



VDI

3rd International VDI Conference 2017

IT Security for Vehicles

July 5–6, 2017, Berlin, Germany

- The Security Perspective on major automotive Trends
- Security Weaknesses in connected and automated Cars
- Software- and Hardware Attacks and Responses to Threats
- Latest Developments in Privacy and Data Protection
- Lessons learned in Cyber Security from other Industries

- + International VDI Workshop
- + Panel Discussion: Tensions between Safety, Security and Privacy
- + Roundtables

Keynotes given by
Faraday Future,
KIA Motors USA,
Automotive ISAC

Meet experts from the following companies:



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

CONCAR EXPO 2017

Includes free entrance to
the ConCarExpo 2017!

Who shall attend the 3rd International Conference IT Security for Vehicles?

This technical conference provides a professional forum for all experts who are working in the field of IT Security especially in automotive applications. It is addressed to experts of automotive manufacturers, tier 1+2, software and IT companies, e.g.:

- IT Security Specialists and Architects
- Software Developers
- Software Engineers
- CTOs and CIOs

Explore the connected automotive Ecosystem

The **"IT Security for Vehicles"** is part of the ConCarExpo – The leading International Trade Fair for Connected Car & Mobility Solutions in Europe. The ConCarExpo unites four technical conferences, a huge range of international exhibitors, innovative start-up pitches and excellent networking opportunities in the connected automotive ecosystem.



Visit four parallel running conferences with one ticket

3rd International VDI Conference
IT Security for Vehicles

4th International VDI Conference
HMI & Connectivity

4th International VDI Conference
Automated Driving

1st International VDI Conference
**Digital Infrastructure
& Automotive Mobility**

Your benefits:

4 for 1
Four high class technical international conferences with one ticket

+ 100
International exhibitors
at ConCarExpo

+ 100 **Speeches**
at the four conferences
and on the exhibition floor

Over 500 Attendees
at the conferences and
1500 Trade Fair Visitors

Networking Hotspots
Huge evening reception,
roundtables, workshops,
world cafés

+ 20% **International
OEM Delegates**

**Car Pavillion and
User Experiences**

**16 Start
up-Pitches**

08:30 Registration & welcome coffee

09:30 Opening Speech ConCarExpo at the ConCar Forum Stage: Autonomous Driving, Digital Infrastructure & Mobility Solutions as Key Drivers for the Automotive Industry
Johannes Jungwirth, Chief Digital Officer, Volkswagen AG, Germany

10:10 Chair's welcome and opening address
Dr.-Ing. H. Gregor Molter

I. Safety, Security & Privacy

10:15 No Need to fight the Cyber War alone! Auto-ISAC an Information sharing for Vehicles Cyber Security

Keynote

- Auto-ISAC and its five important cornerstones
 - Collaboration instead of competition: Unique benefits for members
 - The glance into the crystal ball: Auto-ISAC and the future of cyber security
- Faye Francy**, Executive Director, Automotive ISAC, USA

10:45 Pay or Stay! Ransomware against modern Vehicles

- Why are large-scale vehicle security attacks (still) seldom in real life?
- What is ransomware? Can it become a serious threat to modern vehicles?
- How can vehicles effectively protect against ransomware attacks?

Dr.-Ing. Marko Wolf, Head of Consulting & Engineering, co-author: Robert Lambert, both: ESCRYPT GmbH – Embedded Security, Germany

11:15 Development Department as a Hacker Space

- Only real automotive hacks should drive product development
- Vulnerabilities in the light of unintended and overlooked behavior
- Procedures and guidelines are mandatory but insufficient
- Hacker and "hacker" tools for vehicles are not available off the shelf
- The benefit of security in development departments is speed

Dipl.-Ing. Jürgen Belz, Senior Consultant Safety & Security, PROMETO GmbH, Germany


11:45  Networking & coffee break

12:15 Panel Discussion – The Triangle of Safety, Security and Privacy and the Tensions between them: How do we know that they exist and how can we simultaneously optimize the three of them?

Panel Discussion

Panelists:

Dr.-Ing. Marko Wolf, ESCRYPT GmbH – Embedded Security
Rasmus Robrahn, Independent Centre for Privacy Protection Schleswig-Holstein
Daimler (invited)

13:15  Lunch & visit of the accompanying trade fair ConCarExpo

II. Vehicle Connectivity

15:00 Features of automotive Ethernet: A Security Perspective


- Automotive ethernet physics
- Features of modern automotive switches
- Secure network design

Dr. Olaf Krieger, Development Engineer for Ethernet- and IP-based in-vehicle Networks, Volkswagen AG, Germany

15:30 OTA Updates – What can go wrong?

- Concept and examples
- Threats and challenges
- Recommendation and best practices

Roger Ordman, Director Marketing, HARMAN Connected Services, Israel

16:00  Networking & coffee break

16:30 Message Authentication – Challenges and Attack Surface

- How message authentication is used to secure in-vehicle networks
- Challenges for deploying message authentication on production vehicles
- Practical attacks which can be used to circumvent the protection offered by message authentication

Yuval Weisglass, Sr. Director, R&D, Automotive Cybersecurity – TowerSec, HARMAN Connected Car, Israel

III. On-Board Security Challenges

17:00 Performance of Cryptography in AUTOSAR based ECUs

- Performance of cryptography on state of the art MCUs
- Integration of modern crypto systems in AUTOSAR
- Incorporation of HSMs into automotive ECUs

André Himmighofen M.Sc., Project Manager, easycore GmbH, Germany

17:30 Chair's remarks

17:45 Evening Keynote on the ConCar Forum Stage: Volvo Cars Development of Autonomous Electrified Vehicles in Cooperation with Uber

Kent Melin, Senior Technical Leader, Electrical System Design, Volvo, Sweden

18:30 End of conference day one



Get-together with Participants of all parallel Conferences

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.

III. On-Board Security Challenges

09:15 Example of Security Integration with E/E Architecture

- Cyber security requires some overhead and OEM needs to have solution
- Standardization would be an important aspect to reduce complexity
- E/E architecture level approach to mitigate security risk could be important
- Software oriented architecture will be important for future including security aspect
- New business model in software would require more security features

Kenji Hontani, Technical General Manager, Toyota Motor Europe NV/SA, Belgium

09:45 Usage of a Trusted Platform Module (TPM) to secure the central Gateway

- Role and requested functionality of the central gateway in a generic vehicle security architecture
- Suggestions regarding a potential security system partitioning (EVITA Hardware Security Module HSM & Trusted Platform Module TPM)
- Possible application of a TPM in the central gateway for on-board key generation & management, protected authentication of code updates as well as authorization of diagnosis access
- Summary of the benefits of the proposed system partitioning

Dr.-Ing. Florian Schreiner, Dipl.-Phys. Martin Klimke, Dipl.-Ing. Björn Steurich, all: Infineon Technologies AG, Germany

IV. The Security Perspective on major automotive Trends

10:15 Blockchain – The Technology the automotive Industry has been waiting for?

- Most influential blockchains
- Properties of blockchain technology
- Automotive blockchain use cases

Dr. Mathias Dehm, Head of Security & Privacy Research for Digital Services, co-author: David Noack, both: Continental Teves AG & Co. oHG, Germany

10:45 ☕ Networking & coffee break

11:30 Cyber Security in the Era of automotive Technology Disruption

- Present the impact associated with cyber security
- Discuss the advent of disruption and how it contributes or helps the problem
- Discuss collaboration efforts and status

Henry Bzeih BSEE/MBA, Managing Director, Connected & Mobility, KIA MOTORS AMERICA, USA

Keynote

12:00 Roundtables: The IT Security Perspective on major automotive Trends

Organizational Information: All conference attendees find their roundtable numbers on their conference ticket: Please only visit the tables with your personal numbers so that all tables will be frequented equally.

13:00 🍴 Lunch & visit of the accompanying trade fair ConCarExpo

14:45 Electric Vehicles, Artificial Intelligence and huge Amounts of Data: What happens at Faraday Future in regard to IT Security?

Michael Brouwer, Director & Chief Security Architect, Faraday Future, USA

Keynote

V. Towards a more secure Automobile: Learning from other Industries

15:15 Cyber Security from a global Players' Perspective

- Threat intelligence for safety critical customers
- Customer threats and requirements
- The manufacturer perspective in the security process of Airbus

Michael Gerhards, Head of CyberSecurity, Airbus, Cassidian CyberSecurity GmbH, Germany

15:45 Cyber Insurance for industrial Control Systems: A comparative Examination of Market Development

- Understanding cyber risk for insurers
- The cyber insurance market and policy development in Germany
- International state of play in the US, UK and Switzerland

Dr. Tim Stuchtey, Executive Director, Brandenburg Institute for Society and Security, **Tyson Barker**, Program Director and Fellow, Aspen Institute, both: Germany

16:15 A Survey of Healthcare Cyber Security Practices: What can be learned from one of the most targeted Industries?

- Understanding the new world order of cyber security
- Challenges to securing complex systems and organizations
- Applying healthcare lessons learned to autonomous vehicle cyber security
- Developing a path forward

John Gomez, CEO, Sensato Cybersecurity Solutions, USA

16:45 ☕ Farewell coffee in the accompanying trade fair ConCarExpo

17:00 End of conference

Trustable Connected Vehicles – Measureable Security and Privacy for Smart Cars

Workshop Chair:

Dr. Werner Rom, Head of Department, VIRTUAL VEHICLE,
Das virtuelle Fahrzeug Forschungs-GmbH, Graz, Austria

Date and venue:

July 4, 2017
Estrel Berlin, Germany

Time:

10:00–17:00

Content

Smart vehicles will play an essential role in the future. They will be connected to other vehicles, the surrounding road infrastructure and to the Internet to offer new services and functions. As a result of that vehicle safety can be increased and new features provided. The enhanced connectivity, however, can potentially be exploited by an attacker to endanger the safety of a vehicle or to compromise the privacy of the driver by e.g. eavesdropping user- and vehicle-specific data. Today, already a number of attacks on modern vehicles, e.g. by using the wireless interface of the infotainment system of a vehicle, are known. In the worst case, an attacker could even remotely control a vehicle, thereby massively endangering the safety of the passengers and other road users.

To prevent such attacks, to guarantee the safety of the vehicles and their drivers as well as to address the related privacy aspects, a structured security and privacy analysis leading to a strong and comprehensive security concept is required.

The introduction gives an overview of different approaches to analyze the security of cyber-physical systems and systems of systems, highlights the potential advantages of a measureable security approach for smart cars and describes the DEWI security metrics. These metrics can be used to analyze the security as well as the privacy of an entire system. They result in secure system configurations, the related security requirements and finally in a security concept. Additionally concepts for privacy labeling and a trust indicator for secure and reliable wireless networks will be introduced.

Introduction

- System security analysis: Attack-centric vs. system centric approaches
- Measureable security
- DEWI security metrics based on SHIELD multi-metrics
- DEWI security metric supporting SAE-J3061

Case study: Security concept enabling efficient and trustworthy wireless SW updates for smart cars

- Applying the DEWI security metrics: Defining security goals and performing a structured system analysis
- Extracting secure system configurations and security requirements
- Defining the overall security concept

Security and privacy for smart cars

- State of the Art (technical, legal, user perspective)
- Future developments: Upcoming challenges and threats

Measureable security and privacy for smart cars

- Advantages, barriers and open issues
- Approaches, frameworks and tools
- User-convenient security and privacy measures

Trustability as a key enabler for IoT

- Trust and user acceptance: Creating and enhancing trust
- Trust assessment and trust indicators

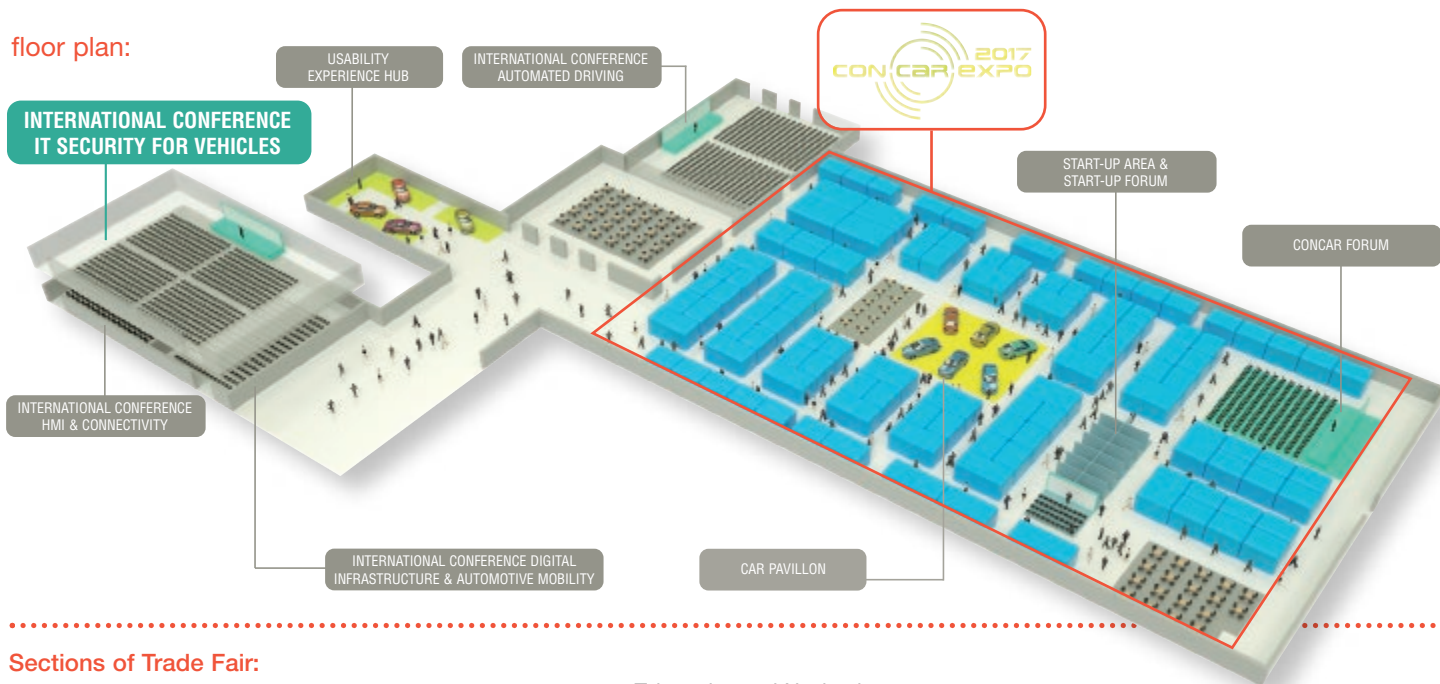
Summary “Trustable connected smart cars”

(Please note that the number of participants is limited. Registrations and individual parts and segments of the workshop are subject to confirmation. Contributions 5–10 min are appreciated.)

IT Security for Vehicles

is part of the ConCarExpo 2017

floor plan:



Sections of Trade Fair:

- Automated Driving and Driver Assistance Systems
- Electronic Components, Monitoring and Control Technology, Sensor Technology
- Software and Networked Systems, Infotainment
- Telematics and Navigation
- HMI, Operation and Display
- Diagnosis, Test, Integration, After-sales-service
- Traffic Engineering, Infrastructure, Automotive Mobility

91%

of visitors rate ConCarExpo 2016
as good to excellent

78%

rate the quality of visitors
as excellent

93%

of conferences delegates rate the
conference as good to excellent

82%

of exhibitors rate the marketing
platform ConCarExpo as very good

If you want to meet with and reach out to the first-rate experts attending the 4 International VDI Conferences and the International trade fair ConCarExpo and to powerfully present your products, become an exhibitor at ConCarExpo! For further information please contact our ConCarExpo-Team:

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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

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Sonnenallee 225
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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 Estrel 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 July 5, 2017.

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.

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Registration

3rd International VDI Conference 2017

IT Security for Vehicles



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Please choose your price category

Participation Fee + VAT

- ☐ **VDI Conference 05.–06.07.2017**
(01KO907017) € 1,690
- ☐ **Workshop 04.07.2017**
(01ST180001) € 850
- ☐ **Package Price**
(conference and workshop) € 2,280

Personal VDI members + VAT

- ☐ **VDI Conference 05.–06.07.2017**
(01KO907017) € 1,590
- ☐ **Workshop 04.07.2017**
(01ST180001) € 800
- ☐ **Package Price**
(conference and workshop) € 2,130

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