

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

2 April 2018

### Path to 2 nm May Not Be Worth It

Engineers see many options to create 5-, 3- and even 2-nm semiconductor process technologies, but some are not sure that they will be able to squeeze commercial advantages from them even at 5 nm.

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### Half of Notebooks Expected to Have SSDs

Solid-state drives (SSDs) will be featured in more than half of notebook PCs produced by OEMs for the first time this year as the result of falling prices, according to market research firm DRAMeXchange.

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### From ADAS to Autonomous Cars: Key Design Lessons

Autonomous driving can be challenging. But here are three major lessons that automotive developers have learned while streamlining the ADAS designs during the past few years.

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### TALK TO US



### Würth Elektronik joins STMicro Partner Program

BOSTON — Designing any electronics system requires many kinds of parts, many of which go beyond electronic components. Just because you have a working circuit doesn't mean a design is complete

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– March 2018 – London UK

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

– 16 January 2018 – London UK

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### Automatic emergency call saves lives:

It can save lives, which is why the automatic emergency call feature – termed eCall – will be mandatory for all new car and light commercial vehicle models in the European Union from 31 March 2018. It will therefore be integrated in future in an estimated 20 million new vehicles annually.

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## **Path to 2 nm May Not Be Worth It**

SANTA CLARA, Calif. — Engineers see many options to create 5-, 3- and even 2-nm semiconductor process technologies, but some are not sure that they will be able to squeeze commercial advantages from them even at 5 nm.

The increasing complexity and cost of making ever-smaller chips is leading to diminishing returns. Data rates are peaking at 3 GHz for mobile processors, and power and area gains will narrow at 7 nm, said a Qualcomm engineer in a panel at a Synopsys user group event here.

Speed gains of 16% at 10 nm may dry up at 7 nm due to resistance in metal lines. Power savings will shrink from 30% at 10 nm to 10–25% at 7 nm, and area shrinks may decline from 37% at 10 nm to 20–30% at 7 nm, said Paul Penzes, a senior director of engineering on Qualcomm's design technology team.

## **Half Of Notebooks Expected To Have SSDs**

SAN FRANCISCO — Solid-state drives (SSDs) will be featured in more than half of notebook PCs produced by OEMs for the first time this year as the result of falling prices, according to market research firm DRAMeXchange.

SSD suppliers have cut prices to entice PC OEMs to adopt their latest 64/72-layer 3D SSDs, according to DRAMeXchange, which tracks the price of memory chips.

Contract prices for mainstream SSDs for PC OEMs are expected to decline by 3 to 5 percent in the first quarter in the SATA-SSD sector and 4 to 6 percent in the PCIe-SSD sector, according to DRAMeXchange, a unit of TrendForce. By contrast, SSD prices rose throughout 2017, the firm said.

## **From ADAS To Autonomous Cars: Key Design Lessons**

Autonomous driving can be challenging. But here are three major lessons that automotive developers have learned while streamlining the ADAS designs during the past few years.

Autonomous driving systems are challenging design engineers in ways that personal computer, smartphone, and data center systems did not. At the same time, however, there is a lot that semiconductor developers can learn from the evolution of advanced driving assistance systems (ADAS).

So, while integration challenges may perplex the developers of system-on-chips (SoCs) for self-driving vehicles, the ADAS learning curve can be crucial in putting the technology of the century to work in the cars of the future.

## **Würth Elektronik Joins STMicro Partner Program**

BOSTON — Designing any electronics system requires many kinds of parts, many of which go beyond electronic components. Just because you have a working circuit doesn't mean a design is complete. To that end, in 2017, STMicroelectronics established a Partner Program for companies that provide complementary products.

Recently, Würth Elektronik, a maker of passive components, joined the program, bringing total membership to 133 companies. Partners provide products such as development boards, software, sensors, power sources, and connectivity. Würth Elektronik adds devices such as EMI filters, capacitors, RF inductors, transformers, circuit-protection components (TVS diodes), power modules, LEDs, connectors, and switches. To learn more about the program, EE Times spoke to Alessandro Maloberti, Partner Ecosystem Director at STMicroelectronics.

## **Automatic Emergency Call Saves Lives: Daimler Builds On eSIMs From Infineon**

Munich, 22 March 2018 – It can save lives, which is why the automatic emergency call feature – termed eCall – will be mandatory for all new car and light commercial vehicle models in the European Union from 31 March 2018. It will therefore be integrated in future in an estimated 20 million new vehicles annually.

The aim of the eCall system is to shorten the time between an accident and the arrival of the emergency services by up to 50 percent throughout Europe, and reduce the number of fatalities on the road by around 10 percent. The automatic eCall can also prevent serious accidents from going unnoticed. In the event of an accident, eCall is used to independently send an emergency call to the emergency call center via the mobile network. Details such as the location, the precise time of the accident, the number of passengers and the type of fuel are transmitted.