

CALL FOR PRESENTATIONS

VDA Automotive SYS Conference 2018

Quality, Safety and Security for Automotive software-based Systems

June, 13 - 15, 2018 in Nauen (Berlin area), Germany

From Industry to Industry

In June 2018 the 8. 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 E/E Development 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. The conference will deal both with technical methods/solutions and management practices with respect to the national and international automotive standards.

The conference is accepted by the international assessor certification scheme (intacs™) as active or passive experience evidence (EE3, EE4) for certification as SPICE Competent or Principal Assessor.

Call for Presentations

The VDA Automotive SYS Program Committee appreciates your contribution (experience reports, best practices, new approaches or strategies) on the following topics:

Specific Topics for the 2018 conference:

Beyond the topics raised below, we are looking for contributions on the following specific topics:

Automotive software quality assurance for the future vehicle:

New methods and approaches (with or without Automotive SPICE) to assure software quality with respect to:

- Distributed developments
- Addressing DevOps
- Covering highly networked systems
- Agile developments
- How to achieve quality for over-the-air updates (from Config/Test-viewpoint and practically)
- End to End QA strategies with respect to connected systems
- Confidence in the software, that it meets the end user's expectations?
- Quality assurance of characteristics and data used in networked vehicles.
- Quality assurance for self-learning systems

Safety for highly or fully automated vehicles:

New methods and approaches to assure safety with respect to:

- Safety release of systems used for automated driving
- Share of responsibilities between OEM, infrastructure or data providers, suppliers etc.
- Changes in legal frameworks. Global differences and trends.

- Global differences in safety ethics
- HMI safety
- Safety of over-the-air updates

Verification of self-learning systems

- Test and verification strategies and approaches
- Behaviour based testing
- Verification criteria, test end criteria

Relevance of architectural changes on vehicle level for Quality Assurance / Functional Safety / Security?

- New operating systems and architectures (Posix, QNX, AGL ...)
- Microprozessor instead of μ C architecture
- Domain- or Zone-controllers
- Adaptive systems – adaptive AUTOSAR
- Service Oriented Architectures

Experiences with new version of IATF 16949

- Experience IATF changes regarding supplier software quality and supplier self-assessment
- Product safety responsible (regarding the requirements IATF)

1. Process and management session: Quality, functional safety and security management

This session focusses on organizational aspects, infrastructure and process management, process assessments, safety and security process audits. It will deal with management and organizational aspects of quality, functional safety and security in the context of standards or guidelines such as ISO 26262, SAE J 3061 or Automotive SPICE® and their efficient combination, e.g.:

- Reliability, safety and security as a part of product release process
- Embedding safety, security and process quality assessments / audits into higher level quality standards like ISO/TS 16949/PPAP, VDA Volume 1 and 2 or 6.3
- Reliability, safety and security after SOP
- Harmonization of the Safety and Security processes and analyses
- Legal Aspects (Product safety and liability laws, Contracting customer/supplier, Field observation)
- Security management for Automotive embedded systems
- Alignment of SW Quality, Safety and Security processes
- Integration of confirmation reviews, verifications, safety analyses and Functional Safety assessments
- Integration of Functional Safety process audits and Automotive SPICE process assessments
- Comparison of Automotive SPICE & ISO 26262 interpretation in different global regions (NAFTA, Asia, Europe)
- Interfacing regarding safety and security management between customer and supplier
- Assessing and auditing of distributed projects
- Process assessments of agile projects or organisations
- Quality and Functional Safety management for architecture-based and/or model-based development
- Process assessments and Functional Safety process audits of Open Source development projects
- Automotive safety and security: synergies and challenges in implementation
- Experiences from other domains like Aviation, Aerospace, Railway, Medical Devices, Defense
- Quality and Functional Safety management in a global development
- Software Quality as prerequisite for safety and security

2. Methodology session: Risk, safety and security analyses and assessments

This session contains specialist presentations on functional safety methodology, safety concepts and safety analyses and the implementation and interpretation of ISO 26262. Risk assessments and hazard analyses techniques for both safety and security of embedded systems are in the scope of this session, e.g.:

- Systems Engineering
- Safety and Quality in Functional System Design
 - Item Definition and boundary analyses
 - Hazard analysis and risk assessment
 - ASIL determination and Safety Goals
- Safety and Quality in Technical System Design
- Security Threat and Risk Analysis for in-vehicle systems
- Customer/Supplier interface: From Item Definition, Safety Goals and Functional safety concept to a Technical safety concept including verification of technical safety requirements
- Safety Case (Managing and documenting evidence and arguments)
- Methods including, but not limited to, SW-Architecture analysis , FMEA, FTA, fault nets, and calculation of hardware architectural metrics (e.g. SPFM, LFM, or random hardware failure metric)
- Quantitative and qualitative / inductive and deductive analysis
- Model-based safety analysis
- Requirements management and semi-formal notation
- Verification and validation of safety goals and safety requirements
- Functional Safety assessments
- Technical Security assessments

3. Technical session: Embedded safety and security

It addresses the technical engineering and focuses on embedded safety and security concepts. Both hardware and software measures to avoid vulnerability of software-based systems in the vehicle are part of this session. Presentations on typical security threats for mobile embedded applications and the fundamental protective methodologies and technologies can be found here, e.g.:

- Examples of security hacks into automotive vehicle systems
- Security threats for the networked vehicle
- Safety mechanisms in embedded operating systems
- Security mechanisms in embedded operating systems
- Hardware Safety Architectures (EGAS, ASICS etc.), multicore architectures
- Safety and Security in AUTOSAR Basic Software and Applications
- Ethernet in the vehicle
- Exploit prevention in ECU software
- Protection of external communication
- Secure Model based development, architecture and requirement management
- Hardware security measures
- Protection of persistent data in the vehicle
- Open Source Software in automotive embedded and/or safety relevant systems
- Architecture-based development (service oriented, hierarchical structure, requirement allocation etc.)
- Model-based development (requirements analysis, behavioral model, product model, test reference)
- Safety for E-Mobility (functional safety, electrical safety, etc.)
- Validation & Verification approaches for safety and security

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) to our conference program website:

<https://www.openconf.org/AutomotiveSYS2018/openconf.php>

The submission website is available from October, 29 2017.

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 issues.

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 13th of June there will be an additional workshop day prior to the conference. There will be several slots for 3 to 6 hour workshops. Please mark your abstract whether it should be a normal session presentation or a workshop when submitting.

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 selected by the conference participants and will be honoured with the “Best Presentation Award”.

Important Deadlines

Preregistration of presentations:	December, 17 2017
Submission of draft presentation or paper:	January, 28 2018*
Notification of acceptance:	February, 18 2018
Submission of tutorial and presentation slides:	May, 31 2018

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

Programme Committee

- Fabio Bella, Kugler Maag CIE
Process Director, 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, Volvo Group
Process Manager, Diagnostics Engineering, Convener ISO/IEC JTC1/SC7 WG10 (ISO/IEC 15504, 330XX)
- Markus Ihle, ETAS GmbH
Bosch Center of Competence „Security“, Member of VDA WG “Automotive Security”
- Frank Kirschke-Biller, Ford-Werke GmbH
Manager Global Core Software Processes, Member of VDA WG “Automotive Security”
- Albert Kreitmeyr, Audi AG
- Stefan Kriso, Robert Bosch GmbH
Center of Competence „Functional Safety“, German delegate to ISO TC22/SG3/WG8 (ISO 26262)
- Peter Lascych, Continental AG
Division Powertrain, Principal Technical Expert (Functional Safety Management)
- Matthias Maihöfer, Schaeffler Technologies AG & Co. KG
Head of Functional Safety, German delegate to ISO TC22/SG3/WG8
- 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
- Joseph Miller, TRW Automotive
Chief Engineer of Systems Safety, Chairman US Technical Advisory Group to / Head of US delegation of ISO TC22/SG3/WG8
- 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, Magna Powertrain AG & Co KG
Functional Safety Expert, Austrian delegate to ISO TC22/SG3/WG8 (ISO 26262)
- Bernhard Sechser, Method Park Consulting GmbH
Principal Consultant SPICE & Safety, Member of intacs™ advisory board, Head of intacs™ Internationalization

- David Ward, HORIBA MIRA Ltd
Head of Functional Safety, Head of UK delegation ISO TC22/SG3/WG8
- Jörg Zimmer, Daimler AG
Powertrain Inhouse SW Process Owner, Automotive SPICE Expert

Organizing Chair

- Jan Morenzin, VDA QMC

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 on <http://www.automotivesys.org> or by phone:

Semih Köşger

Tel.: +49 (0) 30 / 89 78 42 - 232

Email: events@vda-qmc.de

Please watch for actual information on <http://www.automotivesys.org>