



ISO 26262^{USA}

2nd Edition, Autonomous Driving & Cybersecurity

PART OF
CTI
AUTOMOTIVE
WEEK
USA

ARE YOU
READY FOR
THE 2ND
EDITION
ISO 26262?

+++++ Early Bird discount: Register before February 28, 2018 +++++ Exclusive OEM discount +++++

CTI AUTOMOTIVE WEEK USA

1 WEEK
6 CONFERENCES
1,000+
INTERNATIONAL
AUTOMOTIVE
EXPERTS

CTI proudly presents the premiere of
CTI Automotive Week USA –
from 14 to 17 May 2018 in Novi, MI

For the first time, CTI offers you the chance to meet experts from multidisciplinary specialist departments in the automotive sector. Powertrain, connectivity, electrification, automation and safety ... we bring today's most important topics together.

The conferences	14 May	15 May	MAIN DAYS 16 May 17 May	
 CTI Symposium USA Automotive Transmissions, HEV and EV Drives	Introductory Days		Conference	
 AUTONOMOUS DRIVING SUMMIT USA			Conference	
 AUTOMOTIVE DIAGNOSTICS USA			Conference	
 ISO 26262 USA		Conference		Seminar
 AGILE AUTOMOTIVE USA		Conference		
 AUTOMOTIVE GLAZING USA*	Conference			
Supporting Program			Exhibition/Test Drive	
Supporting Program		Pre-check-in & Get Together	Networking Night	

YOUR BENEFITS ON 16 & 17 MAY 2018

- + Switch between conferences
- + Exhibition with 80+ companies
- + CTI Networking Night: meet your peers and make new contacts

MAIN DAYS SPECIAL

Purchase a Main Days Ticket for just 2,350 \$** and you're free to enjoy all events and activities on both main days (16 and 17 May 2018) of the AUTOMOTIVE WEEK. To book additional events on 14 and 15 May, please visit:

www.cti-automotiveweek.com



* Venue: Rochester (MI). ** Early-Bird: valid until 14 April 2018

7th International Annual CTI Conference ISO 26262



2nd edition ISO 26262
be part of the
expert community



**Moving towards
autonomous driving**
exchange your experiences



Safety meets Security
interactive workshop day

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Manfred Broy**
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► CTI Automotive Week Test Drive, 16 and 17 May 2018

During 16 and 17 May you will have the opportunity to experience the latest transmission and drive technology in series and demonstrator cars. Project engineers will be introducing the special characteristics and advantages of the technologies shown and answer your personal questions. Participants have to register at the check-in desk and must present a valid driving license on site. Since driving slots are limited, we cannot guarantee participation for all CTI Automotive Week attendees. Information about available vehicles will be updated online.





Tuesday 15 May, 2018

8.00

Registration and welcome coffee

8.30

Welcome address by the chairman



Prof. Dr Dr h.c. Manfred Broy,
Chair Software & Systems Engineering, Department of
Informatics, Technical University of Munich, Germany

9.00

KEYNOTE

Analyzing cyber-security and safety in automated systems



Dr John Thomas,
Executive Director, Partnership for Systems Approaches to
Safety and Security Department of Aeronautics and
Astronautics, Massachusetts Institute of Technology

9.30

Q&A and discussion

LEGAL ASPECTS

9.40

Product Liability Litigation: US/EU legal issues



Jeffrey Greene,
Lawyer, Shareholder,
Greenberg Traurig, LLP, USA



Daniel Wuhrmann,
Attorney-at-Law (Germany),
reuschlaw Legal Consultants, Germany

10.10

Q&A and discussion

PRACTICE WITH ISO 26262

10.20

Status Update for ISO 26262 2nd edition



Joseph D. Miller,
Chief Engineer Systems Safety,
TRW Automotive, USA

10.50

Q&A and discussion

11.00

Coffee break and visit of ISO 26262 exhibition

11.30

SOTIF ISO/PAS 21448 – Safety of the intended Functionality

- What is SOTIF and how does it relate to ISO 26262?
- The current status of SOTIF: A report from the ISO working group
- Examples of how and where SOTIF should be applied
- SOTIF and high level automation: The current gaps and challenges



Alexander Mirmilstein,
Functional Safety Coordinator, IEE S.A., Delegate for
Luxembourg in ISO TC22/SC32/WG8, Luxembourg

12.00

Integrating SOTIF into the Systems Engineering Pipeline

- Leveraging STPA
- Model Based Systems Engineering
- Virtual Validation methods



Kyle Post,
Vehicle Systems Safety Supervisor,
Ford Motor Company, USA

12.30

ASIL allocation (ASIL X & QM) vs. ASIL decomposition (ASIL X & QM(X)): Is there a difference?

- Example: A function and its monitoring
- Safety requirements: Derivation, allocation and their ASIL
 - The ASIL allocation approach
 - The ASIL decomposition approach
 - Resulting differences



Carsten Gebauer,
Senior Expert, Bosch Center of Competence "Functional
Safety", Robert Bosch GmbH, Germany

1.00

Lunch and visit of ISO 26262 exhibition

2.00

KEYNOTE



Dr Cem Hatipoglu,
Director, Office of Vehicle Crash Avoidance and
Electronic Controls Research, National Highway
Traffic Safety Administration (NHTSA), USA

2.30

Evolving a guideline for functional safety assessment

- Functional Safety Assessment – state of the art practices
- Inconsistencies in Assessment process, ratings
- Learnings and Best Practices from Assessment Guidelines used with other standards
- Recommended Guidelines for Functional Safety assessments and ratings
- Benefits and Importance of standard set of Guidelines for Assessment



Unnikrishnan Parameswaran Pillai,
Functional Safety Competency Manager,
Tata Elxsi Ltd., India



Parvathy Santha,
Associate Manager,
Tata Elxsi Ltd., India





AUTOMATED DRIVING

3.00

An Approach for Safety of the Intended Function in Advanced Automated Driving Systems

- Advanced automated vehicle systems need to handle SOTIF concerns both qualitatively and quantitatively
- Systematic approach for ODD, OEDR, safety analysis, MRC, safety validation and risk assessment
- Minimal risk assessment



Shawn Cook,
Systems Safety Engineer,
General Motors, USA



Krzysztof Pennar,
Systems Safety Engineer,
General Motors, USA

3.30

Safety assessment of health management system

- Autonomous Health Management System
- Safety Assessment of Health Management System
- Simulation and verification of Autonomous Health Management System



Esther Fuhua Zhou,
System Safety Engineer, Vehicle Health Management
and Minimal Risk, General Motors, USA

4.00

Coffee break and visit of ISO 26262 exhibition

*"Good diversity of topics
and discussion on current
challenges faced by OEMs,
Tier 1s and vendors related
to ISO 26262"*

*Amanda Gilley,
Denso International
America, Inc.*

4.30

Safety concept for detecting latent systematic faults in a universally verifiable autonomous vehicle architecture

- Review of a general Safety Goal and SOTIF for Level 5 autonomy
- Review of a verifiable and non-verifiable Functional Safety Concept
- Presentation of a safety concept for an example Level 5 functional architecture
- Partitioning of safety concept into proprietary components with open interfaces, allowing independent verification of safety and possible 3rd-party risk acceptance



Michael Woon,
Senior Functional Safety Consultant,
KVA, USA

5.00

Safety integrated power and driver solutions for systems with automated driving Level-3 requirements

- System configuration differences between automated driving Level-2 and Level-3
- System functional and safety requirements for automotive active safety systems targeting Level-3 automated driving
- What is the impact of the level-3 system requirements on integrated power supply safety architecture and functions
- What is the impact of the level-3 system requirements on pre-drivers & power stages safety architecture and functions
- Fail Safe vs. Fail Silent vs. Fail Tolerant requirements and impact on integrated safety power and pre-drivers/power stages solutions



Samir Camdzic,
Systems Engineer, Safety Power Architect,
Texas Instruments, Germany



5.30

Safety Power Management role in current fail operational system and its evolution in the challenges of L4/L5 autonomous driving

- The role of a Power Management device developed as a Safety Element out of Context (SEoC)
- How to build higher availability power supply to respond to random hardware failures
- Discussion around the limitations of the current fail-silent power supply generations in response to autonomous drive challenges



Jean-Philippe Meunier,
Functional Safety Architect,
NXP Semiconductors, France

6.00

**CTI cordially invites you to a
reception with drinks and finger food.
We look forward to welcoming you at
the Fireside Lounge.**



Wednesday 16 May, 2018

7.30 Registration and opening of the CTI AUTOMOTIVE WEEK exhibition

OPENING OF THE MAIN DAYS OF THE CTI AUTOMOTIVE WEEK

8.20

Welcome address by CTI and the chairmen



CTI Symposium USA



Dr Hamid Vahabzadeh,
Vice President and Product Line Manager, Global Transmissions,
AVL List GmbH, USA



ISO 26262 USA



Prof. Dr Dr h.c. Manfred Broy,
Chair Software & Systems Engineering, Department of Informatics,
Technical University of Munich, Germany



AUTONOMOUS DRIVING SUMMIT USA



Priv. Doz. Dr-Ing. Roman Henze,
Chief Engineer, Manager Vehicle Dynamics & Active Systems,
Institute of Automotive Engineering, Technical University of
Braunschweig, Germany



AUTOMOTIVE DIAGNOSTICS USA



Prof. Dr Norbert Schreier,
Head of Automotive Engineering/Service (FASE), Esslingen
University of Applied Sciences and Coordinator Automotive
Engineering/Service at CDHAW, Tongji University,
Shanghai, Germany

8.40

PLENARY SPEECHES

What is a powertrain and what is it good for?



Dan Nicholson,
Vice President, Global Propulsion Systems,
General Motors, USA

An update on global electrification and LG Chem's battery development and manufacturing



Denise Gray,
President and Chief Executive Officer,
LG Chem Power Inc., USA

The role of the drivetrain in future mobility



Prof. Dr Uwe Dieter Grebe,
Executive Vice President Global Business Development,
Sales & International Operations, AVL List GmbH, Austria

Vehicle electrification – opportunities and challenges



Dr V. Anand Sankaran,
Director, Electrified Powertrain Engineering,
Ford Motor Company, USA

Trending towards future mobility



Jeremy Carlson,
Principal Analyst, Automotive Technology,
IHS Markit, USA

10.20 Discussion with the morning speakers (Q&A)

10.40



Coffee break and visit to the
CTI AUTOMOTIVE WEEK exhibition



ISO 26262 USA

11.30

Short summary of the first day by the chairman



Prof. Dr h.c. Manfred Broy

SAFETY AND SECURITY

12.00

Safety and security – the perspective from security standards

- How is the link between safety and security addressed in automotive security standards (SAE J3061, ISO/SAE 21434)?
- Coordination of management activities
- Interactions between threat analysis and hazard analysis
- Interactions between safety concepts and security concepts



Dr David Ward,
Head of Functional Safety,
HORIBA MIRA Ltd., UK

MEDIA PARTNER

IN COMPLIANCE

12.30

Applying Static Code Analysis to Verify Safety and Security Properties

- Examples of safety-relevant vs. security-relevant programming defects
- Similarities and differences of safety and security requirements at the programming level
- Applying sound static analysis to demonstrate safety and security properties
- Achieving data safety: identifying the impact of potentially corrupted input data



Dr Daniel Kästner,
CTO,
AbsInt GmbH, Germany

1.00



Lunch break and visit to the
CTI AUTOMOTIVE WEEK exhibition

2.00

Attack Tree analysis

- An Introduction to Attack Tree Construction and Analysis
- Qualitative and Quantitative Threat Analysis
- A Simple Attack Tree Based on Real World Research



Dr David Wiseman,
Technical Consultant,
Isograph Ltd., UK

SEMICONDUCTORS AND THE 2nd EDITION ISO 26262

2.30

Evaluation of semiconductors as legacy parts and how ISO/FDIS 26262-8:2018 can help

- Clear separation between systematic faults and random hardware faults as who's responsibility it is to show suitability
- Semiconductors have to ensure that the risk of a safety requirement due to a systematic fault is sufficiently low
- Evidence for suitability of random fault management (which is proven usually by FMEDA) is allocated to the integrator to the next higher level of design integration
- Is this the rationale that the necessity to perform an FMEDA on IC level is not given any more?



Dipl.-Phys. Mathias Kamp,
Director, Functional Safety Management,
Elmos Semiconductor AG



Karol Niewiadomski,
Product Manager Cyber Security, Functional Safety
Expert, SGS-TÜV Saar GmbH, Germany

SOFTWARE, TOOLS AND METHODS

3.00

Software safety analysis methods

- Software safety analysis
- Systematic faults
- Safety verification method
- Safety critical paths

■ Criticality level

■ ISO 26262 2nd edition -Software methods



Dr Rani Mukherjee,
Functional Safety Lead, Vehicle Safety Division,
Robert Bosch Engineering, India

3.30



Coffee break and visit to the
CTI AUTOMOTIVE WEEK exhibition

4.00

On the impact of ISO 26262: 2018 on model-based development of safety-related systems

- Analysis of the second edition of ISO 26262
- Necessary adaptations to existing software development processes
- Focus on model-based software development of safety related systems
- Questions for a gap analysis
- Main differences regarding requirements and methods for model-based development



Dr Heiko Doerr,
Managing Director,
Model Engineering Solutions, Germany

4.30

A Low-Cost Software ISO 26262 compliant Environment

- The transition to ISO 26262 can be costly in terms of labor and tools.
- A sample environment will be shown which minimizes tool costs.
- Low-cost software environments can enhance automation to focus an organization on safety



Frank Chang,
Software Architect,
LHP Engineering Solutions, USA

5.00

An ISO 26262 compliant test approach for models and production code

- ISO 26262:6 recommends a combination of test methods on model and code level
- Combining these methods into one platform increases efficiency and avoids redundant tasks
- Important aspects include: Tool integration, Automation and Qualification



Markus Gros,
BTC Embedded Systems AG, Germany

6.00

Start of transfer to the evening event of the CTI AUTOMOTIVE WEEK

CTI Networking Night

The CTI Networking Night is an opportunity to mingle with all participants, speakers, exhibitors and sponsors. Make new business contacts in a relaxed atmosphere, discuss the topics of the day with your colleagues and peers while enjoying delicious food and drinks.



Thursday 17 May, 2018

Workshop: SAFETY MEETS SECURITY

8.30



Opening of the check-in and of the CTI AUTOMOTIVE WEEK exhibition

9.00

Short summary of the second conference day by the chairman



Prof. Dr Dr h.c. Manfred Broy

Workshop:



Dr Barbara J. Czerny,
Senior Technical Specialist Safety and Cybersecurity,
ZF TRW, USA



Dr David Ward,
Head of Functional Safety,
MIRA Limited, UK

9.30

Workshop session 1 – Guidelines and standards for automotive cybersecurity

In this session we will introduce current and emerging automotive practices for cybersecurity:

- The automotive security landscape
- Why are specific security standards needed for automotive?
- Introduction and overview of SAE J3061 "Cybersecurity Guidebook for Cyber-Physical Vehicle Systems"
- Developments towards international standard ISO/SAE 21434

11.00



Coffee break and visit to the CTI AUTOMOTIVE WEEK exhibition

11.40

Workshop session 2 – Management of safety and security
Security management has many potential parallels with functional safety management – in this session we will consider:

- Advantages and disadvantages of combining the security lifecycle with functional safety management
- Interface points and communication paths between the two disciplines
- Emerging practices for coordinating safety and security
- Specific organizational requirements for security management
- Relationship with wider IT security management
- How to support security of products in service, in particular ensuring a timely and appropriate response to field concerns

1.10



Lunch break and visit to the CTI AUTOMOTIVE WEEK exhibition

2.30

Workshop session 3 – Threat analysis and risk assessment

Threat analysis and risk assessment (T&R/TARA) has many parallels with existing H&R/HARA processes for functional safety – in this session we will consider:

- Methods for threat identification
- Schemes for risk classification of threats
- Aligning T&R with H&R for potential safety-related outcomes of threats
- Relationship to assurance or integrity levels

4.30

End of the CTI Conference
ISO 26262 USA

"Highly recommend"

Fred Sejalon,
Robert Bosch LLC



THE FOLLOWING EXHIBITORS ARE ALREADY PARTICIPATING:



AbsInt provides tools for validation, verification and certification of safety-critical software. Key products are aiT WCET analyzer for obtaining timing guarantees, StackAnalyzer for proving the absence of stack overflows, RuleChecker for checking coding guidelines, Astrée for proving the absence of runtime errors and data races, TimingProfiler for computing WCET estimates in early stages, and the formally verified optimizing compiler CompCert. NEW: TimeWeaver combines static path analysis with real-time instruction-level tracing to provide WCET estimates.

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BTC Embedded Systems is a tool provider for intelligent and automated test solutions for models and production code. Within a certified and highly integrated test environment, we address all test methods recommended by ISO 26262 for software unit test and software integration test. BTC Embedded Systems was founded in 1999 and today maintains a global presence with more than 100 employees.

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LHP provides Engineering Solutions and Technology Integration for embedded electronic systems, communications and data analytics to the Transportation Industry. LHP's broad knowledge can assist customers in every step of the V-development model through Application Lifecycle Management. LHP works to provide state of art testing technologies, model based design concepts, standardized embedded software architecture and complete work flow solutions for functional safety.

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If you book a ticket for the 16 or 17 May (main days), you're free to enjoy all events and activities on the respective day of the Automotive week.

For further information please visit www.cti-automotiveweek.com

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

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Elke Schneider
Conference Director
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