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The Global Semiconductor Industry Analysts

FH MONDAY

13 January 2020

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TALK TO US

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LoRaWAN and Wi-Fi Working in Unison

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Apple Buys Image Fusion Startup Spectral Edge

Cambridge, UK, based Spectral Edge, an image fusion startup which was spun out of the University of East Anglia in 2014, has been acquired by Apple for an undisclosed amount.

When we spoke to Spectral Edge CEO Rhodri Thomas last year, he said the company had developed image fusion software intellectual property (IP) for use in smartphones and mass-market devices to deliver artifact-free image processing capability. Its technology is aimed at applications that rely on image quality for either function or aesthetics — from mobile to security and from automotive to on-demand video or live broadcast. Thomas added that while its IP was mostly offered in software, they were planning to offer it in silicon, possibly as an FPGA.

EERAM Eliminates SRAM Battery Backup

TORONTO – MRAM's ambition to replace SRAM with battery backup may have competition with an older incumbent memory in the form of Microchip Technology's latest EERAM product.

The company recently unveiled a new family of standalone, Serial Peripheral Interface (SPI) EERAM. It's aimed at applications that involve repetitive task data logging and require the ability to automatically restore content if power is disrupted during processing. Examples where this capability would be useful include manufacturing equipment and smart meters.

SRAM with a battery to keep memory running in case of power loss has been the longstanding solution, but Microchip product marketing manager Grant Hulse said such a nonvolatile serial RAM (NVSRAM) solution tends to be the highest price-per-bit memory option, even though densities tend to be relatively low

Ultra-Low Power AI Chip Ups The Ante

LONDON – The next generation of GreenWaves' ultra-low power AI accelerator, GAP9, will use five times less power than its predecessor, GAP8, while handling algorithms that are 10x bigger. The new device will offer up to 50 GOPS at an overall power consumption of 50mW. This is down to a combination of architectural improvements and a new state-of-the-art FD-SOI (fully depleted silicon on insulator) process technology.

Like the previous generation device, GAP9 is aimed at AI inferencing in systems at the very edge of the network, such as small, battery-powered IoT sensor nodes. As an example, GreenWaves' figures have GAP9 running MobileNet V1 on 160 x 160 images with a channel scaling of 0.25 in just 12ms with a power consumption of 806 µW/frame/second.

GreenWaves, based in Grenoble, France, has chosen GlobalFoundries' 22nm FDX FD-SOI process to minimise the power consumption of what was already an ultra-low power architecture.

Newest Nvidia AV SoC Boasts '7x Xavier Performance'

The company will also make its AI models for autonomous vehicles available to developers.

At the company's GPU Technology Conference (GTC) in Suzhou, China, Nvidia CEO Jensen Huang took to the stage to introduce Drive AGX Orin, the next generation SoC in the company's automotive portfolio.

Orin follows Drive AGX Xavier, launched just under 2 years ago at CES 2018. Xavier is Nvidia's current flagship SoC for AI acceleration in vehicles.

Orin, at 17 billion transistors, is almost double the size of Xavier, which had 9 billion, and it offers nearly 7x the performance (200 TOPS for INT8 data). Despite its size, Orin also offers 3x the power efficiency of Xavier, the company said.

LoRaWAN And Wi-Fi Working In Unison

If you're in the process of implementing the Internet of Things (IoT), you've probably spent a lot of time researching wireless connectivity solutions, for which there are many (perhaps too many) choices. However, two — Wi-Fi and LoRaWAN — have a synergy that makes them very appealing as an end-to-end solution from the edge to the cloud. It's the reason they're being used together in applications from industrial facilities to entire cities throughout the world. To see why, let's examine how they work so well together.

The Internet of things requires connectivity from the edge devices, such as various types of sensors, to the Internet. At the edge, a typical protocol choice is one of the 802.15.4-based standards, Bluetooth or Wi-Fi, as each one has mesh networking capability. From there, the data is transmitted to a gateway, and after that, to the Internet via either cellular or a low-power wireless area network.