# FutureHorizons
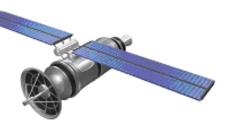## The Global Semiconductor Industry Analysts

# FH MONDAY

## STMicroelectronics' ARM Cortex MCU

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## SMIC and Leadcore Launch 28nm SoC

Pure-play foundry Semiconductor Manufacturing International Corp. (SMIC) and Leadcore Technology Co. Ltd. are teaming up to mass produce a new 28nm system-on-chip (SoC) designed for smartphones and other applications.

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## TALK TO US

## 4G, digital innovations grow internet users to 3.2B

By the end of 2015, 3.2 billion people worldwide had internet access while the remaining 410 crore (4.1 billion) were unable to get online, based on the second annual "State of Connectivity" report released by Facebook last Sunday

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## EVENTS

Silicon Chip Industry Seminar

– 7 March 2016 – London UK

Industry Forecast Briefing

– 19 January 2016 – London UK

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## Wonder material sparks rush to develop new electronics

Bendable mobile phones, quick-charge batteries and unbreakable touch screens — technology firms are racing to harness the potential of graphene, a wonder material which scientists say could transform consumer electronics.

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## STMicroelectronics' ARM Cortex MCU sees volume production

STMicroelectronics' ARM Cortex-M0+ STM32L0 microcontrollers, with a development ecosystem, including cost-efficient boards and free software tools sees high volume production as it benefits developers and allows them control over applications' power consumption.

Ideal for energy-sensitive applications including wearables, medical monitors, industrial sensors, and smart-living devices, the STM32L0 microcontroller (MCU) series achieves energy efficiency of 135 ULPMark -C certified and 158.7 ULPMark -C with a DC/DC converter. Moreover, ST's proprietary process technology is temperature-stable, ensuring the STM32L0 series has the power consumption at 125°C.

Three new product lines include the STM32L0x1 Access Line, STM32L0x2 USB Line with crystal-less USB2.0 Full Speed, and the HMI-ready STM32L0x3 USB/LCD Line. Memory densities are from 8KB to 192KB Flash, up to 20KB SRAM, and up to 6KB true EEPROM. In addition, a new 14-pin package option makes these the world's smallest STM32 MCUs, bringing 32bit muscle to entry-level embedded applications.

## SMIC and Leadcore Launch 28nm SoC for Smartphones

Pure-play foundry Semiconductor Manufacturing International Corp. (SMIC) and Leadcore Technology Co. Ltd. are teaming up to mass produce a new 28nm system-on-chip (SoC) designed for smartphones and other applications.

The SoC is designed by Leadcore and manufactured using SMIC's 28nm High-K Metal Gate (HKMG) process technology and has passed validation and is ready for mass production, SMIC says. SMIC claims it is the first foundry to provide both 28nm PolySiON and 28nm HKMG processes in mainland China. The HKMG process provides improved drive capability and transistor performance as well as reduced gate leakage, SMIC says. As a result, smartphones using the SoC will feature a better performance, higher speed and lower power consumption with a CPU performance of 1.6GHz.

## Atmel launches 8bit tinyAVRs with 1kB Flash at EWC 2016

Atmel Corporation, a microcontroller (MCU) and touch technologies manufacturer has launched a low power, 8bit MCUs with 1kB Flash memory at Embedded World Conference yesterday.

The new ATtiny102/104 MCUs run up to 12MIPS and integrate features that are previously available in larger MCUs, making them suitable for smaller applications including logic replacement and the latest cost-optimised applications in the consumer, industrial and home automation markets.

## 4G, digital innovations grow internet users to 3.2B

By the end of 2015, 3.2 billion people worldwide had internet access while the remaining 410 crore (4.1 billion) were unable to get online, based on the second annual "State of Connectivity" report released by Facebook last Sunday.

The report further states that low-cost data and rising global incomes were factors into getting 200 million people online last 2015, while innovation and investment from stakeholders were cited as keys to enable internet access for the rest of the population.

In the report "Mobile Economy" released by GSMA at the Mobile World Congress in Barcelona, Spain, the growth in numbers of the global internet population is due to the fourth generation (4G) mobile connections worldwide. This acceleration has enabled "high-speed connectivity and services to citizens in all corners of the world," said Mats Granryd, Director General of the GSMA.

## Wonder material sparks rush to develop new electronics

Bendable mobile phones, quick-charge batteries and unbreakable touch screens — technology firms are racing to harness the potential of graphene, a wonder material which scientists say could transform consumer electronics.

A fine sheet of pure carbon, graphene is as thin as an atom, making it the skinniest material known.

At the same time though, it is 100 times stronger than steel, hugely pliable and can conduct electricity and heat better than anything else.

"There are other materials which do have one of those properties each," physicist Kostya Novoselov — who first isolated graphene in 2004 — said at the Mobile World Congress, the sector's biggest trade fair, in Barcelona.