DESIGN ARTICLES

RISC-V: Reigniting innovation in semiconductors?

Brandon Lewis, Technology Editor

Do you remember when one advantage of the ARM architecture was its limited number of instructions? After all, the ?R? in ?ARM? stands for reduced instruction set computing (RISC), and the benefit of this smaller instruction set architecture (ISA) was that it was simpler to program than complex instruction set computing (CISC) ISAs such as the x86-64 instruction set (which currently includes more than 2,000 instructions [1]). The more intuitive approach to programming and the fact that instruction sets for all ARM CPUs up to version 2 were available in the public domain helped the architecture gain popularity, and eventually aided in the mass adoption of ARM-based processors seen in the market today.

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Zinn: It?s Trump!

 Rich Nass, Embedded Computing Brand Director

Surprise, surprise. Donald Trump shocked the world and won the U.S. Presidential election. While there are so many things to debate with respect to his candidacy, I asked Ray Zinn on our weekly call what effect that would have on our domestic electronics and semiconductor industries. Ray wasn?t short on opinions, so hear what he has to say and whether you agree.

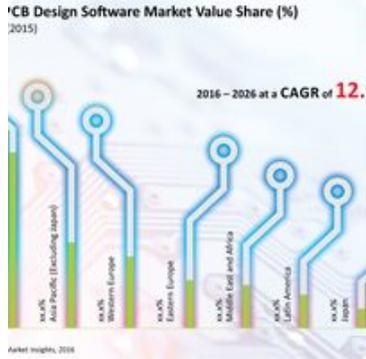**Continue Reading**

DESIGN ARTICLES

Internet of Things platforms, synergies, and key concepts

 Curt Schwaderer   Editorial Director

Internet of Things (IoT) platforms and use cases are abounding in key industries like utilities, communications, and retail. Vendors are emerging with platforms and frameworks for IoT to make end-to-end development and integration simpler. Are these platforms viable? Or is it too early?

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PCB design software gains traction as demand for consumer electronics skyrockets
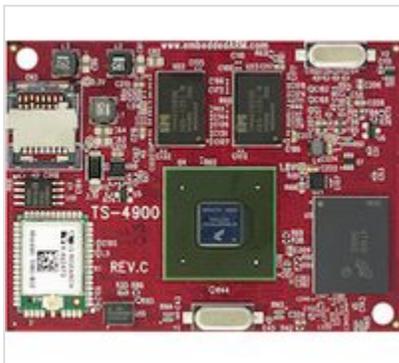
 Abhishek Budholiya, Future Market Insights

The global PCB design software market is projected to grow at a compound annual growth rate (CAGR) of 12.9 percent through 2026, and reach $4.75 billion USD in revenues. The key factors driving growth of the global PCB design software market include, Focus on minimizing product development time and errors Growing complexity of circuits Flexibility [...]

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Improving smartphone cameras with color sensor technology

Darrell Benke, ams AG

The world of digital image capture has evolved dramatically in the past decade. Perhaps most striking and remarkable are the advances in smartphone camera technology. The impact of smartphone cameras has resulted in a significant reduction in standalone digital camera sales over the last several years, as consumers are increasingly satisfied with the features and image quality of their mobile phone cameras.

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New Inventory Search Tool helps engineers cut to the chase in component selection

Brandon Lewis, Technology Editor

As a member of the embedded trade media I must admit that at times it?s difficult to find information about particular products. In fact, it?s often difficult to know where to start, especially when you?re looking for a quick reference of component quantity and cost or immediate access to datasheet specs. For all the progressive tools and technologies produced by our industry, finding parts is typically relegated to repeated Google searches, numerous browser tabs, and a waste of everyone?s most valuable commodity ? time.
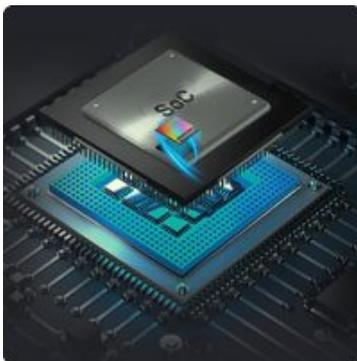
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Magnetic resonance: The next generation of wireless charging

Sanjay Gupta, WiTricity

With technological advances and ubiquitous connectivity enabled by Wi-Fi, Bluetooth, and 4G, the world is shifting to wireless. Seeing the convenience of replacing the wires in many of our devices and appliances, consumers are now, more than ever, demanding that same convenient and flexible experiences for charging our devices, too. We?ve had the knowledge to [...]

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DESIGN ARTICLES

Could FPGA IP be headed to an SoC near you?

Brandon Lewis, Technology Editor

The more integrated, the better. That?s truer in the embedded space now than ever before. For proof, look at the system on chip (SoC) landscape.

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WICED Studio 4 enables designs with multiple wireless protocols

Jamie Leland, Content Assistant

When Broadcom sold it?s Wireless Internet of Things (IoT) business to Cypress, many were left scratching their heads: Why, in the midst of such optimistic market projections for the IoT, would it unload such a promising portion of their business? The answer lies with Avago?s earlier purchase of Broadcom. Avago had been targeting captive customers [...]

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Dev Kit Selector: Thunderboard Sense "inspirational" for IoT developers seeking quick time to market

Brandon Lewis, Technology Editor

Internet of Things (IoT) development continues to get easier and cheaper as vendors package highly integrated development kits with processing, sensors, connectivity, and software that help engineers of all skill levels get to market faster. Some of today?s kits include enough technology that a single platform can even be used to prototype multiple applications, sometimes [...]
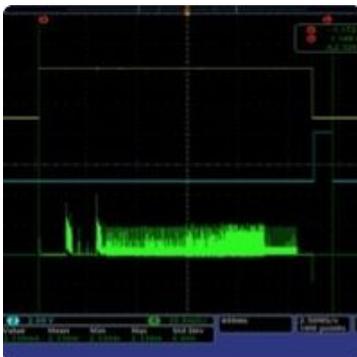
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Security, SaaS, and education headline ARM TechCon

Brandon Lewis, Technology Editor

The Internet of Things (IoT) and security have been mainstays in technology headlines over the past month, and really for more than a year now. Distributed Denial of Service (DDoS) attacks , botnets, and ransomware are now common in the vocabulary of embedded and IoT engineers of all types, so it is fitting that the major announcement to come out of last week?s ARM TechCon addressed them.
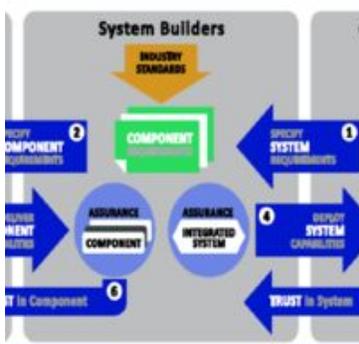
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E-paper can run for decades on a coin-cell battery

Scott Soong, Pervasive Displays

Minimizing device power use is a constant battle for many Internet of Things (IoT) product designers, particularly when the only power source is a small battery and the equipment needs to operate for years at a time without intervention. Designers must therefore optimize their code and, critically, choose their components carefully. Low-power sensor? Check. Energy-efficient [...]

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TPM and trust in the new Industrial Internet Security Framework

Steve Hanna, Infineon Technologies

With the goal of enabling and accelerating the industrial Internet of Things (IIoT), the Industrial Internet Consortium (IIC) has placed security high on its must-do list. The consortium?s September 2016 Industrial Internet Security Framework (IISF) provides a common security framework that addresses security issues in IIoT systems. Trusted Platform Module (TPM), is highlighted in that document as a key technology.

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Input devices in space

Rich Nass, Embedded Computing Brand Director

I recently conducted a Five Minutes With? interview with Steve Cliffe, the CEO of Ultrahaptics. He described for me the company?s 3D input technology, which is somewhat far-fetched?at least that?s what I thought when he described it to me. You sort of touch an area in space and grab the pointer and move things around [...]
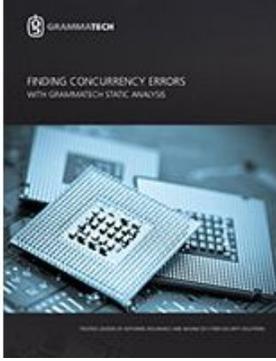
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DARPA and Raytheon are developing immortal software

Kady Harper, Seek Visibility

Everyone hates computer updates, from the users who constantly forget to install them from the software engineers who resent returning to fix their old code. Yet updating is a necessary task in our modern, tech-dependent civilization, and most people have come to accept it ? except a few brilliant developers, who want to end the annoying process for good.

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White Paper: Finding Concurrency Errors with GrammaTech Static Analysis

Staff, GrammaTech

Multithreading adds entirely new classes of potential bugs to those that must be considered by developers. At the same time, the nondeterminism and sheer number of possibilities introduced by thread interleaving make it significantly more difficult to find bugs in multithreaded systems by testing and other traditional methods.

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DIGI MICROCHIP Technologic Systems

ACCES I/O PRODUCTS, INC. embedded world Nuremberg, Germany 14 - 16.3.2017

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