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The Global Semiconductor Industry Analysts

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EV battery, raw material shortage coming

Stellantis CEO Carlos Tavares cautions that an electric vehicle (EV) battery and raw materials shortage is coming in the years ahead. Tavares said the shortage is due to the automotive industry's largest transition in its history to leave gasoline- and diesel-powered engines behind in favor of electrified models.

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How chip architectures are evolving to support embedded AI

Through the early part of the 21st century, artificial intelligence (AI) lay largely dormant and unexplored by industry for its use in practical applications. Compute bottlenecks were certainly a barrier to commercialization, but as Moore's law has advanced, so has the development of machine learning (ML) and AI architectures.

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Schneider Electric touts smart building tech to STEM

The smart building movement is not only for engineers with advanced degrees. It is also for STEM students in grades K-12 who bring the passion of their generation for the green movement to what can often be wonky building automation technology.

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TALK TO US



Nvidia outlook weighed down by macro issues, but data center segment keeps booming

After reporting fiscal first quarter 2023 earnings this week, Nvidia initially was hounded by negative observations about its recent performance and short-term outlook, and there may be good reason for it, as the company is feeling the supply chain effects of pandemic lockdowns in China and the ongoing Russia-Ukraine War, as well as the effects on its bottom line from its fizzled effort to acquire Arm.

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Samsung ups its game with \$356B investment for 80,000 jobs

Samsung committed to invest \$356 billion over the next five years, helping create 80,000 jobs primarily in its core businesses including semiconductors and biopharmaceuticals.

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EV battery, raw material shortage coming

Stellantis CEO Carlos Tavares cautions that an electric vehicle (EV) battery and raw materials shortage is coming in the years ahead.

Tavares said the shortage is due to the automotive industry's largest transition in its history to leave gasoline- and diesel-powered engines behind in favor of electrified models.

"The speed at which we are trying to move all together for the right reason, which is fixing the global warming issue, is so high that the supply chain and the production capacities have no time to adjust," he said.

Tavares said he expects a shortage of EV batteries to happen during the 2024 to 2025 time frame, followed by a raw materials shortage for these batteries, causing a slow down in availability and adoption of EVs by 2027 to 2028.

How chip architectures are evolving to support embedded AI

Through the early part of the 21st century, artificial intelligence (AI) lay largely dormant and unexplored by industry for its use in practical applications. Compute bottlenecks were certainly a barrier to commercialization, but as Moore's law has advanced, so has the development of machine learning (ML) and AI architectures. One area that has had trouble keeping up with the compute demands in this application is the hardware architectures used to implement ML and AI models.

It is true that graphics processing units (GPUs) are still the main AI workhorse at the data center level. PCIe-based AI accelerators first hit the market in 2018, which basically mimicked the GPU architecture to implement tensor calculations in parallel. Since that time, the chip architectures available to support embedded AI have continued to evolve. Today, it is easier than ever to start deploying AI in the field, and the chipsets required in the future may look very different.

Schneider Electric touts smart building tech to STEM students

The smart building movement is not only for engineers with advanced degrees. It is also for STEM students in grades K-12 who bring the passion of their generation for the green movement to what can often be wonky building automation technology.

At Wolf Ridge Environmental Learning Center in Finland, Minnesota, students can access a tech portal to see how their use of six gallons of water and 100 watts of electricity assigned daily to each student will impact a building's total use of resources. Students can view the energy and water usage on the campus and the individual rooms which has been spun into a friendly competition with tangible graphics showing their daily budgets and usage.

Nvidia outlook weighed down by macro issues, but data center segment keeps booming

After reporting fiscal first quarter 2023 earnings this week, Nvidia initially was hounded by negative observations about its recent performance and short-term outlook, and there may be good reason for it, as the company is feeling the supply chain effects of pandemic lockdowns in China and the ongoing Russia-Ukraine War, as well as the effects on its bottom line from its fizzled effort to acquire Arm.

But these assessments also may have missed how strongly positioned the company is for the long-term future, particularly in the segment that just became its biggest cash cow: data center.

Samsung ups its game with \$356B investment for 80,000 jobs

Samsung committed to invest \$356 billion over the next five years, helping create 80,000 jobs primarily in its core businesses including semiconductors and biopharmaceuticals.

While the company is known in the U.S. for its smartphones, its work around chips—especially memory devices—has taken on greater importance during the continuing supply chain crunch. Samsung's investment is partly designed to "bring forward the mass production of chips based on the 3-nanometer process," the company said in a statement on Tuesday.

Samsung is based in South Korea and its enhanced hiring will be mainly in that country. Still, U.S. OEMs rely on Samsung to produce many of their electronics products.