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TSMC Expansion in Arizona to Target 3-nm Node

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TALK TO US

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Infineon Technologies AG of Munich, Germany and global automaker Stellantis have signed a non-binding memorandum of understanding (MoU) as a first step towards a potential multi-year supply cooperation for silicon carbide (SiC) semiconductors. Infineon would reserve manufacturing capacity and supply CoolSiC bare die chips……..

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TSMC Expansion in Arizona to Target 3-nm Node

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In an email to EE Times, the company said it is "now constructing" a building to potentially serve as a second fab in Arizona that would help achieve greater cost effectiveness at the new site.

TSMC has led a wave of new fab investments in the U.S. as part of a national effort to rebuild the domestic semiconductor industry centered around the CHIPS Act. When the first TSMC Arizona fab starts production in 2024, it will produce 5-nm chips—the most advanced in the U.S.

Perovskite Solar Cells Offer Alternative to Silicon

Perovskite solar cells have emerged as an alternative material to silicon in traditional, inorganic solar cells because of their ability to enable higher power conversion efficiencies.

Though other materials are currently used for different types of solar cells (e.g., organic materials for flexible and transparent solar cells), there have not been many contenders that could displace silicon and the silicon derivatives used in commercial solar cells today.

There is potential for perovskite solar cells to replace traditional silicon, but there are still some challenges ahead before they commercially compete with silicon solar cells.

Nvidia And Lockheed To Build Digital Earth Twin For Weather

Digital twins are nothing new but have reached the point of wider industry adoption. There are early examples of digital twins applied to manufacturing plants, warehouse operations and even entire city centers to aid operations managers in finding ways to increase efficiency and even reduce costs.

Some of the projects are far more massive in scope, however.

In one new example, Lockheed Martin and Nvidia on Thursday announced a collaboration to `build an artificial intelligence-driven Earth Observations Digital Twin for use by the National Ocean and Atmospheric Administration for monitoring global environmental conditions and extreme weather.

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"This is not just a research project or a prototype," said Rehan Tahir, senior product marketing manager at AMD. "They usually start shipping the cars a few months earlier than the model year, so we're talking about something that is probably less than a year away." AMD did not specify which car models its technology would be used in, though it is worth noting that the company is part-owned by Toyota, and that its systems have been used in models such as the Toyota Prius and other vehicles.

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"We firmly believe in electro-mobility and are excited to develop partnerships with leading automotive companies like Stellantis that make it a part of people's everyday life," says Peter Schiefer, division president Automotive at Infineon. "Compared to traditional power technologies, silicon carbide increases the range, efficiency and performance of electric vehicles. With our leading CoolSiC technology and continuous investments in our manufacturing capacities, we are well positioned to meet the growing demand for power electronics in electro-mobility," he adds.