

VDI

5th International VDI Conference

Smart Farming

October 26-28, 2021, Online

- AI empowered Modular Robotic Farming – Towards Affordable Solutions
- Automation and Robotics in Agriculture
- 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

Meet international Experts from:



An event organized by VDI Wissensforum GmbH
www.vdi-international.com/12K0100021



13:45 Technical Opening

14:00 Chair's Welcome and Opening Address

Dipl.-Ing. Ralf Kalmar, Business Development Manager, Fraunhofer IESE, Germany

I. What's Next in Smart Farming

Opening Keynote

14:15 Accelerating Crop Innovation with CRISPR Technology

- Using CRISPR to accelerate the pace of development of new crops
- The technology provides consumers with real benefits through better fruits and vegetables (i.e., Pairwise's work and mission)
- Moving forward, CRISPR to be used to further enable innovations in production, supply chain, and other areas

Tom Adams, CEO, Pairwise, USA

14:45 Smart Sensor Technology – How a Tractor Implement Obtains Intelligence?

- Intelligent sensor technology for wildlife detection
- Camera-based seedbed preparation – The implement optimises the seedbed with the help of sensors
- The importance of sensor technology on implements for future applications (automated or autonomous)

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

15:15 ☕ Networking Break & Exhibitors Introductions

II. Ag Data Standards & Collaboration

16:15 Hardware to Insights: Value, Scale and the Role of Standards in IoT

- Scalable deployment of on-farm IoT systems and challenges during implementation
- How to deal with proprietary data formats and semantics, as well as ad-hoc cloud solutions
- Industry-wide standards will assist in overcoming challenges and enable scalability
- Examples from AgGateway and Syngenta's implementation

Dr. R. Andres Ferreyra, Data Asset Manager, co-author: Dr. Diganta Adhikari, Head of On-Farm IoT, both: Syngenta Digital, USA

16:45 The ADAPT Data Model. Yet Another Data Exchange Format?

- One purpose, one format – Why there are various data formats in agriculture
- Data Format vs. Data Transport
- The ADAPT Data Model
- AgGateway as intermediary of different contexts

Frank Wiebeler, Freelancer for DKE Data GmbH&Co KG, Germany

17:15 Agricultural Industry Develops a Standard for Data Exchange

- AEFs vision for digital farming
- Data sharing: What does it really mean?
- Interoperability as success factor for connectivity
- Infield communication as part of digital farming

Dipl. Ing. Norbert Schlingmann, General Manager, Agricultural Industry Electronics Foundation AEF e.V., Germany

17:50 VDI Afterhour

13:45 Technical Opening

14:00 Chair's Welcome and Opening Address

James Miller, Group CTO, Tractors and Farm Equipment (TAFE) Limited, India

14:15 Use of Consumer Electronics for On Board MachineMonitoring and Data Visualisation

- Cost effective, flexible and real time visualisation of data
- Enhanced mapping functionality
- Process optimisation based on live machine performance data
- Consumer electronics in the future of machine data

Mark Phelan, Product management specialist, AGCO GmbH, Germany

OEM Keynote

III. Ag Law

14:45 Data Rights and Data Transactions for Smart Farming

- Data as a 'non-rivalrous resource' for better farming
- Uncertainty as to the applicable rules to govern agricultural data likely to inhibit innovation and growth
- Who 'owns' agricultural data?
- Principles for transfer and use of data in agricultural data ecosystems

Prof. Dr. Hans Schulte-Nölke, Director of the European Legal Studies Institute & Prof. Dr. Mary-Rose McGuire, Chair for Private Law, Intellectual Property Law, German & European Civil Procedure, both: Osnabrück University, Germany

15:15 Ag Data Contracts: Increasing Transparency Between Farmers and Tech Providers

- Legal issues affecting agricultural data
- Ag Data Transparent certification standard for tech companies
- How and why companies should develop an Ag Data Use Policy

Todd J. Janzen, Administrator, Ag Data Transparent, USA

15:45 ☕ Networking Break

IV. Startup Session

This session will give three startups a chance to briefly introduce themselves. Learn what these new players' perspective on smart farming in 2021 is:

16:15 Importance of Mixing Agriculture Data in Precision Farming and Carbon Farming

- Different types of available Ag Data sources
- Precision Farming: A concrete example of collecting and analyzing different Ag Data
- Carbon Farming: How multiple Ag Data could help monitor and report the CO₂ emissions Carbon Soil storage
- What are the AI values in Agriculture?

Francois Thierart, CEO and Co-founder, MyEasyFarm, France

16:35 From Reflections to Insights: The First Digital Entomologist

- Development of insect monitoring using LIDAR and LEDs
- Field-readiness and validation of new insect monitoring technology
- The case for digital insect monitoring

Rámi El-Rashid, Data Scientist, FaunaPhotonics, Denmark

16:55 Under-canopy: The Missing Piece in Agricultural Autonomy and AI

- Challenges in GPS Denied Real-World Autonomy
- The need for under-canopy sensing
- Converting under-canopy data to plant-health measurements

Chinmay Soman, PhD, Co-founder & CEO, EarthSense Inc., USA

17:15 ☕ Networking Break

17:30 Interactive Round Table Session

During the interactive Round Table Session, we invite you to directly engage with other experts. The discussions are moderated by experts in an array of fields revolving around smart farming. Discuss and identify challenges within your sector as well as problems, needs, and solutions. Choose your preferred topic from the list below and introduce your own experiences and questions.

1. **Agricultural Data Management Quo-Vadis** – **Dr. Johannes Sonnen**, Head of Product & Partner Management, DKE-Data GmbH & Co. KG, Germany
2. **Safety and Robustness of Autonomous Agricultural Machines** – **Darcy Cook, P.Eng.**, VP Engineering/GM, JCA Technologies, Canada
3. **Agriculture post Covid-19 – Accelerating Innovation** – **Benjamin Subei**, Principal, Boston Consulting Group, Germany

18:30 VDI Afterhour

13:45 Technical Opening

14:00 Chair's Welcome and Opening Address

Rhett Schildroth B.Sc., President, Redsheid Consulting, USA

V. Automation and Robotics

14:15 AI Empowered Modular Robotic Farming – Towards Affordable Solutions for Agriculture

- Modular system approach for affordable robots
- AI for autonomous mobile robotics
- 'Swarm learning' for precision farming

Thiemo Buchner, Project Lead Contadino, Artificial Intelligence (he|a|t), co-authors: Oliver Horeth, ML Scientist & Andreas Mandl, Head of Robotics and AI Products, all: Continental AG, Germany

14:45 The Farm of the Future – The 'Hands Free Farm'

- The evolution of farming to become autonomous
- Retrofit refinement and adoption for tasks
- Out of the box and industry thinking
- Farm not just autonomously but farm well

Jonathan Gill, Mechatronics Researcher & UAV Pilot, Co-creator of 'The Hands Free Hectare' & 'Hands Free Farm', Harper Adams University, UK

15:15 Gold Standard of Soil Preparation with Autonomous Electric Tractors

- Soil preparation evolution and history
- Implements and technics for arable land
- Computer vision and sensors role in defining the soil condition
- Can AI fix the gaps of today's agriculture practice?

Bakur Kvezereli, CEO and Founder, Ztractor Inc., USA

15:45 ☕ Networking Break

16:00 Why Safe Positioning is Vital for Autonomous Vehicles

- The limits of positioning in agriculture today
- Accuracy vs. Integrity
- Achieving a safe position

James Szabo, Agriculture Autonomy Product Manager, NovAtel, Canada

16:30 About Evaluating Localized Spraying Performance from the End User Perspective

- Sustainable crop protection & localized spraying recent development
- About end-users' expectations and industrial quality
- A new way of assessing the performance of chemical reduction, leveraging agronomy and statistics

Colin Chaballier, General manager, co-author: Matthieu Hemmerle, Agronomy and sensors manager, both: EXXACT Robotics, France

17:00 Closing Remarks

17:15 End of Conference

6th International VDI Conference

Connected Off-Highway Machines

From Smart Sensors to Smart Systems

Parallel
running
conference

Date and venue:

October 26-28, 2021
Online

Renowned speakers will present their results on the following topics:

- 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
- + Panel Discussion: The Challenges of Mixed Fleet Management

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Save The Date

VDI International Conferences 2022

Date and venue:

May 16-17, 2022
Dusseldorf, Germany

Smart Farming
Connected Off-Highway Machines
Electrified Off-Highway Machines

Smart Farming

Supporting Experts

Dipl.-Ing. Ralf Kalmar, Business Development Manager, Fraunhofer IESE, Germany

Rhett Schildroth B.Sc., President, Redsheid Consulting, USA

James Miller, Group CTO, Tractors and Farm Equipment (TAFE) Limited, India

Julian Sanchez, Director Emerging Technology, John Deere, USA



Become a speaker

Become a speaker at our international VDI Off-Highway Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are looking for speakers on: Automation and Robotics in Agriculture, Sensors for Off-Highway Mashines, Connected Off-Highway Machines.

Please submit your topic to:

Dr. Maria Georgiou-Smith

Product Manager International Business

Agricultural Engineering

Phone: +49 211 6214-467

Email: georgiou-smith@vdi.de

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Conference venue

Online

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Registration

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Smart Farming



Register online!

www.vdi-international.com/12K0100021



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Yes, I will participate as follows:

Participation Fee + VAT

VDI Conference 26.-28.10.2021
(12K0100021) € 1290

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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