International VDI Conference

Automation and Robotics in Agriculture

June 26 and 27, 2019, Berlin

• Automation and Connectivity: The New Way of Farming
• The Use of Robots in Arable Farming anno 2019
• Animal Automation and Livestock Management – Solutions & Use Cases
• Safety for Outdoor Robotics
• How will the Agricultural Robot Market develop over the next Years?
• Start-Ups: Transforming the Agriculture Sector

+ Panel Discussion: Robotics shaping the Future of Agriculture
+ Interactive World Café Discussions

Meet international Experts from:

An event organized by VDI Wissensforum GmbH
www.vdi-international.com/ 12K0901019
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.

### Expected Participants according to Functions

- Robotic Startups (Hardware and Software) 15%
- Research Organizations & Government Agencies...
- Agricultural and Automation Industry (OEMs, Equipment Suppliers, Sensors)...
- IT/Software Developers and Systems Integrators 18%
- Field Robot Manufacturers and Developers (Crops and Livestock)...

### Expected Participants according to Industries

- Software Engineer
- Head of Business Development
- Managing Director
- Product Manager/Solution Manager

### Reasons to attend

- **Meet** international Agriculture Industry Experts
- **Gain insights** into OEM’s Perspective on the New Way of Farming
- **Prepare** for Industry-wide Robotics Usage
- **Benefit** from Case Studies and Practical Insights
- **Discuss** how Robotics are Shaping the Future of Agriculture
- **Network** with innovative Startups
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Speaker/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:45</td>
<td>Registration &amp; Welcome Coffee</td>
<td></td>
</tr>
<tr>
<td>10:15</td>
<td>Chair’s Welcome and Opening Address</td>
<td>Prof. Ole Green, CEO, AGROINTELLI, Denmark</td>
</tr>
<tr>
<td>10:30</td>
<td>Speed Networking</td>
<td>Make the most of this networking opportunity by participating in these quick and effective 1-to-1 interactions. Get to know the other attendees and exchange your business cards.</td>
</tr>
<tr>
<td>10:45</td>
<td>Automation and Connectivity: The New Way of Farming</td>
<td>Daniel Stuart, Product Marketing Director Europe, Case IH, CNH Industrial Österreich GmbH, Austria</td>
</tr>
<tr>
<td>11:15</td>
<td>Transforming Automation in Agriculture through Robotics and AI</td>
<td>Chris Roberts, Associate Director, Head of Industrial Robotics, Cambridge Consultants, United Kingdom</td>
</tr>
<tr>
<td>11:45</td>
<td>Farming Automation: State of the Art Technology today and what the Future holds</td>
<td>Jeff Ferrin, CTO, Autonomous Solutions Inc., USA</td>
</tr>
<tr>
<td>12:15</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13:45</td>
<td>From Farm to Fork: Automation and the Robot in Agriculture today</td>
<td>Marc O’Regan, CTO &amp; Technologist, Dell EMC/EMEA, Ireland</td>
</tr>
<tr>
<td>14:45</td>
<td>Artificial Intelligence in the Detection of Microfauna and Microflora</td>
<td>Steve Gerrish, CEO, Qmira, USA</td>
</tr>
<tr>
<td>15:15</td>
<td>Networking &amp; coffee break</td>
<td></td>
</tr>
<tr>
<td>15:45</td>
<td>Interactive World Café Session</td>
<td></td>
</tr>
<tr>
<td>16:45</td>
<td>Sustainable Intensification of Arable Farming enabled by Automated Implements</td>
<td></td>
</tr>
<tr>
<td>17:15</td>
<td>End of conference day one</td>
<td></td>
</tr>
</tbody>
</table>

**Robotics on the Fields – Part I**

14:15 Small Scale Arable Production Systems – Advantages and Challenges
- From big - bigger to smaller with help of technology
- Ecology as driver instead of technology
- Autonomous vehicles in controlled traffic system
- Experiences with detection of volunteer potato control

14:45 Artificial Intelligence in the Detection of Microfauna and Microflora
- Separating the soil from the components in an automated robotic environment
- How many and what kind of organisms are influencing development – Think nematodes
- Automated fertility and chemical measurement ideas
- Artificial Intelligence and Deep Learning for treatment methods

15:45 Interactive World Café Session

During the interactive World Café Session, we invite you to directly engage with other experts. It is an interactively moderated discussion on different topics. Discuss and identify challenges within your sector as well as problems, needs and solutions. The focus is on the participants – Decide what exactly you would like to discuss and introduce your own experiences and cases.

16:45 Sustainable Intensification of Arable Farming enabled by Automated Implements
- The use of robots in arable farming anno 2019
- Robotic as an enabler for precision farming
- New possibilities in arable farming with robots

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.
Robots on the Fields – Part II

09:00 Field Agriculture Robots, only for Special Crops … yet
- Feedback from 7 years of experience in mechanical weeding robot
- The place of the field robots in intelligent agriculture systems
- From FIRA to starting an international group or association about agriculture robots?
Gaëtan Séverac, Co-founder, Naïo Technologies, France

09:30 (R)evolution in the Greenhouse – The Future is Now!
- Crop production challenges
- Robots to support grower
- Engineering an economical relevant robot
- The strawberry picking case
Dipl.-Ing. (FH) Didier Verhaeghe, Octinion Agriculture, Belgium

10:00 NIR Sensors for the Determination of Ingredients in passing Liquid Manure – An Example for Infield Application
- From lab to field: NIRS technology and areas of application in agriculture
- Development of testing procedures for mobile NIRS precision, mounted on forage harvesters and slurry tanks
- DLG certification: User acceptance - Recognition by governmental authorities
- Future outlook: Measurement - Data management & documentation - Sensor data based machine control
Dr. agr. Ulrich Rubenschuh, Project Manager, Test Services for agricultural technologies, DLG TestService GmbH, Germany

10:30 Networking & coffee break

11:00 Start-up Session
Get in touch with interesting start-ups! You are keen to initiate a new industry collaboration? You are looking for innovative technologies and solutions? Then join our interactive start-up session. Listen to carefully selected start-ups presenting their ideas in a few short minutes. Select the start-up you want to meet and discuss your questions with them directly. Network and brainstorm about new ideas! Represented start-ups will include:

Localized Spraying with Automated Weeds Identification: A Use Case for Deep-Learning | Simon Denonnain, Carbon Bee Agtech, France

Wireless Charging – A key enabler for 100% Autonomous Operation of Agricultural Robots | Matthieu Ebert, M.Sc., Key Account Manager, Blue Inductive GmbH, Germany

3D Learning applied in Agriculture | Jonathan Berte, Founder & CEO, Robovision, Belgium

Animal Automation

13:00 Milking Cows with Robots – Challenges and Opportunities
- Vision systems for teat-finding applications on cows
- Robot control close to animals
- Sensors and electronics in the challenging barn environment
- ...and how to make the cow feel just fine
Björn Wiklander, M.Sc., Technical Manager Robot & Vision, DeLaval International AB, Sweden

13:30 Networking & coffee break

Safety Considerations for Employing Robotics

14:30 Safety in agricultural Automation – Examples from permanent Crops
- Introduction to levels of autonomy and safety requirements
- Automation of vehicles and implements
- From assistance functions to autonomous systems
Dr.-Ing. Bernd-Helge Leroch, Managing Director, Robot Makers GmbH, Germany

15:00 Panel Discussion
Robotics Shaping the Future of Agriculture

15:30 Closing Remarks
15:45 End of conference

Upcoming Events

3rd International VDI Conference
Smart Farming
May 14–15, 2019 in Dusseldorf, Germany

77th International Conference on Agricultural Engineering
LAND.TECHNIK AgEng 2019
The Forum for Agricultural Engineering Innovations
November 08–09, 2019 in Hannover, Germany
The Call for Papers will commence on January 2019
www.vdi-international.com/ageng
The workshop provides an introduction to the implementation of ISOBUS Automation with TIM (Tractor Implementation Management). Participants get an overview of TIM architecture, functionalities and use cases, as well as of safety and security aspects. Based on the know-how from TIM definition and prototyping in AEF (Agricultural Industry Electronics Foundation) necessary hardware, software and infrastructure components for the development of TIM functionalities, their integration into Ag implements and market rollout are explained. After the workshop, participants will be able to prepare roadmaps for TIM development and production of TIM-ready machines.

Welcome & Introduction
- Why ISOBUS Automation is needed
- ISOBUS Automation aspects covered by TIM specification

TIM Architecture
- Hardware / Software components
- Authentication process & Exchange of certificates

TIM Specification
- Functionalities & Key infrastructure
- Authentication and security

System Boundaries and Responsibilities
- Security: Which aspects are (not) covered by the Specification?
- Implications for manufacturers based on the risk assessment
- Functional safety: Implications for manufacturers

Basic Prerequisites: What is needed to get started?
- Milestones of a TIM integration roadmap
- Designing a system architecture
- Availability of hardware and software components
- Development process & Infrastructure

Summary, Discussion and Conclusion
International VDI Conference

**Sensors for Off-Highway Machines**

**Date and venue:**
June 26-27, 2019
MERCURE Hotel MOA, Berlin, Germany

**Renowned speakers will discuss the following topics:**
- Technology transfer from passenger cars to the OHW Sector
- Requirements for Sensor Systems
- Advanced Sensing Solutions & Building Sensor Platforms
- Management of Functional Safety Standards, Regulations and Standardization
- The Role of Data, AI & Neural Networks and Cyber Security
- Future of Work in Autonomous OHW Machines

www.vdi-international.com/01KO935019

---

**Parallel running conferences - Free of extra charge**

---

International VDI Conference

**HMI in Off-Highway Machines**

**Date and venue:**
June 26-27, 2019
MERCURE Hotel MOA, Berlin, Germany

**Renowned speakers will discuss the following topics:**
- User Centered Design / UX in Off-Highway Machine Cockpits
- HMI Software: Standardization and Device Connectivity
- Advanced Driver Assistance and improved Vehicle Safety
- Haptic, Gesture and Speech Control Development and Technology
- Modular HMI Components / Instrument Clusters
- Head-Up Displays / Augmented & Virtual Reality

www.vdi-international.com/01KO937019
**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**
MERCURE Hotel MOA Berlin
Stephanstr. 41
10559 Berlin, Germany
Phone: +49 30 3940430
Email: ha0f7@accor.com

**Hotel room reservation:** A limited number of rooms has been reserved for the benefit of the conference participants at the MERCURE Hotel MOA Berlin. 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 June 26, 2019.

**Conference attendance conditions and terms:** By way of your registration you accept the conference attendance conditions and terms of VDI Wissensforum GmbH as binding. Any cancellation of your registration must be made in writing. We will charge you only an administrative fee of € 50.00 plus German VAT if you cancel your registration earlier than 14 days ahead of the conference date. Any cancellation that reaches us after this deadline will entail the conference attendance fee as stated in our invoice to be charged in full. The date of the post office stamp of your written cancellation will be the decisive criterion. In that case, we will gladly mail you the conference documents on request. Subject to agreement, you may name a substitute participant. Individual parts and sections of conferences and seminars cannot be booked. You will be informed without delay if an event has to be cancelled for unforeseeable reasons. In that instance, you will be entitled only to a refund of your conference attendance fee if already paid. We reserve the right to exchange speakers and/or change the program sequence in exceptional cases. In any case, the liability of VDI Wissensforum GmbH is restricted exclusively to the conference attendance fee.

**Data protection:** VDI Wissensforum GmbH captures and processes the address data of conference participants for their own corporate advertising purposes, enabling renowned companies and institutes to reach out to participants by way of information and offers within their own marketing activities. We have outsourced in part the technical implementation of data processing to external service providers. If you do not want to receive any information and offers in the future, you may contradict the use of your personal data by us or any third parties for advertising purposes. In that case, kindly notify us of your contradiction by using the email wissensforum@vdi.de or any other of the contact options mentioned.

---

**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:

**Christoph Brockerhoff**
Project Consultant Exhibitions & Sponsoring
Phone: +49 211 6214-228
Fax: +49 211 6214-97228
Email: brockerhoff@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: Smart Farming, Sensor & HMI Technologies for the Off-Highway Industry.

Please submit your topic to:
**Dr. Maria Georgiou-Smith**
Product Manager International Business Agricultural Engineering
Phone: +49 211 6214-467
Fax: +49 211 6214-97467
Email: georgiou-smith@vdi.de

---

**Registration**

Conference by VDI Wissensforum GmbH | www.vdi-international.com/12X0901019 | Phone +49 211 6214-201 | Fax +49 211 6214-154

Automation and Robotics in Agriculture
International VDI Conference

Automation and Robotics in Agriculture

Yes, I will participate as follows:

<table>
<thead>
<tr>
<th>Participation Fee + VAT</th>
<th>Workshop 28.06.2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDI Conference 26.-27.06.2019</td>
<td>(12KO901019) € 1840</td>
</tr>
<tr>
<td>(01ST935001) € 950</td>
<td></td>
</tr>
</tbody>
</table>

Package Price (Please tick the boxes)

- □ (Conference + 1 Workshop) € 2500

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

<table>
<thead>
<tr>
<th>VDI membership no.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Last Name (Family Name)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company/Institute</th>
<th>VAT-ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Department</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ZIP Code, City, Country</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Email</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please state your invoice address if this differs from the address given

<table>
<thead>
<tr>
<th>Participate with an invoice address outside of Austria, Germany and Switzerland are kindly requested to pay by credit card:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Visa</td>
</tr>
<tr>
<td>Card holder</td>
</tr>
<tr>
<td>Security Code</td>
</tr>
</tbody>
</table>

Register online!

www.vdi-international.com/12KO901019