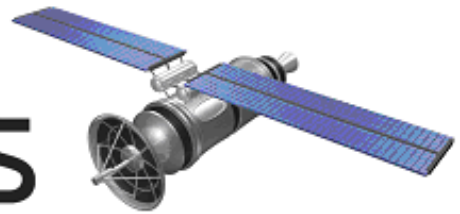


# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

24 October 2016

### DRAM Pushes Up Chip Forecast

The market for integrated circuits could eke out 1% revenue growth this year and 4% in 2017, thanks in part to a rebounding DRAM market,

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### 4DS Memristors Target ReRAMs

4DS Memories Ltd. (West Perth, Western Australia) claims to have achieved 40-nanometer resistive random-access memories (ReRAMs) that are denser than flash and rival the recently reported Crossbar Inc.'s (San Francisco) ReRAM licensed to China.

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### IoT Hears LTE Calling

The two largest U.S. cellular carriers and five module makers said they will use a Qualcomm chip implementing the latest low-power LTE standards for the Internet of Things. The news shows the cellular IoT standards should get strong market penetration next year.

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### TALK TO US



### ST Blends Security, Performance in IoT MCUs

STMicroelectronics has announced a new family of microcontrollers based on the ARM Cortex-M7 processor that provides a blend of high performance and integrated security for IoT applications.

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– 14 November 2016 – London UK

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– 20 September 2016 – London UK

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### Samsung to Ship 10nm SoCs in 2016

Samsung aims to ship before the end of the year SoCs made in a 10nm FinFET process, beating rivals such as Intel and TSMC. The news comes as Samsung is projected to fall behind this year in the business of making chips for other companies and is reeling from a decision to take its Galaxy Note 7 smartphone off the market.

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## **DRAM Pushes Up Chip Forecast**

The market for integrated circuits could eke out 1% revenue growth this year and 4% in 2017, thanks in part to a rebounding DRAM market. It is estimated unit sales will grow 6% this year, up from a previous forecast of 4% unit growth and a 2% decline in revenues.

The upbeat news comes four months after the Semiconductor Industry Association said it expected a 2.4% sales decline this year, following similar predictions from a handful of market researchers.

## **4DS Memristors Target ReRAMs**

4DS Memories Ltd. (West Perth, Western Australia) claims to have achieved 40-nanometer resistive random-access memories (ReRAMs) that are denser than flash and rival the recently reported Crossbar Inc.'s (San Francisco) ReRAM licensed to China.

"Crossbar only states that they are using 40nm design rules without disclosing the cell size which means that we can only guess that the linear dimension of the cell size is a multiple of 40nm. It is more important to realize that Crossbar is a filamentary ReRAM technology that is difficult to scale to small geometries," Guido Amout, CEO and managing director of 4DS, told EE Times.

## **IoT Hears LTE Calling**

The two largest U.S. cellular carriers and five module makers said they will use a Qualcomm chip implementing the latest low-power LTE standards for the Internet of Things. The news shows the cellular IoT standards should get strong market penetration next year.

AT&T will use the Qualcomm's MDM9206 in a San Francisco pilot of Cat-M1 that it expects to be the start of a national service roll out in 2017. Verizon will use the chip in its Thingspace service. Cellular module makers Quectel, Telit, U-Blox, Simcom and Wistron NeWeb Corp. said they will use the chips in modules supporting Cat-M1 and NB-1 services.

The Cat M1 standard delivers up to 380 Kbits/second over a 1.4 MHz channel. NB-1 handles up to 40 Kbits/s over 200 kHz channels. Qualcomm said the modules using its chips will ship in early 2017 for Cat-M1, with a software upgrade to NB-1 following "shortly thereafter."

## **ST Blends Security, Performance in IoT MCUs**

STMicroelectronics has announced a new family of microcontrollers based on the ARM Cortex-M7 processor that provides a blend of high performance and integrated security for IoT applications. The STM32H7 series addresses the high end of the IoT market, including industrial control, home automation, and domestic appliances, with a rich combination of memory and peripherals, processing capability, and security features. According to the company's press release, the STM32H743 — first in the series — achieves a CoreMark score of 2010 running at 400 MHz while consuming less than 280  $\mu$ A/MHz.

Because they are fabricated in a 40 nm eFlash process, STM32H7 devices are able to offer a rich array of memory and peripheral resources to developers, STM microcontroller division product line manager Frederic LeCam told EE Times in an interview. Devices in the series can include 2 Mbytes of dual-bank Flash and 1 Mbyte of SRAM along with 16 kBytes each of L1 instruction and data cache and additional tightly-coupled memory in the M7 core.

## **Samsung to Ship 10nm SoCs in 2016**

SAN JOSE, Calif. — Samsung aims to ship before the end of the year SoCs made in a 10nm FinFET process, beating rivals such as Intel and TSMC. The news comes as Samsung is projected to fall behind this year in the business of making chips for other companies and is reeling from a decision to take its Galaxy Note 7 smartphone off the market.

"We are entering mass production and in 2016 we believe we will be the first shipping in the 10nm node," said Hong Hao, a senior vice president for marketing and business development in Samsung's foundry group.

The so-called 10LPE process uses triple-patterning lithography to deliver up to a 30% area shrink, 27% higher performance or 40% lower power than its 14nm process, Samsung said in a press statement. First devices to use the 10nm chips should appear early next year with a follow-on 10LPP process ramping late next year, it added.