Nuremberg, Germany
10.–12.3.2026

embeddedworld
Exhibition&Conference

Organized by Elektronik

CONFERENCE PROGRAM

Tuesday, 10 March

9:30-13:00	**Class 2.1** **Faster. Smarter. Firmware. Modern Best Practices for Better Embedded Systems** Jacob Beningo, Beningo Embedded Group	**Class 2.2** **Hands-On Zephyr Project Workshop** Jonas Remmert, SMIGHT	**Class 4.1** **Soft Logic, Hard Math: Building a RISC-V FPU With IEEE 754 Support on FPGAs** Mark Honman, Altera	**Class 7.1** **Introduction to tinyML – Deploying Deep Learning Models Onto Low-power Micro-Controllers** Prof. Daniel Müller-Gritschneder, TU Wien
14:00-17:00	**Class 4.2** **Safeguarding Industrial Interfaces: Reliable Protection Against Transient Overvoltage** Dr. Heinz Zenkner, Würth Elektronik eiSos	**Class 5.1** **Rust, a Safe Language for Low-level Programming** Prof. Dr. Stefan Wehr, Hochschule Offenburg	**Class 5.2** **GitLab for Embedded DevOps: Integrated AI for Both DevSecOps Adoption and Product Delivery** Darwin Sanoy, GitLab	**Class 7.2** **Edge AI: Evolution and Hands-on** Danilo Pietro Pau, STMicroelectronics

Wednesday, 11 March

9:30-13:00	**Class 3.1** **CRA Regulations and Certification** Joe Lomako, TÜV SÜD	**Class 5.3** **Programming With Rust for C/C++ Programmers** Prof. Dr. Dieter Nazareth, Landshut University of Applied Sciences	**Class 5.4** **C++ and Modern C++ for Embedded Development** Dr. Carmelo Loiacono, Green Hills Software	**Class 7.3** **From Vision to Deployment: Developing Secure AI-Enabled Linux Devices** Raul Muñoz, Foundries.io
14:00-17:00	**Class 2.3** **Embedded GNU/Linux in Mid-integrity/Mixed-criticality Safety-related Systems** Prof. Nicholas Mc Guire Open Source Automation Development Lab (OSADL) eG	**Class 2.4** **Embedded Linux Security Exercised on the Secure Platform GyroidOS** Dr. Michael Weiß, et al., Fraunhofer AISEC	**Class 3.2** **Cyber Resilience Act (CRA) – Practical Implementation Examples** Stefan Grohmann, Hitex	**Class 3.3** **Embedded Safety Architectures** Alessandro Bastoni STMicroelectronics

Thursday, 12 March

9:30-16:30	**Class 2.5** **Introduction to Embedded Linux Using a Yocto Project SDK** Robert Berger, Reliable Embedded Systems	**Class 4.3** **FPGA-Design Using C/C++ and High-Level Synthesis** Prof. Dr. Frank Kesel, Hochschule Pforzheim	**Class 4.4** **Designing Battery-free IoT** Herman Roebbers, Capgemini Engineering	**Class 5.5** **Embedded Software Testing – With Fundamental Skills and Artificial Intelligence** Dr. Stephan Grünfelder, Stephan Grünfelder

Classes:
In the embedded world Classes, reputed experts speak on special topics for half a day or a full day. This format is aimed primarily at participants who want to familiarize themselves thoroughly and efficiently with a specific topic.

Be sure to register now!

Tuesday, 10 March
Conference Program

embeddedworld Exhibition&Conference

	1. IOT & CONNECTIVITY		2. EMBEDDED OS	3. SAFETY & SECURITY
10:00-10:15	**Words of Welcome** Prof. Dr. Axel Sikora, Offenburg University			
10:15-10:45	**Conference Keynote: Learning from the Octopus: Nature's Blueprint for Intelligence Everywhere** Rich Simoncic, Microchip Technology			
	1.1: Ambient IoT (Ambient IoT Alliance)	**1.4: WiFi and Long-Range**	**2.1: Long-Term Stability with Yocto** (yocto PROJECT)	**3.1: Implementing the Cyber Resilience Act (CRA)**
11:00-11:30	**The Ambient IoT Alliance: Mission, Vision, and the Path to Pervasive Connectivity** Stephen Statler, Ambient IoT Alliance	**Wi-Fi HaLow The Future of Long-Range Connectivity is Here!** Boliang Xu, Vantron Technology	**Linux Kernel Hardening With the Yocto Project** Michael Opdenacker, Root Commit	**Unlocking Cyber Resilience: What the CRA Means for Embedded Systems and Your Business** Andrés Muñoz, Microchip Technology
11:30-12:00	**Ambient IoT in Action** Simon Ford, Blecon Ltd	**Wi-Fi 8: A Deep Dive into IEEE802.11bn for Ultra-High Reliability** Joerg Koepp, Rohde & Schwarz	**Beyond the Release: Managing Long-Term Risk and Compliance in Embedded Linux with Yocto** Anna-Lena Marx, inovex	**Cyber Resilienc Act and Open Source Software Companies. A Practical Guide** Davide Ricci, Linaro
12:00-12:30	**Security and Privacy for Ambient IoT: Challenges and Options** Steve Hanna, Infineon Technologies	**Long-range Low-power Communications: Advancements in LoRa, WM-Bus, mioty, and NB-IoT** Victor Royant, STMicroelectronics	**Linux Kernel Upgrades in Yocto: Strategy, Constraints, and Vendor Support** Enrico Bragante, Witekio	**CRA Risk Assessment and Scoring for Non-IP Embedded Communication Systems** Olaf Pfeiffer, Embedded Systems Academy
12:30-12:45	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
	Lunch Break & Networking			
	1.2: IoT Ecosystem Technologies 1	**1.5: CAN Technologies** (CiA)	**2.2: Yocto Use Cases** (yocto PROJECT)	**3.2: Post Quantum Cryptography Strategies**
13:45-14:15	**Scaling Edge AI for the IoT Era: From Fragmented Devices to an Intelligent, Connected Edge** Yaron Galitzky, Ceva	**CAN XL & FD are Ready for the SDV** Dr. Arthur Mutter Robert Bosch	**TPM-Based Disk Encryption on Raspberry Pi with Yocto** Josef Holzmayr, Northern.tech Inc. (Mender.io)	**Post-Quantum Cryptography in Embedded Systems: Migration Strategies for 2030 Readiness** Dr. Joost Renes, NXP Semiconductors
14:15-14:45	**Securing Device Credential Provisioning: Matter and the Wider IoT Ecosystem** Dr. Xin Qiu, CommScope	**Tunneling and mapping of CAN-based communication via Ethernet and Bluetooth** Dr. Martin Merkel CAN in Automation (CiA)	**Maintaining ROS on Yocto: A Survival Guide for Embedded Open Source Integrators** Rob Woolley, Wind River	**How to Upgrade to Long Term Security with Post Quantum Cryptography** Oliver Winzenried, WIBU-SYSTEMS
14:45-15:15	**Zigbee 4.0: Connecting Devices Safely, with Low Power Efficiency Across Generations** Faisal Bhaiyat, Silicon Labs	**From Classical CAN to CAN FD, What is the Impact on the Physical Layer?** Magnus Hell, Infineon Technologies	**Modern Yocto Linux Best Practices: Evolving Beyond the Basics** Margarita Manterola Rivero, Igalia	**Detecting Cryptographic Algorithms for Quantum-Ready Embedded Systems** Matias D'aloia, Scan Open Source Solutions
15:15-15:30	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
	Coffee Break & Networking			
	1.3: IoT Ecosystem Technologies 2	**1.6: CAN Safety & Security** (CiA)	**2.3: RTOS Orchestration**	**3.3: Long-Term & Post Quantum Security**
16:00-16:30	**Hybrid IoT Connectivity Solutions for Smart Homes and Smart Factories** Andrés Muñoz, Microchip Technology	**Functional Safety in CAN XL** Dr. Thomas Cwienk, DCD-SEMI	**Choosing the Right Software Foundation: Bare-Metal, RTOS, or Embedded Linux** Pierre Lecomte, Witekio	**Secure Bootloader Signing Workflow for Arm-Based Embedded Systems: Enabling Compliance and Integrity** Dr. Xin Qiu, CommScope
16:30-17:00	**Multiprotocol Connectivity in Smart Homes: Enhancing Interoperability and User Experience** Devanjan Sikdar, Silicon Labs	**Enhancing Functional Safety & Security Aspects of CAN XL in Automotive Systems** Dr. Nikos Zervas, Computer Aided Software Technologies Inc. (CAST)	**Real-Time Meets Cloud: Orchestrating RTOS and Linux with Kubernetes** Andrei Kholodnyi, Wind River	**Secure Boot and Firmware Signing – The Best Use-cases to Get Started with Post-Quantum Cryptography** Guillaume Crinon, Keyfactor
17:00-17:30	**Ambient IoT at µW Budgets: A 2026 Update Across 3GPP, IEEE 802.11, and Bluetooth LE** Rakesh Taori, Infineon Technologies	**Overview of Emerging CAN Security Standards in the Context of CRA and IEC 62443** Christian Keydel, Embedded Systems Academy	**Beyond Cyclictest: a Unified Benchmark Framework for POSIX Compliant RTOS on ARM Processor** Lei Zhou, Linaro	**Trusted Resilience Edge: Unified FPGA-TPM for Post-Quantum Cryptography RED & Cyber Resilience Act** Eric Sivertson, Lattice Semiconductor
17:30-17:45	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A

Register online:

3. SAFETY & SECURITY	4. HARDWARE DESIGN	5. SOFTWARE & SYSTEMS ENGINEERING		6. EMBEDDED VISION
Words of Welcome Prof. Dr. Axel Sikora, Offenburg University				
Conference Keynote: Learning from the Octopus: Nature's Blueprint for Intelligence Everywhere Rich Simoncic, Microchip Technology				
3.4: Open Source for Safety & Security 1	**4.1: Chiplets in Automotive Applications**	**5.1: Programming Languages: Rust**	**5.4: Software Architectures**	**6.1: Concepts and Standards**
Open Functional Safety: Safety-Qualified Lifecycle with Sphinx Christopher Zimmer, innotec	**Chiplets: A Game-Changer for Advanced Automotive Computing** Dr. Ericles Sousa, Cadence Design Systems / UCIe AWG	**From C to Rust: Modernizing Firmware Development for Resource-Constrained Embedded Devices** Jürgen Fitschen, SSV Software Systems	**From Embedded Systems to Embedded Intelligence: Architectural Patterns for Autonomous Industrial Operations** Afshin Asli, Synaptrix Technologies	**How to Run Smart-Phone AI Models on a Microcontroller in Real-time With MicroPython** Kwabena Agyeman, OpenMV
Approaches on Assessing Safe Usage of Linux Kate Stewart, Linux Foundation	**Enabling Chiplet-Based Solutions for Autonomous Driving Systems** Gil Golov, Socionext Europe	**Reliable Real-time with Rust Using the Example of Automation Technology** Marc Fischer, Universität Stuttgart	**Building a Safety-Certifiable Open Middleware for POSIX-Based Automotive Platforms** Philipp Ahmann, ETAS (BOSCH)	**Take Back Control of Your Cameras with libcamera** Laurent Pinchart, Ideas on Board
Leveraging Open Source for IEC 62443-Compliant Embedded Systems Dr. Florian Kauer, Linutronix	**High-level Modelling Methodology to Evaluate Automotive Chiplet Archetypes** Dr. Diksha Moolchandani, imec	**Understanding the Rust Borrow Checker** Leonardo Held, Toradex	**A Complete Open-Source, Functionally Safe Software Stack for the Software Defined Vehicle** Dr. Oliver Pajonk, Elektrobit Automotive	**Kamaros – Advancing an Open Camera API Architecture for Embedded Vision** Harri Kaimio, NVIDIA
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
Lunch Break & Networking				
3.5: Open Source for Safety & Security 2	**4.2: Chiplets – Certification, Validation & Test**	**5.2: Programming Languages**	**5.5: Development Processes for SW-Defined Vehicles (SDV)**	**6.2: Hardware Acceleration**
Open Source for Safety-Critical Systems: A Landscape Exploration Philipp Ahmann, ETAS (BOSCH)	**Building Trust and Transparency Across the Chiplet Ecosystem: A Standardized Security Framework** Prof. Dr. Sylvain Guilley, Secure-IC	**Rust Guidelines and Standards – A State of the Feld Report** Alex Celeste, Perforce Software	**SDV Applications for Automotive ECUs: Achieving Cybersecurity and Functional Safety Compliance Through a Holistic Software Product Lifecycle Management** Dr. Ahmed Majeed Khan, SystemWeaver	**CPU and Co-Processor Paradigms for Edge AI Inference: Implications for NPU Design** Omar Lone, Züricher Hochschule für Angewandte Wissenschaften (ZHAW)
Owning the Stack: Open-Source Device Management Without SaaS Lock-In Julien Vermillard, Clunky Machines	**Analyzing Fault Propagation and Coverage in Chiplet-Based SoCs with Improved Colored Petri Nets** Ernesto Cristopher Villegas Castillo, Cadence Design Systems	**Architecture-Aware C/C++ to Rust Migrations** Dr. Daniel Simon, The Qt Company	**A Performance Comparison Study of Embedded Hypervisors for Software-Defined Vehicles Developed in Rust and C/C++: Focusing on ARM-based MCU SoCs** Dr. Sang-Bum Suh, Perseus Co.	**FPGA + GPU: A Hybrid Vision for Embedded AI** Dr. Tony Albrecht, hema electronic
AI for Managing Embedded Linux Vulnerabilities: Too Good to Be True? Dr. Julien Bernet, The Embedded Kit	**Wafer-Level Test Concept for the UCIe Interface** Alexander Persicke, Racyics	**Fuzion – A Language Designed for Safety-Critical Embedded Systems** Dr. Fridtjof Siebert, Tokiwa Software	**From Open Source to Automotive-Grade: Distributing Eclipse S-CORE for Safety-Critical and Real-Time Embedded Systems** Lars Bauhofer, Qorix	**Adaptive Multispectral Imaging with Onboard AI Based on a Reconfigurable FPGA Architecture** Filip Novoselnik, Protostar Labs
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
Coffee Break & Networking				
3.6: Trusted Artificial Intelligence	**4.3: MIPI Interfaces**	**5.3: MISRA SW-Coding Guidelines**	**5.6: Open Source Software**	**6.3: Pipelines**
Integrating Edge AI in Safety-Critical Embedded Systems – Safety Still Ensured? Eranyan Ravanan, Hitex GmbH	**MIPI I3C Serial Bus: Latest Features and Market Applications** Michele Scarlatella, MIPI Alliance	**MISRA – A Year in Review, and a Look Ahead** Andrew Banks, LDRA	**Understanding Open Source License Compliance in an OTA Situation** Josef Holzmayr, Northern.tech Inc. (Mender.io)	**Synchronized Vision Pipelines for Efficient Multi-Camera Perception** Florian Netter, Advanced Micro Devices (AMD)
From Secure DFT to Lifecycle Security: Enabling SLM in Complex AI/HPC SoCs Dr. Shahram Mossayebi, Crypto Quantique	**Turning Up the Volume: How SoundWire I3S Transforms Embedded Audio** Ettore Antonino Giliberti, SmartDV	**MISRA C:2023 & MISRA C++:2023: So Close Yet So Different** Loïc Joly, SonarSource	**Open Source Hardware-in-the-Loop Testing** Detlef Vollmann, vollmann engineering	**Efficient Image Registration Methodology for Depth and RGB Camera** Sagar Dhatrak, eInfochips - an Arrow Company
AI-Powered Intrusion Detection at the Edge: Hardware Anchors for Software Resilience Prof. Dr. Sylvain Guilley, Secure-IC	**Wired for Intelligence: SWI3S The New Sensor Interface for Ambient AI** Manuela Heiss, Infineon Technologies	**High-Quality Code Meets Industry Standards: Linux and MISRA in Perspective** Prof. Dr. Roberto Bagnara, BUGSENG / University of Parma	**Free But Not Cheap: The Journey of Productizing Open Networking Software** Bruno Banelli, Sartura	**Power-Efficient AI at the Edge: Real-World Gains With Model Sparsity** Yaron Raz, Microchip Technology
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A

Wednesday, 11 March
Conference Program

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	1. IOT & CONNECTIVITY		2. EMBEDDED OS	3. SAFETY & SECURITY
	1.7: Ethernet Time-Sensitive Networking (TSN)	**1.10: Cellular – Emerging Technologies**	**2.4: Zephyr – Best Practice**	**3.7: Reliable Architectures**
10:00-10:30	**Maintaining Time Synchronization in High Network Traffic Applications** Schuyler Patton, Texas Instruments	**The Cellular Revolution: Trends, Security, and Emerging Capabilities** Hans Andersson, ACAL BFi Germany	**Zephyr: 10 Years After Launch** Kate Stewart, Linux Foundation	**What is the Future of Using Standard Complex Semiconductors in Safety Applications?** Alessandro Bastoni, STMicroelectronics
10:30-11:00	**Harnessing Linux Timekeeping for Multi-Domain Precision Time Protocol in Time-Sensitive Networking** Weifeng Voon, Intel	**Sky-High RAN: Bridging Terrestrial to Satellite in 5G/6G with FPGAs** Dr. Hossam Fattah, Lattice Semiconductor	**How to Migrate from FreeRTOS to Zephyr RTOS** Jacob Beningo, Beningo Embedded Group	**Most Automotive MPU Strategies Have Hidden Safety Flaws, Is Yours One of Them?** Kevin Brand, Synopsys
11:00-11:30	**Hard-Earned Wisdom from TSN Interop Events: Lessons You Can't Afford to Miss** Ionel Ghita, Keysight Technologies	**Voice Over NB-IoT NTN – Is it Viable?** Richard Carter, Communications Consultants WorldWide	**Practical Zephyr: Boosting Your Embedded Workflow** Benjamin Cabé, The Zephyr Project	**The Challenge of Sharing: Building Safe Mixed-Criticality Systems** Ofra Bechor, Green Hills Software
11:30-11:45	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
	Lunch Break & Networking			
	1.8: Single-Pair Ethernet Single Pair Ethernet System Alliance	**1.11: Cellular – 5G**	**2.5: Zephyr in Safety-Critical Applications**	**3.8: Reliable Code / Safe Rust**
12:45-13:15	**Extending Ethernet to the Industrial Edge: Practical Insights into 10BASE-T1L and PoDL Deployment** Nina Lai, Netio Technologies Co.	**Securing the Next Wave of Connectivity: 5G Cybersecurity Challenges and Solutions for Embedded IoT Systems** Simon Mullenger, Telit Cinterion	**Zephyr's Roadmap to a Pre-Certified Kernel for Safety-Critical Systems** Dr. Tobias Kästner, inovex	**How To Use Formal Methods To Detect Runtime Faults in Mixed C, C++ & Rust Codebases** Steve Barriault, TrustInSoft
13:15-13:45	**Increasing Fault Tolerance of 10BASE-T1S Multidrop Networks with PLCA Coordinator Redundancy** Arndt Schübel, onsemi	**MicroTCA Next Gen: A New Backbone for High-Performance Embedded Systems** Brandon Lewis, Samtec	**Turning the Ignition on Safety: Zephyr RTOS in Automotive Compliance** Saravanan Sekar, Linumiz	**Addressing Functional Safety with Rust** Jill Britton, Perforce
13:45-14:15	**Classic Connection Technology Meets Modern Data Transmission – PCB Terminal Blocks Enable Single Pair Ethernet (SPE)** Andy Schäfer, Phoenix Contact	**Open, Agile, Intelligent: The Future of 5G with AI and ORAN** Dr. Hossam Fattah, Lattice Semiconductor	**Industrializing Zephyr for Safety-Critical Products: A Four-Pillar CI Playbook** Prof. Dr. Roberto Bagnara, BUGSENG / University of Parma	**Rust on the Road: Navigating Challenges and Opportunities in Automotive** Sjoerd van der Zwaan, Solid Sands
14:15-14:30	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
	Coffee Break & Networking			
	1.9: Applying Ethernet Technologies	**1.12: Cellular – eSIM**	**2.6: Zephyr Use Cases**	**3.9: Reliability Testing**
15:00-15:30	**Simplifying Multi-Protocol Industrial Ethernet: One Design, Every Protocol** Thomas Mauer, Texas Instruments Deutschland	**Realising the Transformative Potential of eSIM for the IoT** Stéphane Jacquelin, IDEMIA	**Zephyr Squared: Zephyr and Linux ‚Side by Side' on the Same Device** Hugh Breslin, Microchip Technology	**Safety and Security by Design Through Formal Methods** Mark Hermeling, AdaCore
15:30-16:00	**Debugging a System of Microcontrollers over Ethernet** Dr. Albrecht Mayer, Infineon Technologies	**How SGP.32 eSIM Accelerates Secure Supply Chain Digitalization** Stéphane Jacquelin, IDEMIA	**The RTOS Puzzle: How Far Can We Go in Vulnerability Management? A Zephyr Case Study** Pierre Gal, The Embedded Kit	**Sound Static Application Security Testing** Dr. Daniel Kästner, AbsInt Angewandte Informatik
16:00-16:30	**Leveraging High-speed Ethernet for Scalable Audio in Automotive Zonal Control Systems** Emanuele Castronuovo, STMicroelectronics	**How eSIM is Evolving into a Multi-Application Secure Platform** Gil Bernabeu, GlobalPlatform	**How Zephyr Delivers Low Power** Dr. Ayoub Bourjilat, AC6	**Hyper Coverage with Integration Testing: How Can I Get Half of My Test Cases for Free?** Dr. Alexander Weiss, Accemic Technologies
16:30-16:45	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A

Register online:

4. HARDWARE DESIGN	5. SOFTWARE & SYSTEMS ENGINEERING	6. EMBEDDED VISION	7. EDGE AI	8. USE CASES FOR EMBEDDED
4.4: System on Chip Design Process	**5.7: Testing Embedded Software**	**6.4: Emerging Embedded Vision & Audio Technologies**	**7.1: Lightweight Embedded AI**	**8.1: Medical Applications**
Bridging the Virtual and Physical Divide: A Comparative Methodology for Validating Complex SoCs Prashant Yadav, The Judge Group	**Unit Testing for Embedded Development: From Real Silicon to Emulated Environments** Ilia Motornyi, JetBrains	**Extreme Low-bit Quantization for Real-world Edge AI** Daniel Chang, ENERZAi	**Tiny Foundation Models: Exploring Scalable Pretrained Architectures for Embedded AI** Nitish Kumar, The Judge Group	**Sustaining Medical Devices: The Long-Term Support Imperative** Pierre Lecomte, Witekio
Evaluating Tiled Convolution Designs on SoC-FPGA with Unified HW/SW Performance Metrics Prof. Dr. Guy Bois, Polytechnique Montreal	**Agile Testing for Microcontroller Projects – What are Realistic Objectives?** Daniel Penning, embeff	**Unlock Real-Time Visual Intelligence with Generative AI at the Edge** Wilfried Rakow, NVIDIA	**Lightweight and Secure MCP for Embedded AI: Bringing Agent Protocols to the Edge** Jürgen Belz, PROMETO	**Confronting the Connectivity Challenge in Endoscopic and Robotic Surgeries** Effi Goldstein, Valens Semiconductor
Design of Domain Specific Accelerators with High-Level Synthesis Prof. Russell Klein, Siemens EDA	**Did We Test the Right Things? Prevent Production Defects with Test Gap Analysis** Jonas Bogenberger, CQSE	**From Foundation to Factory: Adapting Foundational Vision Encoders to Custom OCR at the Edge** Alex Avery, D3 Embedded	**Generate Plain C/C++/CUDA Code from TensorFlow and PyTorch Models Using MLIR** Christoph Stockhammer, The MathWorks	**Design Review of Embedded Medical Sensor & Camera Platform with Emphasis on Medical EMC Solutions** Ozan Günaydin, Brainlab/Snke OS
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
Lunch Break & Networking				
4.5: System Hardware – Design Examples	**5.8: Trustable Embedded Software**	**6.5: EV Use Cases**	**7.2: Neuromorphic Computing**	**8.2: Predictive Maintenance Applications**
Deterministic Software Co-Design of RL-Tuned iLQR Controllers on Embedded SoC Systems Marco Torelli, TXT e-tech	**Eclipse Trustable Software Framework: A New Industry Standard for Embedded Systems** John Ellis, Codethink	**Extending HDR Capabilities in Smart Vision Systems via Multi-Exposure Fusion and Adaptive Tone Mapping** Dr. Alex Lopich, Altera	**Neuromorphic Deployments Made Easy: from Datasets to Applications** Dr. Petrut Antoniu Bogdan, Innatera Nanosystems	**Modernizing Railway Brake Diagnostics: A Raspberry Pi DAQ Approach** Prof. Dr. Georgi Nikolov, Darmstadt University of Applied Sciences
Designing Smart Displays with STM32 MCUs: Usecases from Industrial, Automotive, and Medical Applications Sakshi Madaan, Anders Electronics	**AI-Generated Code for Critical Systems: Can We Trust It?** Miroslaw Zielinski, Parasoft	**Enhancing Industrial Visual Inspection with Expert-guided, Feedback-driven AI** Lena Heidemann, Fraunhofer IKS	**Going Beyond the von Neumann Wall: In-Memory and Neuromorphic Computing for Efficient Embedded AI** Sebastian Karl, Fraunhofer IIS, Fraunhofer Institut für Integrierte Schaltungen	**Motor Predictive Maintenance Using Edge AI** Dr. Han Zhang, Texas Instruments
Benefits of Embedded Mixed Signal IC Solutions for Type-C Rapid Battery Charger Applications Dr. Robert Vartanian, Infineon Technologies	**Safely and Securely Combining Trusted Rust Code with Untrusted Software** Andre Schmitz, Green Hills Software	**Isolated Camera Serial Interface Integration with GMSL for High-Reliability Imaging Systems** Prasanthi Yerra, Analog Devices	**New Semiconductor Platform for Neuromorphic Computing and Gen 3.0 In-Memory Edge AI Applications - The Embedded TiF-Memristor-Xbar** Prof. Dr. Heidemarie Krüger, TECHiFAB	**Vibration Monitoring: Integrating Precision Sensing with Edge AI Processing** Dr. Lisa Trollo, STMicroelectronics
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
Coffee Break & Networking				
4.6: Architectural Design	**5.9: Formal Verification**	**6.6: Radar and Artificial Intelligence**	**7.3: Qualification and Validation**	**8.3: Mobility Applications**
Minimizing Power in Clock Domain Crossing: Architectural Innovations for SoC Design Aradhana Kumari, STMicroelectronics	**Formal Verification in Practice: Experiences from Embedded Software Projects** Markus Krahl, Munich University of Applied Sciences HM	**Applying Artificial Intelligence in Radar Sensing Applications** Kottyn Quintanilla, Texas Instruments	**Qualification of AI/ML Systems and Interfacing Devices** Steve DiCamillo, LDRA	**Bringing Native Maps and Navigation to Resource-Constrained MCUs** Sumitabh Ghosh, Qt Group
MIPI A-PHY as an Enabler for Remote Multi-Head "Smart Camera" Architecture Jonathan Regalado-Hawkey, Valens Semiconductor	**Usage of Formal Methods in Embedded Software Development to Automate Test Case Generation Based on Model Coverage Gaps** Vincent Rossignol, Ansys, part of Synopsys	**Radar Development Essentials: Overcoming Complexity with the Right Tools** Katsuhiro Atsumi, NXP Semiconductors Germany	**Implementing ISO/PAS 8800: 2024 to Assure Safety and Enable Deployment of AI in Embedded Systems** Ricardo Camacho. Parasoft	**Enhancing Steering Wheel Safety Through AI-Based Signal Correction** Jasmin Frick, invenio
AI-Driven NoC Topology Optimization for Large-Scale SoC Designs André Bonnardot, Arteris	**Making Software Formal Verification Methods A Viable Technique In An Industrial Setting** Steve Barriault, TrustInSoft	**Imaging Radars for Physical AI** Dr. Gor Hakobyan, Waveye	**From Cloud to Edge: Digital Twin Frameworks for Real-Time Autonomous System Validation** Nitish Kumar, The Judge Group	**Radar and Lidar Fusion for Enhanced Perception in Urban Air Mobility** Marco Roggero, The MathWorks
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A

Thursday, 12 March
Conference Program

embeddedworld Exhibition&Conference

	1. IOT & CONNECTIVITY	2. EMBEDDED OS	3. SAFETY & SECURITY	4. HARDWARE DESIGN
	1.13: Bluetooth – Best Practices	**2.7: Container Use Cases**	**3.10: Ensuring Resilient Embedded Systems**	**4.7: Hardware Design & Production Process**
09:30-10:00	**Data-Driven Bluetooth LE Development: Measuring What Matters for Connection Stability and Power Efficiency** Gillian Minnehan, Nordic Semiconductor	**Managing Container Updates – Challenges and Solutions** André Detsch, Foundries.io	**100 Million Inputs or it Did Not Happen: Fuzzing Full Embedded Software Via Rehosting** Tobias Scharnowski, CISPA Helmholtz Center for Information SecuritySecurity	**The Challenge of Sharing Structured Knowledge with GenAI Tools** Jürgen Mayer-Zintel, Infineon Technologies
10:00-10:30	**Precision Distance Measurement with Bluetooth Channel Sounding - The Technical Case for Multi Antenna Support** Jonathan Kaye, Ezurio	**Commodization of Distro Building: Why Bootable Containers Will Transform Embedded Linux Development** Leonardo Held, Toradex	**From Firmware to Keys: Reverse Engineering Cryptography in Embedded Devices** Dr. Nils Albartus Emproof	**Good Documentation Practices Meet Modern, Development and Design Needs** Dr. Marco Häuser, Marco Häuser Design | MHD
10:30-11:00	**Building Distributed Beacon Networks with Bluetooth** Donatien Garnier, Blecon	**From Regret to Reproducibility: Why Embedded Workflows Belong in Containers** David Källberg, IAR	**Inherent Trust: How Hardware Identity can Secure the Global Supply Chain** Dominic Rizzo, ZeroRISC	**Approach to Optimize Quality, Cost and Delivery for PCBs** Georg Thämer, Festo SE
11:00-11:15	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
	Coffee Break & Networking			
	1.14: Bluetooth – Emerging Technologies	**2.8: Beyond Virtualization**	**3.11: Trustworthy Systems with CHERI & RISC-V**	**4.8: Hardware Design Examples**
11:45-12:15	**Standardizing Ultra-low Latency HID Using Bluetooth Technology** Alfredo Perez, Bluetooth SIG	**Reevaluating the Role of Hypervisors in Safe and Secure Software Partitioning** Marcus Nissemark, Green Hills Software	**Building Safe and Secure Systems with RISC-V** Gerard Vink, TASKING	**PCB-Design of High-Speed Boards** Prof. Rainer Thüringer, TH-Mittelhessen
12:15-12:45	**Enhancing the Responsiveness of Bluetooth Gaming Controllers with HID over ISO** Jan Slupski, Telink Semiconductor	**Containers for Embedded Linux; The Next Chapter** Drew Moseley, Toradex	**CHERI Standardization For All RISC-V Processors From Tiny to Huge** Tariq Kurd, Codasip	**DC to AC Conversion With DC to DC Buck Converters for PDLC Displays** Andrew Kutzler, Texas Instruments
12:45-13:15	**An Overview of the Bluetooth High Data Throughput Project** Damon Barnes, Bluetooth SIG	**When Docker Doesn't: What Embedded Engineers Need to Know** Joe Schneider, Dojo Five	**Industrializing CHERI on RISC-V: VxWorks and Hypervisor Support for Safety-Critical Edge Systems** Dmitriy Yeliseyev, Wind River	**From Earth to Orbit: The Essential Role of Antennas in NTN-IoT** Carmen Redondo, Kyocera AVX
13:15-13:30	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
	Lunch Break & Networking			
	1.15: Bluetooth in Automotive Applications	**2.9: Real-Time Virtualization**	**3.12: DevSecOps for Safe & Secure Systems**	**4.9: Power Supply Design**
14:30-15:00	**Modular Architecture for Enhanced Vehicle Access with Bluetooth Channel Sounding** Martin Cuvelier, NXP Semiconductors	**Embedded Virtualization on Arm v8-R: When You Need It, and When You Don't** Dr. Carmelo Loiacono, Green Hills Software	**Secure By Default: DevSecOps Workflows for CRA-ready Embedded Systems** Dr. Marc Thomas, IAR	**Comparison of Wireless Power Transfer Methods, Simulation and Analysis of a Standard Resonant Converter Design** Dr. Willy Stephen Tounsi Fokui, Teleconnect
15:00-15:30	**Seamless Handover of Bluetooth LE Connections for Enhanced User Experience** Bhargavi Nisarga, Texas Instruments	**An Open Hypervisor for Automotive Zonal Controllers** José Martins, OSYX Technologies	**Agent-Driven DevSecOps: Transforming Embedded Software Development** Rainer Poisel, honeytreeLabs Cooperation	**Comparing Solar Cells and Power Management Circuits Used for Indoor Low Power Wireless Embedded Systems** Prof. Dr. Marcel Meli, Applied Science University of Winterthur
15:30-16:00	**Secure Localization with Bluetooth Channel Sounding for Localization and Smart Keys in Automotive Systems** Rudi Latuske, OpenSynergy	**Beyond Containers and VMs: Are Unikernels the Next Stage in Real-Time Virtualization?** Moritz Walker, Universität Stuttgart	**Next Level DEVSECOPS for a Functional Safety Software Development Process** Jeffrey Fortin, Vector Informatik	**Reliable Power Supplies: Overvoltage and Avalanche Energy in Mosfets** Prof. Markus Rehm, IBR Ingenieurbüro Rehm
16:00-16:15	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A

Register online:

4. HARDWARE DESIGN	5. SOFTWARE & SYSTEMS ENGINEERING		7. EDGE AI	8. USE CASES FOR EMBEDDED
4.10: RISC-V Ecosystem	**5.10: DevOps & CI/CD Pipeline**	**5.13: Digital Twin**	**7.4: Execution**	**8.4: Development Processes**
The Growing Software Ecosystem for RISC-V Richard York, SiFive	**Platform Integrated AI Reduces The Cognitive Load of Onboarding to Embedded DevOps** Darwin Sanoy, GitLab	**Security First: Why Digital Twins Need a Trusted Foundation** Sebastian Rohr, umbrella.associates	**A Review, a Proposal and an Extrapolation on the Theme of Edge AI Execution Frameworks** Prof. Hans Dermot Doran, Züricher Hochschule für Angewandte Wissenschaften (ZHAW)	**Informed Systems Engineering Decision-making Through SysML v2 Modelling with Architecture Simulation** Dr. Bernhard Kaiser, Ansys Germany
Scalable Benchmarking and Profile-Based Alignment for RISC-V Ecosystems Angel Berrio, Quintauris	**Using CI/CD for Grass Roots Software Quality Improvements** Mark Hermeling, AdaCore	**Lightweight Digital Twins and Co-Simulation for Physical AI** Dr. Pablo Oliveira Antonino, Fraunhofer IESE	**Deploying Energy-Efficient Machine Learning at the Edge: A Practical Approach** David Fosca Gamarra, Texas Instruments	**WinLightNet: A Self-Distillation Technique for Time Series Classifications on Constrained Devices** Ghaia Belaakaria, Schneider Electric
Toward a Holistic Compute Platform for Mixed-Criticality RISC-V Platforms Dr. Sandro Pinto, University of Minho	**DevOps for Systems Engineering in Software-defined Vehicles** Dr. Frank Schreiner, AUMOVIO Engineering Solutions	**Virtual Prototypes for Embedded Systems – Transforming Product Development** Christopher Schwager, CarByte Engineering	**Running Transformer Models Efficiently on Edge Devices with Static AI Engines** Sauryadeep Pal, Synaptics	**Real-Time Software Autotuning of PID Controllers via Neural Networks on Embedded SoC Platforms** Marco Torelli, TXT e-tech
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
Coffee Break & Networking				
4.11: RISC-V Applications	**5.11: Workflows and Tools**	**5.14: SW Debugging and Tracing**	**7.5: From Lab to Field**	**8.5: Security Applications 1**
Extending RISC-V into VLIW/SIMD Architectures for Application-Specific Workloads Gert Goossens, Synopsys	**Rapid Prototyping of Autonomous Driving Algorithms on Embedded Platforms Using Docker and MATLAB** Benedikt Schlereth-Groh, Technische Hochschule Nürnberg Georg Simon Ohm	**Unified Tracing for Zynq UltraScale+: CPU and Programmable Logic in One View** Dr. Hendrik Schnack, pickplace Consulting	**From Lab to Field: Operating AI Models Across Thousands of Edge Devices** Carl Moberg, Avassa	**Securing Defence Software: From Threat Modelling to Long-Term Maintenance** Dr. Julian Bernet, Witekio
Utilizing the RISC-V Architecture to Accelerate Real-Time Applications Sean Murphy, MIPS Tech	**Modern IDE Workflows for Kernel Linux Module Debugging** Matheus Castello, Toradex	**Debugging the Invisible: Observability Techniques for Embedded RTOS Systems** Dr. Carmelo Loiacono, Green Hills Software	**Faster to Efficent and Reliable Edge AI Solutions with Automated MLOps** Dr. Axel Plinge, Fraunhofer IIS	**No Safety Without Security: Tool-Supported Co-Engineering for Automotive Systems** Roman Trentinaglia, Fraunhofer IEM
Real-Time Signal Processing and AI on a RISC-V CGRA Prof. Dr. Christian Siemers, Ubitium	**Platform, Not Product:Modernizing RCP with Theia/VSCode and a Broader Tech Ecosystem** Enrico Bragante, Infineon Technologies Italia	**Accelerating SDV Development with Cloud Debugging and Profiling on Automotive Platforms** Vittorio Serra, Lauterbach	**Agentic Generative AI on Embedded Devices** Michaël Uyttersprot, Avnet Silica	**Importance of IEC 62443 for Upcoming Regulations** Michelle Michael, TÜVIT
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A
Lunch Break & Networking				
4.12: Open-Source SoC Hardware	**5.12: Technical Debt and Legacy**	**5.15: Generating Flexible & Efficient Code**	**7.6: Use Cases** EDGEAI FOUNDATION	**8.6: Security Applications 2**
Taping-out Open-Source Hardware and the Reproducibility Gap Dr. Augusto Hoppe, Fraunhofer IIS	**The Breeding and Rearing of Technical Debt** Ingo Nickles, Vector Informatik	**Honey, I Blew Up the Code. Binary Size Reduction in Practice** Dr. Andreas Wilhelm, CQSE	**Using Industry-standard AI Techniques to Solve Real-world Display Problems at the Edge** Derek Solven, Synaptics	**Automated Identity Management for Embedded Components** Florian Handke, Campus Schwarzwald
Open-Source Silicon: Driving Innovation, Trust, and Security in Embedded Systems Dominic Rizzo, ZeroRISC	**Avoiding New ECU Development: Unlocking Hidden Potential in Legacy Systems** Dominik Jürgens, tensor embedded	**Web Engines for Embedded Devices: An Introduction to WPE WebKit** Mario Sanchez-Prada, Igalia	**Optimizing Neural Network Models for Low-Power Edge Hardware in Speech Processing Applications** Osman Erman Okman, Analog Devices (ADI)	**Beyond Hardware: White-box Cryptography and Obfuscation for Modern Security** Rafie Shamsaasef, CommScope
Custom Open-Source FPGAs are Here Prof. Dirk Koch, Universität Heidelberg	**Keep it `clean': Practical Strategies for Reducing Build-System and Host Tech Debt** Joe Schneider, Dojo Five	**WebAssembly in Safety-Critical Embedded Systems: A Runtime for the Heterogeneous Future** Dan Milea, Wind River	**Lessons Learned Designing an Edge AI ASIC for Audio Applications** Matteo Vit, Starware Design	**From Cloud to Car: Edge AI in Next-Generation Automotive Cybersecurity** Gregor Knappik, VicOne
Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A	Discussion/Q&A