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The Global Semiconductor Industry Analysts

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AMD and Qualcomm team up on business laptop silicon

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Germany's Merck to Open Semiconductor Base in China

German supplier of chemicals and materials used in making semiconductors, Merck KGaA, said on Tuesday it had signed a contract to open a semiconductor base in the Chinese city of Zhangjiagang, describing it as its largest single electronics business investment in the country.

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Broadcom strikes \$61bn VMware deal

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TALK TO US



AI drives big data analytics for chip design

Synopsys has developed a suite of tools that use machine learning to analyse the gigabytes of data that are used for complex system-on-chip designs. The DesignDash works with the Synopsys Digital Design Family of tools and DSO.ai AI-driven design-space-optimization tool to provide a deeper understanding of run-to-run.....

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CEA-Leti, Intel develop self assembly die-to-wafer technique

French research lab CEA-Leti and Intel have optimized a hybrid direct-bonding, self-assembly process that could boost the use of die-to-wafer (D2W) bonding. The technique can increase the alignment accuracy as well as boost the fabrication throughput by several thousand dies per hour by using a water droplet to align dies on a target wafer.

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AMD and Qualcomm team up on business laptop silicon

AMD and Qualcomm have teamed up on silicon technology to bring remote Wi-Fi management to IT administrators on next-generation business laptops, including those from Lenovo and HP. It is the first time the companies have worked together on bringing Qualcomm wireless connectivity to AMD mobile computing.

The two companies said their approach could provide IT with laptops that run high performance Wi-Fi 6 and 6E with speeds up to 3.6 Gbps and low latency for smooth, jitter free virtual reality-type experiences.

Qualcomm's FastConnect connectivity system is combined with AMD Ryzen processors, starting with the Ryzen Pro 6000 and the Qualcomm FastConnect 6900 system.

Germany's Merck to Open Semiconductor Base in China

German supplier of chemicals and materials used in making semiconductors, Merck KGaA, said on Tuesday it had signed a contract to open a semiconductor base in the Chinese city of Zhangjiagang, describing it as its largest single electronics business investment in the country.

The new 69-acre base will house production plants for thin film materials and electronic specialty gasses, warehouses, and operation centers.

"China is the largest end market for semiconductors with more than half of the world's total chip output going to China. Given the unprecedented capacity investment and expansion of domestic chip manufacturers, China is currently also the fastest growing semiconductor manufacturing market worldwide," Merck China President Allan Gabor said in a statement. "We believe a golden era for China's semiconductor industry has just begun."

Merck said earlier this year it will invest at least another one billion yuan (\$150.18 million) in China by 2025 to support the chip industry. Of that amount, 550 million yuan (\$82.60 million) will go towards the new Zhangjiagang base, Merck told Reuters.

Broadcom strikes \$61bn VMware deal

Broadcom Inc, a global leader in semiconductor production, has agreed to acquire cloud computing company VMware Inc in a \$61bn cash-and stock deal.

Under the terms of the deal, Broadcom will pay \$142.50 in cash or 0.2520 of a Broadcom share for each VMware share – a price which represents a premium of nearly 49 percent to the stock's last close before talks of the deal were first reported on 22 May. Broadcom will also assume \$8bn of VMware's net debt.

Broadcom has already got commitments from a consortium of banks for \$32bn in debt funding for the deal. VMware will be allowed to solicit offers from rival bidders for 40 days as part of the agreement. Should VMware opt for an alternative bidder during this period it will be required to pay a termination fee of \$750m.

AI drives big data analytics for chip design

Synopsys has developed a suite of tools that use machine learning to analyse the gigabytes of data that are used for complex system-on-chip designs.

The DesignDash works with the Synopsys Digital Design Family of tools and DSO.ai AI-driven design-space-optimization tool to provide a deeper understanding of run-to-run, design-to-design and project-to-project trends, and enhanced collaboration in the SoC development process.

The cloud-native technology will also be combined with the Synopsys lifecycle tools that take data from chip in the field, and data from fab equipment during the manufacturing.

CEA-Leti, Intel develop self assembly die-to-wafer technique

French research lab CEA-Leti and Intel have optimized a hybrid direct-bonding, self-assembly process that could boost the use of die-to-wafer (D2W) bonding.

The technique can increase the alignment accuracy as well as boost the fabrication throughput by several thousand dies per hour by using a water droplet to align dies on a target wafer.

D2W hybrid bonding process is seen as essential for combining memory, HPC and photonic chipllets on a wafer substrate, but it is much more complex than wafer-to-wafer bonding, with lower alignment accuracy and lower die-assembly throughput.