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Addionics Scales Next-Gen Batteries With 3D Electrodes

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TALK TO US



Bosch expands semiconductor production

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Infineon Invests €2b in Malaysia Power Semiconductor Fab

As part of its long-term manufacturing strategy, German chipmaker Infineon Technologies said it plans to invest more than €2 billion in a new frontend fab in Kulim, Malaysia. Once fully equipped, the new module is expected to generate an additional €2 billion in annual revenues from silicon carbide and gallium nitride products.

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Addionics Scales Next-Gen Batteries With 3D Electrodes

Addionics, the Israeli rechargeable battery startup, has raised \$27 million in venture funding in support of efforts to redesign battery architectures around its electrode technology.

Tel Aviv-based Addionics focuses on replacing traditional 2D electrode layer structures with an integrated 3D architecture. Moshiel Biton, CEO and co-founder of Addonics, said the approach provides greater energy density and power while extending battery life.

“We plan to utilize the \$27 million investment to further develop our technology capabilities and applications with the goal of reaching commercialization by 2024. The funding will also be leveraged to build two pilot production facilities, to expand our team and to increase our activity in the U.S. and Germany to better engage with partners,” Biton said.

AI Accelerators Enter IoT SoCs

Silicon Labs’ latest families of wireless-enabled SoCs for IoT applications for the first time include a hardware AI/ML accelerator. The upgrade is indicative of the growing popularity of AI/ML techniques for a variety of IoT markets, including smart home, medical and industrial. Dedicated AI/ML hardware on-chip improves power consumption, critical to many IoT applications, even bringing AI/ML within reach for more power-sensitive IoT applications.

“You’ve always been able to run machine learning algorithms on an M-class processor, the trick is can you do it in an energy efficient way?” said Ross Sabolcik, general manager for IoT industrial and commercial products at Silicon Labs. “If you burn so much energy making the calculations, you might as well push it to the cloud, if you have the bandwidth. Our focus was not only to be able to run AI and ML, but to be able to do it in a really efficient way.”

Intel Will Rely on TSMC for its Rebound

Intel is increasing its reliance on erstwhile rival Taiwan Semiconductor Manufacturing Co. (TSMC) in its attempt to boost sales and eventually regain dominance as the world leader in manufacturing scale and chip process technology.

California-based Intel will join Apple to order the world’s first 3-nm chips from TSMC as the Taiwan chip foundry ramps up its newest process this year, according to three analysts surveyed. Intel and Apple are likely to be the only two TSMC customers at that most-advanced node during the ramp-up, according to the analysts.

At Intel’s investor meeting yesterday, CEO Pat Gelsinger reiterated a promise to “regain leadership” in the chip business. Gelsinger, who has been at the helm at Intel for a year, said the company will advance “five nodes in four years”, after which chip nomenclature will shift to angstroms from nanometers.

Bosch Expands Semiconductor Production

As semiconductor production continues to be boosted by the building of new factories and processing plants around the world, the reality is, the problem is still expected to continue for some time.

In fact, semiconductor production has been disrupted over the last two years for various reasons. The COVID-19 pandemic is probably the biggest disruptor to global semiconductor production. But apart from the pandemic, natural disasters, as well as geopolitical problems between the US and China, have also contributed to the disruption.

Interestingly, most chip manufacturers are feeling optimistic about meeting the growing demand for chips and seeing the problem solved soon. However, semiconductor production operations are still not up to their full potential with teething issues in the supply chain still needing to be sorted.

Infineon Invests €2b in Malaysia Power Semiconductor Fab

As part of its long-term manufacturing strategy, German chipmaker Infineon Technologies said it plans to invest more than €2 billion in a new frontend fab in Kulim, Malaysia. Once fully equipped, the new module is expected to generate an additional €2 billion in annual revenues from silicon carbide and gallium nitride products.

Over the last several decades, advances in silicon carbide and gallium nitride technologies have been characterized by development, growing industry acceptance, and the promise of multi-billion dollar revenues, according to Yole Développement. The SiC device market revenue is now expected to exceed \$4 billion by 2026 while the GaN power market is set to reach US\$1.1 billion in 2026.

In response to the electrification trend, Infineon has continuously strengthened its R&D and investments in wide bandgap semiconductors.

“The market for silicon carbide is growing strongly,” said Reinhard Ploss, CEO of Infineon, during Infineon’s Annual General Meeting on February 17, 2022. “Initially, demand came mainly from industrial applications, for example, for inverters in solar and wind power systems. Now, it’s increasingly being surpassed by the high demand for automotive