ST Developers Conference Americas

Free registration at www.st.com/devcon

OCTOBER 26-27, 2021

Tuesday, October 26

Main Stage

Time (PST)	Topic	Abstract	Presenter
9:00	**Welcome/Opening address**		Paul Cihak
9:20	**Thought Leader address**	From The Invention of the Microprocessor to the New Science of Consciousness	Federico Faggin
9:50	**ST Sensor presentation**	General market update	Andrea Onetti
10:05	**The evolution of sensors for IoT, smart industry and next-generation mobility solutions**	MEMS sensor innovation and technology has taken us to the point where we can detect all manner of ambient energy with the tiniest of devices, and employ the data in useful, if not critical, applications that help us perceive more, perform better, and stay safer. While there is enormous scope for increasingly sophisticated use of combined sensor data, there are serious latency, bandwidth and security challenges emerging across all personal electronics, industrial and automotive markets in relation to the transfer of such large quantities of data to and from centralized systems and cloud servers. Real-time, low power, local and edge data processing capabilities represent among the most viable and sustainable routes forward, and ST is shaping its technology and MEMS sensor product portfolio in pursuit of stringent power management targets in combination with extremely exciting developments in learning hardware and artificial intelligence engines.	Edoardo Galizzio
10:30	**Laser Beam Scanning for Augmented Reality wearable applications**	Laser beam scanning solution for AR wearable applications enabled by integration of ST's MEMS ScanAR technologies with ultra-small laser diode module coupled into diffractive waveguides.	Bharath Rajagoplan
11:00	**Fireside chats**	Join Paul Cihak as he sits down for intimate 1-1 chats with Federico Faggin, Microsoft and Avnet.	
11:45	**NanoEdge AI Studio – A powerful solution to develop EdgeAI solutions quickly and efficiently**	Learn how to develop a full end to end "smart device solution" based on ToF sensor, without any skills in AI using NanoEdgeAI. Sensor selection, signal acquisition and processing and machine learning algorithms, and integration on an STM32 Nucleo board without any data science or signal processing background.	Louis Gobin & Markus Mayr
12:15	**Next Generation ULP Platform: STM32U5**	The STM32U5 is the latest flagship STM32 which combines the ARM Cortex M33 with Trusztone in an extremely small power footprint with latest device protections that can be utilized in various applications in the consumer and industrial market.	Tim Nakonsut
12:45	**ST Microcontroller presentation**	General market update	Ricardo de Sa Earp
1:00	**GaN Driver and integrated GaN Power stages for high frequency power supply**	An overview a single chip gate driver STDRIVEG600 designed for GaN devices and an integrated SiP solution (MASTERGANx family), including GaN gate driver and Gan HEMPT half bridge stage for high frequency power supply application, such as SMPS, high voltage PFC, DC-DC converters, active clamp converters, UPS systems and solar power applications, is presented along with dedicated demo boards for easy evaluation is presented on this section.	Gianni Vitali
1:30	**Fireside chats**	Join Paul Cihak as he sits down for intimate 1-1 chats with executives from Synapse, Qeexo and Siana Systems	
2:15	**Evolution of IoT**		Luca DiFalco
2:40	**Closing remarks for Day 1**		Paul Cihak

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Technical Stage

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10:00	**Going beyond Qi and Ki: Understanding NFC wireless charging**	It is time to understand NFC inductive wireless charging solution. Ideally suited for small size and battery powered devices such as wearables, accessories, IoT devices and small consumer electronics. No connectors, no wires offers robust waterproof and dustproof solutions.	Dan Merino
10:30	**Enhancing Product Connectivity and Security using a Cloud-centric NFC Tag**	STMicroelectronics has built the most comprehensive approach to support customers in their AI transformation. To complement our existing AI offering portfolio, STMicroelectronics recently acquired Cartesiam, market leader in Edge AI. Cartesiam's technology has already attracted many industries across the world, ranging from military submarine manufacturers to predictive maintenance sensor specialists. The technology is mature, tested at large scale in an industrial way, fully integrated into STMicroelectronics roadmap and ready for customer developments.	Jim Barlow
11:00	**ST60: Implement cable-free solution with short-range 60GHz RF connectivity**	ST60 is STMicroelectronics' latest breakthrough in short-range RF connectivity. This small form factor wireless link transceiver with a high data rate is optimized for short-range, point-to-point contactless communications. It leverages unlicensed 60 GHz RF millimeter-wave band, opening a world of possibilities for your product design. Replace cables for board-to-board communication, enable connector-free solutions, and solve mechanical challenges. In this session you will learn - a) Key features of the ST60 , b) Real world applications and c) How ST Partner Maja Systems is using ST60 to solve challenges in Automotive/Industrial use cases.	Shray Kumar & Maja Systems
11:30	**Concurrant Bluetooth® LE Connections with BlueNRG-LP**	BlueNRG-LP long-range multi-link: unleash your imagination with a low latency, low power and small memory footprint multinode network	Salvo Bonina
12:00	**Long Range Bluetooth® Enabled by BlueNRG-LP**	Learn how to go further with Bluetooth Low Energy Coded Phy.	Salvo Bonina
12:30	**All-in-One multi-points ranging**	VL53L5CX offers up to 8x8 points 3D image with autonomous mode.	John Kvam
1:00	**ST's IMU: Continuous innovation with MLC and 32g**	New 6-axis IMU, ideal for wearable devices: How to explore the latest trends in Sensors by leveraging augmented IMUs with 32g Full Scale and embedded Machine Learning Core.	Thiago Reis
1:30	**Enabling 3D Geo Location with ST Pressure Sensors**	ST and ST Partner Nextnav SW solution provide urban and indoor vertical positioning in major US cities during emergency calls to first responders (E911).	Simon Callewaert & NextNav
2:00	**Building a Condition Monitoring Application with SensorTile Wireless Industrial Node**	Discover how using ST's industrial development kit makes it easy to create datalogging and predictive maintenance applications through machine learning techniques.	Ernesto Manuel Cantone

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Industrial & IoT Stage

Time (PST)	Topic	Abstract	Presenter
9:00	**Welcome/Opening address**		Paul Cihak
9:05	**Connect to AWS IoT services using STM32U5**	STM32U5, ST's latest Ultra-Low-Power, highly secure product line is now integrated & ready for developers connect to various AWS IoT services. The discussion covers how to secure device data and securely update firmware on STM32U5 platform.	Ramkumar Yadavalli & AWS
9:30	**Industrial Fan monitoring: an example of Sensor to Cloud application**	How to use an industrial development kit to build an end-to-end application for remote monitoring using the example of a cooling system in a data center rack server.	Steven Bakker
10:00	**Connect to Azure IoT using STM32U5**	Microsoft and STMicroelectronics have built comprehensive ecosystem to help customers quickly bring up IoT solutions. The discussion covers seamless out-of-the-box experience demonstration on ST's latest Ultra-Low-Power, highly secure STM32U5 platform.	Ramkumar Yadavalli & Microsoft Azure
10:30	**Rad-Hard: from LEO to Deep Space**	An update on ST's latest Rad-hard analog, digital and discrete semiconductor components and technologies, with focus on the ST LEO series of Rad-Hard in plastic package and the new Point of Load converter RHRPMPOL01.	Piercarlo Scimonelli
11:00	**Jumpstart your asset tracking applications using sensors and solutions from ST**	ST's sensors technology enable cost effective, high performance asset tracking applications. Evaluation boards can address various asset tracking applications using different connectivity options with data collection. Proof of concept with a sandbox turn key asset tracking application, logging and visualizing sensor data through a cloud dashboard	Kirby Atwater
11:30	**MEMS inclinometers in static and dynamic applications**	Explore the latest innovative inclinometers with a 10-yr longevity commitment: a high precision static inclinometer enabling applications in industrial and structural monitoring systems and a dynamic inclinometer with embedded MLC and extended temperature range.	Tom Bocchino
12:00	**ST's Accelerometers: How to pick the perfect fit**	MEMS Accelerometers is where inertial sensors started 20 years ago. A look at latest innovations in and applications for these very versatile devices.	Alexandra Gogonea
12:30	**Teseo GNSS Module and Sensors based Dead Reckoning solutions enabling IoT and Micromobility applications**	The VIC3D/DA modules leverage a Teseo3 GNSS chipset and the ASM330LHH 6-axis IMU to provide best in class IoT and micromoibity positioning for all environments.	Max Nicotra & Raed Shatara
1:00	**STM32Cube expansion tools**	Learn about the latest improvements of the STM32CubeMX and how to create and share new STM32Cube expansion packages within ecosystem.	Tim Nakonsut
1:30	**STM32 Resources for Developers**	An overview of various STM32 on demand resources to help enable embedded development.	Mena Roumbakis

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Power Stage

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9:00	**Welcome/Opening address**		Paul Cihak
9:05	**DC to DC Complete Power Delivery for Data Center**	Technical session on ST complete power delivery solution for Data Centers focusing on first stage converting 48V to 12V, and second stage, converting 12V to CPU, using TLVR multiphase topology. Presentation will cover topologies description, efficiency performances, power density and other key features offered by ST original solution.	Paolo Sandri
9:30	**Galvanic Isolation: A New Paradigm for High Voltage Isolated Interfaces**	ST's isolation technology enables cost effective, high performance digital communication across galvanic isolation barriers for industrial applications. STISO621 dual-channel digital isolator ensure high transient common-mode transient immunity and high-speed digital data rates. To get started, dedicated evaluation board for dual channel digital isolators and for three-phase shunt electricity meter reference design using STISO621 will be presented in this section.	Gianni Vitale
10:00	**GaN: The future of power electronics**	An introduction to the mulitple GaN technology offerings from ST. Discover discrete transitor roadmaps and learn about how ST integrated MasterGaN and STi2GaN are revolutionizing multiple end applications.	Jeff Halbig
10:30	**GaN Demonstrated: Ultra compact USB charging solution**	An introduction to an ultra-compact 65W wall adapter battery charger. The USB-PD solution utilizes an active-clamp forward enabled by depletion-mode GaN and is pre-certified for accellerated design cycles.	Rahul Peravali
11:00	**STSPIN32G4: Integrate microcontroller and a driver for your BLDC motor**	The STSPIN32 platform is a an extremely integrated and flexible motor controller for driving 3-phase brushless motors, helping designers to choose the most suitable driving mode and reduce PCB area and overall Bill Of Materials. It embeds a triple half-bridge gate driver, a microcontroller and a complete power management. In this technical session, ST will introduce the new STSPIN32G4 family, where we integrate the STM32G431VBx3, based on the high-performance 32-bit ARM® Cortex®-M4 core, operating at a frequency up to 170 MHz and featuring a single-precision floating-point unit (FPU), full set of DSP (Digital Signal Processing) instructions and a memory protection unit (MPU).	Luca Bartolomeo
11:30	**Augmenting the VIPerPlus family of high voltage converters with GaN and next gen silicon MOSFETS**	In this technical session, ST will introduce two new families of integrated high voltage converters, VIPerGaN and ViperPower, where we are embedding, respectively, Wide Band Gap and ad-hoc transistors' technologies. In fact, VIPerGaN family will embed high voltage GaN transistors, and VIPerPower a newly designed SuperJunc tion MOSFET. In particular, we will present VIPERGaN45 capable of 45W and VIPerP3 rated to 30W for wide input range applications.	George Hempt