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Addressing the Memory Bottleneck

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IoT Nets Eye LoRa, NB-IoT

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TSMC Sees 5G Driving Strong Demand for 7nm

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TALK TO US



Imaging Bolsters Quarterly Results

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Startup Claims 100 Tops/W in Simulation

In his spare time, an engineer at Tektronix sketched out a novel deep-learning accelerator, and now his two-person startup is the latest example of the groundswell of enthusiasm that deep learning is generating.

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Addressing The Memory Bottleneck

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Blueshift Memory, which was started by and currently consists of a team of three computer scientists, has successfully demonstrated its new memory model in a Xilinx FPGA. The company is now on the hunt for investors to fund the development of a chip.

We spoke to Peter Marosan, CTO of Blueshift Memory, to find out exactly what the company is trying to do. It is essentially optimizing the memory architecture so that large data sets and time-critical data can be more efficiently handled, hence speeding up memory access speeds up to 1,000 times for specific data-focused applications.

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The two rivals are leveraging work at the U.S. Federal Communications Commission to reorganize part of the sub-gigahertz spectrum. Both Iota, focused on building automation, and Anterix, targeting utilities, have significant spectrum holdings already and financing in progress, but neither has networks up and running yet.

It's early days for both companies, which are still defining their service-level products. For that reason, they have not come on the radar for analysts who cover the low-power, wide-area networks (LPWANs) that LoRa and NB-IoT currently dominate and where the HaLow version of Wi-Fi is debuting this year.

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TSMC said it may need to increase 2019 capex to accelerate the installation of tools for 5nm production next year.

The company's most advanced 7nm node is poised to become its new cash cow, as it accounted for 21% of revenue in the second quarter, compared with 10nm at 3% and 16nm at 23%. Those three nodes made up 47% of total sales, increasing from 42% in the first quarter.

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ST's Q2 2019 net revenue was \$2.17 billion, which is up 4.7% quarter on quarter but down 4.2% compared to the same quarter last year. Despite the automotive market turmoil, Jean-Marc Chery, president & CEO of STMicroelectronics said he was expecting 15.3% sequential growth for the third quarter, which some analysts noted is a record quarterly growth figure for ST in recent years.

Startup Claims 100 Tops/W in Simulation

In his spare time, an engineer at Tektronix sketched out a novel deep-learning accelerator, and now his two-person startup is the latest example of the groundswell of enthusiasm that deep learning is generating.

Behdad Youssefi defined an SRAM with specialized cells that can handle the matrix multiplication, quantization, storage and other jobs needed for an inference processor. After four years solo work on the concept originally planned as a PhD thesis, he formed startup Areanna with a colleague at Tektronix and a Berkeley professor as an advisor.

In Spice simulations the design delivers more than 100 tera-operations/second/watt when recognizing handwritten digits using 8-bit integer math. Youssefi claims it could beat Google's TPU in computational density by an order of magnitude.