Embedded COMPUTING DESIGN
June E-Letter
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Embedded Insiders Podcast ? Making "Connections" at the Industrial IoT University
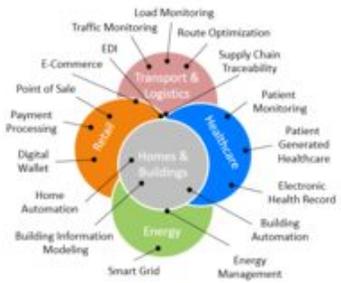
Brandon Lewis, Technology Editor *and* Rich Nass, Embedded Computing Brand Director

Embedded Computing Design's second Industrial IoT University conference occurred this week, with industry experts from Cisco, zigbee alliance, Digi International, LoRa Alliance, Trusted Computing Group, Renesas, Mentor Graphics, Wind River, Software Design Solutions, and Blue Ridge Advanced Design and Automation addressing networking and security challenges for an audience of more than 100 IoT engineers. Sessions on emerging machine-to-machine (M2M) connectivity technologies in particular piqued the interest of attendees, as Brent Nelson of Digi International?

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Cross-industry semantic interoperability, part one

Richard Halter, Global Retail Technology Advisors, Mark Harrison, Milecastle Media, Adam Hise, Harbor Research, Scott Hollenbeck, VeriSign, Brandon Lewis, Technology Editor, Doug Migliori, ControlBEAM, John Petze, SkyFoundry, *and* Ron Schuldt, Data-Harmonizing

This multi-part series addresses the need for a single semantic data model supporting the Internet of Things (IoT) and the digital transformation of buildings, businesses, and consumers. Such a model must be simple and extensible to enable plug-and-play interoperability and universal adoption across industries.

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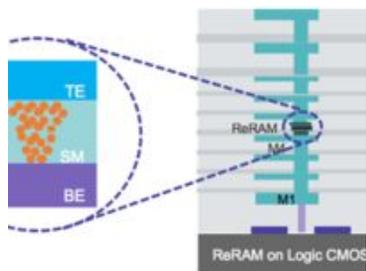
Evaluating ReRAM technology choices for cloud and data center applications

Sylvain Dubois, Crossbar

Resistive random-access memory (ReRAM) is the next promising memory technology in the race to develop more scalable, high-capacity, high-performance, reliable storage solutions.

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Electronics components and the age of e-commerce: Does price really matter?

Duncan Bennet, Bostin Technology

One thing is true about getting older: You are able to speak about the past with some experience. I was reminded of this recently when having a conversation about the role of electronic component distribution. Many years ago I worked for a supplier who had the concept of supplying semiconductors without going through distribution. [...]

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ADLINK
Industrial Fanless Embedded Computer with High Expandability and Rich Front I/O

View Product

Annapolis Micro Systems, Inc.
8 & 16TB OpenVPX Data Storage Solution

View Product

Elma Electronic
Rugged, Innovative Chassis Designs

View Product

Imaging and video applications get right-sized using PC/104

Rich Nass, Embedded Computing Brand Director

When users want to create embedded video or imaging applications, they find that PC/104 boards and systems are the right choice for their designs, and plenty of products are still being introduced that meet this venerable and proven specification. The reasons are well known. PC/104 provides a compact yet easily expandable architecture. It is suitable [...]

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Embedded Insiders Podcast: Revisiting RTOS independence with one of the last men standing

Rich Nass, Embedded Computing Brand Director *and* Brandon Lewis, Technology Editor

Earlier this year the Embedded Insiders posed the question, ? Where have all the RTOS vendors gone?? During that discussion the Insiders offered that silicon companies have gobbled up independent real-time operating system vendors in an effort to provide their customers with fully integrated, ?total? solutions. The (at least perceived) downside of this for developers is, of course, that support for hardware targets diminishes as an RTOS becomes more entrenched within a single silicon vendor?s?

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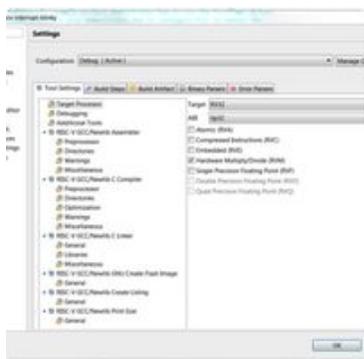
Growing the pie: Eclipse-based Windows IDE gives more access to RISC-V developers

Brandon Lewis, Technology Editor

The RISC-V community received a significant boost last week, and while it has to do with Windows, it?s still based on open source.

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IoT over BLE in 10 minutes with Microchip Curiosity and MikroElektronika Clicks

Brandon Lewis, Technology Editor

Goal: The following describes how to build a simple Internet of Things (IoT) data streaming application over Bluetooth Low Energy (BLE) using the Microchip Curiosity High Pin Count (HPC) development board, MikroElektronika Bluetooth and gyroscope Clicks, and the MPLAB X integrated development environment (IDE). We begin by configuring Curiosity?s onboard 8-bit PIC16F18875 microcontroller (MCU) [...]

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Embedded vision for Industry 4.0

Nick Ni, Xilinx

Machine vision is a term commonly used for embedded vision systems operating in an industrial context. Consequently, machine vision addresses a wide range of applications, from optical inspection of manufactured goods such as semiconductor and solar panel manufacturing to postal and parcel sorting, industrial X-rays, and food packaging.

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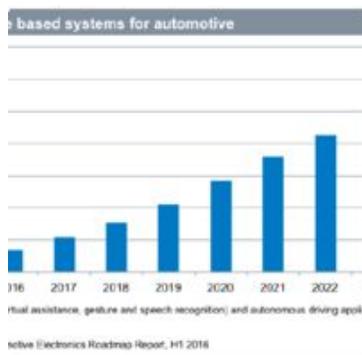
Functional safety, AI collide in automotive behind heterogeneous MIPS core

Brandon Lewis, Technology Editor

When I think of functional safety in the context of processing, I usually think of a small microcontroller (MCU) responsible for one or two dedicated tasks. Its architecture is probably simple yet resilient in order to reduce the possibility of hardware faults and soft errors. This has been the case for safety-critical industrial and automotive applications for some time.

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Play in the IoT sandbox

Rich Nass, Embedded Computing Brand Director

Lots of images come to mind when someone tells you to ?go play in the sandbox.? Designing an IoT device is generally not on that list ? until now. As shown in this demonstration, the Renesas IoT Sandbox lets developers easily create IoT applications using cloud services and real-time workflows ? and you?re not locked into a particular cloud provider, as lots of options are available.

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DESIGN ARTICLES

2017 Top Embedded Innovator: Oliver Winzenried, CEO and Co-Founder, Wibu-Systems

Brandon Lewis, Technology Editor

Since co-founding Wibu-Systems in 1989, Oliver Winzenried has dedicated his career to securing embedded systems and applications, focusing primarily on software protection, licensing, and access control. With millions of devices now connecting to the Internet of Things (IoT) security has become paramount, requiring protection mechanisms that can scale from the smallest microcontroller-based (MCU-based) systems to cloud servers, as well as over time. A 2017 Embedded Computing Design Top Embedded Innovator, Winzenried offers perspective on?

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2017 Top Embedded Innovator: Kristen Russell, Global President, Arrow Intelligent Systems

Brandon Lewis, Technology Editor

Kristen Russell, former Secretary of Technology and CIO of the State of Colorado and leader of the U.S. Digital Government Strategy for Deloitte, has been instrumental in bringing Internet of Things (IoT) solutions to the public sector, improving everything from infrastructure to employee collaboration and citizen experience. Now, she brings that expertise to Arrow, guiding clients through all the steps of implementing an IoT solution so they can improve efficiency and gain valuable insight?

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2017 Top Embedded Innovator: Bill Mensch, CEO and Founder, Western Design Center

Brandon Lewis, Technology Editor

A pioneer of embedded microprocessor design and manufacturing, William ?Bill? Mensch was a major contributor to the designs of the Motorola 6800 microprocessor (MPU); MOS Technology 6502 MPU used by the Apple II, Commodore PET, and Atari gaming system; and Western Design Center (WDC) 65816 that served as the basis for the Ricoh 5A22 [...]

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Smarter Cities: A market worth billions

Avnet

With the global population growing exponentially, and more and more people moving to cities, plus the continued industrialization of society, the smart city market is set to explode over the next few years. Up to now, procedures and processes in cities have been ineffective in many areas. But with recent advancements in digital technology and the resulting communication possibilities, particularly between different objects, cities are gradually becoming smarter and solutions such as smart grids, smart?

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TRENTON SYSTEMS®

E-cast

SYNOPSIS: A one-hour, live, moderated problem/solution technical webcast.

Using default time zone: America/New_York

IoT Panel: Exploring Industrial IoT - What makes it Different?

Sponsored by: Flexera Software, PTC, Red Hat, RTI

July 18th
2 pm EDT

Registration: OPEN

For additional *E-casts*, check out the Broadcast Archive.

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