

embedded world 2023

Supplier Lectures

Tuesday, March 14th 2023

10:00 – 10:30	NXP MCX MCUs: Push the Edge of What's Possible!	13:00 – 13:30	STMicroelectronics Go Wireless with STM32
10:45 – 11:15	Qualcomm Intelligent IoT solutions accelerating digital transformation	13:45 – 14:15	Intel Intel Agilex – All Levels of Performance
11:30 – 12:00	Sierra Wireless (Semtech) Long Range 5G IoT – From Ultra-Low Power to Ultra-Reliable Radio	14:30 – 15:00	Arrow Realising AI at the Edge
12:15 – 12:45	uBlox Wi-Fi 6 and Wi-Fi 6E, major steps in wireless connectivity in the factory and hospital	15:15 – 15:45	Analog Devices Using Ultra Low Noise LDOs

Supplier Lectures

Wednesday, March 15th 2023

10:00 – 10:30	STMicroelectronics The answer to smart sensors	13:00 – 13:30	Analog Devices 10BASE-T1L – an easier digital transformation than you might think
10:45 – 11:15	onsemi Solutions for Autonomous Mobile Robots	13:45 – 14:15	NVIDIA Encounter the Next Wave of Edge AI and Robotics with NVIDIA Jetson
11:30 – 12:00	Amphenol Permanent misalignment technology solving system tolerances risks	14:30 – 15:00	STMicroelectronics Meeting the smart industry challenges with the new STM32H5 MCU Series
12:15 – 12:45	Arrow Single-Pair-Ethernet Ecosystem and design considerations	15:15 – 15:45	Qualcomm Seamless deployment of applications at the edge

Thursday, March 16th 2023

10:00 – 10:30	Intel Intel Agilex – All Levels of Performance	13:00 – 13:30	Arrow Arrow Graduate Program: The most important step in your career
10:45 – 11:15	Qualcomm Industrial Intelligent Awareness Solutions	13:45 – 14:15	Analog Devices Next Generation Digital Isolation: Protecting the Intelligent Edge at GigaSpeed
11:30 – 12:00	Silicon Labs Features and Benefits of Bluetooth Mesh 1.1 for Wireless Mesh Networking	14:30 – 15:00	Arrow Arrow Graduate Program: The most important step in your career
12:15 – 12:45	Lattice Semiconductor Complete suite of Security Solutions at Device, System and Lifetime (supply chain) Level		

Tuesday, March 14th 2023, 10:00 – 10:30



MCX MCUs: Push the Edge of What's Possible!

Developers are increasingly looking to push the boundaries of what's possible at the edge as they create new devices that can better anticipate and automate in smart homes, smart factories and smart cities. This requires advanced MCUs that are more efficient, simplify edge intelligence and do all of that securely. As we look to the future of MCUs, the MCX N series delivers the balance between power and performance for tomorrow's IoT and industrial applications.

NXP's new MCX N microcontrollers include industry's first instantiation of a specialized, NXP-designed NPU to enable high performance, low power secure intelligence at the edge.



Romain Ricci
Regional Marketing Manager MCUs,
NXP

Tuesday, March 14th 2023, 10:45 – 11:15



Intelligent IoT solutions accelerating digital transformation

As everything becomes more interconnected, the ability to process and handle massive amounts of data on-device in a power-efficient way is driving the growth of the Connected Intelligent Edge. With data-driven insights, more intelligent decisions can be taken at the edge, opening up a huge range of possibilities for businesses.

In this session, we'll explain how the Qualcomm QCS6490 is helping our IoT ecosystem scale and deliver new intelligent solutions that address a range of digital transformation use cases in retail, logistics, supply chain, industrial automation and more.



Megha Daga
Director of Product Management for AI Enablement,
Qualcomm

Tuesday, March 14th 2023, 11:30 – 12:00



Long Range 5G IoT – From Ultra-Low Power to Ultra-Reliable Radio

The IoT is the promise In the last two decades, the Internet of Things has emerged to become one of the most powerful technological enablers of our connected digital society. Its supporting communication technologies, however, have also undergone radical evolutions, especially in the area of radio communications.

In this lecture, we will give an overview of these evolutions and of the current state of the art for mid- to long-range IoT RF technologies, with a particular focus on cellular standards on one hand, and on the LoRaWAN standard on the other hand, to see how these technologies can cover most long-range communication needs, from ultra low-power applications to high-speed, ultra-reliable, low-latency applications.



Nicolas Damour

Senior Director for Strategic Partnerships,
Sierra Wireless (Semtech)

Tuesday, March 14th 2023, 12:15 – 12:45



Wi-Fi 6 and Wi-Fi 6E, major steps in wireless connectivity in the factory and hospital

Wi-Fi 6 is not only about higher speed. It's about improved and efficient use of the spectrum. It's about serving 4 times the number of clients. It's about having battery operated devices run for years. It's about 25 % higher data rate. It's about improved co-existence. It's about lower latency. It's about improved reliability.

The technical features behind these benefits are OFDMA, TWT, MU-MIMO, BSS Coloring, 1024-QAM, DCM, Long OFDM symbols etc.

All which are key for applications in e.g., industrial manufacturing sites, healthcare facilities like hospitals.

This presentation will describe the key features and of Wi-Fi 6 with focus in the resulting benefits in these applications. In addition, regulatory authorities (like FCC, ETSI) has opened whole or parts of the 6 GHz band for Wi-Fi traffic. As Wi-Fi 6 is specified to operate in this band the benefits of these features in this frequency band will also be covered in this presentation.



Pelle Svensson

Senior Product Marketing Manager,
u-blox

Tuesday, March 14th 2023, 13:00 – 13:30



Go Wireless with STM32

Wireless is a “must have feature” for every connected device. Following this presentation, you will discover the STM32 Wireless portfolio addressing SubGhz and 2.4 Ghz and STM32Cube to seamlessly support each development phase from idea to certification.



Paolo Sanniffio

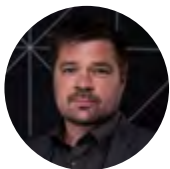
Technical Marketing Manager, Wireless Microcontrollers,
STMicroelectronics

Tuesday, March 14th 2023, 13:45 – 14:15



Intel Agilex – All Levels of Performance

With the announcement of the expansion of the Intel Agilex FPGA family, Intel started a new era for FPGAs. First an acronym for High-End FPGAs, it transformed to a new product group. This is covering devices from low density, up to high performance and tailored for special use cases. Serving applications from the edge to the cloud and completing the Intel ecosystem. We will look at how the plans of Intel, will enable supply resilience, evolve FPGAs and opens new markets for the use of Intel FPGAs.



Gerhard Nedok

Senior Technology Field Application Engineer,
Arrow Electronics

Tuesday, March 14th 2023, 14:30 – 15:00



Realising AI at the Edge

AI is becoming more relevant at the edge due to both advances in processing capacity and optimisations in AI frameworks.

This talk introduces the what and why of AI, the optimisations required and the devices available to bring AI to the edge.



George Dickey
Technology Segment Leader EMEA,
Arrow Electronics

Tuesday, March 14th 2023, 15:15 – 15:45



Using Ultra Low Noise LDOs

Linear regulators are used to power noise sensitive applications. The lowest noise Linear regulators are called 'Ultra Low Noise'. This lecture looks at how these products are implemented in designs and also how they can be tested. PSRR and low noise measurements are not simple when the noise level is extremely low.



Frederik Dostal
Power Management Expert,
Analog Devices

Wednesday, March 15th 2023, 10:00 – 10:30



The answer to smart sensors

This lecture will show how the latest generation of MEMS smart sensors from STMicroelectronics can help developers with:

- meeting high demands on computing power and latency
- components miniaturization
- keeping the lowest possible power consumption

We will discuss various examples that help with development and how even the simplest sensor node can be easily enhanced with condition monitoring functions based on AI learning models.

Come and join us!



Martin Polacek
Application Engineer,
STMicroelectronics

Wednesday, March 15th 2023, 10:45 – 11:15



Solutions for Autonomous Mobile Robots

Thanks to the enormous progress made in the field of artificial vision and the availability of increasingly advanced sensors and control algorithms, autonomous mobile robots (AMRs) are able to independently carry out very complex tasks, such as moving, grasping and positioning objects, yet it is easier to use and instruct them than ever before.

Today, the greater autonomy and movement capacity of robots find many applications in several industrial automation sectors, such as automotive and manufacturing, logistics, medical care and transportation. As these robots become more sophisticated and capable of interacting and working together with humans, there is an increase in the number of involved technologies. onsemi has solutions for these robots for motion, machine vision, power, charging, sensing and connectivity. onsemi created an AMR using development and evaluation platforms. We will go over this AMR solution and focus-in on 10BASE-T1S and Positioning Sensors in AMRs.



Theo Kersjes
Product Design Manage,
onsemi

Permanent misalignment technology solving system tolerances risks

Industry 4.0 drives more intelligence at the factory floor, and with 'everything connected to everything' there is a great focus on increasing connectivity and the need for more compact, ruggedized solutions.

Compact systems require higher density components with smaller footprints, which poses an increasing challenge for system architects and component engineers: "how to cope with system tolerances?"

We will explain the system tolerance challenges from an interconnect point of view by outlining the different connector technologies used to solve these issues, including the associated risks for the reliability of the application. Furthermore, we will explain how new connector contact technology supports permanent misalignment to manage system tolerances, limits the associated risk and helps to maximize application performance.



Gijs Werner

Director Marketing and Distribution,
Amphenol Communication Solutions, FCI Basics business unit

Single-Pair-Ethernet Ecosystem and design considerations

Single Pair Ethernet (SPE) enables continuous IP communication from the edge to the cloud of both Information Technology (IT) and Operations Technology (OT) networks. It can also supply power to complex Industrial Internet of Things (IIoT) solutions. SPE represents the next milestone in network technology and will revolutionize the market.

This lecture will give a comprehensive overview of Single Pair Ethernet (SPE) technologies and design considerations that are bringing Ethernet to the edge of industrial networks.

Who should attend?

Intended for engineers, key decision makers and anyone who wants to learn how to enable SPE products.



Janus Piwek

Staff Technology Field Application Engineer,
Arrow Electronics

Wednesday, March 15th 2023, 13:00 – 13:30



10 BASE-T1L – an easier digital transformation than you might think

Industry 4.0, Smart Manufacturing and Digital Factory are names used to describe the evolution of manufacturing that drives higher levels of productivity, increased flexibility and agility while consuming less energy and materials for more sustainable manufacturing.

One of the key strategies is to collect rich datasets from the edge, close to the sensing and action, communicate these data sets seamlessly across the industrial operation and information networks, and then apply advanced analytics to optimise the manufacturing flows. This rich data strategy requires a change in connected field devices from the discrete on/off or analog 4-to-20 mA loops to technologies such as Ethernet 10BASE-T1L / APL.

In this session we will discuss and compare these industrial communication technologies, where and how are they used, and analyse them from different points of view - overall system architecture, speed, complexity, safety and security.



Michal Brychta

System Applications Engineer, Industrial Connectivity and Control,
Analog Devices

Wednesday, March 15th 2023, 13:45 – 14:15



Encounter the Next Wave of Edge AI and Robotics with NVIDIA Jetson

Edge AI is transforming nearly all industries, from healthcare to smart spaces, by enabling intelligent processing and data analysis at the edge. Integrating AI capabilities into edge devices allows data to be analyzed in real-time, reducing latency and increasing efficiency. This technology is powering new applications, such as anomaly detection, autonomous vehicles, and process optimization. With the ability to deploy and manage AI models at scale, organizations can unlock the full potential of their data and create new business opportunities. NVIDIA's AI at the Edge solution is paving the way for a new era of intelligent, connected devices that will drive innovation and change the way we live and work.



Robin Roitsch

Embedded Business Development Manager | EMEA,
NVIDIA

Wednesday, March 15th 2023, 14:30 – 15:00



Meeting the smart industry challenges with the new STM32H5 MCU Series

Engineers need microcontrollers to estimate their computing needs, power draw, memory requirements and to meet the new security challenges.

Join us to discover the new STM32H5 series, the most powerful Arm® Cortex®-M33 MCU yet, bringing more performance and a security solution covering your requirements in an affordable way.



Kaouther Belhadj

Product Manager, STM32 High-performance Microcontrollers,
STMicroelectronics

Wednesday, March 15th 2023, 15:15 – 15:45



Seamless deployment of applications at the edge

There has been an explosion of opportunities for intelligent edge compute solutions across the internet of things (IoT). Over time, we've seen more fragmentation in the IoT space both in hardware and software, which is creating challenges for developers. In addition, customers and developers are facing challenges in efficient data management and optimized application deployment on embedded edge AI platforms.

In this session, we'll explain how Qualcomm Technologies' end to end unified software stack empowers developers to tackle these challenges and deploy on-device edge AI applications in a scalable, flexible, and optimized way.



Megha Daga

Director of Product Management for AI Enablement,
Qualcomm

Thursday, March 16th 2023, 10:00 – 10:30



Intel Agilex – All Levels of Performance

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Gerhard Nedok
Senior Technology Field Application Engineer,
Arrow Electronics

Thursday, March 16th 2023, 10:45 – 11:15



Industrial Intelligent Awareness Solutions

Businesses across industries, including supply chains, stand to benefit from digital transformation with secure scalable solutions that locate, monitor, and manage almost anything, anywhere, anytime. In this session, we'll explain how Qualcomm Aware evolves industry value chains through delivering superior technology that's optimized to work with an extensive hardware and software ecosystem, delivered securely and easily through the cloud via APIs and cloud connectors in a power-optimized way.



Dev Singh
VP Business Development,
Qualcomm

Thursday, March 16th 2023, 11:30 – 12:00



Features and Benefits of Bluetooth Mesh 1.1 for Wireless Mesh Networking

Commercial and industrial applications like lighting require large-scale, low-power device networks where thousands of devices need to communicate with one another efficiently, reliably and securely. Commissioning and maintenance of such networks must also be easy and efficient in order to reduce the total cost of ownership. Bluetooth mesh 1.1 is the latest edition on the Bluetooth SIG's mesh networking standard and it introduces a plethora of new features addressing the needs and challenges of large commercial networks including for example: standardized OTA updates, remote provisioning, certificate-based provisioning and directed forwarding. Silicon Labs is one of the key contributors to the development and implementation of Bluetooth mesh standard.



Mikko Savolainen
Marketing Director,
Silicon Labs

Thursday, March 16th 2023, 12:15 – 12:45



Complete suite of Security Solutions at Device, System and Lifetime (supply chain) Level

Industry 4.0 connects the IT with the OT world. With this merger comes new risks and vulnerabilities. Endpoints that were traditionally closed to easy internet access are now coming online and increasing the attack surface. This seminar will explore the challenges, opportunities, and latest programmable logic solutions for Industrial applications. You will walk away with a better understanding of:

- Today's Industry 4.0 cybersecurity trends and risks
- The latest security industry standards, with emphasis on OPC/UA
- Cyber secure and resilient system requirements
- Ways to prepare for and respond to threats through secure system design
- Cost-saving, protection-enhancing Supply Chain paradigms
- Available off-the-shelf solutions to enable rapid deployment of cyber resilient Industrial platforms and control



Eric Sivertson
VP Security Business Development,
Lattice Semiconductor

Thursday, March 16th 2023, 13:00 – 13:30



Arrow Graduate Program: The most important step in your career

Every professional career begins with the first step.

The Arrow Graduate Program is exactly made for that: Your entry into professional practice. Rolf Kowalsky, Engineering Manager introduces the Arrow Graduate Program and shows you what to expect on the one-year journey. From soft skills training, customer and manufacturer contacts and the very practical graduate group projects to working on real development projects together with experts from the technical and sales departments.

And all this with a permanent contract in your pocket from day one.



Rolf Kowalsky
Engineering Manager

Thursday, March 16th 2023, 13:45 – 14:15



Next Generation Digital Isolation: Protecting the Intelligent Edge at GigaSpeed

With the forward march of Electrification of Transportation and Digitalisation of manufacturing, electronic systems that deploy ever denser, ultra-low voltage precision semiconductors are increasingly required to operate in extremely high voltage and hazardous environments. Electric Cars, Digital Factories and Medical Diagnostic systems are just some of the challenging environments where modern advanced and embedded semiconductor systems must operate reliably.

To that end, Digital Isolation – either as highly integrated system solutions or standalone Digital Isolators – is now an essential element in all such designs. We will present details of our latest IC based Digital Isolators, showcasing our 3rd iCoupler® Platform.



Shane Flanagan
Applications Engineer, iCoupler® Technology,
Analog Devices

Arrow Graduate Program: The most important step in your career

Every professional career begins with the first step.

The Arrow Graduate Program is exactly made for that: Your entry into professional practice. Rolf Kowalsky, Engineering Manager introduces the Arrow Graduate Program and shows you what to expect on the one-year journey. From soft skills training, customer and manufacturer contacts and the very practical graduate group projects to working on real development projects together with experts from the technical and sales departments.

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Rolf Kowalsky
Engineering Manager