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13th *exida* Symposium -

Functional Safety and Cybersecurity in the Process and Automation Industry

2026

June 9–10

(Starts with a get-together on June 8 in the evening)

Arabella Alpenhotel
Seeweg 7
83727 Spitzingsee

exida.com GmbH
Prof.-Messerschmitt-Str. 1
85579 Neubiberg

SYMPOSIUM 2026

The rapid digital transformation of the process and automation industry is bringing functional safety, cybersecurity, and artificial intelligence closer together than ever before. As AI-driven solutions enter safety-related and security-critical applications, new challenges arise in verification, validation, robustness, and lifecycle management. At the same time, cybersecurity requirements must be consistently integrated with established functional safety concepts. This symposium addresses these converging disciplines and discusses practical approaches for ensuring trustworthy and resilient industrial systems. Special attention will be given to the upcoming third edition of IEC 61508, including the latest developments and their impact on future safety and AI-enabled system design.

Be part of the discussion, build your network, and share your insights with peers from across industries — all within a stunning natural setting that inspires innovation and reflection.

It will be our great pleasure to welcome you to the *exida* Functional Safety and Cybersecurity Symposium in the Process and Automation Industry 2026.

In case of questions or need for assistance with the registration, please contact us.

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SYMPOSIUM AGENDA

Day	Start Time	Topic	Speaker
June 09 Tuesday	09:00	Opening Address	
	09:10	IEC 61508 3rd Edition: Update / latest developments	Michael Kindermann, Pepperl+Fuchs SE Stephan Aschenbrenner, exida
	09:55	Overview of IEC 61508-2-1 and how to apply it during product development	Tom Meany, Analog Devices
	10:40	Break	
	11:00	Overview on ISO/IEC TS 22440 and Nvidia's approach to tackle it	Alexander Hirsch, NVIDIA
	11:45	The challenge of using AI in the safety domain	Holger Laible, Siemens
	12:30	Lunch	
	13:30	Solving Complex Safety Engineering Problems through AI Orchestration, Evidence-Based Artifacts, and Human-in-the-Loop	Dr. Timo Burggraf, Varta AG
	14:15	Am I Ready for AI? Preparing Professionals in the Industry for What Comes Next	André Roßbach, exida
	15:00	Break	
	15:20	Quo Vadis CRA	Peter Sieber, HIMA Group
	16:05	From IEC 62443 to CRA: How to leverage IEC 62443 certification for CRA Compliance	Mike Medoff, exida
	16:50	Wrap-Up	
June 10 Wednesday	09:00	CSM meets FSM – "When Safety and Security finally start talking to each other"	Dr. Claudia Nowak, Endress+Hauser SE+Co. KG
	09:45	The application of IEC 61508 for robot joints	Martin Tschöpe, MESCO Engineering GmbH
	10:30	Break	
	10:50	STPA in practical use to support safety for collaborative mobile robots	Stefan Braun, Wertefest GmbH
	11:35	VDMA 69242-1: Guideline on requirements for H_2 plants and systems – Part 1: Safety engineering analysis	Christoph Weishaar, Pilz GmbH & Co. KG
	12:20	Lunch	
	13:20	KISS - Keep It Simple - Stupid or Safe	Marco Knödler, Rösberg
	14:05	Are you SIS Performance Assumptions Realistic? Let's find out.	Iwan van Beurden, exida
	14:50	Wrap-Up	

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IEC 61508 3RD EDITION: UPDATE / LATEST DEVELOPMENTS

Michael Kindermann
Pepperl+Fuchs SE

Stephan Aschenbrenner
exida

As a Basic Safety Publication, changes in IEC 61508 will have an impact on application specific standards and the development of new products. This presentation gives an overview of the planned modifications and highlights the most important parts and their possible impact on current and future developments.
The 3rd edition of IEC 61508 clarifies the differences between the required Safety Integrity Level (SIL) and the achieved Systematic Capability (SC). It adds in part 1 requirements on functional safety audits and on levels of independence for functional safety assurance activities. Part 2 will add requirements on diagnostic functions and modify requirements for the treatment of common cause failures. Part 3 incorporates the requirements of IEC TS 61508-3-1, requires a software safety analysis and modifies requirements for software off-line support tools.
Besides the planned changes in IEC 61508, this presentation will also introduce the new subparts IEC 61508-2-1 and IEC TR 61508-6-1.

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OVERVIEW OF IEC 61508-2-1 AND HOW TO APPLY IT DURING PRODUCT DEVELOPMENT

Tom Meany
Analog Devices

IEC 61508 revision 2 published in 2010 had around 27 pages of semiconductor related content spread across the 7 parts but primarily in parts 2 and 7. IEC 61508 revision 3 planned for publication in late 2026 or early 2027 will include a new part, IEC 61508-2-1, dedicated to the functional safety of semiconductors. It runs to over 100 pages. The goal of this new normative part of the standard is to interpret the requirements from parts 1, 2 and 3 for semiconductor devices. Interesting new material includes definitions for class 0, 1 and 2 semiconductors, clarified restrictions on the use of standard (class 0) semiconductors in a safety system, the expansion of the detailed design measures to analog and mixed signal semiconductors, a new approach to analyzing on-chip redundancy, information on the use of STL(software test libraries) and the use of coded processing. This presentation will give an overview of this exciting new part of the standard and is relevant to both semiconductor manufacturers, those using semiconductors in their designs and independent assessors.

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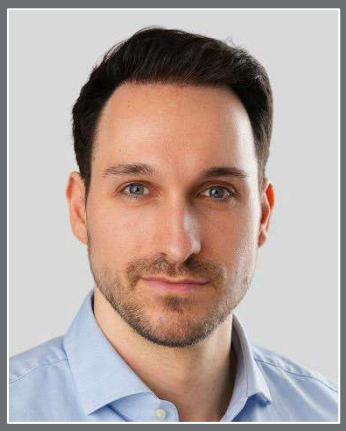
OVERVIEW ON ISO/IEC TS 22440 AND NVIDIA'S APPROACH TO TACKLE IT

Alexander Hirsch
NVIDIA



Classic Safety falls short on providing specific guidance on safety critical AI Systems as these systems exhibit AI specific faults and mitigation measures that go beyond best practices for classic software. Due to this fact several international standards are currently emerging like ISO/IEC CD TS 22440 'Functional Safety and AI Systems' and ISO PAS 8800 - 'Road Vehicles - Safety and AI', which are meant to complement classic safety standards like IEC 61508, ISO 26262 and ISO 21448. This talk presents an overview of the key aspects of the newly created ISO/IEC CD TS 22440 covering AI Systems Classification, AI Fault Analysis, AI Fault Mitigation and AI Testing and gives a glimpse into how Nvidia is tackling this standard in their in-house safety projects. The talk discusses practical implementation challenges and demonstrates how to deal with them given finite resources.

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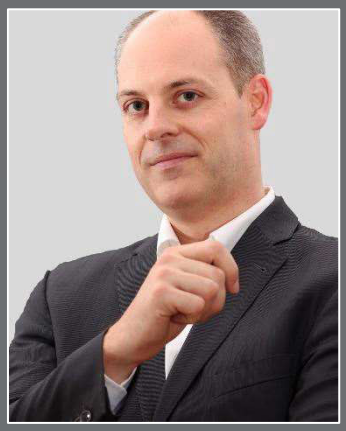
THE CHALLENGE OF USING AI IN THE SAFETY DOMAIN

Holger Laible
Siemens AG



This presentation begins with an overview of the regulatory framework, specifically the new Machinery Directive (2023/1230) and the AI Regulation (2024/1689). It then outlines fundamental dilemmas associated with the use of AI, before transitioning to current developments within the framework of the international working group ISO/IEC JTC 1/SC 42/JWG 4 and the ISO/IEC TS 22440-X standard. These developments relate to methods and procedures that could be helpful for AI systems in safety applications and risk reduction.

The path to achieving this is known to be longer than initially anticipated, raising the question of whether the proposed methods are adequately suited to these tasks or whether crucial methods are still to be discovered. The presentation will highlight the latest developments and discussions on the path to safety systems incorporating AI and the significance of various factors." have been verified and validated.

Furthermore, an overview is provided of how the ISO/IEC TS 22440-X series of standards interacts with the third edition of the IEC 61508-X series of standards.

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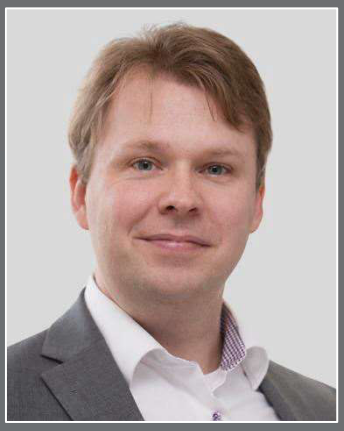
SOLVING COMPLEX SAFETY ENGINEERING PROBLEMS THROUGH AI ORCHESTRATION, EVIDENCE-BASED ARTIFACTS, AND HUMAN-IN-THE-LOOP

Dr. Timo Burggraf
Varta AG



This presentation introduces an innovative approach to solving complex safety engineering challenges—such as the retroactive separation of safety and non-safety software in legacy systems—using AI-assisted systems engineering. A central orchestrator acts as a digital project manager, decomposing complex tasks into verifiable sub-steps and providing specialized AI agents with tailored work products to prevent cognitive overload and hallucinations. By integrating external validation tools via the Model Context Protocol (MCP) and automatically generating evidence-driven artifacts (rationale), the system creates a transparent and traceable development chain. The AI serves in a primary assistance role by visualizing architectural decisions, thereby enabling targeted "Human Gates" for expert review and decision-making. This process ensures that human expertise is empowered by transparent data models while the AI significantly enhances the efficiency of producing standards-compliant safety artifacts.

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AM I READY FOR AI? PREPARING PROFESSIONALS IN THE INDUSTRY FOR WHAT COMES NEXT

André Roßbach
exida

Across many industries, artificial intelligence is transforming how systems are designed, operated, and assured. In the process, automation, and machinery domains, this transition is creating both new opportunities and new uncertainties. While different sectors are moving at different speeds, many professionals across process industry, industrial automation, and machinery are only beginning to face this transition in a structured way.

This talk explores what "AI readiness" means for you—not abstractly, but personally: your knowledge, your skills, and your mindset. We'll look at lessons from other sectors, discuss realistic safety implications, and highlight how to build confidence and competence in an era of intelligent systems. Whether you feel cautious or curious, you'll leave with a clear sense of where to start—and what to learn next.

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QUO VADIS CRA

Peter Sieber
HIMA Group

The CRA is a legal document, setting requirements for critical equipment for being used (brought to Market) in Europe. In contrast to technical standards, outlining (Product) requirements, the CRA is defining vulnerabilities to be mitigated. The crucial challenge for product manufacturers is how to transfer the CRA context into technical requirements to be fulfilled in order to claim CRA compliance. One potential path is to engage a notified body.
An alternative currently is under development, allowing component manufacturers to go for a self-certification of CRA compliance. An overview on the related product standards EN 50770-X currently under development is provided. The correlation of these standards, EN 62443-4.1 /4-2 and the CRA is described. In addition, difference between IEC 62443 and EN 62443 is and its motivation is introduced.

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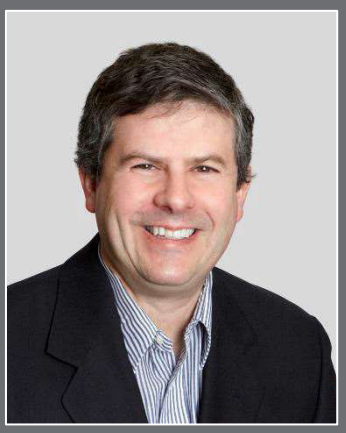
FROM IEC 62443 TO CRA: HOW TO LEVERAGE IEC 62443 CERTIFICATION FOR CRA COMPLIANCE

Mike Medoff
exida



For industrial automation and control systems, IEC 62443 has been the gold standard for developing secure products. However, new regulations for cybersecurity are coming in the form of the European Cybersecurity Resilience Act (CRA). Meeting IEC 62443 requirements does not guarantee compliance with CRA, but it get's you most of the way there. This talk will focus on what you need to do to build on IEC 62443 compliance to achieve CRA compliance. In addition, an approach will be discussed for products that have not yet achieved IEC 62443 compliance.

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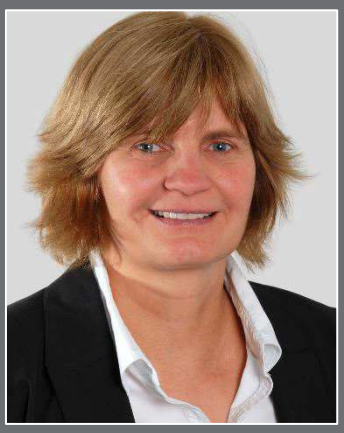
CSM MEETS FSM – "WHEN SAFETY AND SECURITY FINALLY START TALKING TO EACH OTHER"

Dr. Claudia Nowak
Endress+Hauser SE+Co. KG



Two worlds with similar goals, but often on separate paths. This presentation shows why safety and security in device development are not opposing forces but instead complement each other perfectly. Using practical examples, it highlights where methods, processes, and ways of thinking overlap—and how smart integration of Functional Safety Management (FSM) and Cyber Security Management (CSM) not only enhances safety and security but also reduces effort and makes development more streamlined overall.

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THE APPLICATION OF IEC 61508 FOR ROBOT JOINTS

Martin Tschöpe
MESCO Engineering GmbH

Drives for robot joints provide unique challenges during the development.
Requirements and structure of these low voltage integrated servo drives are different to typical rack mounted systems not only due to their unusual environment.
Due to the tight integration into the complete robot arm, an individual analysis of the joint is not sufficient. Based on this example of a safety concept, some lessons learned on the application of IEC 61508 will be shown.
This talk will provide insight into some of these challenges based on the requirements and structures of different projects, also looking into the future due to the upcoming revision of the IEC 61508 ED3. We will also look into the cyber security requirements for such a device.

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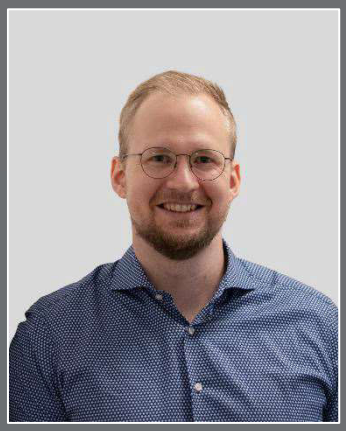
STPA IN PRACTICAL USE TO SUPPORT SAFETY FOR COLLABORATIVE MOBILE ROBOTS

Stefan Braun
Wertefest GmbH



This paper presents the application of System-Theoretic Process Analysis (STPA) as a complementary method within a real-world use case: a collaborative mobile robot (AGV) operating in a logistics warehouse, assisting workers by autonomously transporting heavy loads and interacting closely with humans. The analysis focuses on identifying hazardous scenarios arising from human-robot interaction, control structure deficiencies, and inadequate process models, particularly in cooperative operation modes.

The results demonstrate that STPA enables a more comprehensive understanding of system-level risks, including interaction-driven hazards and “loss of mission” aspects such as reduced usability or operator trust. Furthermore, the study shows how STPA extends traditional safety analyses by uncovering risks that are not explicitly addressed by classical methods.

Overall, the contribution highlights the practical value of integrating STPA into existing safety processes to improve safety assurance for modern, human-centric automated systems.

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VDMA 69242-1: GUIDELINE ON REQUIREMENTS FOR H_2 PLANTS AND SYSTEMS – PART 1: SAFETY ENGINEERING ANALYSIS

Christoph Weishaar
Pilz GmbH & Co. KG

The guideline serves for the risk assessment of hydrogen installations. It is intended to describe a method for assessing risks and determining the necessary risk reduction measures and is based on the principles of functional safety.

The agenda addresses in particular

- Safety-related assessment of equipment used in hydrogen applications
- Risk assessment process
- Calibrated risk graph – Determining the adequacy of the required risk reduction on the basis of quantitative data
- Practical example of an electrolyzer housed in a container

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KISS - KEEP IT SIMPLE - STUPID OR SAFE

Marco Knödler
Rösberg

The German guideline VDI 2180-5 addresses functional safety with the intention of minimizing complexity while not compromising safety and risk reduction achieved by means of safety instrumented functions.
On the basis of straight forward standardized approaches such as limited choice of architecture and proof test strategies, a consistent “alternative guideline” for safety lifecycle activities is described.
The presentation shortly introduces the referred “Basic concept for implementing functional safety in the process industry” in order to foster an interactive discussion aiming to determining the limits of simplicity and beyond these limits the need for more sophisticated approaches and tools.

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ARE YOUR SIS PERFORMANCE ASSUMPTIONS REALISTIC? LET'S FIND OUT.

Iwan van Beurden
exida

Safety Instrumented Function (SIF) design is based on performance requirements. During design, assumptions concerning SIF equipment failure rates, SIF demand rates, proof test frequencies, and mission time are made. These form the basis for the expected performance.

Are those assumptions realistic? Is the SIF really operating as assumed?

IEC 61511 expects users to periodically compare actual performance with assumed performance. How do we do that? What is needed to get statistically viable results from the collected data? How does the data apply? How do we make sure we avoid drawing unrealistic conclusions?

This presentation will look at answers to these questions and how creating a data philosophy and exida's SILstat can help with this.

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SYMPOSIUM LOCATION

Arabella Alpenhotel
Seeweg 7
83727 Spitzingsee, Germany

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I register for the:

13th *exida* Symposium

Functional Safety and Cybersecurity in the Process and Automation Industry

Date: June 8-10, 2026

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83727 Schliersee-Spitzingsee
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Booking conditions: The symposium will be held in English and the presentation slides will be in English. In case the registered participant sends a written cancellation 50 days before the start of the symposium the cancellation will be free of charge. Until 21 days before the start of the symposium a cancellation fee of 50% of the fee will be charged. For later cancellations done by registered participants the complete symposium costs will be charged. A replacement of the registered participant with anothe r person is possible at any time. The acceptance of the conditions is part of the registration. *exida.com* GmbH reserves the right to cancel the symposium at short notice and in writing. In this case only the symposium fees will be refunded.

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