

ISO 26262

14 to 16 September 2015, Stuttgart, Germany



Presentations by:

AbsInt GmbH

Autoliv

AVL LIST GmbH

Berner & Mattner Systemtechnik GmbH

Critical Software

Kugler Maag Cie

Magna Powertrain AG & Co KG

Methodpark Consulting GmbH

MIRA Limited

Reuschlaw Legal Consultants

Robert Bosch GmbH

SGS-TÜV Saar GmbH

SIListra Systems GmbH

TÜV Nord Group

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ZF TRW



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Prof. Dr Dr h.c. Manfred Broy,
Ordinarius Software & Systems Engineering,
Technical University Munich, Informatics Institute



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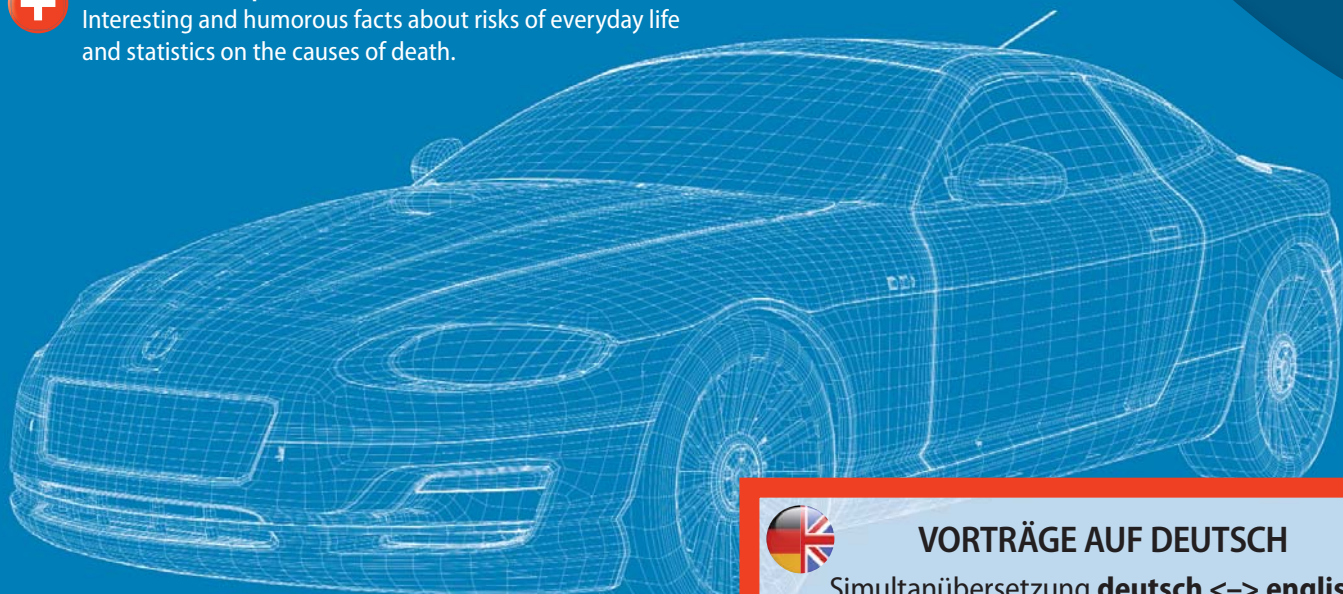
Stefan Kriso, Head of Center of Competence
"Functional Safety", Robert Bosch GmbH

Adam Schnellbach, Group Leader Functional Safety,
Magna Powertrain AG & Co KG



Out of the box speech:

Interesting and humorous facts about risks of everyday life
and statistics on the causes of death.



VORTRÄGE AUF DEUTSCH

Simultanübersetzung **deutsch** <-> **englisch**

für internationale Teilnehmer

Simultaneous Translation **English** <-> **German**



AT A GLANCE: 7 REASONS FOR PARTICIPATING

- 1** Expand your own ISO 26262 network, maintain and deepen existing business contacts with decision-makers from countries from all over the world.
- 2** Gain the tools to improve your job skills, for example, learn to implement ISO 26262 for your components.
- 3** Take the opportunity to present change requests to the 2nd edition of the ISO 26262 and to have an impact on the next version of the standard.
- 4** Find out the strengths and weaknesses of your current ISO 26262 policies by getting to know the models of other producers.
- 5** Reduce your risk by performing your own assessment of ISO 26262.
- 6** Prepare for the worst by planning ahead for legal aspects of ISO 26262.
- 7** Increase your Return on investment by saving your organization's money and time – get your ISO 26262 policies and practices right the first time.

AUDIENCE

This annual conference is directed at a worldwide audience of board members, technical directors, senior managers, project heads and safety managers from the automobile and automotive parts industries as well as those in the electrical engineering and electronics sectors who are involved in automobile electronic manufacturing.

The audience will have expertise in:

- Electrics and electronics
- Mechatronics
- Research and (pre-)development
- Engineering and design
- Technology
- Purchasing and procurement
- Sales and marketing
- After-market services
- System integration and automotive technology
- Application and system development
- Functional safety
- Quality
- Legal and compliance

The conference will also be of interest to:

- Development service providers
- Hardware and software providers
- System suppliers
- Engineering service providers
- Industry-oriented research establishments
- Testing and certification bodies



Day One, 14 September 2015

9.00 – 9.30

Reception with coffee and tea

9.30 – 10.00

Welcome by the chair and introduction to the topic



Prof. Dr Dr h.c. Manfred Broy,
Ordinarius Software & Systems Engineering,
Technical University Munich, Informatics Institute

Business Card Swap



At the beginning of the conference, EUROFORUM will make time for exchanging business cards with the other participants.
Take the opportunity for networking!

Legal Aspects

10.00 – 10.30

Functional safety – new questions arise

- Transfer of the state of the art achieved in one vehicle segment to other segments
- Reliability of components versus safety concept
- Testing products in the view of functional safety
- Data security versus vehicle safety



Andreas Reuter,
Lawyer,
former Bosch in-house counsel

10.30 – 11.00

ISO 26262 – Impact on contract and liability

- Autonomous driving and the Vienna Convention (“Wiener Straßenverkehrskonvention”): Past meets future
- The standard considered in the light of product liability law
- State of the art in science and technology
- ISO 26262 and the supply chain



Philipp Reusch,
Lawyer and Managing Director,
Reuschlaw Legal Consultants

11.00 – 11.30

Questions and answers, discussion

“The safety event of the year: informative, a large range of topics, numerous top experts, entertaining and interactive.”

Dr. Reinhold Hagel, Continental Engineering Services GmbH

Fail-operational Systems

11.30 – 12.00

Basics of fail-operational systems

- Why and when are fail-operational systems necessary?
- How is fail-operational addressed in other domain standards?
- How many faults and which ones should be tolerated?
- How good and how safe should the system be after a fault has occurred?



Adam Schnellbach,
Group Leader Functional Safety,
Magna Powertrain AG & Co KG

12.00 – 12.15

Questions and answers, discussion

12.15 – 13.15

Lunch

Automated Driving

13.15 – 13.45

Safety for ADAS and highly automated driving: experiences and challenges

- Transition from monolithic to modular safety concepts
- Safety does not always mean acting upon the driver’s commands
- Safety beyond hardware and software failures: sensors, situation assessment, manoeuvre planning
- Safety for non-failsafe items: degradation and fallback operation



Dr Bernhard Kaiser,
Head of Competence Center Safety and System Engineering,
Berner & Mattner Systemtechnik GmbH



Dr Klaus Winkelmann,
System professional, Competence Center Safety and System Engineering,
Berner & Mattner Systemtechnik GmbH

13.45 – 14.00

Questions and answers, discussion

14.00 – 14.30

Automated driving – challenges for safety and certification

- Impact of automated driving
- Questions for safety and certification
- Functional aspects
- Communicational aspects
- User aspects



Harald Günther,
Automotive Functional Safety Expert,
SGS-TÜV Saar GmbH

14.30 – 14.45

Questions and answers, discussion

14.45 – 15.15

Autonomous Driving – impact on (hardware) safety

- Impact on hazard analysis, safety goals, functional safety concepts: how do new hazards and safety goals differ from existing ones?
- Impact on technical safety concept and HW-safety requirements: what are the challenges to availability and redundancy? Solutions based on the current state of the art?
- Impact on integration with existing functions and architectures: coexistence of new and existing functions?
- Impact on HW safety metrics: What can be expected from an in-depth HW-architecture safety analysis?



Dr Tomislav Lovric,

Senior Technical Specialist & Assessor Braking EU & AP,
ZF TRW

15.15 – 15.30

Questions and answers, discussion

15.30 – 16.00

Coffee and tea break

16.00 – 16.30

Development of safe and reliable powernets

- New functions and components like Start-Stop-Coasting (SSC), vacuum free braking systems, automated driving functions and their specific requirements when it comes to the powernet
- Systematic method to derive functional safety requirements for the powernet
- Scope and limits of ISO 26262
- Innovative combination of FTA and Markov-Model
- Reliability calculations and optimizations for a



14V-SSC-Powernet

Matthias Horn,

System Engineering Power Network,
Robert Bosch GmbH

16.30 – 17.00

Questions and answers, discussion

17.30

At the end of the first conference day, we invite you to a dinner at the "Paulaner Wirtshaus am Kirchplatz" in Leinfelden-Echterdingen.

Enjoy the relaxed atmosphere at our Networking Night 2015!



8.30 – 9.00

Reception with coffee and tea

9.00 – 9.20

Welcome and summary of the previous day by the chair

Prof. Dr Dr h.c. Manfred Broy

Software and Hardware Development

9.20 – 9.50

Combining safety and security with software Coded Processing

- Software Coded Processing: working principle, assumptions, failure model
- Experimental results regarding detection rates and performance requirements
- COTS hardware in safety-critical applications
- Improvement of system integrity with regard to safety and security



Jörg Kaienburg,

Managing Director,
SIListra Systems GmbH

9.50 – 10.05

Questions and answers, discussion

10.05 – 10.35

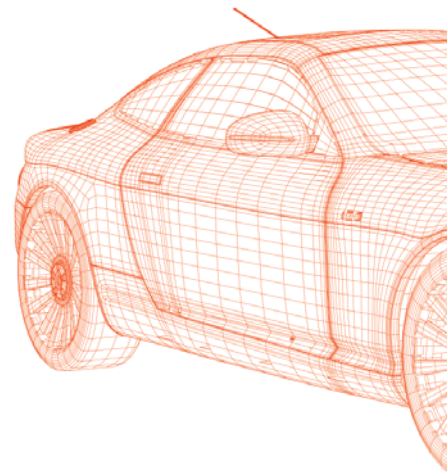
Proving the absence of software-induced memory corruption

- Memory corruption can cause software crashes, invalidate separation mechanisms in mixed-criticality software, and is one of the most important challenges in multi-core systems
- The most frequent software-related causes of memory corruption are data races, stack overflows, and run-time errors
- Abstract interpretation is a formal method for static program analysis which supports soundness proofs: no potential error is missed
- With abstract interpretation, the absence of all these types of software-induced memory corruption can be proven
- Topics include an overview of the memory corruption problem, the underlying analysis principles, practical experience, and tool qualification



Dr Daniel Kästner,

CTO,
AbsInt GmbH



10.35 – 10.50
Questions and answers, discussion

10.50 – 11.20
Coffee and tea break

11.20 – 11.50
Freedom from interference – myth or mechanism?

- Report about a freedom from interference analysis
- Myth of complete absence of interference
- Distinction: unintended influence versus intended influence versus independence
- Effectiveness of measures considering their impact on functionality

Bernd Spanfelner, Safety Expert, Autoliv

Dr Johanna Schaffner, Safety Expert, Autoliv

11.50 – 12.05
Questions and answers, discussion

12.05 – 12.35
De-mystifying Software Component Qualification – interpretation and experiences

- Purpose and benefits of Software Component Qualification
- Interpretation of the ISO 26262 approach
- Practical experiences
- Possible alternatives to Software Component Qualification



Dr Jens Christian Lisner,

IFM – Institut für Fahrzeugtechnik und Mobilität,
TÜV Nord Group

12.35 – 12.50
Questions and answers, discussion

12.50 – 14.00
Lunch

14.00 – 14.30
Absolute HW Metrics: The illusion of objectivity



Carsten Gebauer,

Bosch Center of Competence 'Functional Safety',
Robert Bosch GmbH

14.30 – 14.45
Questions and answers, discussion

"Latest news for approaches to ISO 26262."

Alexander Dobry,
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

Audits and Assessments

14.45 – 15.15

Surviving ISO 26262 functional safety audits and assessments

- Understanding what it means to claim "compliance" with ISO 26262
- Understanding the objectives of the requirements in the standard
- Understanding the difference between process-oriented requirements and product-oriented requirements
- Scoping a functional safety assessment
- Best practice for providing process evidence and product evidence
- How the functional safety audit supports the functional safety assessment
- Measuring and reporting compliance



Dr David Ward,

Head of Functional Safety,
MIRA Limited

15.15 – 15.45
Questions and answers, discussion

15.45 – 16.15

Coffee and tea break

OUT OF THE BOX

16.15 – 16.45

Interesting and humorous facts about risks of everyday life: The experienced journalist, writer and author of the book "Why ballpoint pens are more dangerous than thunder storms",



Thorsten Wiese, will talk to you about different statistics on the causes of death.

16.45
Drinks at the hotel

At the end of the second conference day, we invite you to meet for refreshments at the hotel. Make contact with delegates and guest speakers and extend your ISO 26262 network by continuing the discussions of the day.



Day Three, 16 September 2015

8.30 – 9.00

Reception with coffee and tea

9.00 – 9.20

Welcome and summary of the previous day by the chair

Prof. Dr Dr h.c. Manfred Broy

Standards and Processes

9.20 – 9.50

Efficient development and certification of avionics level A software under DO-178C

- Certification versus qualification
- DO-178 full process
- Development, validation and certification
- Testing automation and regression
- ISO 26262 vs DO-178
- Automotive systems versus avionics: functionality and complexity



Jorge Almeida,
Principal Engineer,
Critical Software

9.50 – 10.05

Questions and answers, discussion

10.05 – 10.35

A practical approach to combining ASPICE assessments with functional safety audits

- Differences between ASPICE assessments and functional safety audits
- Intersections of ASPICE assessments and functional safety audits
- How to define the SCOPE of a ASPICE assessment which should be combined with a functional safety audit
- How to exceed ASPICE assessment questions to meet ISO 26262 requirements on a concrete example
- Competence of executing auditors/assessors
- Independency of executing auditors/assessors



Christian Santer,
Functional Safety Manager, System Safety Engineering,
Powertrain Engineering, AVL LIST GmbH

10.35 – 10.50

Questions and answers, discussion

10.50 – 11.20

Coffee and tea break

11.20 – 11.50

ISO 26262 and ISMS Standard Series – are we equipped for the networked and automatic vehicle?

- Mapping between ISO 26262 and ISO 27000 series
- How do the standards complement each other and which areas are problematic?
- Do the standards offer enough security in a networked and automated vehicle context?



Steffen Herrmann,
Senior Process Consultant,
Kugler Maag Cie

11.50 – 12.05

Questions and answers, discussion

12.05 – 13.00

Lunch

13.00 – 13.30

How to build a Tool Qualification Kit

- Tool Qualification Requirements
- Contents & application of QKits
- Modularity & extensibility & automation
- Quality assurance of QKits
- Example: Qualification Kit for an automotive (inhouse) Tool



Dr Oscar Slotosch,
Chairman of the Executive Board,
Validas AG

13.30 – 13.45

Questions and answers, discussion

13.45 – 14.15

Beyond ISO 26262



Bernhard Sechser,
Principal Consultant SPICE & Safety,
Methodpark Consulting GmbH

14.15 – 14.30

Questions and answers, discussion

14.30

End of the conference



“Good range of topics and quality of presentations; good opportunity for networking.”

Werner Schauer, Vienna Institute for Safety & Systems Engineering

Sponsoring & Exhibition

The following exhibitors have already signed up:



AbsInt provides tools for validation, verification and certification of safety-critical software. Key products are the aiT Worst-case Execution Time Analyzer for obtaining timing guarantees, StackAnalyzer for proving the absence of stack overflows, and the Astrée analyzer for proving the absence of runtime errors. All of them can be qualified according to contemporary safety standards. Since 2015, AbsInt offers two new product lines: TimingProfiler computes execution time estimates of programs without the need to repeatedly provide test inputs, execute, and measure. CompCert is a formally verified optimizing C compiler. The level of confidence in the correctness of the compilation process is unprecedented and helps meet the highest standards of software assurance.

AbsInt GmbH

Science Park 1 | 66123 Saarbrücken (Germany) | www.absint.com



EnCo provides full-scope support in the field of functional safety. In addition to our consulting and training services, we offer our customers a modular development environment in our product SafetyOffice X2 (SOX2). This product leads the user through the entire safety case and simplifies the required traceability process using a variety of system interfaces.

Engineers Consulting jtc GmbH

Balanstrasse 55 | 81541 Munich (Germany) | www.enco-software.com



Kugler Maag Cie. Besser mit uns

Was bringt eine perfekte Performance heute, wenn sie nicht zukunftssicher ist? Damit Ihre Entwicklungsorganisation nicht von der Marktdynamik überrollt wird, bringen wir Mensch und Technik zusammen: Ob ein neuer Entwicklungsstandort aufgebaut oder der PEP agiler werden soll – als Unternehmensberatung unterstützen wir Ihre Elektronikentwicklung ganzheitlich und auf jeder Ebene, von der Managementberatung bei der Zieldefinition bis zum Projektmanagement in der Praxis.

KUGLER MAAG CIE GmbH

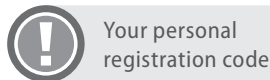
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ISO 26262

14 to 16 September 2015,
Stuttgart, Germany



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- A substitute may attend in your place at no additional cost.
- The fee covers full conference documentation.

YOU WILL NOT BE ABLE TO ATTEND?

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In the conference hotel, there is a limited allocation of rooms available at a reduced price. Please arrange the room reservation directly with the hotel quoting the reference "Euroforum event".

On the second evening of the conference, the **Parkhotel Stuttgart Messe-Airport** invites you to a welcome drink.



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