

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

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### Intel Promises to Boost 14nm Production

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### 25G Rising for Ethernet, China

In the second quarter of 2018, the industry saw record-setting volume for 25G ports, with growth hitting 200% percent year over year, as reported for the second quarter of 2018 by the 650 Group. Vendors leading the 25G charge are Cisco, Arista and H3C. White box vendors made up 5% of the market.

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### Arm Scraps License Fees on Xilinx FPGAs

Arm has taken a major step to open up its Cortex-M processors as soft IP for low-volume internet of things (IoT) applications by announcing that it will scrap all license fees and royalties for designs based on its M1 and M3 processors across Xilinx's FPGA portfolio.

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## TALK TO US



### TSMC Goes Photon to Cloud

TSMC taped out its first chip in a process making limited use of extreme ultraviolet lithography and will start risk production in April on a 5-nm node with full EUV. Separately, the foundry forged partnerships with four partners to support online services for back-end chip design.

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## EVENTS

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

– 12 Nov 2018 – London UK

### [Industry Forecast Briefing](#)

– January 2019 – London UK

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### Sensor Fusion Drives MEMS and Imaging

Coming away from the recent MEMS & Sensors Summit in Grenoble, France, it became apparent that sensors are becoming more sophisticated, compact, extremely intelligent, and pervasive in all areas of modern life.

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## **Intel Promises To Boost 14nm Production**

SAN FRANCISCO — Seeking to allay fears of revenue shortfall amid tight supply, Intel said Friday that the company believes it has the supply to meet its full-year sales target of \$69.5 billion. The company also reiterated plans to increase its capital spending for the year to a record \$15 billion and to be in volume production of 10nm chips next year.

In an open letter published on Intel's website Friday, Bob Swann, Intel's interim CEO, said the company increased capital spending includes an additional \$1 billion to be spent on increasing 14nm capacity at Intel Fabs in Oregon, Arizona, Ireland and Israel. Swann said the increased spending and other efficiencies is increasing Intel's supply to respond to customer demand.

The strength of the PC market — which Intel now expects to grow for the first time since 2011 — has put pressure on the company's network of fabs, Swann said. Intel is prioritizing the production of Xeon and Core processors to serve the high-performance computing segments of the market, Swann said.

## **25G Rising For Ethernet, China**

In the second quarter of 2018, the industry saw record-setting volume for 25G ports, with growth hitting 200% percent year over year, as reported for the second quarter of 2018 by the 650 Group. Vendors leading the 25G charge are Cisco, Arista and H3C. White box vendors made up 5% of the market.

Virtualization was just taking hold in servers in the mid-2000's, but it has become standard for servers today. The new 25G networks are proving to be as impactful as 10G speeds that came to prominence back in 2004.

Over the past decade, enterprise networks have transitioned to support multiple clouds over centralized and virtualized fabrics. A successful transition to 25G will provide a foundation for the expansion of mobile applications that require juiced performance.

## **Arm Scraps License Fees On Xilinx FPGAs**

Arm has taken a major step to open up its Cortex-M processors as soft IP for low-volume internet of things (IoT) applications by announcing that it will scrap all license fees and royalties for designs based on its M1 and M3 processors across Xilinx's FPGA portfolio.

The two companies said that they are collaborating to offer completely zero-cost access to Arm's soft processor IP, integrated with Xilinx tools and software development solutions to accelerate design starts on FPGA. Offered through the Arm DesignStart program, it will enable developers to simplify development of Arm cores spanning Xilinx's Spartan, Artix and Zynq portfolios.

Arm says it made the cores free in FPGAs due to greater pressure from OEMs to develop flexible, application-optimized designs at a faster pace and with less investment. Asked whether the move is to take on the growth of open-source RISC cores as a route to rapid development of low-volume processor-based SoCs, Phil Burr, director, portfolio product management, Arm, told EE Times, "It's about making sure that people using Arm have maximum choices."

## **TSMC Goes Photon To Cloud**

SAN JOSE, Calif. — TSMC taped out its first chip in a process making limited use of extreme ultraviolet lithography and will start risk production in April on a 5-nm node with full EUV. Separately, the foundry forged partnerships with four partners to support online services for back-end chip design.

The foundry's update showed that area and power gains continue in its leading-edge nodes, but chip speeds are no longer advancing at their historic rate. To compensate, TSMC gave an update on a half-dozen packaging techniques that it is developing to speed connections between chips.

Backers say that cloud-based services will shorten the time and extend the reach of chip design tools, helping expand a semiconductor industry facing the slowdown of Moore's Law. However, they note that cloud design is still in an early phase that typically requires setting up and optimizing custom sites.

## **Sensor Fusion Drives MEMS And Imaging**

Coming away from the recent MEMS & Sensors Summit in Grenoble, France, it became apparent that sensors are becoming more sophisticated, compact, extremely intelligent, and pervasive in all areas of modern life. We heard a lot about sensor fusion, the need for artificial intelligence at the edge, and data privacy issues as sensors gather huge amounts of data needed to make cars autonomous, cities and factories smart, and more medical applications with biosensors.

With a mostly European flavor to the speakers and participants, we heard a lot about the strong ecosystem for sensor development in Europe.

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