

CALL FOR PRESENTATIONS

VDA Automotive SYS Conference 2022

Quality, Safety and Security for Automotive Software-Based Systems

June 28 - 30, 2022 in Potsdam, Germany

From Industry to Industry

In June 2022, the 12th VDA Automotive SYS Conference hosted by the Association of the German Automotive Industry takes place in Berlin. Top-rated keynote speakers, experts and managers from various mechatronic development areas and leading service providers are going to share experience and knowledge.

Up to date with the changes in the development of embedded systems in the connected vehicle, the conference focuses on **Quality, Safety and Security** of modern vehicle electronics and their software. The conference will deal both with technical methods/solutions and management practices with respect to current and future, national and international automotive standards.

The conference is accepted by the international assessor certification scheme (intacs™) as active or passive experience evidence (EE-EP, EE-AC) for certification as Automotive SPICE Lead Assessor.

Call for Workshops and Presentations

The VDA Automotive SYS Program Committee appreciates your contribution either as a dedicated 3-hour workshop or a 35 minutes presentation.

To give you an indication of possible presentation subjects, a preliminary program structure with dedicated session topics is provided in the following section on page 2 and 3. Please note, that beside these proposals, any presentation addressing current or future challenges with respect to quality, safety or security for automotive software-based systems is welcome.

Alternately, a proposal for a workshop may be submitted for corresponding topics.

To enable the program committee to refine the preliminary program structure and session topics, we kindly ask you to pre-register your submission by providing author information and a short abstract.

For further information, please refer to the submission details on page 4.

Please provide any material to our conference program website:

<https://www.openconf.org/AutomotiveSYS2022/openconf.php>

The submission website is available from October 27, 2021.

Important Deadlines

- Preregistration of presentations: **December 17, 2021**
- **Submission of draft presentation or paper: February 20, 2022***
- Notification of acceptance: **April 15, 2022**
- Submission of tutorial and presentation slides: **June 6, 2022**

*** No submissions can be accepted after this deadline.**

Session and Topic overview for the 2022 conference:**Session Topic: Software/System quality assurance for future automotive systems**

Assure software/system quality with respect to:

- Distributed developments
 - Addressing DevOps
 - Covering highly networked systems
 - Agile developments
 - Over-the-air updates
 - End to End QA strategies with respect to connected systems
 - Characteristics of data used in networked vehicles
 - Using of cloud services
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Session Topic: Verification and validation

Verification and validation with respect to:

- Machine learning systems / Neural Networks
 - Highly automated driving
 - Behaviour based testing
 - Field-data based and model-based verification or validation
 - Highly configurable systems in vehicles and beyond
 - Other related current and future topics
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Session Topic: Product Safety / Integrity

Product safety / integrity / conformity management with respect to:

- Functional safety, Safety of the intended functionality (SOTIF) and Cybersecurity in the context of product safety
 - Role of the Product Safety and Conformity Representative
 - Handling of compliance in terms of current and future vehicles
 - Safety release of systems providing automated driving functions
 - Product Safety process for intelligent connected vehicles and their systems
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Session Topic: Safety in automotive applications

Safety management / engineering with respect to:

- Safety release of automated driving systems
 - Changes in legal frameworks
 - Global differences and trends regarding public perception of safety
 - Safety of over-the-air updates
 - Safety Architectures (EGAS, ASICS etc.), multicore/manycore architectures
 - Development approaches to achieve operational safety
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Session Topic: Technical Compliance in Automotive applications

Widening the vehicle centric view of standardization with respect to:

- Updates in regulation and standardization activities
- Challenges from and approaches to handle regulations/standards not specific to Automotive
- Challenges in achieving technical compliance in the supply chain
- With respect to standards such as ISO 26262, Automotive SPICE, IATF 16949, SAE J 3061, ISO/SAE 21434 (Cybersecurity), ISO 21448 (SOTIF), ISO PAS 5112, ISO 27001 or other related standards

Session Topic: Open source and cloud services

Open-source SW and cloud services:

- Open Source Software and cloud services in embedded and/or safety/security relevant systems
 - Combining a service life-cycle with standards such as Automotive SPICE
 - Applicability and interoperability of in-vehicle and cloud / IT security standards
 - Ensuring quality for open-source based systems
 - Need for conformity activities
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Session Topic: Security in automotive applications

Security management / engineering with respect to:

- Assets/threats for the connected intelligent vehicle
 - Ethernet networks in the vehicle
 - Secure model-based development
 - System/hardware-level security measures, secure architectures, embedded operating systems / AUTOSAR
 - Technical aspects for cybersecurity assessments
 - Threat Analysis and Risk Assessment in the automotive supply chain
 - Multi-Layer security concepts
 - Cloud Based Monitoring
 - Security assurance levels – concepts and significance
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Session Topic: Automated driving

Development of automated driving with respect to:

- Share of responsibilities between OEM, infrastructure or data providers, and/or suppliers etc.
 - Changes in legal frameworks - global differences and trends.
 - Global differences in ethics and perception of safety by users, the society, regulators, authorities and jurisdiction
 - Contribution of HMI to safety concepts
 - Integrity of vehicle external data and/or functionalities (Cloud, V2V etc ...)
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Session Topic: Artificial intelligence and machine learning in automotive applications

Development, release and operation of neural network-based systems with respect to:

- Acceptance of such systems by users include use of case studies
 - Current state and possible phases for introduction and end customer usage
 - Possible additional challenges for road vehicle solutions compared to e.g. solutions for aerospace industry
 - Legal frameworks, ethical aspects, global market differences
 - New possible business cases and implication for automotive industry
 - Safety and integrity argumentation for systems using machine learning / AI
 - Machine learning process lifecycle
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Session Topic: Process assessment and improvements using Automotive SPICE or other models

Application of automotive process assessments with respect to:

- Application of VDA Automotive SPICE guidelines
 - Highly distributed / agile / model-based developments
 - Developments of system of systems
 - Handling and coverage of and/or significance regarding safety and/or cybersecurity processes
 - Applicability for future developments
 - Efficiency in process assessments
 - Process assessments for very small and medium enterprises
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Session Topic: Electrification of powertrain

Opportunities and risks / How electrification transforms our business

- Change of development interface between supplier and OEM
- Influence on development of system and components
- Influence on development process and tools
- Potential risk and opportunities of changing focus from mechanical to electrical engineering

Automated driving in the light of electrification / How can two strategic focuses be combined

- Separated view or combined view necessary?
- How influences AD existing EV/HEV products and development?
- Which engineering process is adequate to combine both?
- Influence of customer change (from legacy OEM to mobility provider) on development processes
- How can quality together with safety/security be assured?

Safety and security in the light of electrification / What are possible new challenges with the electrification of powertrain?

- How are battery and hydrogen storage systems influencing risk evaluation?
 - Is there a new view necessary on the interdependencies of safety and security?
 - How is electrification influencing driver controllability due to higher instant power from speed zero on?
 - Operational safety for charging and parking of BEV vehicles
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Submission Details

Contributions must be original work which means that they must report previously unpublished work and not be submitted concurrently to another conference with refereed proceedings.

Please provide any submission including a title, target description and agenda of the presentation, the name(s) of the author(s) and a contact address of the author(s).

Preregistering an abstract of the presentation

The abstract must be in English language and uploaded through the conference program website. It is intended for first registration of the presentation.

Paper or Presentation draft

Please notice that the abstract is not sufficient for the programme committee to make an acceptance decision!

To enable the programme committee to judge which presentation will best meet the aims of the conference, you shall either submit a **paper** which

- shall at least have three pages in size excluding abstract, acknowledgements, and references
- shall describe all relevant topics and experiences in sufficient detail
- shall clearly describe the proposed solution / conclusion
- shall address the benefits from the solutions / conclusions to the community
- shall be free from tool / company advertisements

or

submit a **complete draft of your presentation** addressing the forenamed aspects.

Presentation

The presentation must be in English language and submitted in MS PowerPoint (ppt) or pdf format. It should be appropriate in length to fill a 35 minutes talk. You are requested to use your own presentation template for the conference.

Workshops

On Tuesday, the 28th of June there will be an additional workshop day prior to the main conference. When submitting, please mark whether your abstract is meant for a normal session presentation or for a workshop. Workshops should be a type of interactive training where participants carry out several training activities rather than passively listen to a lecture or presentation.

Benefits of submission acceptance:

- The main speaker and workshop speakers will get a full ticket for the conference free of charge.
- You will get a speaker certificate as active or passive experience evidence for certification as intacs™ competent or principal assessor.
- The best presentation will be awarded based on the conference participant votes.

Acceptance decision by the programme committee

After review by the members of the programme committee, you will receive a notification, whether your submission has been accepted, accepted with modification or rejected. It is strongly recommended to consider the feedback given by the reviewers for your submission. The feedback is available as specific review comments in the conference system. In case a modification is requested, an updated proposal is necessary for a final acceptance statement.

Program Committee

- Fabio Bella, Kugler Maag Cie GmbH
Managing Consultant, Member Management Board Automotive SPIN Italy, Member of intacs™ Advisory Board
- Martin Becker, Volkswagen AG
Group Quality Assurance, Member of VDA WG 13 (Automotive SPICE)
- Alec Dorling, Zenseact AB
Automotive SPICE Coordinator, Convener ISO/IEC JTC1/SC7 WG10 (Process Assessment SPICE)
- Bernd Hindel
CEO, Method Park
- Sabir Idrees, Robert Bosch GmbH
Cybersecurity Expert, Member of DIN AK WG “Cybersecurity”, German delegate to ISO TC22/SC32/WG11
- Frank Kirschke-Biller, Volkswagen AG
Head of EEZZ - EE-QM / Processes / IT / Functional Safety
- Albert Kreitmeyr, Audi AG
- Peter Lascych, Vitesco Technologies GmbH
Principal Technical Expert (Functional Safety Management), Member of VDA NAA AK 32-08 (ISO 26262)
- Matthias Maihöfer, Schaeffler Technologies AG & Co. KG
Head of Functional Safety, Head of German delegation to ISO TC22/SCG32/WG8 (ISO 26262) and DIN AK 32-08-01/-02
- Pierre Metz, Brose Fahrzeugteile GmbH
Head of Functional Safety, Member of VDA WG 13, German delegate to ISO TC22/SG3/WG8 and intacs™ Advisory board
- Alexander Much, Elektrobit Automotive GmbH
Head of Centre of Competence Software Systems Engineering
- Hans-Leo Ross, Bosch Engineering GmbH
Senior Consultant Development and Safety
- Adam Schnellbach, AVL List GmbH
Functional Safety Expert, Head of Austrian delegation to ISO TC22/SG3/WG8 (ISO 26262)
- Bernhard Sechser, Process Fellows GmbH
Principal Consultant SPICE & Safety, Member of intacs™ advisory board, Head of intacs™ Internationalization
- David Ward, HORIBA MIRA Ltd
Senior Technical Manager, Functional Safety, Head of UK delegation ISO TC22/SG3/WG8
- Jörg Zimmer, Daimler AG
Powertrain Inhouse SW Process Owner, Automotive SPICE Expert
- Jan Morenzin, VDA QMC
Organizing chair

Registration

If you want to attend the conference as a participant, sponsor or exhibitor you can register by fax or mail using the registration forms available soon on <http://www.automotivesys.org>.

Please address any inquiry directly to the VDA QMC conference team by mail to events@vda-qmc.de.