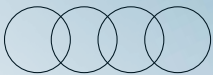
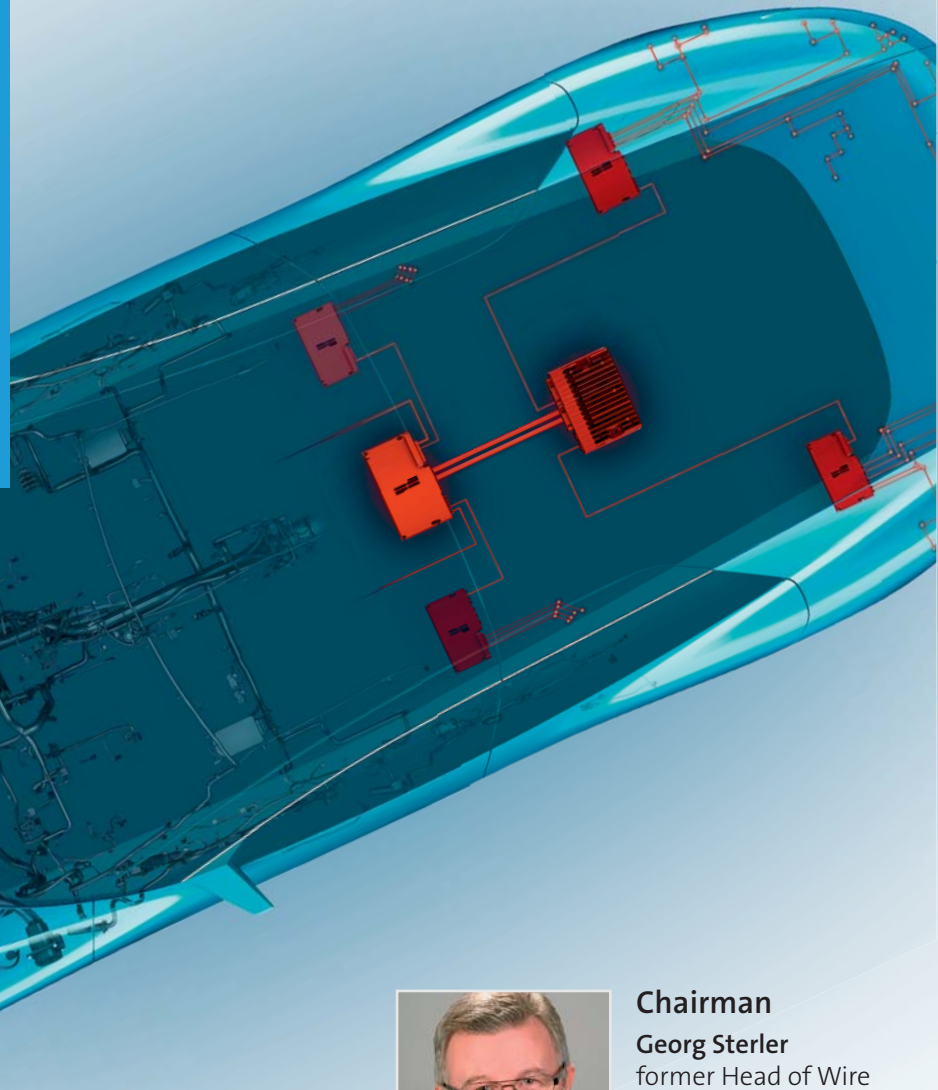


11th International Conference

BORDNETZE IM AUTOMOBIL

May 9 and 10, 2023
Ludwigsburg, Germany



Chairman
Georg Sterler
former Head of Wire
Harness System
Development
AUDI AG

Main Topics 2023:

- Future electronics architecture and data rates
- Current developments and impact on onboard networks
- Advances in automation
- Guided, digital wiring harness development

Company presentations by:

ARENA2036 ++ AUDI ++ BMW ++ Daimler ++
DRÄXLMAIER ++ GG-Group ++ Kromberg & Schubert ++
LEONI Bordnetz-Systeme ++ Molex ++ Porsche ++
Robert Bosch ++ Rosenberger Hochfrequenztechnik ++
SEI Automotive Europe ++ STMicroelectronics ++
Sumitomo Electric Industries ++ TE Connectivity ++
Umlaut – part of Accenture ++ VOITAS Engineering ++
Volkswagen

Sponsors:



A conference organized by:



Automotive Cable Solutions

ADAS

Holistic charging

Connectivity

Simulation

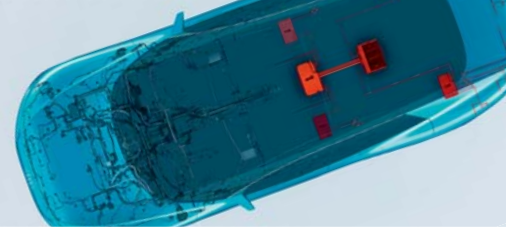


As an innovation partner with distinctive development and system expertise, LEONI Automotive Cable Solutions supports you on the path to increasingly sustainable and connected mobility concepts, from autonomous driving to alternative drives as well as charging systems.

To this end, we are developing next-generation cable solutions that for example, reduce weight and optimize installation space through innovative cable design and material selection, and reduce complexity through zonal architecture. With the help of simulation processes, we design development times efficiently and sustainably conserve resources by reducing the use of materials.

www.leoni-automotive-cables.com

LEONI



1st Day: Tuesday, May 9, 2023

8:50 Welcome speech by Georg Sterler

9:00 **Automotive OS Reloaded – Refocusing and Reality Check**



- Tectonic shifts: The automotive landscape is changing fast
- Breaking the Gordian Knot for scalable SW platforms
- Imperatives for 2023 and beyond

Dr. Christof Horn, Head of Industry X Automotive Europe, Umlaut – part of Accenture

9:30 **Future EDS Trends of a Premium-OEM**



- Evolution and outlook of the trends driving and charging
- Requirements for components, parts, sub-systems for future concepts
- Trend efficiency: optimizing of vehicle energy flow

Frank Dambacher, Head of Energy net and Concept, Dr. Ing. h.c. F. Porsche AG

10:00 **Power Supply and Network Communication Simulations as Tools to Evaluate and Optimize Future E/E-Architectures**



- Communication network technologies and requirements in future E/E-architectures
- Safe supply and voltage stability requirements in future E/E-architectures
- Outlook: Coupling of communication network and power supply simulations

Damon Martini, Communications Simulation Expert & Dr. Felix Hoos, Senior Manager System Engineering Powernet, Robert Bosch GmbH

10:30 **Coffee break at the exhibition hall**

11:00 **E/E Development Cycles vs. Vehicle Life Cycles**



- E/E development cycles are shorter than vehicle life cycles
- Requirement for new wiring harness system architectures
- Development of a backwards compatible wiring harness system in the LCI of a current derivative family

Jan Rottberg, Module Team Leader, BMW

11:30 **Continuous, Digital 3D Master Wiring Harness Development Process – Using the Example of a Series Project**



Dr. Rainer König, Senior Manager Wire Harness Development and Technology, Mercedes-Benz AG

Dr. Wolfgang Langhoff, Member of the Executive Board, (Chief Development Officer), Kromberg & Schubert Automotive GmbH & Co. KG

12:00 **How to Convert Sustainability Targets into Wire Harness Components?**



- Translating an SBTi commitment into a company strategy
- Practical example of a successful design conversion
- Digitalisation and innovation

Jan Van Cauwenberge, Senior Manager Platform and Sustainability Engineering, TE Connectivity (Belgium) &

Dr. Isabell Buresch, Fellow, TE Connectivity (Germany)

12:30 **Lunch break & networking at the exhibition hall**

14:00 **Functional Safety in Wiring Harnesses – From Requirements to Proof of Reliability**



- Definition and motivation of functional safety
- Proof of compliance with ISO26262 requirements in wiring harnesses
- Outlook and fields of action

Frank Zellmann, Functional Safety Manager Physical Harnesses &

Timo Lehnardt, FIT Component Manager, (Development Engineer Digital Twin), AUDI AG

14:30 **Charging Systems of the Future – “Charge like Refuel”**



- Major trends
- Modular charging system
- Automation and systems engineering

Thomas Weng, Product Line Manager Charging Systems, DRÄXLMAIER

15:00 **Reliability & Validation of Automotive Connectors**



- Current reliability calculation methods & challenges
- Failure in Time (FIT) & ASIL rating
- Design for reliability approach

Dr. Ahmed Abou Gharam, Principal Engineer, Molex

15:30 **Electrical Interface Management of EV Charging Inlet Harnesses**



- Challenges with High Power DC fast charging
- Why is electrical interface management important?
- Methods to effectively manage high contact resistance paths

Thomas Mathews, Engineering Manager – Charging Inlets, APTIV

16:00 **Coffee break at the exhibition hall**

16:30 **Toolchain, VEC and Database: Push the Button for the Wiring Harness Simulation**



- VEC provides complete wiring harness data
- Database containing generic simulation models has to be established
- Powerful toolchain allows great performance

Dr. Tobias Carsten Müller, Head of VOBES, Libraries and System Schematics &

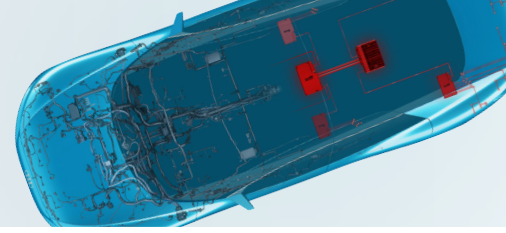
Dr. Martin Döring, Head of Innovations for Wiring Harness Systems, Volkswagen AG

17:00 **Evolutionary E/E Architectures Beyond Centralization & Impact on Zonal Controllers**



- Automotive Megatrends and impact on E/E Architecture: from distributed, to domain, to hybrid/Centralized to integrated/centralized
- This evolution aims at full zonalization which might mean to go from centralization to de-centralization
- Potential impact on wire harness and board network of the different concepts

Francesco Petruzzello, Senior Manager, EMEA Marketing Automotive Processors, STMicroelectronics Application GmbH



17:30 **The Smart Way to a Zonal Wiring Harness**

- Product solutions for zonal architecture from 10 Mbit/s to multi Gbit/s
- High-speed data links with a focus on FuSi und ADAS

Sebastian Mysyk, Director Product Management Data Connector &
Dr. Gunnar Armbricht, Director R&D, Head of Automotive R&D,
Rosenberger Hochfrequenztechnik GmbH & Co. KG

19:00 **Get-together at the Reithaus**

2nd Day: Wednesday, May 10, 2023

08:25 **Welcome speech by Chairman Georg Sterler**

08:30 **Electronic Power Distribution for Safety Relevant LV Power Supply Systems**

- Motivation for an electronic power distribution
- Electronic power distribution in the context of vehicle power nets
- Solutions for an electronic power distribution within VW Group

Martin Schneider, Coordinator Electronic Power Distribution Development,
AUDI AG

11:30 **Innovation Potential and Digital Twin for the Wiring Harness Value Chain**

- Trend radar for innovative technology approaches and relevant initiatives for the wiring harness.
- Digital representation of wiring harness, components and machines with the VWS4LS: initial results.
- Support services: The transformation hub wiring harness scouts and shares information on disruptive innovation potential “beyond the own backyard”.

Georg Schnauffer & Christian Kosel, Research Coordination 4.0,
ARENA2036 e.V.

09:00 **Modeling of Electronic Power Distributors for the Virtual Design of Protection Mechanisms**

- Modeling of electronic fuses
- Sensitivities of protection mechanisms
- Design of selectivity vs. voltage stability

Martin Baumann, Development Engineer,
BMW AG

12:00 **Lunch break & networking at the exhibition hall**

13:00 **Product Design for Automatic Assembly: Wiring Harness Development at Mercedes-Benz**

- Realizing a wiring harness design for automatic assembly
- Location and integration of test cycles in the dp
- Automation fitness calculation for limp component combinations

Dr. Jerome Trommnau, Development Engineer Software and Hardware,
Mercedes-Benz AG

09:30 **Hype or Hope? Our Journey to Harness the Potential of Artificial Intelligence**

- Where it all began: From Automation to Intelligence
- A concrete example use case: Responding faster to early customer requests
- Outlook: What's next

Michael Grade, Product Owner Machine Learning,
LEONI Bordnetz-Systeme GmbH

14:00 **Thinking the Harness as the Vehicle's Infrastructure**

- E/E architecture today and in the future
- E/E architecture vs. harness structure
- Harness substructure design for automation

Dr. Karsten Rüter, Director Predevelopment Electrical Systems,
DRÄXLMAIER

10:00 **Coffee break at the exhibition hall**

10:30 **Automation of the Wiring Harness System**

- Automation of Wiring Harness Production
- Automation of Wiring Harness Integration

Sebastian Stevens, Development Engineer,
Volkswagen AG

14:30 **Complexity Reduction: Analysis, Procedure and Results**

- Deriving of complexity costs
- Analysis of variant and KSK modularization
- Procedure for complexity reduction with results

Armin Hager, CEO,
VOITAS Engineering GmbH

11:00 **Sustainable AI Power Harness**

- Energies and CO2 footprint involved in AI and Cu production
- Lifecycle assessment AI vs. Cu – energy budget of power harnesses
- Advantages of the application of AI in HV harnesses in comparison to Cu

David Lukavsky, Simulation Engineer &
Dr. Jonathan Silvano de Sousa, Senior Engineer Wires Development,
GG-Group

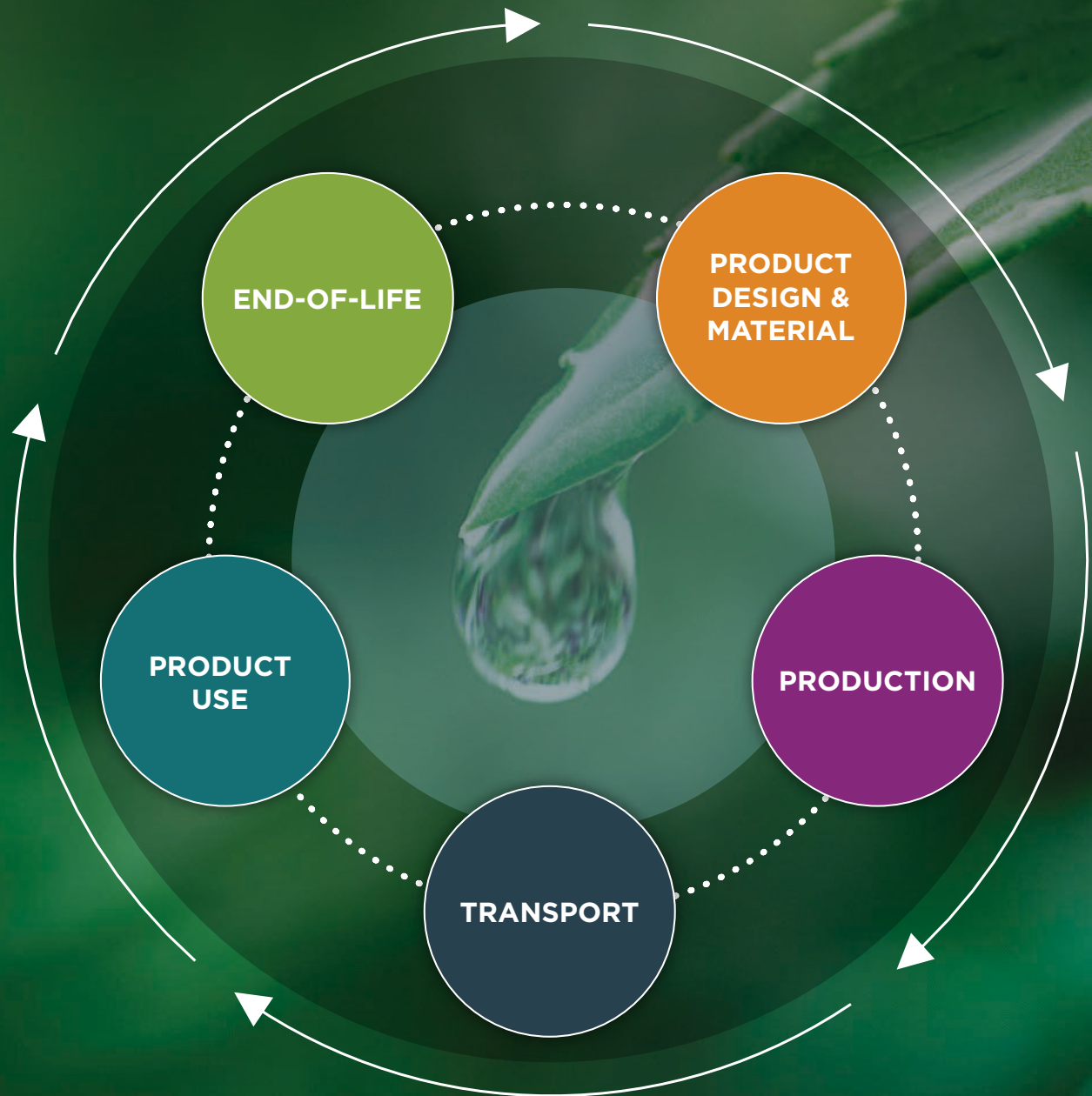
15:00 **“Sensing Harness Platform Concept” as an Enabler for Cybersecurity Measures in the Era of AD**

- Sensing Harness Platform Concept
- Cybersecurity measure against physical manipulation on in-vehicle network
- Ensuring wire harness integrity

Oliver Weiss, General Manager E&E Systems,
SEI Automotive Europe GmbH &
Kazuhiro Kakito, Manager Cybersecurity R&D Office,
Sumitomo Electric Industries, Ltd

15:30 **Concluding remarks by Chairman Georg Sterler & End of the 11th International Conference**

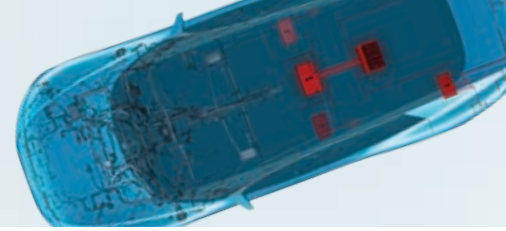
CIRCULAR SUSTAINABILITY AT TE CONNECTIVITY



In our Automotive EMEA business, we pursue our **key targets** along the different **lifecycle stages** to ultimately achieve full circularity.

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Rolf Jetter
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Dr. Rainer König
Senior Manager Wire
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11th International Conference BORDNETZE IM AUTOMOBIL



Registration information

May 09 + 10, 2023

Event location

Forum am Schlosspark Ludwigsburg
Stuttgarter Straße 33
71638 Ludwigsburg
Phone: +49 7141 910 3910
www.forum.ludwigsburg.de

Accommodation

You can book these hotels with the keyword
"SV Veranstaltungen" at the following conditions.
Please note that there is only a limited number of
rooms available per hotel:
<https://www.bordnetze-kongress.de/en/participate/hotel/#>

Participation fee

The participation fee for the conference is: € 2.095 plus VAT

Services included in the participation fee

- Participation in the conference
- Conference documentation
- Refreshments in the breaks
- Lunch on both conference days
- Evening event on the first day of the event

Registration

We request your registration via Internet at
www.bordnetze.eu

Upon receipt of your written registration, you will be registered as a participant and will receive a written confirmation of registration as well as an invoice, which has to be paid before the to be paid before the start of the event. In case of cancellation after April 25, 2023 or in case of a No-show, the full registration fee will be charged. However, a substitute participant can be named. Cancellations before this date will be charged with 150 € administration fee. Cancellations and registrations must always be made in writing.
The organizer reserves the right to relocate, change or cancel the entire event or individual parts spatially and / or temporally to move, change or cancel at short notice.

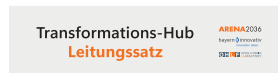
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