FutureHorizons

The Global Semiconductor Industry Analysts

FH MONDAY

18 July 2022

LG Innotek working on metalens technology

LG Innotek said on Thursday that it was working on technologies related to metalens, which rival Samsung Electro-Mechanics was also working on.

)

read more

Samsung's first 3nm foundry customer is Chinese firm

Samsung will start trial production of its 3-nanometer(nm) foundry process for customers this week at the earliest, TheElec has learned.The first customer for the process will be the Chinese application-specific IC firm, sources said.

read more

TSMC Trims Expansion Plans as Outlook Dims

Taiwan Semiconductor Manufacturing Company (TSMC) has pared back its plan to spend more than $40 billion this year for capacity expansion. The outlook for demand has worsened on expectations of an inventory reduction in the PC and consumer electronics segments.

read more

FutureHorizons

TALK TO US

Intel tells customers to expect price hikes due to inflation, company confirms

Intel has been informing customers it will raise prices later this year on most microprocessors and peripheral chip products by as much as 20%, according to the company and a report out of Taipei.

read more

EVENTS

Silicon Chip Industry Seminar

- September 2022– London UK

Industry Forecast Briefing

– September 2022– London UK

DON'T MISS OUT.- BOOK NOW BY CALLING

+44 1732 740440

OR EMAIL

mail@futurehorizons.com

Thin WSe2 semiconductor glows under direct laser

Chip engineers are excited by recent research into a new material that makes dark semiconductors glow when activated by a laser.

read more

Future Horizons Ltd, • 44 Bethel Road • Sevenoaks • Kent TN13 3UE • England
Tel: +44 1732 740440 • Fax: +44 1732 740442
e-mail: mail@futurehorizons.com• http://www.futurehorizons.com/
Affiliates in Europe, India, Israel, Japan, Russian, San Jose California, USA

LG Innotek Working On Metalens Technology

LG Innotek said on Thursday that it was working on technologies related to metalens, which rival Samsung Electro-Mechanics was also working on.

LG Innotek CTO Kang Miseok, speaking at an industry conference in South Korea, confirmed the company was working on technology while speaking of how to apply nanotech and AI in an autonomous vehicle.

A metalens has nanoparticles aligned uniformly on the surface of a flat lens.

Though the lens is flat, the nanoparticles can bend the light instead. The technology allows lens and camera modules to become thinner compared to a conventional lens made out of glass and resins.

Samsung's first 3nm foundry customer is Chinese firm

Samsung will start trial production of its 3-nanometer(nm) foundry process for customers this week at the earliest, TheElec has learned. The first customer for the process will be the Chinese application-specific IC firm, sources said.

Qualcomm, Samsung's largest customer, had also made reservations for the process, with the pair agreeing that the US company can ask for the process anytime, sources said. Samsung's gate-all-around (GAA) 3nm processes, as its name implies, have the current gates on all four surfaces.

The most advanced process that has been commercialized to date is FinFET, which uses three surfaces, and is sometimes called 3D for this reason.

TSMC Trims Expansion Plans as Outlook Dims

Taiwan Semiconductor Manufacturing Company (TSMC) has pared back its plan to spend more than $40 billion this year for capacity expansion. The outlook for demand has worsened on expectations of an inventory reduction in the PC and consumer electronics segments.

At a quarterly result meeting on July 14, TSMC predicts its capital expenditure this year will reach about $40 billion. Three months ago, the company forecasted that number could have reached $44 billion.

"Due to the softening device momentum in smartphone, PC, and consumer end–market segments, we observe the supply chain is already taking action and expect inventory levels to reduce throughout the second half of 2022," said TSMC CEO C.C. Wei at the event. "We believe the current semiconductor cycle will be more similar to a typical cycle, with a few quarters of inventory adjustment likely through first half 2023."

Intel tells customers to expect price hikes due to inflation, company confirms

Intel has been informing customers it will raise prices later this year on most microprocessors and peripheral chip products by as much as 20%, according to the company and a report out of Taipei.

The chip giant forewarned investors in its April earnings report that it would increase pricing in certain segments of its business "due to inflationary pressures" and confirmed in a statement on Friday that the company has "begun to inform customers of these changes."

Thin WSe2 semiconductor glows under direct laser in Oldenburg research

Chip engineers are excited by recent research into a new material that makes dark semiconductors glow when activated by a laser.

The work by physicists at the University of Oldenberg is viewed as perhaps a significant first step in manipulating the physical characteristics of matter using light fields, wrote Jalal Baherli, co-chair of Williams Advanced Engineering, in a post on LinkedIn.

It has the potential to enhance optical capabilities of semiconductors to improve LEDs, solar cells and other products.

The shift to Industrial IoT is spurring new applications, from driverless transport to autonomous robots. In this whitepaper, discover how NXP's security-by-design approach provides a path for optimal protection in industrial applications.

The researchers were able to change the energy levels in an ultra-thin sample of an unusual semiconductor material known as tungsten diselenide (WSe2). They used a sample of a single crystalline layer of tungsten and selenium atoms for their work, often referred to as kind of quantum or 2D material.

The tungsten diselenide was placed between two specially created mirrors and then excited with a laser. With that technique, they could energize electrons and light particles known as photons.