FutureHorizons
The Global Semiconductor Industry Analysts

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ARTERY Launches High-Performance Cortex-M4-based MCU

ARTERY Tech released two new MCU series—the AT32F435 and the AT32F437—featuring high performance and up to 288MHz operating frequency. The introduction of both new products will further add to the diversity of AT32 MCU Family on the top of the existing mainstream and ultra-value product lines, which have entered more and more markets and won wider recognition from customers.

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Semiconductor Sector Poised to Grasp 5G Opportunity

The accelerating pace of 5G wireless network rollouts over the past year across many regions has benefitted telecommunications equipment suppliers and makers of 5G-enabled phones. That momentum also promises to provide a profitable new market for chipmakers in the coming year.

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Astera Adds Accelerator to CXL Ecosystem

Many vendors are getting their feet wet in the pool of the Compute Express Link (CXL) ecosystem. Accelerators are part of it, and that includes Astera Labs' recently announced memory accelerator platform for CXL 1.1/2.0.

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TALK TO US

Startup Mimics Human Eye By Adding Processing to Pixels

An early-stage company spun out of Johns Hopkins University wants to make machine vision more like human vision by adding memory and computing to each sensor pixel. Oculi is developing products for gesture recognition and eye tracking in consumer AR/VR systems. Other applications include smart city infrastructure and eventually, automotive vision sensing.

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Silicon Labs Launches 3D Experience

Silicon Labs has launched a first-of-its-kind 3D virtual smart home platform, an interactive journey that takes users through innovative smart home solutions, various applicable protocols, and ecosystem connections. Users can take a self-guided tour and explore three different uses cases: home security, home automation and health, as well as the protocols and ecosystems they work with and connect to.

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Cutting-edge processing and computing capabilities. With advanced 55nm process, both AT32F435/437 series powered by ARM Cortex-M4 run up to 288MHz, maximizing the processing capability of M4 core and thus becoming the first high-performance product across the AT32 MCU family. AT32F435/437 boast up to 4032kB Flash memory, 512kB SRAM, single- precision floating-point unit (FPU) and digital signal processor (DSP) that are far beyond their counterparts in the market. All these features enable them the top choice for applications that require higher computations and large memory design including industrial automation, motor control, IoT and consumer electronics.

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Leading semiconductor and component suppliers in areas like memory chips and storage arrays are focusing on the opportunities presented by the 5G expansion, designing and manufacturing wireless devices capable of operating at new frequencies. New devices will also be able to process and store significantly more data than previous generations of cellular technology.

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Leo is designed to address processor memory bandwidth bottlenecks and capacity limitations, said co-founder and chief business officer Sanjay Gajendra in an interview. The Leo CXL Memory Accelerator Platform allows a CPU to access and manage CXL-attached DRAM and persistent memory, making the use of centralized memory resources more efficient and allowing that access to scale up without slowing down performance.

He said Astera's Leo platform increases overall memory bandwidth by 32 GT/s per lane and capacity up to 2TB whiling maintaining ultra-low latency. It features to scale operations in the cloud reliably while also providing built-in management and diagnostic that large scale enterprise and cloud server deployments require. Gajendra said a lot of discussion today is around bandwidth needing to grow in data centers to handle the volume, but the complexity has been growing just as fast. "The complexity actually doubles every three and a half months."

Startup Mimics Human Eye By Adding Processing to Pixels

An early-stage company spun out of Johns Hopkins University wants to make machine vision more like human vision by adding memory and computing to each sensor pixel. Oculi is developing products for gesture recognition and eye tracking in consumer AR/VR systems. Other applications include smart city infrastructure and eventually, automotive vision sensing. Beyond buzz over existing event-based vision sensing frameworks, Oculi CEO Charbel Rizk told EE Times there's plenty of room for innovation elsewhere.

"The problem that we're running into right now with machine vision is that we're using sensors and processors that were developed for different purposes, putting them together and thinking if we throw enough processing downstream we solved the problem," Rizk said. "That's not the case, because the problem really starts at the sensor. Machine vision is not about pretty images. It really should be about efficiency: How do we get the information in an efficient way?"

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"The past two years overhauled the way we live, forcing us to spend most of our time at home and leading many to enhance their houses with new, modern applications for both practicality and aesthetics," said Jake Alamat, vice president and general manager, IoT Home & Life, Silicon Labs. "At Silicon Labs, we have believed in the power of the Internet of Things (IoT) and the smart home for a decade, propelling us to a leadership position in product simplicity, reliability and robustness. Our foresight and ability to work with all protocols makes Silicon Labs an ideal partner for developers."