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NovuMind's AI Chip Sparks Controversy

NovuMind, a Santa Clara, California-based startup founded in 2015 by Ren Wu, once a distinguished scientist from Baidu, Inc., is poised to reveal details of its debut AI chip, NovuTensor.Wu told EE Times that NovuMind got the first samples back from GlobalFoundries earlier this month.

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Samsung Nears 7nm Production

SAN JOSE, Calif. — The race is on to get the first chip made with extreme ultraviolet lithography out the foundry door.

Samsung said that it has taped out and is ramping multiple 7nm chips using EUV following a similar announcement earlier this month from its larger foundry rival, TSMC. Samsung also gave its supporting IP and EDA infrastructure a boost and detailed its packaging capabilities in an effort to catch up with TSMC's ecosystem.

The South Korean giant also announced that it is sampling 256-GByte RDIMMs based on its 16-Gbit DRAM chips and plans for solid-state drives with embedded Xilinx FPGAs. But the 7nm news was the highlight of the event, a milestone fueled in part by its internal development of an EUV mask inspection system.

STMicro And NXP In New IoT Security Bid

LONDON — Security is suddenly a hot topic. It's unsurprising, given all the talk about connecting devices and implementing Internet of Things (IoT) devices, coupled with more awareness of the potential threats from cyber-attacks. Recognizing this, STMicroelectronics and NXP Semiconductors have both launched microcontrollers utilizing the Arm Cortex-M33 integrating TrustZone to enable greater IoT security.

STMicroelectronics this week launched the STM32L5 microcontroller, which builds on the Cortex-M33 hardware-based security with its own enhancements such as flexible software isolation, secure boot, key storage and hardware cryptographic accelerators. It is aimed at power conscious connected devices, utilizing the company's expertise in low-power techniques such as adaptive voltage scaling, real-time acceleration, power gating and multiple reduced-power operating modes proven in previous STM32L series. This enables it to provide long run-times powered by coin cells or energy harvesting, consuming as little as 33nA in shutdown mode and achieving 402 ULPMark-CP in the EEMBC ULPBench.

ARM Licenses Cortex-A5 on the Cheap

LONDON — Arm is now offer a low-cost route to developing Cortex-A5 based Linux-capable ASICs for embedded Internet of Things (IoT) devices featuring advanced edge processing, with a new one-year license fee of \$75,000. This fee provides access to the CPU IP and one year of design support, through Arm's DesignStart program.

Arm says it is offering the lower cost license in response to the developer community requesting easy access to a Linux-capable Arm processor. A 2017 EETimes study on embedded markets revealed that 82% of developers were considering using Linux or Android in their next design.

Phil Burr, Arm's director of portfolio product management, told EETimes that the addition of Cortex-A5 to DesignStart makes it much easier to create an ASIC and unlock the world of Linux on Arm to many developers. "We're broadening our access generally to companies who want to develop embedded Linux," Burr said.

Intel Reports Tepid Progress On 10 nm

SAN FRANCISCO — Intel said that it's making progress on improving 10-nm yields and reiterated its pledge to have 10-nm chips shipping by the 2019 holiday season.

In a conference call with analysts following a financial report that beat analysts' expectations for the 12th straight quarter, Venkata (Murthy) Renduchintala, president of Intel's Technology, Systems Architecture and Client Group, said that 10-nm yields are now tracking roughly in line with what the company experienced at the 14-nm node when it prepared to make that transition.

"We're still very much reinforcing and reaffirming our previous guidance that we believe that we'll have 10 nm shipping by holiday of 2019," said Renduchintala. "And if anything, I feel more confident about that at this call than I did on the call a quarter ago. So we're making good progress, and I think we're making the quarter-on-quarter progress that's consistent with prior generations having reset the progress curve."

NovuMind's AI Chip Sparks Controversy

MADISON, Wis. — NovuMind, a Santa Clara, California-based startup founded in 2015 by Ren Wu, once a distinguished scientist from Baidu, Inc., is poised to reveal details of its debut AI chip, NovuTensor.

Wu told EE Times that NovuMind got the first samples back from GlobalFoundries earlier this month. Fabricated by using a "conservative" 28-nm CMOS process technology, the newborn NovuTensor is performing even better than he expected, said Wu.

By running ResNet-18 benchmark, Wu claimed that his team has confirmed that NovuTensor outperforms Nvidia's Xavier chip in both throughput and latency.