



Future Horizons Newsletter

May 2015

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Industry News By Company

[Apple To Shift 30% Of A9 Chip Production From Samsung To Tsmc](#)

The next-gen iPhone is anticipated to be launched in September this year, and Apple Inc. (NASDAQ:AAPL) is already planning ahead for the production of the processors that will power the new device.

Earlier this month, a report released pointed to Samsung Elect Ltd (F) (OTCMKTS:SSNLF) as the supplier of the A9 chip to be used in the next iPhone, but now a last minute decision has granted Taiwan Semiconductor Mfg. Co. Ltd. (ADR) 30% of the total orders to be placed by the California-based tech giant.

Renowned analyst Ming-Chi Kuo at KGI Securities issued a note this week regarding Apple's latest course of action. Mr. Kuo has pretty much been on point with his speculations and expectations for Apple in the past, and he may likely be right again this time. In his note, he provided three major reasons why Apple is diversifying its supply chain

[Apple Targets DSLR-Like iPhone Camera With Recent Buyout](#)

Apple has bought start-up LinX Computational Imaging Ltd, an Israel-based developer of an array camera for mobile equipment, for an estimated purchase price of \$20 million.

LinX (Caesarea, Israel) claimed in 2014 that its camera was ready for inclusion in mobile phones as its engineers had solved problems with combining images from multiple apertures such as registration errors and occlusion-related artefacts (see Array camera ready for mobile market, says start-up).

[Semiconductor-Maker Applied Materials Drops Merger Plan With Tokyo Electron](#)

NEW YORK (The Deal) -- Semiconductor makers Applied Materials Inc. (AMAT - Get Report) and Tokyo Electron Ltd. have ended months of uncertainty by calling off their 19-month-old merger agreement because of Department of Justice objections.

The September 2013 deal would have given shareholders in Tokyo Electron about \$9.4 billion worth of stock, or just under a third of the new entity, and created a dual-listed, dual-headquartered company incorporated in the Netherlands, with the CEO post going to Applied Materials President and CEO Gary Dickerson, and Tokyo Electron chairman Tetsuro Higashi getting the chairman's role.

The merger was designed to better equip the companies to meet the growing demand for chips used in smartphones, tablets and other personal electronics devices and to generate \$500 million of synergies within three years.

But Santa Clara, Calif.-based Applied Materials said the Department of Justice told the companies that a "coordinated remedy proposal" wouldn't be enough to make up for damage to competition, and the companies decided "there is no realistic prospect for the completion of the merger."

Ubiquitous Chip Promises Arm Relevance After Moore's Law Palls

Moore's Law states that chip processing power doubles every two years. Bore's Law requires tech pundits to quote Moore's Law regularly to establish their credentials. The law of diminishing returns applies to both. Moore's Law is getting harder to live up to, says Tim Score, finance boss of Arm Holdings. This leaves one pondering how the chip designer will be positioned when its industry has matured.

That day is likely to be over a decade away. Demand for fancier functions dependent on Moore's Law still drives consumer appetite for smartphones, as much as the showmanship of manufacturers such as Apple. The inclusion of Arm designs in devices such as the iPhone 6 helped the company deliver consensus-beating pre-tax profits of \$120.5m in the first quarter.

Arm First-Quarter Profits Buoyed By Strong iPhone Sales

Sales and profits at Arm Holdings showed strong growth at the start of 2015, buoyed by robust sales of Apple iPhones and a consumer shift to 4G mobile devices.

One of the UK's only large global technology groups reported on Tuesday revenues of \$348.2m in the first three months of this year, up 14 per cent compared with the same period a year before, building on earlier robust quarters.

Pre-tax profits were \$120.5m in the first quarter, a 24 per cent increase year on year. Both sales and profits came in ahead of analyst estimates.

Arm sells licences for its blueprints to manufacturers that also pay royalties for each unit shipped. Its components are used in more than 95 per cent of smartphones.

Royalties from processor designs, an area of the business that analysts focus on, rose 31 per cent year on year to \$168m.

Ericsson: Staying Grounded

The slick features on your smartphone are useless without the infrastructure that shoots data through the air. Network equipment is the circulatory system of the digital economy. Yet its makers are struggling to grow: most global markets have already upgraded to the latest wireless technology, 4G. Sweden's Ericsson recognises the problem and has begun shifting towards higher-margin internet protocol equipment.

IP equipment lets network operators carry lots of data on both mobile and fixed-line networks. Ericsson has mostly grown its IP business organically. Nokia meanwhile has made a big bet on the area by offering to buy Alcatel-Lucent, not only a wireless equipment supplier but also one the three largest players in IP, with a fifth of the global router market. If the deal closes Nokia will leapfrog Ericsson in IP equipment.

High-Speed 5 GS/S LXI Digitizers Released By Spectrum

For applications where fast electronic signals in the GHz range need to be remotely acquired and analyzed Spectrum has extended its popular digitizerNETBOX series of LXI based instruments and released eight new models. Available with two, four or eight fully synchronous channels the new units feature sampling rates up to 5 GS/s, bandwidth

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in excess of 1.5 GHz and on-board acquisition memory up to 8 GSamples. The unique combination makes the digitizers ideal for capturing long complex high-frequency signals and for characterizing fast timing events that go down to the nano- and sub-nanosecond ranges.

Fully LXI compliant, the digitizerNETBOX products allow remote control and data transfer over fast GBit Ethernet. Connect them directly to a Notebook or PC, or in fact to anywhere on a company LAN, and automated data acquisition becomes easy. Offering significant advantages in measurement speed, flexibility, size and channel density the products can be used to replace conventional bench instruments such as oscilloscopes, spectrum analyzers, multi-meters, counters, timers and older generation digitizer products.

[Plessey: Exemplar Of 21st Century Manufacturing](#)

Plessey Semiconductors will be featured in a new website showing 21st century British manufacturing which will be launched 23rd April at a high-profile event in London.

www.madeherenow.com, the brainchild of former Financial Times manufacturing editor Peter Marsh, is looking to tell the story of modern-day industry through a series of articles, pictures and video on four exemplar companies.

Plessey was chosen for developing new ways to make LEDs. Other case studies include Bentley Motors, the luxury car maker, FormFormForm, and Aesseal.

Peter Marsh, said: "We are still very good at making things and manufacturing has immense potential to contribute substantially to our economy, however, not enough people are aware of our success stories and one way to improve the growth prospects of UK industry is to find new ways to tell the world about it."

[India's Ratan Tata Buys In To China Smartphone Maker Xiaomi](#)

Ratan Tata, the Indian industrialist, has invested an undisclosed sum in China's biggest smartphone maker, Xiaomi, giving a boost to the company's Indian expansion plans.

"India is our biggest market outside of mainland China and also an extremely important one. Our goal is to become number one in the next three to five years and we are keen on partnerships here," said Bin Lin, Xiaomi co-founder and president, in a statement.

[Samsung Electronics Now Producing Industry's First M.2 NVMe PCIE SSD For The PC Market](#)

Samsung Electronics announced on April 15 that it has started mass production of the industry's first NVMe* PCIe solid state drive (SSD) which has an M.2 form factor for use in PCs and workstations. Samsung is also the first in the industry to announce that it has begun shipping NVMe SSDs to OEMs for the PC market. The new SM951-NVMe features the industry's most advanced performance figures, exceptionally low power use in standby mode and the most compact size of any NVMe SSD.

"Our new NVMe SSD will allow for faster, ultra-slim notebook PCs with extended battery use, while accelerating the adoption of NVMe SSDs within the consumer marketplace," said Jeeho Baik, Senior Vice President of Memory Marketing at Samsung

Electronics. “Samsung will continue to stay a critical step ahead of others in the industry in introducing a diversity of next-generation SSDs, that contribute to an enhanced user experience through rapid popularization of ultra-fast, highly energy-efficient, compact SSDs.”

Samsung Regains Top Spot In Smartphone Market

The insanely high shipment of Samsung's smartphones in Q1 has propelled the company to the number one position in the smartphone market once again, besting Apple. Although Samsung no longer reveals sales of its smartphones, Strategy Analytics pegged Q1 shipments at 83.2 million, easily outpacing the 61 million iPhones Apple shipped during the period, a record, by the way, for Apple. In 4Q14, both Apple and Samsung shipped about 74.5 million smartphones, essentially tying for first place.

However, profits remain elusive for the world's largest maker of phones, despite being the king of smartphones. Samsung's profit sank YoY, worrying investors and placing pressure on the Galaxy S6 and S6 Edge smartphones to outperform their predecessors.

Industry News & Trends

[Rise Of The 3D Printing Machines](#)

From a red puddle of liquid plastic, a three-dimensional sphere of connected hexagons and pentagons begins to rise, taking only six minutes to be lifted by mechanical arm into its final geometric form.

It is a phenomenon known as “continuous liquid interface production”, and has been developed by Carbon3D — a Silicon Valley start-up backed by technology investment group Sequoia Capital. But while it was inspired by a scene from the science fiction film Terminator 2, when the T-1000 android rises from a small pool of metallic liquid, the new technique is very much a reality — and set to shake up the 3D printing industry by making the process of forming plastic objects up to 100 times faster.

[ARM Focuses On Energy Harvesting In Nascent IoT](#)

As battery lifespans become the major concern of many mobile device makers, UK-based ARM concentrates on extending the battery life of sensors using Bluetooth to address the emerging Internet of Things (IoT).

ARM has snapped up Wicentric, a Bluetooth Smart stack and profile provider, and Sunrise Micro Devices (SMD), a provider of sub-one volt Bluetooth radio intellectual property (IP).

The IP of both Wicentric and SMD will be integrated to form the ARM Cordio portfolio, which is aiming to complement ARM's existing processor and physical IP targeting end markets requiring low-power wireless communications such as the IoT. ARM is keen to make the Cordio solutions efficient enough to be powered using energy harvesting and sees SMD's sub-one volt Bluetooth radio IP as a vital ingredient in the design armoury.

[US Develops Supercomputer To Beat China's Tianhe-2](#)

The United States plans to outclass China's supercomputer, and it is now looking for a few good semiconductor architectures to help fulfil its ambition.

The fastest supercomputer in the world is currently the Chinese Tianhe-2 running at a peak of 55petaflops on Intel Xeon and Xeon Phi processors. The Collaboration of Oak Ridge, Argonne and Lawrence Livermore (CORAL) project financed by the U.S. Department of Energy (DOE) aims to one-up the Chinese with up to 200petaflops systems by 2018. The three systems, named Summit, Aurora and Sierra, respectively, have also pitted IBM/Nvidia and their graphics processing units (GPUs) against Intel/Cray's massively parallel x86 (Xeon Phi) architecture.

[SDN Set To Push Boundaries: Flexible Ethernet In The Works](#)

Cloud-scale data centres have successfully achieved 25Gb/s and 50Gb/s Ethernet speeds last year. Now there is no way to go but up. In fact, recent developments point to faster speeds and greater bandwidth that are predicted to revolutionise communications systems and silicon.

New chips will roll soon to support an initiative in software-defined networking (SDN) now in the works at the Internet Engineering Task Force (IETF). A separate and more technically difficult effort to bond Ethernet channels has just gotten started at the Optical Internetworking Forum (OIF) and may take a few years to appear in products.

Qualcomm Preps Monolithic 3D For Smartphones

By 2016, Qualcomm is hoping to use its Monolithic 3D IC technology to obtain a sizable market share in the \$8 billion dollar smartphone market, noted Karim Arabi, VP of engineering at Qualcomm. The company now calls it "3DV" and plans to use it for future scaling.

Quoting: "Our 3D VLSI technology, which we call 3DV, enables die size to be shrunk in half, while simultaneously increasing yields...The final advantage of 3DV chips," according to Arabi, "is that you only need to use the most expensive and latest node technology on the bottom layer. For instance, the bottom layer housing the CPU, GPU and other high-speed devices can be fabricated at 10nm to 14nm, whereas the higher layers housing less critical functions can be fabricated at a less expensive relaxed node of, say, 28nm."

Manipal University Students Roll Out First Solar Car

Students from the SolarMobil team at Manipal Institute of Technology (MIT) unveiled their first prototype solar car, which is targeted at commercial usage. Dubbed as SERVe (Solar Electric Road Vehicle), the solar car is custom-fit with solar panels designed by Tata Solar Power. It is a good example of an industry-academia effort that will help increase the role of solar innovation in green mobility.

MIT is a constituent of Manipal University.

The four-wheeled prototype that runs solely on solar energy is designed by the above team of 27 student enthusiasts. Weighing 590kg, this two-seater solar car can reach up to 60kph with a cruising speed of 30kph.

Smartwatches On The Rise Amid Slowdown In Mobile Space

The fast pace of growth the mobile market has enjoyed for quite a number of years has now begun to lose speed. Over the next five years, both smartphones and tablets will slump to single-digit growth levels but smartwatches could rise to annual sales of 300 to 400 million units, predicted analyst Linley Gwennap.

Forecasts that Apple could sell as many as 40 million of its watches in their first year are optimistic, nevertheless, "we expect a big jump," Gwennap said. "In a year or so there will be a lot of knock-off products that look like the Apple Watch but sell for more like 50 bucks," he said, estimating by 2019 the 17 per cent of smartphone buyers purchasing high-end products will also get smartwatches.

[Website For Chips Aims To Deliver Google-Like Service](#)

Wouldn't it be amazing to have a single website that can help us find anything as regards datasheets, chip prices or performance models of parts we need? Fortunately, one engineer has also thought of that and is now making that website into reality.

Javier Solorzano, who used to work at Micrel and Touchstone Semiconductor, has co-founded start-up Elektet to create a website to help engineers find and manage information about chips they want to use. With more than 40 such sites now on the Web, beyond the 800-pound gorilla called Google, he knows the job is an ambitious one.

"We are starting with a parametric search engine, which is no different than what others have, but we will focus on adding other information engineers need," Solorzano said.

[New Google Project Promises Cheap Wireless Service](#)

Google has initiated Project Fi, the company's latest endeavour that aims to provide cheap calls and Internet by intelligently connecting users to the fastest wireless or cellular network as they move using existing technology for \$20 a month.

According to Google's blog, Project Fi automatically connects to more than a million free, open Wi-Fi hotspots and secures data through encryption. When not on Wi-Fi, Fi moves users between partner networks (currently Sprint and T-Mobile) to deliver faster 4G LTE speeds. The basic, no contract Fi plan includes unlimited domestic talk and text, unlimited international texts, low-cost international calls and Wi-Fi tethering. Users would then pay \$10 per gigabit for data.

East European News & Trends

[Yakutia Students Develop Phone-Controlled 'Smart' House](#)

Students at the Northeastern Federal University in Yakutia, in East Siberia, have developed a 'smart house' module to control energy consumption and household security from a mobile phone, the Russian news agency TASS reported, citing Ivan Nogovitsyn of the development team.

"We have come up with a module that is fully controlled through a mobile app. The functions it controls include an electric power meter, allowing the user to control power consumption on a real time basis from his smartphone; a speakerphone, enabling the home owner to know from anywhere in the world on a real time basis he has guests downstairs; as well as 14 power outlets and switches, also to be controlled from a phone," Mr. Nogovitsyn explained.

[State Giants Move To Develop Russia's National IT Platform](#)

Rosatom and Rustec, two of Russia's largest government-owned corporations responsible for nuclear energy and dual-purpose high technology, respectively, are pooling efforts in a project to develop a national IT platform for sectors that deal with commercial and state secrets, the Russian news agency RIA Novosti reported. The goal is to render imports completely redundant.

According to Valentin Kostyukov, who heads the RFYATS-VNIIEF federal nuclear center in the town of Sarov 460km east of Moscow, his Center (a Rosatom asset) and Rustec have finalized detailed agreements on joint project implementation.

[Start-Up Scales Production Of Fashionable E-Ink Bracelets](#)

A Hungary-based start-up has developed what it calls the "Tago Arc" electronic bracelet that uses a flexible e-ink display foil, shapes it and turns it into a wearable accessory. The novel product from Liber8 Technology features a 150ppi 16-colour greyscale display that will match the wearer's outfit by controlling the black and white display using the smartphone through an NFC connection.

That's the pitch of Hungarian start-up Liber8 Technology with its "Tago Arc" electronic bracelet. Founded in 2013, the company is ramping up the production of its curved e-Ink bracelets, tying them to a dedicated app for users to easily upload innovative designs.

[Russian Developer Offers Global Firms Possibility To Spy On Their Employees](#)

Software developer Infomaximum is going global with its employee-monitoring program CrocoTime. Already quite popular in Russia, CrocoTime is designed for big companies and is capable of monitoring up to 10,000 users simultaneously.

With 20,000 employees already under its watchful eye, CrocoTime is quite popular with some of Russia's biggest companies, including global energy giant Gazprom, leading financier Tinkoff Bank, as well as the local branch of Danish shoe retailer Ecco. But what is so special about the program?

World Economic Round Up

Poland's main interest rate may remain at 1.5 percent, the lowest level on record, for a prolonged period of time because the country's economic prospects are good. The Russian central bank has cut interest rates by 1.5 percentage points to 12.5 percent, following a recovery in the rouble amid signals that the country's inflation rate had peaked. The reduction in the main lending rate was larger than the one-percentage-point cut that analysts had expected. The rouble has rallied in recent weeks, reducing the need for high interest rates to defend it. Brazil's central bank have raised interest rates as Latin America's largest economy tries to combat inflation despite an economic slowdown.

The latest economic news by country to include USA, Europe, UK, Japan, China, Asia Pacific and India can be found each month in our [Semiconductor Monthly Report](#).

Industry Events 2015

Future Horizons Events

- [Silicon Chip Industry Training Seminar](#) – London – 8th June 2015
- [Industry Forecast Briefing](#), London – 24th September 2015

To book your place on any of our events please contact us on:

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Email: mail@futurehorizons.com

[Download Future Horizons Full Events Calendar Here](#)

Industry Events

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP

MONDAY 8th June 2015

and

INDUSTRY FORECAST BRIEFING

TUESDAY 24th September 2015

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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