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AMD Describes Vega GPU

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Tsinghua To Build \$30 Billion Memory Fab In China

SAN FRANCISCO—China's state-controlled chip vendor Tsinghua Unigroup Ltd. announced plans to build a \$30 billion memory chip in Nanjing, a city in eastern China.

Tsinghua, which has acquired several chip vendors and facilities over the past few years, is also building a \$24 billion memory fab in the Chinese city of Wuhan, announced last March.

Tsinghua said it plans to build DRAM and 3D NAND flash at the Nanjing fab. The first phase of the project will cost about \$10 billion and result in the production capacity to produce 100,000 wafers per month, the company said. No timetable was provided for the project.

Crossbar ReRAM in Production at SMIC

LONDON—Crossbar Inc. (Santa Clara, Calif.), a developer of non-volatile resistive RAM (ReRAM) based on silver-over-amorphous-silicon technology, kept its promise to be in production in 2016.

The Crossbar ReRAM for embedded non-volatile memory applications is in production at partner foundry Semiconductor Manufacturing International Corp. (SMIC) using a 40nm CMOS process and is sampling to SMIC customers, according to Sylvain Dubois, Crossbar's vice president of strategic marketing and business development.

Dubois told EE Times Europe that not only is 40nm ReRAM in production but that production on 28nm CMOS would follow soon. Dubois defined that to mean the first half of 2017, but he declined to say whether that would be with SMIC or another foundry.

IoT Startup Rides LoRa

SAN JOSE, Calif. – A startup will ride LoRa and Wi-Fi networks to bring the Internet of Things to consumers and businesses this year. TrackNet snagged \$7 million in A-series funding from two investors who will help it build and deploy routers and sensors.

By June, the startup aims to be in production with hybrid LoRa/Wi-Fi routers and as many as seven sensors, the first products launching at Mobile World Congress next month. They will include wearable location monitors, motion sensors for security and environmental monitors for temperature and humidity.

TrackNet targets both the smart home and commercial users tracking assets and monitoring buildings. It aims to bring relatively expensive LoRa sensors down to the \$20-30 retail prices of today's home automation products.

SMIC Leads Foundry Growth

TAIPEI — China's Semiconductor Manufacturing International Corp. (SMIC) became the growth leader in the foundry business during 2016 after the company saw a surge in demand from customers in China.

Shanghai-based SMIC saw its annual sales in 2016 surge by 31 percent while the top-ten foundry players had growth averaging 11 percent during the same period, according to IC Insights.

In 2016, four companies had a dominant 85 percent of the worldwide foundry market, IC Insights said in a Jan. 13 press statement. The largest foundry, Taiwan Semiconductor Manufacturing Co. (TSMC) held on to the 59 percent market share that it's maintained since 2015, with sales that increased by \$2.9 billion last year, more than double the \$1.4 billion increase it logged in 2015.

AMD Describes Vega GPU

SAN JOSE, Calif. — Analysts are impressed with Vega, Advanced Micro Devices' next-generation graphics processor. However, they don't expect that it will alter the neck-and-neck performance race it is running with its archrival, Nvidia.

AMD disclosed the architecture of the new GPU but not details of its specifications or performance. Vega sports advances across its memory and logic subsystems.

In memory, the chip will ride a silicon substrate with up to two stacks of version 2 of high-bandwidth memory (HBM2) and sport an improved L2 cache and cache controller. In logic, it includes a new programmable geometry pipeline, compute unit, and pixel engine.