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## RFID News Roundup

*Presented here are news announcements made during the past week regarding the following organizations: MSM Solutions, IOTech, ADLINK, Intel, Axess, Kathrein, CompTIA, and Sectigo.*

**MSM Solutions Updates Android Operating System for RFID Software**

MSM Solutions, a provider of RFID and barcode solutions, has announced that it has updated its PortalTrack Android-based platform for mobile RFID and barcode asset-tracking applications. The PortalTrack platform includes solutions for RFID tracking, inventory management, and Electronic Product Code (EPC) printing and encoding. The platform is designed to work with RFID technologies such as NXP's UCode 8 chipset; Impinj's R6 chipset; Zebra Technologies' TC72 and MC3330R mobile readers, as well as its RFD2000 and RFD8500 models; and Alien Technology's ALR-H460 reader.

"As Windows [phases] out and industry support ends, our customer base is shifting toward the Android platform and looking for cloud-based systems to better identify, track, count and manage their assets," said Brett Wilkerson, MSM Solutions' RFID business-development manager, in a prepared statement. PortalTrack applications enable real-time visibility and provide actionable business intelligence, the company reports, in order to boost supply chain traceability. MSM's solutions are designed to fit into existing workflows.

Android-based mobile applications on the updated platform ensure enterprise-level security, according to MSM. The solutions are intended to improve the user experience and increase efficiency, the company explains. Built on a platform that can be used as a standalone application or be integrated into host systems such as Oracle, SAP, Azure, WMS and Web services, Android-based PortalTrack mobile applications can operate on-premises or in the cloud.

The PortalTrack platform is geared toward supply chain traceability for healthcare, retail, automotive, manufacturing and pharmaceutical RFID applications. These include inbound and outbound EPC shipment verification; perpetual and cycle-count inventory management; work-in-process tracking; EPC printing and encoding; supply chain visibility; returnable tote, bin and pallet tracking; and compliance with GS1 and U.S. Department of Defense mandates. An analytics suite

provides condition-based real-time alert functions, as well as facility mapping and customizable reporting.

## **IOTech Offers Open Edge Software Platform for IoT Systems**

Software company IOTech has announced the general availability of its Edge XRT software platform for time-critical and resource-constrained applications at the Internet of the Things (IoT) edge. The platform is intended to simplify the development of IoT systems, the company reports, and to enable application portability, supportability and faster time-to-market for new IoT edge applications. XRT runs on commodity hardware, independent of silicon provider and operating system, and can be deployed as a native application, containerized or in a virtualized environment.

Edge XRT is targeted at IoT applications requiring a memory footprint as low as 100KB, latency of less than 100 microseconds and predictable real-time data processing. Written in C, the platform is portable and can support legacy brownfield systems based on older hardware, operating systems and development environments. It is designed for such edge-computing use cases as industrial control and real-time signal processing across various vertical markets, including factory automation, oil and gas, utilities, smart energy and renewables.

The platform enables integration between real-time edge-control systems and SCADA applications, according to the company. The system is suitable for microcontroller-based IoT applications, including instrumentation and equipment monitoring, automobile engine-management systems, medical devices, home automation and consumer electronics. Edge XRT can be deployed independently or as a real-time extension of any general-purpose edge platform. It has been integrated with IOTech's Edge Xpert industrial-grade implementation of EdgeX Foundry, an open-source edge platform.

“The availability of Edge XRT is the exciting result of over two years of intense development and close collaboration with a number of key partners,” said Keith Steele, IOTech’s CEO, in a prepared statement. “For our customers looking to deploy the next generation of industrial system at the edge, Edge XRT provides an intelligent and feature-rich IoT platform which can support the most demanding performance requirements while significantly reducing time-to-market for their projects.”

## **ADLINK, Intel Team Up on AI Robotics Controller**

ADLINK Technology, a provider of edge computing systems, has launched its ROScube-I solution with Intel, which provides a real-time ROS 2 controller for robotic applications. The ROScube-I controller is based on Intel’s Xeon E, 9th Gen Core i7/i3 and 8th Gen Core i5 processors, and it features input/output (I/O) connectivity supporting a variety of sensors and actuators for use in robotic applications. The ROScube-I supports an extension box for functional and performance expansion with Intel VPU cards and the Intel Distribution of OpenVINO toolkit for computation of AI algorithms and inference.

Robotic systems based on ROScube-I are supported by Neuron SDK, ADLINK’s proprietary platform designed for autonomous mobile robot (AMR) applications. The ROScube-I features x86-64 mainstream architecture for ROS 2 development; I/O for connecting a range of devices; real-time I/O for environmental sensors (CAN, GPIO and COM); real-time middleware for communication between software components and devices; hypervisor for safe mission-critical mission execution; ruggedized, secure connectivity with locking USB ports; and optional RTOS, such as VxWorks.

Developers can use the ROScube-I Starter Kit or ROScube Pico Development Kit (powered by Intel Core, Celeron and Atom processors) to prototype algorithms and deploy them to the

NeuronBot ROS 2-based rapid robotic development kit for demo purposes. This, according to the company, allows for fast improvement of AI models and the acquisition of vision data to optimize operational decision-making. The NeuronBot supports the Neuron SDK to leverage open-source ROS libraries and packages.

The starter kit features an embedded board with an I/O interface; an MXM graphics module support for AI computing; compatibility with ROS and ROS 2; and openVINO support. The ROScube Pico Development Kit features compatibility with Raspberry Pi 40-pin GPIO; ROS open-source applications; and a compact size based on the SMARC form factor. And the NeuronBot features integrated vision, control, AI and motion modules; rapid robotic development design; support for open-source ROS libraries and packages; and openVINO support.

“With the rise of Industrial 4.0, robotics will become increasingly intelligent powered by edge computing and AI on the path to the autonomous factory,” said René Torres, the VP of Intel’s Sales, Marketing and Communications Group and its general manager of industrial solution sales, in a prepared statement. “We are pleased to partner with ADLINK to enable the ROScube, a market leading innovative robot controller that is built to empower existing robotics solutions with high performance edge AI analytics for dynamic manufacturing environments. Powered with technologies such as Intel Architecture, Intel Iris Graphics, Movidius and OpenVINO the ROScube will enable new levels of performance and collaboration between multiple AMRs with real-time communication.”

“ADLINK is working closely with Intel to apply artificial intelligence to edge computing and our new ROScube-I releases the potential for robotic companies to develop and deploy AI-based applications faster and easier than ever, so our industrial and commercial customers can optimize operational efficiency and expand business value,” said Ryan Chen, the

Director of ADLINK's Advanced Robotic Platform Group, in the prepared statement.

"We have also designed the ROScube-I Starter Kit and ROScube Pico Development Kit series as integrated hardware and software solutions which provide users with an ideal starting point to find AI value by enabling easy edge deployment of their models on our NeuronBot," Chen added. "This approach can then be scaled for industrial requirements using the same software platform but deployed on more powerful hardware as needed. This gives our customers the ultimate in future-proof flexibility by allowing them to immediately begin development with our comprehensive robotic solutions, and then make their hardware solution choice at deployment time."

### **Axess Brings Kathrein RFID Tech to Ski Resorts**

Axess, a provider of access-control systems for ski resorts, is utilizing RFID technology provided by Kathrein Solutions. According to the company, resorts face the challenge of how to continuously improve safety and comfort while speeding up the admission process, with a focus on user behavior. A cold, highly frequented environment has a major impact on process reliability, Axess explains.

Worldwide, the company notes, almost all ski resort entrances and turnstiles utilize the same HF technology. A customer receives a credit card-sized ski pass, which must be actively held against a reader in order for him or her to be authenticated, and this active involvement on the individual's part can result in long waiting times. With large crowds, short delays can lead to long queues.

In cooperation with Axess, Kathrein developed a UHF RFID transponder for ski passes that would function reliably in a wet environment and during extreme temperature fluctuations. Installed in each Axess module is a UHF RFID reader module and UHF RFID antennas, so the ski passes can be scanned from

greater distances—though this is only possible directly at the gate or at the turnstile.

As a basis for the IoT solution, initial tests were conducted with the company's RRU4500 RFID reader and Kathrein's SmartShelf antennas. Following functionality testing, the reader module and antennas were customized for use in the Axess modules. Kathrein designed an RFID transponder antenna specifically for ski resorts, which was then implemented in the new chip cards.

With the system in place, Axess reports, all skiers can now be reliably recorded. The positioning of the chip card no longer requires active involvement on the part of the skier. The admission time at entrances has been reduced, the firm adds, thereby ensuring smooth processing and safety.

### **CompTIA Predicts AI, 5G Will Drive Technology Revolution**

Technology solutions built around artificial intelligence (AI) and 5G wireless networks will have the biggest impact on companies involved in the business of technology in the coming years, according to the Emerging Technology Community of CompTIA. AI and 5G lead the community's third annual list of emerging technologies that offer the most immediate opportunities for tech firms to generate new business and revenues.

"Our ranking represents a consensus viewpoint that emerged after some spirited debate and discussion with the community," said Michael Haines, the director of partner incentive strategy and program design for Microsoft, and chair of the Emerging Technology Community, in a prepared statement. "We're not proposing that every solution provider and channel partner needs to immediately add these technologies to their menu of products and services. But these innovations will have a sweeping impact on the business of technology. Companies need to prepare now for the sea-changes ahead."

AI and 5G each moved up one spot from last year's list. The Internet of Things (IoT), ranked number one in 2019, ranks third on the 2020 list. "Both technologies will have an enormous impact over the next few years and both will drive the technology revolution," added John Rice, the president of Think Channel and a member of the Emerging Technology Community's Executive Council, in the prepared statement.

"Of the two, AI is probably going to have the most short-term impact as it becomes embedded in almost every software system and is used in process automation to make increasingly smarter systems," Rice continued. "5G's effect will take a little longer to be seen, but will be no less impactful, providing the increased speed and decreased latency to give other technologies the foundation they need to reach their potential."

Augmented reality, virtual reality and biometrics also moved up on the 2020 list, while blockchain and robotics slipped a few positions. Natural language processing and quantum computing were added to this year's list, while drones and 3D printing dropped out of the top 10. To learn more about the list and view an infographic, [click here](#).

## **Sectigo Launches YouTube Video Series on IoT Security**

Sectigo, a provider of automated digital identity management and Web security solutions, has announced an Internet of Things (IoT) video series on its YouTube channel. The video series offers guidance to security engineers, developers, product managers and others using or developing connected components and devices, ranging from fundamental to advanced level, for securing IoT devices. Hosted by Alan Grau, Sectigo's VP of IoT and embedded solutions, the initial videos in the series include:

**IoT Security Challenges:** The first video in the series covers a range of fundamental security topics, including embedded



security, the Secure Boot standard, embedded firewall, secure firmware updates, secure key storage, IoT device identity and PKI for IoT. Grau addresses several issues, including common vulnerabilities found in IoT devices; what security means for IoT devices; which types of IoT security solutions actually work, and why; security claims vs. security realities for IoT devices; and the challenges inherent in building security into IoT devices

**Secure Boot for IoT Devices:** This video covers IoT security, embedded security, Secure Boot and secure firmware updates. Grau provides an overview and a deep dive into Secure Boot and how the functionality can help secure IoT devices by ensuring that they are always running unmodified code from an OEM. He also discusses various ways in which hackers can attack embedded devices, root of trust, code signing and code validation.

**Embedded Firewall for IoT Devices:** Here, Grau covers what embedded firewalls are and how they are different from other network and endpoint firewalls. He discusses the challenges of building security into IoT devices, why embedded firewalls are important, their essential features, and embedded use cases for automobile and aircraft control systems.



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