Kuchukov, CEO & CO-Founder, KEWAZO GmbH, Germany

12:15 Lunch

II. World Café Session

13:45 We invite you to directly engage with other experts in small round table discussions. Identify challenges within your sector as well as problems, needs and solutions. Decide what exactly you would like to discuss and introduce your own experiences and cases.

World Café topics will be announced before the conference

15:30 Networking & Coffee Break

III. The Use of Virtual Reality

16:00 Opportunities in Using Virtual Reality with BIM

- What does it mean to use VR with BIM?
- The benefits to; Profits, People, Planet, the triple bottom line.
- Use cases of how to get value from using the technology
- Where are we heading with VR, AR, and MR

Rune Vandli, Chief Product Officer, VREX, Norway

16:30 How Virtual Reality is Changing Construction

- Improving design, safety and training
- Avoiding of costly overruns on projects

Speaker to be announced

17:00 End of Conference Day One



Get-together:

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

09:25 Chair's Opening

IV. Autonomous & Smart Construction Equipment

09:30 Interconnection of Sensors and Solutions

- Digitizing yellow metal to solutions
- Mutual pain points need healing
- Mankind, machine and material

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

10:00 New Opportunities for Mobile Robotic Systems on Construction Sites

- Potential of multi-purpose mobile robotic systems for the construction industry
- Automation as a promising solution for the labor shortage and serial high-quality applications in construction
- The quality of as-built BIM data as a critical aspect of the construction site of the future

Victor Rodionov, Chief Operations Officer, Baubot GmbH, Austria

10:30 Obstacle Detection Using Vision Sensor

- Pedestrian detection using deeplearning
- Obstacle detection with stereo vision
- Obstacle detection with mono vision and AI

Ph.D. Sabri Bayouhdh, VP of Technology, Arcure SA, France, Co-author: Jean-Gabriel Poiteau, VP Sales, Arcure SA, France

11:00  Networking & Coffee Break

V. Connected Construction Equipment & Big Data

11:30 Connecting Shotcrete Machines: Improve What you Measure

- Waste reduction
- Managing by feeling
- Visibility on operations

Agnes Petit, Founder & CEO, Mobot, Switzerland

12:00 Custom Analytics for Data-Sensible Customers

- Sensibilizing of the market, moving to data-driven
- Our approach to the problem, artisanal industrialization, and our enabling infrastructure
- Our stories, some use cases, and how we learnt from them

Ricardo Loti, Head of Analytics and Research Division, Tierra S.p.A, Italy

12:30  Lunch

VI. Security of Automated Machines

14:00 Smart Machines - Smart Standards?

- Requirements from standards challenge developers of innovative products and assessment teams.
- Upcoming new standards might affect compliance to products throughout their lifecycle.
- Aspects for safety components from the perspective of an assessment organization will be discussed.
- Examples on potentially suitable ways to comply with the safety requirements will be given.

M. Sc. Nikola Mitov, FS Software, TÜV SÜD Rail GmbH, Germany, Co-author: Dipl.-Ing (FH) Guido Neumann, Embedded Systems, TÜV SÜD Rail GmbH, Germany

14:30 Features and Functions of Safety Controllers for Highly Automated Industrial Vehicles

- Basic safety functions
- Necessary features to reduce complexity during the life cycle
- Communication

Alexander Holler, General Manager Electronics Division, Intercontrol, Germany

15:00 Application of Functional Safety in Assistance and Autonomy in off highway applications

- Functional Safety in software on electronically controlled construction machinery
- Functional Safe Application Software
- Steer-by-wire and brake-by-wire
- Sensor systems for operator assistance and autonomy
- Systems integration, testing and certification aspects

Dr. Dipl. Ing. Christoph Mueller, CEO, MobileTronics GmbH, Germany

15:30 Chair's Closing Remarks

16:00 End of Conference

Exhibition / Sponsoring

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

Vanessa Ulbrich

Project Consultant Exhibitions & Sponsoring

Phone: +49 211 6214 - 918

Email: ulbrich@vdi.de



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: Cyber Security for Vehicles, Future of Buses, New Mobility, ADAS and Connected Off-Highway Machines.

Please submit your topic to:

Annick Cathrin Pauwels

Product Manager International Business

Phone: +49 211 6214-8646

Email: Pauwels@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

Munich Airport Marriott Hotel

Alois-Steinecker-Str. 20

85354 Freising

Phone: +49 8161 9660

Email: info@munich-airport-marriott.de



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 Munich Airport Marriott. 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 November 29, 2022.

Conference attendance conditions and terms can be found on our website:

www.vdi-wissensforum.de/en/terms-and-conditions/

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Yes, I will participate as follows:

Participation Fee + VAT
 VDI Conference 29.-30.11.2022
(01K0916022) € 1790

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