

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

10 April 2017

### Apple Drops Imagination

Apple has notified Imagination Technologies Group, a key GPU core licensor to Apple for years, that it will no longer use Imagination's intellectual property in new products. Imagination disclosed the Apple cutoff on Monday (April 3).

[read more](#)

### Intel Shows Life Beyond CMOS

-Intel described more than a dozen technologies to transcend the limitations of CMOS it is developing in conjunction with universities and the Semiconductor Research Corp. industry consortium at the International Symposium on Physical Design (ISPD 2017) here last month.

[read more](#)

### Machine Learning Comes to Chip Design

Semiconductor engineers are already hearing AI's footsteps as it encroaches on their design work. Consider the vast amount of design data and variability required of chip designers, especially when developing a variety of chips with different power, temperature and performance specs.

[read more](#)

FutureHorizons



### TALK TO US



### 3D Antenna Spans Up To 6GHz For Spectral Searches

German RF measurement specialist Aaronia has introduced a small isotropic antenna that is compatible with any spectrum analyser. The IsoLOG 3D is a plug-and-play solution enabling rapid 3D measurements, according to the company

[read more](#)

### EVENTS

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

- 12 June 2017 - London UK

#### [Industry Forecast Briefing](#)

- 19 September 2017 - London UK

**DON'T MISS OUT.-  
BOOK NOW BY CALLING**

**+44 1732 740440**

**OR EMAIL**

**[mail@futurehorizons.com](mailto:mail@futurehorizons.com)**

### Chip Materials Market Grew 2.4% in 2016

Sales of semiconductor materials grew by 2.4 percent in 2016 compared with 2015, according to the SEMI trade organization. Wafer fabrication materials revenue increased 3.1 percent to reach \$24.7 billion last year, while the packaging materials revenue increased 1.4 percent to \$19.6 billion, according to SEMI,.....

[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](mailto:mail@futurehorizons.com) • <http://www.futurehorizons.com/>

Affiliates in Europe, India, Israel, Japan, Russian, San Jose California, USA

## **Apple Drops Imagination**

MADISON, Wis. – Apple has notified Imagination Technologies Group, a key GPU core licensor to Apple for years, that it will no longer use Imagination's intellectual property in new products. Imagination disclosed the Apple cutoff on Monday (April 3).

For the U.K.-based graphics IP firm, whose GPU core technologies have been intrinsic to Apple's phones, tablets, iPods, TVs and watches, this is undoubtedly a devastating blow.

However, members of the GPU community, who've been aware of Apple's hiring binge on GPU talent, tend to regard this as an inevitable development.

Kevin Krewell, principal analyst at Tirias Research, noted that he does not think Imagination can continue as an independent company without Apple. "I expect it will be for sale, especially at the lower stock price."

## **Intel Shows Life Beyond CMOS**

Intel described more than a dozen technologies to transcend the limitations of CMOS it is developing in conjunction with universities and the Semiconductor Research Corp. industry consortium at the International Symposium on Physical Design (ISPD 2017) here last month.

Intel's ultimate goal is to achieve significantly lower energy per operation for computation while utilizing the same fabs.

"We are looking beyond CMOS logic and computation methods to discover how to do it differently," said Ian Young, a senior fellow with Intel's Technology Manufacturing Group and director of exploratory integrated circuits in components research. "We want to lower the power supply voltage well below 0.5V, but the 60mV per decade sub-threshold swing of the MOSFET limits us from doing this for CMOS logic."

## **Machine Learning Comes To Chip Design**

Semiconductor engineers are already hearing AI's footsteps as it encroaches on their design work.

Consider the vast amount of design data and variability required of chip designers, especially when developing a variety of chips with different power, temperature and performance specs. Complex IC designs might well be one of the logical areas to apply machine learning.

At least one EDA software company is making headway with home-grown machine-learning algorithms — calling it "machine learning for engineering" and applying it to variation-aware design and characterization software.

That company is Solido Design Automation, a privately-held EDA software vendor founded in 2005 in Saskatoon, Canada.

## **3D Antenna Spans Up To 6ghz For Spectral Searches**

German RF measurement specialist Aaronia has introduced a small isotropic antenna that is compatible with any spectrum analyser.

The IsoLOG 3D is a plug-and-play solution enabling rapid 3D measurements, according to the company. Because it works on the fly, the antenna doesn't require any software installation, power connection or hardware changes. It is connectable via the N (male) connector to any analyser or oscilloscope.

The antenna has a frequency range of 9kHz to 3GHz or up to 6GHz, depending on the model. Its gain bypass mode is -42dB at 70MHz and -10dB at 3GHz, while its gain pre-amp on is -22dB at 70MHz and 10dB at 3GHz. Chop and switch speed rate ranges from 1Hz to 50kHz, while nominal impedance is 50  $\Omega$ .

## **Chip Materials Market Grew 2.4% in 2016**

SAN FRANCISCO—Sales of semiconductor materials grew by 2.4 percent in 2016 compared with 2015, according to the SEMI trade organization.

Wafer fabrication materials revenue increased 3.1 percent to reach \$24.7 billion last year, while the packaging materials revenue increased 1.4 percent to \$19.6 billion, according to SEMI, which represents semiconductor equipment and materials suppliers worldwide.

Taiwan was the largest consumer of semiconductor materials for the seventh consecutive year, owing largely to its foundry and packaging activity, SEMI said. Taiwan consumed a total of \$9.8 billion worth of semiconductor materials, SEMI said.