

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

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### Plasma Polish Dry Etch Brings Next-Level SiC

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### Silicon Labs CEO Transforms Company to IoT Chip Designer

Silicon Labs’ exit from any business not related to wireless connectivity and IoT devices marks the beginning of the company’s journey to becoming a “pure-play” IoT chip designer, according to Silicon Labs CEO Matt Johnson.

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### Software, AI Top of Mind in Omron’s New 3D AOI System

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## TALK TO US



### How LG Electronics plans to Accelerate Innovation

Backed by its new partnership with Altair Electronics, LG plans to leverage AI, build a digital product testing environment, and reduce time-to-market. In 2006, one month before the iPhone launched, LG Electronics introduced the world’s first touchscreen phone — LG Prada

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## EVENTS

### [Silicon Chip Industry Seminar](#)

- March 2023– London UK

### [Industry Forecast Briefing](#)

– January 2023– London UK

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### OnSemi sells off two more wafer fabs

Power and mixed-signal chip vendor OnSemi Inc. (Phoenix, Ariz.) is reportedly in the process of selling off a two more 200mm wafer fabs as a part of its restructuring.

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## **Plasma Polish Dry Etch Brings Next-Level SiC Quality**

The fabrication process of any semiconductor can be divided into five main phases: crystal growth, slicing and grinding, polishing, epitaxy (epi), and device manufacturing. The third step, which we have generally called “polishing,” is the last phase of substrate production. This step is particularly important to atomically smooth the substrate’s surface, obtaining a high level of planarity, essential for the subsequent processing of the wafer.

Although Chemical Mechanical Polishing (CMP) has been the most used technique for substrate polishing for some time, a newly introduced technology, Plasma Polish Dry Etch (PPDE), is emerging as a valid alternative proposed by Oxford Instruments Plasma Technology, a business unit of Oxford Instruments Plc., that can overcome some of the limitations offered by CMP.

## **Silicon Labs CEO Transforms Company to IoT Chip Designer**

Silicon Labs’ exit from any business not related to wireless connectivity and IoT devices marks the beginning of the company’s journey to becoming a “pure-play” IoT chip designer, according to Silicon Labs CEO Matt Johnson.

“We see the potential for ourselves to be the undisputed leader in our space, as in three to four times the market share of any closest competitor,” Johnson said in an exclusive interview with EE Times. “We can become to our industry in wireless connectivity, embedded connectivity, what other companies have done in their markets, like Nvidia did for GPUs and AI, or what Qualcomm did for cellular.”

On the way to becoming what Johnson calls a “pure-play” IoT chip designer in 2022, the company has doubled its revenue in two years to \$721 million in fiscal year 2021. The company is one of the first to help unify various standards used for IoT devices, according to Bob McConnell, president of Technalysis Research.

## **Software, AI Top of Mind in Omron’s New 3D AOI System**

To combat shadowing and secondary-reflection issues that inspection systems encounter while generating 3D profiles of PCB solder joints, Omron took its flagship VT-S730 3D AOI system and upped the ante, said Brad Ward, technical manager for advanced sensing and inspection solutions at Omron Automation Americas.

“We entered a new era—3D AOI—about 10 years ago. And there were many lessons learned through the last decade, from a hardware and software perspective, about what is and isn’t needed, what works and what doesn’t,” he said, standing in front of the upgrade, the VT-S1080, at the Omron Chicago Proof of Concept Center. “So, this new generation was designed to take all those lessons and perfect the hardware within a 3D AOI systems—so that we can move beyond hardware and focus on software and AI in industry 4.0.

## **How LG Electronics plans to Accelerate Innovation with AI-Powered Simulation**

Backed by its new partnership with Altair Electronics, LG plans to leverage AI, build a digital product testing environment, and reduce time-to-market.

In 2006, one month before the iPhone launched, LG Electronics introduced the world’s first touchscreen phone — LG Prada. This disruptive cell phone, made in partnership with luxury powerhouse Prada, set the stage for the modern devices we all use and rely on today.

Unfortunately, LG’s mobile phone success was short lived. Unable to compete with companies like Samsung and Apple, LG decided to close its mobile device sector in 2021. Now LG is turning its attention to alternative technologies that leverage artificial intelligence (AI) and setting the stage for its next big innovation.

## **Onsemi Sells Off Two More Wafer Fabs**

Power and mixed-signal chip vendor OnSemi Inc. (Phoenix, Ariz.) is reportedly in the process of selling off a two more 200mm wafer fabs as a part of its restructuring.

Wafer fab broker ATREG Inc. (Seattle, Wash.) announced that the sale of On Semi’s 200mm wafer fab in Pocatello, Idaho to LA Semiconductor had closed. Meanwhile Nikkei Asia reported that a Japanese private equity fund, reportedly called Mercuria Holdings, will buy On Semi’s 200mm wafer fab in Niigata, Japan.