# FutureHorizons



## The Global Semiconductor Industry Analysts

### **FH MONDAY**

31 July 2017

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AMD's CTO on 7nm, Chip Stacks

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#### TALK TO US







NFC Players Welcome Broader iPhone Support

LONDON – Buried in the supporting data for Apple's announcement of iOS11 is the news that, for the first time, iPhones will be able to use both near field communications (NFC) tag mode and reader mode.

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#### **EVENTS**

Silicon Chip Industry
Seminar

- 13 November 2017 - London

#### **Industry Forecast Briefing**

- 19 September 2017 - London UK

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What if your clothes could charge a cellphone?

What if your clothes could charge your mobile phone, fitness tracker and other devices using power harvested from your movements? Mundane tasks such as walking or sitting down could power your mobile devices.

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#### **ADAS Chip Integrates Vivante Vision GPU IP**

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SGKS's 6802X is an SoC with heterogeneous computing units, including a programmable vision GPU and hardware-implemented functions for ADAS applications. According to VeriSilicon, the SGKS6802X is also a highly cost-effective, high-performance single-chip solution for graphics & image recognition and processing with a wide range of interfaces to enable ADAS for mass-market products. The company said that the GC7000UL-VX is suitable for ADAS products with deep and efficient integration of vision and graphic processing in one IP that provides comprehensive and unified software stack support including OpenVX, OpenCV, OpenCL, OpenGL ES 3.1, and Vulkan1.0.

#### Toyota, BMW Join \$159M Funding For Start-Up Nauto

Silicon Valley start-up Nauto, which uses artificial intelligence-powered system and data platform to improve fleet safety, has secured \$159 million in Series B financing from a group of investors led by SoftBank Group and Greylock Partners.

Previous investors, including global car companies BMW iVentures, General Motors Ventures and Toyota Al Ventures, as well as insurance provider Allianz Group and Series A investors Playground Global and Draper Nexus, also participated in the new round of financing.

The start-up said the investment will be used to deploy its retrofit safety and networking system into more vehicles worldwide, as well as support the expansion of the Nauto data platform in autonomous vehicle research and development across multiple automakers.

#### AMD's CTO on 7nm, Chip Stacks

SAN JOSE, Calif. — AMD is among chip designers getting an early taste of 7nm process technologies, said its chief technology officer. He called for accelerated work on wafer-level fan-out packaging and greater use of parallelism in EDA software.

To gear up for 7nm, "we had to literally double our efforts across foundry and design teams...It's the toughest lift I've seen in a number of generations," perhaps back to the introduction of copper interconnects, said Mark Papermaster, in a wide-ranging interview with EE Times.

The 7nm node requires new "CAD tools and [changes in] the way you architect the device [and] how you connect transistors—the implementation and tools change [as well as] the IT support you need to get through it," he said.

#### **NFC Players Welcome Broader iPhone Support**

LONDON – Buried in the supporting data for Apple's announcement of iOS11 is the news that, for the first time, iPhones will be able to use both near field communications (NFC) tag mode and reader mode.

In current versions of iOS, NFC may be used for wireless payments as part of ApplePay, but this is so far the only possible use case. Enabling NFC reader mode in the operating system will allow scenarios such as tap-to-pair with Bluetooth devices, and location-based services such as tap to gain information about a particular place or item.

Although Android phones have had this capability for some time, and NFC technology has been around for some years, the technology has not quite reached its potential to date.

#### What If Your Clothes Could Charge A Cellphone?

What if your clothes could charge your mobile phone, fitness tracker and other devices using power harvested from your movements? Mundane tasks such as walking or sitting down could power your mobile devices.

At team from Vanderbilt University's Nanomaterials and Energy Devices Laboratory has developed an ultra-thin energy harvesting system that has the potential to do just that. The harvesting system is based on battery technology and made from layers of black phosphorus that are only a few atoms thick. It generates small amounts of electricity when it is bent or pressed even at the extremely low frequencies characteristic of human motion.

"In the future, I expect that we will all become charging depots for our personal devices by pulling energy directly from our motions and the environment," said Cary Pint, Assistant Professor of Mechanical Engineering who directed the research.

The new energy harvesting system is described in a paper titled "Ultralow Frequency Electrochemical Mechanical Strain Energy Harvester using 2D Black Phosphorus Nanosheets" published online by ACS Energy Letters.