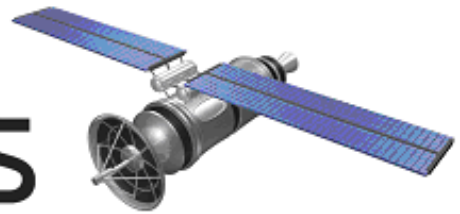


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The Global Semiconductor Industry Analysts

FH MONDAY

12 December 2016

ADI brings IoT to tomato cultivation

So much has been read about sensors, measurement, big data and big IoT, but much of the useful work we read is being done on a smaller scale than expected.

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Battery that could charge phones in just seconds

It is a bane of modern life, the beeping mobile phone about to run out of battery.

But scientists say soon smart phones may not need to be plugged in for hours, or overnight, to charge.

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SMIC Establishes Specialty Foundry JV

LONDON—Chinese chip foundry Semiconductor Manufacturing International Corp. (Shanghai) announced it has formed a joint venture with the city of Ningbo to address specialty technology applicable to the Internet of Things.

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TALK TO US



Apple Signals Interest in Self-Driving Software

The emphasis on software is in line with reports over the past year that Apple's car effort has shifted its attention from building a car to designing an autonomous-driving system. Last summer, Apple eliminated some positions on the project that were focused on car development and added staff with software backgrounds.

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EVENTS

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– March 2017 – London UK

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TSMC, IBM Detail 7-nm Work

SAN FRANCISCO — Like presents under a Christmas tree, separate papers on 7-nm process technology from TSMC and IBM energized a packed ballroom on the first day of the International Electron Devices Meeting (IEDM). They showed results nudging forward both Moore's law and extreme ultraviolet lithography (EUV).

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ADI Brings lot To Tomato Cultivation

So much has been read about sensors, measurement, big data and big IoT, but much of the useful work we read is being done on a smaller scale than expected.

It's not news that the Internet of Things (IoT) is high on the hot-topic list these days. Certainly, the potential benefits and payback of IoT, including industrial IoT, are huge, but there will also be a lot of deflation as the glow of "whatever your problem, IoT will solve it" dissipates. That's fairly standard trajectory for an emerging technology, as the latest edition of the Gartner "hype cycle" shows.

I think that part of the issue is that there is so much talk of "big IoT" networking of huge factories and installations. This will likely happen, but it's a lot of work, takes a lot of investment, a lot of time, and there will be a lot of problems debugging it all. Perhaps the better way to look at IoT is through smaller, more manageable projects which you can get both your hands and mind around more quickly and have quicker results as well.

Battery That Could Charge Phones In Just Seconds: New Plastic Electrolyte Could Be Up To 10,000 Times More Powerful Than Existing Cells

It is a bane of modern life, the beeping mobile phone about to run out of battery.

But scientists say soon smart phones may not need to be plugged in for hours, or overnight, to charge.

British researchers believe they may be heading towards the holy grail for our digital age – mobile phones and laptops which can be charged up in just a few seconds.

It could be a reality within two years, using an alternative to battery power potentially between 1,000 and 10,000 times more powerful than existing supercapacitors.

Supercapacitors store energy using electrodes and electrolytes and both charge and deliver energy quickly, unlike a conventional battery.

However their main shortcoming is their low energy density, meaning the amount they can store per kilogram is very low.

SMIC Establishes Specialty Foundry JV

LONDON—Chinese chip foundry Semiconductor Manufacturing International Corp. (Shanghai) announced it has formed a joint venture with the city of Ningbo to address specialty technology applicable to the Internet of Things.

Ningbo Semiconductor International Corp. (NSI) is a joint venture between China IC Capital (a wholly-owned investment fund of SMIC), Ningbo Senson Electronics and Hua Capital.

Few details were provided, except to say NSI would develop "analog and specialty semiconductor technology platforms in the areas of high-voltage analog, radio frequency, and optoelectronics." These so-called platforms are intended to support customers design ICs for applications in smart home, industrial, and automotive electronics, radio systems and augmented, virtual and mixed reality systems.

Apple Signals Interest in Self-Driving Software

Apple Inc. confirmed for the first time its interest in autonomous-vehicle technology, but it remains unlikely the company will design or build a complete car.

In a Nov. 22 letter to U.S. transportation regulators, Steve Kenner, Apple's director of product integrity, suggested Apple's focus is on the software that would control a self-driving car. He said the company is "investing heavily in machine learning and automation" for many purposes "including transportation."

The letter, which came to light late Friday, marked Apple's first public statements about its car effort, dubbed Project Titan, after years of secrecy. Apple spokesman Tom Neumayr said the company provided comments to the National Highway Traffic Safety Administration because of its investments in automation and machine learning, a type of software. "We want to work with NHTSA to help define the best practices for the industry," Mr. Neumayr said.

TSMC, IBM Detail 7-nm Work

SAN FRANCISCO — Like presents under a Christmas tree, separate papers on 7-nm process technology from TSMC and IBM energized a packed ballroom on the first day of the International Electron Devices Meeting (IEDM). They showed results nudging forward both Moore's law and extreme ultraviolet lithography (EUV).

TSMC reported the smallest 6T SRAM to date in a process that it aims to put into risk production by April. IBM

described the smallest FinFET made to date in a research device made with EUV.

Conference organizers highlighted the papers in October as late-news headlines for the event. Nevertheless, both companies surprised some attendees with more upbeat results than expected.