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FH MONDAY

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TALK TO US

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EVENTS

[Silicon Chip Industry Seminar]

-March 2021– London UK

[Industry Forecast Briefing]

– Sept 2021– London UK

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AMD, TSMC & Imec Show Their Chiplet Playbooks at ISSCC

A lot has been said about the shift from a system-on-chip integration of functionality to a technology integrating each IP block as a physically distinct chiplet. Perhaps the emergence of this new paradigm is most aptly represented by the devotion of a full forum session to chiplets at the International Solid-State Circuits Conference.

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IBM Unveils Quantum Computing Development Roadmap

Quantum computing is at a pivotal point. The decisive quantum leap could be coming. IBM has outlined its quantum computing development roadmap that will begin with the release of the Qiskit Runtime open-source software in 2021.

In an interview with EE Times Europe, Bob Sutor, vice president of Quantum Ecosystem Development at IBM, pointed out that currently no one is yet using quantum computers in production. The challenge will be to make this new environment more and more accessible and allow companies and developers to experiment with the release of applications. Besides software aspects, the increasingly efficient hardware with a decidedly high qubit count will pave the way for commercial applications. In any case, in the near future, quantum computers will not replace classical computers. They will work together.

GaN ToF Laser Drivers Power the Next-Gen LiDAR

Efficient Power Conversion (EPC) announced the eToF Laser Driver family for lidar system design. The new gallium nitride (GaN) family aims to deliver time-of-flight (ToF) applications for autonomous cars and 3D sensing across the consumer and industrial sectors.

EPC's new lidars integrate the device driver directly with the GaN-based laser. This configuration eliminates nearly all the inductance that exists when the two elements are separate, explained EPC CEO Alex Lidow. That allows EPC's new lidars to generate comparatively faster pulses, which ultimately translates into higher resolution.

"The more you cuddle up with the laser, the better," he said.

The integration also leads to a reduction in the size of the the sensor/driver combination; the new devices can be shrunk to 3 square millimeters or as small as 1 square millimeter. Furthermore, according to Lidow, EPC can sell them for cheap.

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Some of the smaller winners included US Cellular ($1.28 billion) and New Level II L.P., a private equity group focusing on broadband networks ($1.27 billion.)

The outcome reflects the fact that Verizon was very much more in need of mid-band spectrum.

Ultra-Low Power Chipsets for NB-IoT Networks

As IoT expands to include all types of connected "things", many companies are providing several low power and connectivity chips to support the millions of devices. Sony Semiconductor Israel (formerly Altair Semiconductor), is a provider of cellular IoT chipsets. In an interview with EE Times Europe, Nohik Semel, CEO of Sony Semiconductor Israel, highlighted the importance of providing ultra-low power chipsets to keep devices connected to today's LTE networks and ready for 5G IoT.

In recent years, much attention has been focused on the Internet of Things (IoT), which is a whole range of commercial and industrial devices interconnected through the wireless (and wired) network. The advent of these devices poses a serious challenge in terms of battery life, data security and the corresponding batteries that need to be purchased, maintained and disposed; the energy harvesting technique presents a simple solution to easily and economically power low-power embedded devices (SoC) while using clean energy.

AMD, TSMC & Imec Show Their Chiplet Playbooks at ISSCC

A lot has been said about the shift from a system-on-chip integration of functionality to a technology integrating each IP block as a physically distinct chiplet. Perhaps the emergence of this new paradigm is most aptly represented by the devotion of a full forum session to chiplets at the International Solid-State Circuits Conference. The virtual conference just wrapped up.

All eight of the forum (aka ISSCC Exploration) presentations offered an interesting look at chiplet technology. But three in particular provided an overview of the systems already on the market, the technology trends, and the ecosystem necessary to accelerate the new design approach.