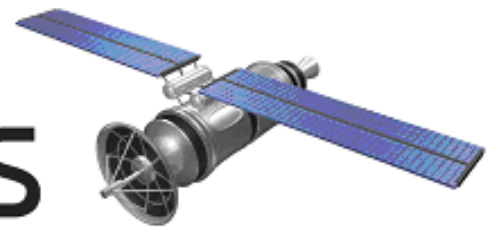


# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

26 September 2022

### Micron to build \$15B memory fab near its Boise

Micron will invest \$15 billion in a new Boise, Idaho, fab for leading edge memory manufacturing, the company said Thursday. The company is based in Boise, although other states, including Virginia, had been hoping to attract the next big Micron fab. About 6,000 Micron workers are located in Boise.

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### GaN0 Opto launches first silicon carbide EUV photodiode

GaN0 Optoelectronics Inc – a spin-off from China's Nanjing University that offers ultraviolet (UV) detectors and modules based on wide-bandgap semiconductors including gallium nitride (GaN) and silicon carbide (SiC) – has formally released what it claims are the first commercial SiC-based extreme ultraviolet (EUV) photodiodes.

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### Siemens, Nissan team to digitise electric powertrain production

Siemens is working with Nissan to build production lines for a new all-electric crossover vehicle at the company's plant in Tochigi, Japan. Nissan is using key digital technology across the Internet of Things to build the Ariya crossover which is based on a newly developed electric powertrain that aims to standardize the processing and assembly.

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## TALK TO US



### Greek milestone for graphene perovskite solar panels

Outdoor testing of the first solar farm fabricated using perovskites and graphene has yielded a peak power output of 250W, similar to that of commercial 60-cell silicon solar panels. This is a milestone toward the commercialization of this new technology, allowing for full control of the supply chain.

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## EVENTS

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

- September 2022- London UK

### [Industry Forecast Briefing](#)

- September 2022- London UK

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### Plastic die packaging now in Scotland

Alter Technology has started its plastic die packaging line in Livingston. "We have set up the UK's only QFN plastic package semiconductor line, which has a capacity of several million single die QFN-equivalents per year, with plans to go beyond 10 million next year," said company CEO Stephen Duffy.

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## **Micron To Build \$15B Memory Fab Near Its Boise HQ**

Micron will invest \$15 billion in a new Boise, Idaho, fab for leading edge memory manufacturing, the company said Thursday.

The company is based in Boise, although other states, including Virginia, had been hoping to attract the next big Micron fab. About 6,000 Micron workers are located in Boise.

The spending over the next decade will create 17,000 new jobs, including 2,000 directly at Micron. Micron previously said it was planning to spend \$40 billion in the next 10 years on new fabs and this will be the first based on stimulation from the CHIPS and Science Act.

## **GaN Opto Launches First Silicon Carbide EUV Photodiode**

GaN Optoelectronics Inc – a spin-off from China's Nanjing University that offers ultraviolet (UV) detectors and modules based on wide-bandgap semiconductors including gallium nitride (GaN) and silicon carbide (SiC) – has formally released what it claims are the first commercial SiC-based extreme ultraviolet (EUV) photodiodes.

With the rapid development of VLSI fabrication technologies down to 7/5nm nodes (for micro-chips containing billions of transistors), advanced photolithography is transitioning from deep ultraviolet (DUV) immersion lithography based on a 193nm light source to extreme ultraviolet (EUV) lithography based on 13.5nm light source. An EUV lithography system is so complex that demanding technical challenges must be overcome for meeting chipmakers' requirements for high-volume manufacturing. Among them, the development of high-performance EUV detectors is critical because, to precisely control the photoresist exposure dose, the intensity and uniformity of the EUV light beam must be constantly monitored. Besides EUV lithography, semiconductor EUV detectors are also core components in solar-observing satellites, materials science and many fundamental research fields.

## **Siemens, Nissan team to digitise electric powertrain production**

Siemens is working with Nissan to build production lines for a new all-electric crossover vehicle at the company's plant in Tochigi, Japan.

Nissan is using key digital technology across the Internet of Things to build the Ariya crossover which is based on a newly developed electric powertrain that aims to standardize the processing and assembly.

The line will use Siemens' safety PLC Simatic S7-1500, ET200SP distributed I/ O module as Siemens One Single Solution (OSS). Profinet creates end-to-end communication from the field to the management level, and the engineering framework TIA Portal has also fully integrated all automation devices.

## **Greek Milestone For Graphene Perovskite Solar Panels**

Outdoor testing of the first solar farm fabricated using perovskites and graphene has yielded a peak power output of 250W, similar to that of commercial 60-cell silicon solar panels.

This is a milestone toward the commercialization of this new technology, allowing for full control of the supply chain.

The project, under the Graphene Flagship, brings together Hellenic Mediterranean University, Greece, University of Rome Tor Vergata, BeDimensional, Greatcell Solar Italia, Italian Institute of Technology and the National Research Council, Italy.

The project developed multiple solar panels by stacking layers of perovskite, graphene and molybdenum disulfide for a low manufacturing cost with a lifetime and power conversion efficiency similar to state-of-the-art silicon solar cells.

## **Plastic Die Packaging Now In Scotland**

Alter Technology has started its plastic die packaging line in Livingston.

"We have set up the UK's only QFN plastic package semiconductor line, which has a capacity of several million single die QFN-equivalents per year, with plans to go beyond 10 million next year," said company CEO Stephen Duffy. "While still a long way off the capacity of the big OSATs, we believe that such volume capability will be vital to ensuring a vibrant UK and European semiconductor industry in future years." (OSAT is 'out-sourced assembly and test').

According to the company, it has a niche in which it can package die for industrial, medical, aerospace and defence markets, and for chip companies working in gallium nitride and silicon carbide, as high-volume OSATs predominantly concentrate on consumer, mobile and automotive markets, and are prone to reject small batches and non-standard requirements.