Sources: AI-generated with Midjourney

Mobile Machine Electronics 2026

Main Topics:

- **Automation and Autonomy**
- **Software Defined Machines**
- **Connectivity and Communication**
- **Smart Systems**
- **Electrification**

Special Highlight: Keynote Speech from

- **Dr.-Ing. Martin von Hoyningen-Huene,** Member of CLAAS Group Executive Board

+ Access to:

+ ELIV by VDI

+ Networking at the joint Breaks & Evening Event

+ Extensive Exhibition

+ Lightning Talks

+ Start-up Area and Special Start-up Program

With Experts from:

4e consulting – A ZAPI GROUP COMPANY · chargebyte · CLAAS · CNH Breaking New Ground · DSA · dSPACE · FZI · itk ENGINEERING · JUNGHEINRICH POWERTRAIN SOLUTIONS · KRONE · P3 · SEYOND · UID · VOLVO · WIRTGEN GROUP – A JOHN DEERE COMPANY

An event organized by VDI Wissensforum GmbH
www.vdiconference.com/01TA111026
Phone +49 211 6214-201 • Fax +49 211 6214-154

October 14-15, 2026,
Kongresshaus Baden-Baden, Germany

1st Congress Day
Wednesday, October 14, 2026

07:30 Registration

Keynotes
Moderation: Dr. Rolf Zöller, DigiTrans Consulting, Tübingen, former Porsche AG and Porsche Digital

08:45 **Opening of the Congress, Current Market Situation & Hour of Topical Interest**
Dr. Rolf Zöller, CEO and Founder, DigiTrans Consulting, Tübingen, former Porsche AG and Porsche Digital, ELIV Program Committee Chairman, and **Dr.-Ing. Carsten Hoff,** CEO, dSPACE Group SE & Co. KG, Paderborn, Mobile Machine Electronics Program Committee Chairman

09:00 **The Cars Are the Proof. The SW-Factory Is the Story. How Scalable Architectures and AI are Reshaping Automotive Development**
- Neue Klasse: proving that a next-generation electronics architecture can scale across products, powertrains, and markets
- From Software Factory to AI Factory: scaling software engineering to turn innovation into industrial reality
- Beyond the OEM: building the industry-wide collaboration needed for AI-powered development

Dr. Christoph Grote, Senior Vice President AI & Innovation, BMW Group, Munich

09:30 **Co-Creating the Future of Mobility: India and Europe in the Next Decade**
- Electrification, Software & AI Transforming Automotive Engineering
- India as a Hub for Integrated Product Development & Validation
- Scaling Next-Generation Mobility through India-Europe Collaboration

Kishor Patil, Co-Founder, MD & CEO at KPIT | Vice Chair, NASSCOM | Chairman, Advisory Board at QORIX, Pune, India

10:00 **The Future of Farming – From Automation to full Autonomy** — Keynote
- Challenges of farmers and modern agriculture
- Automation of working – how processes are automated
- Automation of driving – how machines become autonomous
- Outlook on the future of farming

Dr.-Ing. Martin von Hoyningen-Huene, Member of CLAAS Group Executive Board | EVP BU Tractors and Implements, SU Engineering (Group CTO), CLAAS KGaA mbH, Harsewinkel, Co-Authors: Christian Poschmann, MBA, Felix Giesker, M. Eng., both: CLAAS Selbstfahrende Erntemaschinen GmbH, Harsewinkel

10:30 Coffee break, Exhibition and Start-up Area visit

Smart Components
Moderation: Dr.-Ing. Georg Kormann, John Deere GmbH & Co. KG Intelligent Solutions Group, Kaiserslautern

11:15 **AI-Driven Real-Time Automation of Variable Rate Applications (VRA) Using Multispectral Camera System: Multi-Year Field Validation in Cotton**
- Evaluation of an AI-enabled camera-based sensing system for real-time VRA in cotton
- Integration of multispectral imaging, environmental sensors, and onboard AI for crop vigor and biomass assessment
- Performance validation in commercial cotton fields vs. conventional practices
- Leveraging results to optimize inputs, reduce agrochemicals, and improve sustainability – without compromising yield or fiber quality

Nikolaos Georgiadis, M. Sc., Agronomy Lead, Research & Development, Co-Author: Dr. Christina Vogiatzi, Konstantinos Papachristos, all: CNH, Metamorphosis, Greece

11:45 **Dynamic Agricultural Environment for Real-Time Physics-Based Sensor Simulation**
- Real-time dynamic agricultural environment model for large-scale plant populations and harvesting processes
- Physics-based, sensor-consistent scene generation with material-accurate assets
- High-fidelity LiDAR and camera simulation
- Framework for validation of autonomous functions and HIL testing of mobile agricultural machinery

Dr.-Ing. Nico Rüddenklau, Project Manager, Automated Driving & Software Solutions, Co-Author: Dr. Thomas, Lessmann, both: dSPACE SE & Co. KG, Paderborn

12:15 **From Sensor Capability to Real-World Applications – LiDAR as an Enabler for Automation and Safety in Mobile Machines**
- Sensor capability today vs. real-world impact
- Designing LiDAR architectures for scalable automation
- Understanding complexity of harsh Off-Highway environments

Oli Ramoli, Manager, Business Development & Key Accounts EMEIA, Seyond Europe GmbH, Eschborn

12:45 Lunch, Exhibition and Start-up Area visit

Automation and Autonomy
Moderation: Dr.-Ing. Carsten Hoff, dSPACE Group SE & Co. KG, Paderborn

14:15 **Smart Automation in Roadbuilding: Development of Highly Integrated, Data Driven and Connected Machine Automation**
- Leveraging automatic machine control based on external surveying data with GNSS & RTK localization
- Upfront data validation & visualization increases predictability of results
- Optimizing rideability and drainage with automatic wavelength and cross-slope correction on cold mills
- Enhancing pavement accuracy and reducing material waste through automated 2D positioning on pavers

Dipl.-Ing. Johannes Zametzer, Associate Director Digitalization and Production Systems, R&D, WIRTGEN GROUP – Construction Technologies Holding GmbH, Windhagen and **Dr.-Ing. Tobias Groll,** Joseph Vögele AG, Ludwigshafen am Rhein and **Manuel Rossa, M. Sc.,** Wirtgen GmbH, Windhagen

14:45 **Large-Scale Offroad Robotics: Autonomy for Heavy Machinery**
- Autonomous heavy machinery in construction, earthmoving, and hazardous offroad environments
- Multimodal sensing, digital twins, simulation-supported development, and real-world validation
- Semantic environment understanding for offroad autonomy

Dr.-Ing. Janko Petereit, Group Manager Autonomous Robotic Systems, R&D, Fraunhofer IOSB, Karlsruhe

15:15 **Autonomy at the Jobsite: Turning Technology into Customer Value**
- Construction equipment automation – demand, readiness, and strategy are aligned
- Improve safety, efficiency, and productivity while reducing risk exposure
- Progress from assistance to full autonomy – tailored solutions to each application and market
- Ensure success with practical tech, scalable interfaces, and strong safety and cybersecurity

Dr.-Ing. Michael Schwall, Research Engineer, R&D, Volvo Construction Equipment GmbH, Konz

15:45 **Systematic Collection of Multimodal Images and Creation of a Farm Field World Model for Highly Predictive Farming Operation**

- Architecture of autonomy stack with perception, reasoning and control layer
- AI models/technologies
- Data workflow of farming operation with the architecture and tech stack
- Example use cases for application

Somenath Mukherjee, Engineer, R&D, CNH Industrial, Oak Brook, USA, Co-Author: Jacob Deines, CNH Industrial, Sioux Falls, USA

16:15 **Coffee break, Exhibition and Start-up Area visit**

Software Defined Machines

Moderation: Dr.-Ing. Steffen Mutschler, Bosch Rexroth AG, Ulm

17:00 **Software-Defined Vehicle (SDV): Leadership Problem or Execution Dilemma? Detailed Analysis of the State of the Industry from Technology to Processes**

- SDV as most discussed yet least fully realized transformation
- Deep-Dive into the current state of the SDV transformation for mobile machines supported by cross-industry case studies and outside-in assessments
- Highlighting concrete strategic actions OEMs can take to adapt legacy structures with software-centric cultures and leverage partnerships to accelerate progress
- Insights about SDV monetization pathways

Michael Herdrich, Project Team Member, Consulting, Co-Author: Patrick Eisele, both: P3 Consulting GmbH, Stuttgart

17:30 **Software-Defined Autonomy: How Standard Hardware Scales in New Applications**

- Software over specialized hardware: scalable autonomy
- Case example: control unit for mobile machines & AI hazard-zone monitoring
- Safety-critical perception: ML-Ops for safe AI
- Dynamic safety: continuous assurance in the field

Kevin Hirsch, M. Sc., Lead Engineer, R&D, ITK Engineering GmbH, Rülzheim, Co-Author: Max Rasumak, ITK Engineering GmbH, Lollar

18:00 **Mature User Experience in Software-Defined Machines: From Interface Design to Product Differentiation**

- From softwarization to complexity: how software-defined machines reshape interaction, workflows and user expectations
- Beyond interface design: UX as a driver for product differentiation, efficiency and customer value creation
- Patterns of UX integration: how organizational and product decisions impact clarity, development speed and market positioning
- A pragmatic framework for UX maturity: applying targeted design levers aligned with business goals and technical constraints

Dr. Jan Seifert, Lead User Experience, User Experience Design, UID GmbH, Darmstadt

18:30 **End of the 1st Congress Day**

19:00 **Night of Electronics**

Experience the unique charm of Baden-Baden's historic Kurhaus while reconnecting with familiar traditions: alongside food and drinks, our popular evening party with DJ returns once again. Take the opportunity to network in an inspiring atmosphere and enjoy memorable conversations beyond the congress program.

2nd Congress Day
Thursday, October 15, 2026

08:30 **Keynote**
Driving the Future of Mobility – Architecting the AI-Defined Vehicle
Thomas Böhm, Senior Vice President Automotive Microcontroller, Infineon Technologies, Munich

Connectivity and Communication

Moderation: Prof. Dr.-Ing. Thomas Herlitzius, Dresden University of Technology

09:00 **From Harvest Data to Decisions: Introducing a Framework for Interoperable Task Records in Connected Agricultural Systems**

- Unlocking the full value of harvest data for smarter farming decisions
- Turning timelog data into actionable insights and clear performance patterns
- Pre-interpreted, ready-to-use maps enabling seamless data exchange
- From concept to scale: implementation strategies and standardization frameworks

Christian Schöer, M. Sc., Leading Engineer, Construction & Development, Co-Author: Dr. Alexander Grever, both: Maschinenfabrik Bernard KRONE GmbH & Co. KG, Spelle

09:30 **From Big Data to Fast Data: Feedback-Controlled Data Collection on the Edge**

- Big data logging in mobile machines faces coverage gaps, bias, redundancy, and high costs
- "Fast data" approach: on-vehicle algorithm selects only the most informative samples in real time
- Benefits: less bandwidth, storage, and processing with better data quality and coverage
- Improves AI robustness and real-world generalization

Dr.-Ing. Tobias Schürmann, Department Manager, Embedded Systems and Sensors Engineering (ESS), FZI Forschungszentrum Informatik, Karlsruhe, Co-Authors: Philipp Reis, FZI Forschungszentrum Informatik, Karlsruhe, Prof. Dr.-Ing. Eric Sax, Institut für Technik der Informationsverarbeitung (ITIV), Karlsruher Institut für Technologie, Karlsruhe

10:00 **High-Speed ISOBUS (HSI) for Next-Generation Precision Agriculture**

- High-speed backbone for future machine communication
- Cameras, control, diagnostics, and updates on one network
- Migration path with existing CAN-based systems
- Challenges in connectors, cybersecurity, and standardization

Jason Roesbeke, M. Sc., Senior Embedded Software Engineer, R&D, CNH, Zedelgem, Belgium, Co-Authors: Stefan Richter, M. Sc., CNH Industrial Deutschland GmbH, Dresden, Marius Zwicker, M. Sc., CNH Industrial Deutschland GmbH, Würzburg

10:30 **SOVD for High-Speed ISOBUS: Challenges of Dynamic, Multi-Vendor Systems**

- Mismatch between diagnostics for legacy and software-defined machinery architectures
- HighSpeed ISOBUS defines the technical foundation with SOVD being the diagnostic solution
- SOVD is structurally aligned with software-defined machinery, but essential functionalities are missing
- Major functionality to be added to SOVD is plug-n-play support for HighSpeed ISOBUS in dynamic and multi-vendor environments

Dr. rer. nat. Boris Böhlen, Senior Program Manager, Business Development, Co-Author: Dr. Diana Fischer, both: DSA Daten- und Systemtechnik GmbH, Aachen

11:00 **Coffee break, Exhibition and Start-up Area visit**

11:45 **Lightning Talks – 10 Innovative Three-minute Rapid-fire Pitches on Automotive Topics**

Electrification

Moderation: Dr.-Ing. Michael Schwall, Volvo Construction Equipment Germany GmbH, Konz

12:15 Re-Engineering the Jobsite: Lessons from Electrifying a Compact Dumper with Telematic Function

- Electrification of construction equipment machinery starting from ICE powered machine
- System Integration architecture: from propulsion to auxiliaries
- Controls/Automation and Safety on a scalable electric system
- Efficiency improvements and total cost of ownership

Ph.D. Eng. Paolo Patroncini, Managing Director/CEO, R&D, 4e consulting srl (ZAPI Group), Ferrara, Italy

12:45 Unlocking the Full Value of Traction Batteries: Vehicle-to-X Opportunities for Low Voltage Mobile Machinery

- Why electric mobile machines need added value beyond propulsion – and how V2X helps offset high battery costs
- Overview of the V2X ecosystem (V2L, V2H, V2G), including standards, regulations, and off-highway specific challenges
- High-value real-world applications
- Future V2H/V2G opportunities

Dipl.-Wirtsch.-Ing. Philipp Tielmann, Head of Powertrain Solutions Sales, Business Development & Productmanagement, Jungheinrich Norderstedt AG & Co. KG, Norderstedt, Co-Author: Dipl.-Ing. Christian Jäger, Industrie Elektronik Brilon GmbH (IEB), Brilon

13:15 DC Charging Communication and Megawatt Charging System (MCS) for Electrified Mobile Machines – Standards, Architecture and System Integration

- Overview of DC charging communication from IEC 61851 to ISO 15118
- Communication sequence and system architecture for high-power charging
- Transition from CCS to MCS and adoption of ISO 15118-20
- Ethernet-based communication (10BASE-T1S) and cybersecurity requirements

Dr. Stefan Nagel, CTO, Head of Division, Chargebyte GmbH, Lepzig

13:45 Lunch, Exhibition and Start-up Area visit

Keynotes and Conclusion

Moderation: Dr. Rolf Zöller, DigiTrans Consulting, Tübingen

15:00 From SDV to AI-DV – An OEM Perspective

- Software-Defined Architecture – AI-Native Architecture
- Data-Centric Vehicle Lifecycle
- Autonomous Intelligence at Scale

Katrin Matthes, Lead Software Technologist, R&D, Ampere, Biot, France

15:30 Keynote – To be announced shortly

16:00 Conclusion & Closing of the Congress

16:15 End of the Congress

Program Committee

Putting together this world-class agenda requires decisions to be taken long before the call for papers is published. This job is the responsibility of Mobile Machine Electronics 2026 program committee.

High-level representatives of OEMs and leading suppliers as well as academia accurately identify the latest megatrends without ignoring the enablers or the classic topics.

Prof. Dr.-Ing. Thomas Herlitzius, Chair of Agricultural Systems and Technology, Faculty of Mechanical Science and Engineering, Dresden University of Technology, Dresden

Dr.-Ing. Carsten Hoff, CEO, dSPACE Group SE & Co. KG, Paderborn (chair)

Dr.-Ing. Georg Kormann, Technical Product Manager – Sensing Systems, John Deere GmbH & Co. KG Intelligent Solutions Group, Kaiserslautern

Dr.-Ing. Carlos Javier Moran-Iglesias, Managing Director, Hydac Electronic GmbH, Saarbrücken

Dr.-Ing. Steffen Mutschler, Director Sales & Product Management, Electrification Mobile Machines, Bosch Rexroth AG, Ulm

Dr.-Ing. Michael Schwall, Research Engineer, Operator & Electronic Systems, Volvo Construction Equipment Germany GmbH, Konz

Accompanying event

International VDI Congress Electronics in Vehicles 2026

ELIV by VDI

October 14–15, 2026
Baden-Baden, Germany

ELIV is the leading international congress for automotive electronics, software, and applications. Featuring a program curated from nearly 200 outstanding submissions from across the global mobility ecosystem, ELIV 2026 sets a new benchmark for innovation, relevance, and industry impact, making this edition one of the strongest in the event's history.
A major focus is the growing importance of India as one of the automotive industry's most dynamic markets. With strong technological momentum and significant market potential, India will play a central role in Automotive Trend Sessions, technical presentations, panel discussions, and the exhibition area featuring local partners and startups.
Artificial Intelligence is another key topic, as it is fundamentally transforming vehicle development, architecture, and operation. A dedicated Automotive Trend Session, including a panel discussion and the presentation of an exclusive study, as well as numerous technical contributions, will address the latest developments, applications, and challenges in AI for automotive electronics.
Quantum Machine Learning will highlight the next technological frontier.
Further topics include software for the Software-Defined Vehicle (SDV), with sessions on platforms, data-driven development, open source, middleware, security, and disruptive tools and methods. Additional sessions will focus on architecture, hardware such as semiconductors, and the transformation of working methods. Application-oriented topics include ADAS & Automated Driving and Cockpit/Customer Experience.
ELIV returns to Baden-Baden, its original birthplace and a leading region for automotive and digital innovation. Participants can look forward to newly modernized facilities, a diverse supporting program, and a special evening event.

Main Topics:

- **Automotive AI: Strategy, AI Developed Vehicle, AI driven ADAS**
- **India – Tech & Market**
- **Software for the SDV – Platforms, Data Driven Development, Middleware & Tools**
- **Architecture: Powernet, Open Source for SDV**
- **Electronics Technologies & Semiconductors**
- **Quantum – Future Computing**
- **High Performance Computing**
- **Security**
- **Automated Driving – Simulation**
- **Disruptive Methods & Tools**
- **Customer Experience**
- **Organizational Transformation**

Top Speakers:
Dr. Christoph Grote, BMW Group
Kishor Patil, KPIT Technologies
Thomas Böhm, Infineon Technologies
Katrin Matthes, Ampere
Dr. Angela Wang, Neusoft Corporation
Dr. Matthias Klauda, Robert Bosch GmbH
Andrej Levitin, Porsche Consulting GmbH
Martin Sesselmann, M. Sc., Mercedes-Benz AG
Steffen Krause, Capgemini Invent
Bora Ger, Capgemini Invent
Jörg Tischler, T-Systems International
Michael Niklas-Höret, ZVEI e. V. (hereby represented on behalf by AUMOVIO)

incl. with your Mobile Machine Electronics Ticket!

Further details: www.eliv-congress.com

Exhibition & Sponsorship

Meet the people driving the future of mobility

Present your solutions directly to engineers, decision-makers, and technology leaders shaping tomorrow's vehicles. Whether as an exhibitor or sponsor, you'll gain visibility, generate leads, and build valuable industry connections.

Get in touch to explore participation opportunities.

Jasmin Habel
Project Consultant Exhibition & Sponsorship
Phone: +49 211 6214-213
Email: jasmin.habel@vdi.de

Gold sponsor

dSPACE MathWorks

Sponsor

socionext The Solution SoC Company

Exhibitors of ELIV and Mobile Machine Electronics
Bertrandt AG | Bourns Electronics GmbH | CTAG Centro Tecnologico de Automocion de Galicia | driveblocks GmbH | dSPACE Group SE & Co. KG | EDAG Engineering GmbH | ETAS GmbH | FEV.io GmbH | fiveD GmbH | GLIWA GmbH & Co. KG | Göpel electronic GmbH | HMS Technology Center GmbH | Institut für Technik der Informationsverarbeitung | MathWorks | Microchip Technology Inc. | Microsoft Deutschland GmbH | ONEKEY GmbH | Qorix GmbH | SMARQ AI | T Engineering AB | T-Systems International GmbH | Transformations-Hub MIAMy
(as of June 3, 2026)

Start-up Area

The Start-up Area offers young and innovative companies a unique opportunity to present their latest developments in automotive and mobile machines electronics to an exclusive audience. Your participation with a full service package includes a presentation slot on the Start-up stage. Join the next generation of innovators and connect with the people shaping the future of mobility.

We will be happy to send you the registration documents for the start-up area – just contact us.

Lightning Talks

Three-Minute Pitches on the Main Stage

With the release of the event agenda, we are looking for dynamic speakers to deliver an inspiring three-minute Lightning Talk to an audience of industry experts, entrepreneurs and innovators. Whether you are a seasoned professional, an aspiring innovator or a young professional, we want to hear from you! From breakthrough technologies and ground-breaking research to bold visions for the future – this is your opportunity to take the main stage at ELIV 2026, share your expertise and inspire others.

Deadline for submission of your pitch idea: August 28, 2026
Send your idea to birgit.bremer@vdi.de.

Please submit a title, a short pitch description and your speaker details, including age (max. 500 characters).
Selected speakers receive a 50% discount on the congress ticket price.

ELIV The App

App areas:
- Digital congress program
- General event information
- Question function
- Exhibition and service information

Networking features:
- Use the matchmaking feature to connect with other participants who share your interests
- Chat with other participants or arrange a meeting using the appointment scheduling feature

Download on the App Store · GET IT ON Google Play

VDI Wissensforum

Mobile Machine Electronics 2026

New name,
same experience

VDI Wissensforum GmbH | VDI-Platz 1 | 40468 Duesseldorf | Germany

You need help?
Please contact us!

VDI Wissensforum GmbH
P.O. Box 10 11 39
40002 Duesseldorf, Germany
Phone: +49 211 6214-201
Fax: +49 211 6214-154
Email: wissensforum@vdi.de

www.vdiconference.com/01TA111026

✓ Please register for (price per person plus VAT):

Mobile Machine Electronics 2026
☐ **October 14-15, 2026, Baden-Baden, Germany** (01TA111026)
EUR 2,190.- plus VAT

☐ **I'm interested in Sponsoring and/or Exhibition.**
☐ Participation Fee: VDI Members Save 50 € for each Congress Day. VDI membership no.*:_____
* For the VDI Member discount, please state your VDI membership number

Hier direkt online buchen!

First Name _____ Last Name (Family Name) _____

Title _____ VAT-ID _____

Company/Institute _____ Job Title _____ Department _____

Street _____

ZIP Code, City, Country _____

Phone _____ Email _____ Fax _____

Deviating bill address _____

Participants with an invoice address outside of Austria, Germany and Switzerland are kindly requested to pay by credit card. Please don't send your credit card details via email, fax or post. Please book your ticket at www.vdiconference.com/01TA111024. Transferring your credit card details via our website ensures your details are encrypted and security of your data is guaranteed.

General terms and conditions of VDI Wissensforum can be found online at:
www.vdi-wissensforum.de/en/terms-and-conditions/

Congress Venue:
Kongresshaus Baden-Baden, Augustaplatz 10, 76530 Baden-Baden, Germany, www.kongresshaus.de/en/
Accommodation: A limited number of rooms have been reserved for congress participants.
Please visit https://www.vdiconference.com/eliv/participant-information/ for further information

More Hotels close to the congress venue may be found via our HRS service.
www.vdi-wissensforum.de/hrs

HRS Das Hotelportal

Included in your purchase: digital event documentation, beverages during breaks, lunch and the evening reception. The event documentation will be available online. Access data will be sent electronically to the participants prior to the event. For more information, see our terms and conditions.

Data protection: VDI Wissensforum GmbH uses the email address you have provided to regularly inform you about similar VDI Wissensforum GmbH events. If you would no longer like to receive any information or offers, you can object to your data being used for this purpose at any time. To do so, use the following email address wissensforum@vdi.de or one of the other contact possibilities mentioned above.
We would like to make you aware of general information about the usage of your data here:
https://www.vdi-wissensforum.de/en/privacy-policy/
I hereby agree to VDI's terms and conditions and confirm that the data I have provided to register above is correct.
Your contact data was obtained based on article 6, paragraph, sentence 1 lit. f) DSGVO (legitimate interest). Our legitimate interest is to select a precise selection of possible interested parties for our events. You can get more information about the source and usage of your data here:
www.vdi-wissensforum.de/en/source-of-address/