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TSMC Commits to Nanosheet Technology at 2 nm Node

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OpenLight Announces New Open Silicon Photonics Platform

OpenLight, a newly launched, independent company formed by investments from Synopsys and Juniper, announced yesterday the world's first open silicon photonics platform with integrated lasers. The California-based company seeks to provide chip manufacturers with a means to create photonic integrated circuits (PICs) that offer the highest performance possible.

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Ayar Labs Partners with Nvidia for Optical I/O Chiplets

California startup Ayar Labs is building an ecosystem around its optical chip-to-chip communication technology. The company has partnered with Nvidia to develop next-generation architectures with optical I/O.

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TALK TO US



Renesas to buy Reality AI for embedded and tinyML products in non-visual sensing

Tokyo-based Renesas Electronics will acquire Reality Analytics (Reality AI) of Columbia, Maryland, in an all-cash transaction, the companies announced Thursday. News of the deal sent Renesas shares down 2%. Shares dropped 8% over the last five days reaching \$5.36 late Thursday.

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Arm aims new image signal processor at IoT embedded

Computer vision is almost always the first application that comes to mind when anyone starts talking about industrial IoT applications, and its increasing appeal means that image sensing and processing capabilities need to be embedded in a variety of device form factors and footprints.

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Taiwan Semiconductor Manufacturing Co. (TSMC) has chosen nanosheet technology for production of its next 2 nm node starting in 2025 to help cut energy consumption in high-performance computing (HPC) systems.

The company will follow rivals Samsung and Intel, which plan to roll out their own nanosheet devices as early as this year.

TSMC briefed a handful of news media on its roadmap for the next few years as a preview for its annual technology symposium, which will be held at several global locations in the coming months. The world's leading chip foundry is evaluating other process technologies such as complementary FET (CFET) to follow nanosheet, according to Kevin Zhang, TSMC vice president of Business Development.

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With a recent exponential increase in the use of artificial-intelligence and machine-learning technologies, silicon photonics has seen a recent surge. Chipmakers are now setting their sights on PICs thanks to their innate ability to address the growing bandwidth demands of high-level applications.

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"Over the past decade, Nvidia-accelerated computing has delivered a million-X speedup in AI," said Rob Ober, chief platform architect for data center products at Nvidia, in a statement. "The next million-X will require new, advanced technologies like optical I/O to support the bandwidth, power, and scale requirements of future AI and ML workloads and system architectures."

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The deal is expected to close by year's end and has been approved by the boards of both companies. Renesas was founded in 2002 and has nearly 21,000 employees. Reality was founded in 2016 and lists a staff of eight officers on

Renesas said in a statement that the acquisition will enhance its endpoint AI capability to help system developers make their products ready for what it calls the Artificial Intelligence of Things. Renesas now makes software to allow AI to be embedded into its low-power microcontrollers and microprocessors.

Arm aims new image signal processor at IoT embedded computer vision apps

Computer vision is almost always the first application that comes to mind when anyone starts talking about industrial IoT applications, and its increasing appeal means that image sensing and processing capabilities need to be embedded in a variety of device form factors and footprints.

Mohamed Awad, VP of IoT and Embedded at Arm said in a blog post this week that the company kept that in mind while developing the Mali-C55 image signal processor, what he described as the smallest and most configurable image signal processor from Arm. The successor to the Mali-C-52, the new processor covers just half the silicon area size of previous product generations, he said.