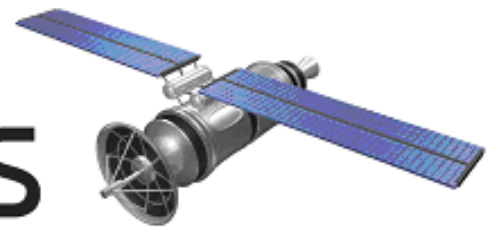


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The Global Semiconductor Industry Analysts

FH MONDAY

21 February 2022

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TALK TO US



Nvidia, Jaguar Land Rover Partner on AV Development

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3D Print Startup Raises Funds, Targets Chips, Displays

Scrona, a 3D print spinout from ETH Zurich in Switzerland, has completed a \$9.6 million funding round it will use to industrialize a novel printing technology using MEMS-based micro-fabricated printhead technology. Target markets include semiconductor manufacturing and high-end displays.

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AlphaICs Begins Sampling Its Deep Learning Co-Processor

AlphaICs, a startup developing edge AI and learning silicon aimed at smart vision applications, is sampling its deep learning co-processor, Gluon, that also comes with a software development kit.

The Gluon co-processor is touted as delivering 8 TOPS edge AI inference performance in a 16nm FinFET process from Taiwan Semiconductor Manufacturing Co. Figures released by AlphaICs indicate frames-per-second (fps)/watt performance for classification and detection of neural networks at 32 fps/watt for the Yolo-V2 object detection model, and 22 fps/watt for the VGG-19 classification model. The co-processor is focused on accelerating deep learning neural network models for classification, detection and segmentation for smart vision in applications such as surveillance, industrial, retail, automotive and industrial IoT.

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Top-ranked auto parts maker Denso Corp. will take a 10-percent stake in Japan Advanced Semiconductor Manufacturing (JASM), the new chipmaking facility majority-owned by Taiwan Semiconductor Manufacturing Co. (TSMC).

Denso acquired the stake with a \$350 million investment, according to a statement released by TSMC, Denso and Sony. The Japanese government and Sony are also stakeholders in the fab.

Fab construction is scheduled to begin this year, with production slated to start by the end of 2024. To meet market demand, TSMC will upgrade JASM's process technology to 12- and 16-nm FinFET nodes, augmenting the previously announced 22/28-nm technology planned for the fab. TSMC has also raised the monthly production capacity to 55,000 12-inch wafers

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Moss Landing, California-based startup Verdagy intends to innovate in a market that is estimated to reach \$53 billion by 2030. Electrification is playing an increasingly important role in the effort to combat climate change. But it is important to evaluate the industrial processes that require other forms of energy. In industries such as chemicals, cement, aviation, and shipping, green hydrogen is proving to be a valuable ally. According to the "Hydrogen Roadmap Europe" report, green hydrogen may cover up to 24% of final energy consumption and provide 5.4 million jobs by 2050 while also contributing to a total CO2 reduction of 560 million tons.

Nvidia, Jaguar Land Rover Partner on AV Development

Jaguar Land Rover (JLR) and Nvidia are launching a multi-year partnership incorporating Nvidia's DRIVE Hyperion 8 AI-based software into Jaguar and Land Rover, beginning with 2025 models. The partners claim the collaboration will help deliver safer automated driving and parking systems.

JLR announced its Reimagine strategy in February 2021 with the ambitious goal of net-zero carbon emissions across its supply chain, products and operations by 2039. The automaker's sustainability strategy includes six all-electric variants of its Land Rover model within five years. Its first all-electric Land Rover model is expected in 2024.

Analysts remain skeptical of JLR's ability to achieve its sustainability goals, especially given the head start by competitors Audi, BMW and Mercedes. "JLR desperately needs volume to survive, and must at least seek a partner or succumb to a takeover," said Neil Winton, senior contributor for Forbes. "Many see a Chinese company stepping in along Volvo/Geely lines, but others say JLR's Indian owner Tata Motors won't stand for that."

3D Print Startup Raises Funds, Targets Chips, Displays

Scrona, a 3D print spinout from ETH Zurich in Switzerland, has completed a \$9.6 million funding round it will use to industrialize a novel printing technology using MEMs-based micro-fabricated printhead technology. Target markets include semiconductor manufacturing and high-end displays.

The company claims its technology is the industry's first multi-nozzle electrostatic printhead for volume manufacturing with "unprecedented" printing resolution in the sub-micrometer range. For example, resolution and layer thickness control of Scrona's technology enables printing of quantum-dot RGB color filters for high-brightness, full-color microLED displays in augmented reality glasses used in gaming and metaverse applications.