11th International VDI Conference

Cyber Security for Vehicles

May 21-22, 2025, Munich

- Regulations, Standards, Processes & Homologation
- Security Technologies & Further Developments
- Post Development & Vehicle Operation
- Security Testing
- Future Cyber Security

+ International Best Practices
+ OEM Perspective: Volkswagen & Jaguar Land Rover
+ Panel Discussion

Meet international Experts from:

ALTERSOLUTIONS act digital group · AVL SOFTWARE AND FUNCTIONS · Bosch Engineering BOSCH · Continental Engineering Services · cymetris

FEV.io · Fraunhofer AISEC · Hochschule RheinMain · JLR · JOST · motherson

PLAXIDITYX · UL Solutions · UTAC ADVANCING MOBILITY SINCE 1934 · Valeo · VW

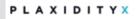An event organized by VDI Wissensforum GmbH
www.vdi-international.com/ 01KO907025

09:00   Registration & welcome coffee

10:00   Chair's welcome and opening address
Conference chair: Dr. Mathias Dehm, Chief Product Security & Privacy Officer, Continental AG

10:15   Survey and Challenges of OEMs Automotive Security Operations & Maintenance
- Vulnerability impact in relation to public attention
- Changes of cyber attacks over time and outlook into the future
- Approach and Proposal for an Automotive End of Security Service

Herbert Tschinkel, Volkswagen Security Officer Operations, Head of Security Operations & Maintenance, Volkswagen, Germany

I. Regulations, Standards, Processes & Homologation

10:45   From Standards to Regulations: The Role of ISO 21434 in Meeting Cyber Resilience Act Requirements
- Overview of ISO 21434 and the Cyber Resilience Act (CRA)
- Synergies and Differences
- Practical Alignment Strategies

Patrick Faye, Cybersecurity Manager, co-author: Hamza GUEFIF, Cybersecurity Consultant, both: UTAC, France

11:15   ☕   Networking & Coffee break

11:45   Lessons Learned from a Joint Approach for ASPICE® Assessment, ISO 26262 Audit, and ISO 21434 Audit
- ASPICE®, ISO 26262 and ISO 21434 have overlapping areas, benefits arise in consolidating the assessments and audits
- Advantages for a combined approach, e.g. reduced effort for project
- Focusing on the CS aspects for details on showcase
- Lessons learned from Infineon and UL

Janine Funke, Strategic Area Cybersecurity Leader, co-authors: Alexander de Jong & Bhaskar Vanamali, all: UL Solutions, Germany, Sandeep Chandrashekar, Infineon, India

12:15 Product and Information Security Management – Synergies and Differences
- New regulations like the Cyber Resilience Act or UNECE R155 demand cybersecurity for products
- There are synergies and differences between product and information security management
- Re-use of information security practices for product (vehicle) cybersecurity

Florian Stahl, Team Leader Cybersecurity, AVL, Germany

12:45   🍴   Lunch

II. Security Technologies & Further Developments

14:15   Enhancing Immobilizer Functionality through a Service-Oriented Approach
- Differences between SDVs and traditional vehicles, and how immobilizer requirements change in SDVs
- The advantages of applying SOA to immobilizers, including interoperability, modularity, and scalability
- Challenges and best practices for implementing SOA-based immobilizers, addressing complexity, reliability, and security concerns

Alexander Harlass, Senior Product Manager Cybersecurity, co-author: Nils Kaiser, both: Bosch Engineering, Germany

14:45   Security Study on the use of ASCON in SecOC
- Security analysis of SecOC communication in a commercial semi-trailer truck scenario
- Implementation of SecOC with authentication mechanism and pseudo-random function based on the ASCON algorithm
- Performance evaluation in relation to AES based SecOC regarding security and efficiency

Leon Pascal Olejar, JOST-Werke Deutschland GmbH & Prof. Dr. Marc Stöttinger, Professor, Hochschule RheinMain, Germany

15:15   Beyond Compliance: Building Resilient Cybersecurity Ecosystems in Automotive Supply Chains
- Promoting Cybersecurity in the Supply Chain: From Culture and Collaboration to Proactive Cyber Risk Management in Development
- From TARA to Practice: Strategies for Translating TARA Methodology Insights into Collaborative Cybersecurity Activities in Development, Deployment, and Incident Response
- Measuring Cybersecurity Performance and Metrics: KPIs, Levers, and Strategies to Strengthen Cybersecurity Resilience

Falk Mayer, Founder and Managing Director, CYMETRIS GmbH, Germany

15:45   ☕   Networking & Coffee break

III. Post Development & Vehicle Operation

16:30   Managing Product Variations in the CSMS
- Consistent maintenance of CSMS documents is challenging when a product has several variations.
- Our proposal: Splitting CSMS work products into reusable building blocks with standardized interfaces.
- Reusability and a higher degree of automation lead to less maintenance overhead in the CSMS.

Tobias Oder, Expert Consultant Hardware Security, Alter Solutions Deutschland GmbH, Germany & **Tatiana Senkova**, SMR Automotive, Germany

17:00   Challenges and Best Practices for Managing the Product Security During Operations
- Technical and Organizational challenges and how to address them
- Prioritization of vulnerabilities and different factors to consider for risk calculation
- Best practices for establishing the project archival strategy
- Incident Response drills and the benefits of conducting them

Santosh Mudhol, Product Security Expert, MAHLE International GmbH, Germany

17:30 Evening Speech
Optimizing Cybersecurity Validation in Automotive Development: Enhancing Penetration Testing Efficiency Through In-House Preparation
CYEQT

17:45   End of Conference Day 1

18:00   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 welcome

IV. Security Testing

09:30 A Risk-Based Penetration Testing Methodology for Vehicle ECUs
- Vehicle manufacturers must validate that the security measures in place to protect systems are effective
- Overview of risk-based penetration testing tailored to ECU-specific assessment
- Layered testing strategies for ECUs, ranging from interface testing to securing memory
- Variant-specific testing to ensure robust cybersecurity across vehicle lifecycles

Dr. Gurchetan Grewal, Office of CISO, Jaguar Land Rover, UK

10:00   Enhancing Cybersecurity Testing Through Coordinated Fuzzing and Penetration Testing Efforts
- Current State and Challenges of Common Cybersecurity Testing Practices
- Coordination of Fuzzing and Penetration Testing Efforts
- Discussion of Benefits and Pitfalls

Nico Vinzenz, Senior Engineer Security and Privacy, Continental Engineering Services, Germany

10:30   Networking & Coffee break

11:15 Is Your ECU's Memory Protected? Uncovering Hidden Vulnerabilities in MPU Mechanisms
- The role of MPUs in microcontroller defense strategies, and why they are critical for the security, reliability and safety of automotive ECUs
- Proper configuration and verification of MPUs are vital for safeguarding against vulnerabilities and ensuring robust protection in automotive systems
- Hardware mechanisms designed to enforce access controls are essential security features - automotive software designers should verify the relevant security claims in microcontroller hardware documentation through testing or external penetration testing

Nimrod Stoler, Security Researcher, PlaxidityX, Israel

11:45   Panel Discussion - How to Drive Efficiency in Product Cybersecurity?
Panelists to be announced

12:30   Lunch

V. Future Cyber Security

14:00 Cybersecurity for Automated Vehicles
- The unique cybersecurity challenges faced by AVs & the threat landscape for AVs is continually evolving
- Effective risk management begins with a comprehensive risk assessment framework
- Layered security architectures are essential for protecting automated vehicles
- Proactive testing methodologies play a vital role in identifying vulnerabilities in AV systems before they can be exploited
- Collaboration across the automotive industry is vital for addressing cybersecurity challenges effectively

Abdulrahman Yacoob, R&D Product Cybersecurity Manager,
Valeo North America, USA

14:30 Automation of Threat Analysis and Risk Assessment (TARA) Using Artificial Intelligence
- AI-powered TARA enhances accuracy and efficiency in cybersecurity processes
- Automated identification, assessment, and mitigation of risks with minimal human intervention
- Flexible model adapts seamlessly to multiple use cases without reconfiguration
- Significant time savings compared to manual methods, optimizing resources and risk management

Dr. Bastian Holderbaum, Director solution management functional safety & cybersecurity, co-authors: Timo Förster & Dr. Hendrik Ruppert,
all: FEV.io GmbH, Germany

15:00 Post-Quantum Cryptography: Migration to a Secure Future in the Quantum-Age
- Why the switch to post-quantum cryptography is necessary and urgent
- Technological challenges for the migration
- Current state of the standardisation efforts in post-quantum cryptography

Tudor Soroceanu, M.Sc., Department Secure Systems Engineering, Fraunhofer Institute for Applied and Integrated Security AISEC, Germany

15:30   Closing Remarks

15:45   End of Conference

About us

VDI

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.

Supporting Experts

Dr. Mathias Dehm, Chief Product Security & Privacy Officer, Continental AG, Germany

Prof. Dr. Christoph Krauß, Head of Automotive Security Research, INCYDE GmbH and Head of Research Group Applied Cyber Security Darmstadt, Darmstadt University of Applied Sciences, Germany

Prof. Dr. Jörn Eichler, Head of Security Engineering, Electric/Electronic Engineering, Volkswagen AG, Germany

Dr. Christian Köbel, Senior Project Engineer Cyber Security, Honda R&D Europe GmbH, Germany

Reasons to attend

Meet the whole automotive security ecosystem

Network with technical experts & key decision-makers

Learn where the industry is headed & how to stay ahead of the curve

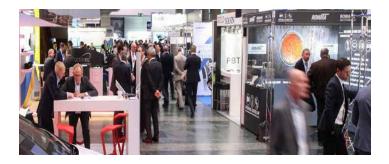**Discuss** technical challenges, current developments & newest solutions

Prepare for two days full of insights, contacts & new ideas

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Jasmin Habel
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Product Manager International Business
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Conference venue
Munich Marriott Hotel City West
Landsberger Straße 156
80687 Munich, Germany
Phone: +49 89 930793-0

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 Marriott Hotel City West. Please use the following **Booking link:** https://shorturl.at/urpmh
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 May 21, 2025.

Conference attendance conditions and terms can be found on our website:
www.vdi-wissensforum.de/en/terms-and-conditions/

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Registration

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VDI

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