FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Paper-Thin Electronics Becoming Reality

Flexible electronics will overcome the limitations of silicon allowing ultra-thin microprocessors to be incorporated into mass market objects including smart packaging, intelligent labels, sensors and documents for authentication.

PragmatIC Printing, a provider of flexible integrated circuits, has gained multi-million pound funding from Cambridge Innovation Capital (CIC) and ARM Holdings to scale-up its operation including production capacity.

$4m Grant To Fuel Printed Electronics Cluster

Gov. Charlie Baker has announced a $4 million grant from the Massachusetts Technology Collaborative ("MassTech") to UMass Lowell to support development of a printed and flexible electronics industry cluster, an emerging field that has the potential to become a $76 billion global market in the next decade. The new Printed Electronics Research Collaborative (PERC) at UMass Lowell intends to position Massachusetts employers, large and small, to capitalize on the burgeoning printed and flexible electronics field, whether through direct development of products or as a piece of the supply chain. The PERC will initially focus on supporting the state's defense cluster in printed electronics, but long-term, these technologies are expected to also have a broad range of applications in fields including health care, telecommunications and renewable energy. Printable electronics is currently a $16 billion global market and is projected to quadruple in 10 years, according to a 2014 report by IDTechEx.

ARM Buys Leading IoT Security Company Offspark As It Expands Its mbed Platform

CAMBRIDGE, UNITED KINGDOM — ARM has signaled the importance of security in IoT with the acquisition of Offspark, the IoT's leading security software company. Offspark, a Dutch company, specializes in IoT communications security and its PolarSSL technology is already deployed in a wide variety of devices including sensor modules, communication modules and smartphones. As security is a requirement for all IoT deployments, this will help developers using the ARM® mbed™ platform to design and build IoT products with world-class communication security and software cryptography.

PolarSSL is the IoT industry's most pervasive embedded Transport Layer Security (TLS) solution. It will form the core of the ARM mbed communication security and software cryptography strategy and will be rebranded as ARM mbed TLS. The technology will remain open source and will be made available to developers for commercial use.

ARM Builds Up Clout In Safety-Critical Apps

ARM has announced its plan to boost the adoption of its architecture in safety-critical applications by releasing a safety document set to licensees in its semiconductor ecosystem. This serves as the initial step in a series of planned safety document packages will describe the Cortex-R5, stated the company.

Embedded computers are increasingly deployed in safety-critical applications. Designers then need get their products certified according to the respective standards such as ISO 26262 for the automotive industry and IEC 61508 for industrial controls. In order to receive the certificate, design teams have to adhere strictly to the respective development process including the documentation of every single measure, in most cases a complex, awkward task. A crucial element in many electronic controls, the processor is pivotal for the application. In order to foster the acceptance of its Cortex-R5 architecture, microprocessor IP vendor ARM is now offering a "Functional Safety Package" that helps project managers to get their designs through the development and subsequent certification process.

Bosch, Munich University Launch Accelerator Programme

Bosch has launched with Munich Technical University (TUM) a promotional programme to create applications for an existing laser-based distance measuring technology. Start-up companies get free access to the technology if they develop new applications and business models.

In a departure from its previous policy, Bosch opens a proprietary technology to newcomers; hitherto the access to such technologies was restricted to existing customers. The high-precision laser module at hand is already built into products for architects, craftspeople and do-it-yourselfers to survey rooms. By collaborating with TechFounders, TUM's accelerator programme for start-up companies, Bosch hopes to tap new application fields in a variety of industries with its laser technology.

CSRmesh™ Home Automation Brings Simple, Seamless Control And Connectivity To The Home

CSR plc (LSE: CSR; NASDAQ: CSRE) today announces an update to its technically disruptive Bluetooth® Smart solution - CSRmesh™. CSRmesh Home Automation is suitable for a range of applications including control of heating, ventilation and air conditioning, door locks and window sensors. Whole home automation from a smartphone, tablet, PC or wearable device is now possible with CSRmesh, as it allows an almost unlimited amount of Bluetooth Smart enabled sensors and actuators to be simply networked together.

The CSRmesh protocol was first announced last year and optimized for lighting control. CSRmesh Home Automation extends this capability to allow for control of a wide variety of sensors or actuators that you want to add to the mesh network. “The launch of our mesh protocol is already bringing exciting new capabilities to the Internet of Things and our customers are bringing smart lighting solutions to market that are easy to set up and use, as they don’t have a limited range or require a hub,” says Anthony Murray, Senior Vice President, Business Group at CSR. “Our new version empowers developers looking to offer a wide range of effective, secure and scalable home automation solutions that meet the consumer demand for smarter homes.”

Intel To Acquire Lantiq; Advancing The Connected Home

SANTA CLARA, Calif. and MUNICH, Feb. 2, 2015 – Intel Corporation has signed a definitive agreement to acquire Lantiq, a leading supplier of broadband access and home networking technologies. The transaction is subject to customary closing conditions and regulatory approvals. The transaction is expected to close in approximately 90 days. Deal terms were not disclosed.

Smart gateways and intelligent access networks are important elements in Intel's efforts to make everything smart and connected, best with Intel. This acquisition would expand Intel's success in the cable residential gateway market and broaden its offering to other gateway markets, including DSL, Fiber, LTE, retail and IoT smart routers.

"By 2018, we expect more than 800 million broadband connected households worldwide," said Kirk Skaugen, senior vice president and general manager of Intel's Client Computing Group. "Intel has been a global leader in driving broadband into the home and to connected compute devices. The combination of our cable gateway business with Lantiq's technology and talent can allow global service providers to introduce new home computing experiences and enable consumers to take advantage of a more smart and connected home."

Lattice Semiconductor Announces The Industry's Most Affordable I/O Expansion And Bridging Starter Kit

HILLSBORO, Ore.--(BUSINESS WIRE)--Lattice Semiconductor Corp. (NASDAQ: LSCC), the leader in low power, small form factor, customizable solutions, today announced the availability of the MachXO3L™ Starter Kit, an easy-to-use platform for evaluating and designing with the company's low cost family of MachXO3L instant-on, non-volatile FPGAs. Product developers can now immediately deploy programmable bridging and I/O expansion with breakthrough I/O density at the lowest cost per I/O that Lattice offers.

The MachXO3L family is Lattice's next-generation small form factor FPGA family for essential bridging and I/O expansion functions needed to accommodate the increasing connectivity requirements of mobile-influenced applications in the communications, computing, consumer and industrial markets. The new MachXO3L Starter Kit enables designers to evaluate and demonstrate LED drive, SPI, I2C, CMOS I/O, programming via JTAG or I2C, dual-boot operation using SPI Flash and other capabilities.

Lattice Semiconductor To Buy Silicon Image In $600 Mln Cash Deal

Lattice Semiconductor Corp. (LSCC: Quote) agreed Tuesday to acquire Silicon Image, Inc. (SIMG: Quote) in an all-cash tender offer of $7.30 per share, representing an equity value of about $600 million or an enterprise value of about $450 million.

The offer price represents a 34.6 percent premium to the average closing price over the last 90 trading days and a 23.7 percent premium to the closing price of $5.90 on Monday.

The companies have identified annual synergies of at least $32 million, which are expected to be realized within one year after the closing of the transaction. The deal is

also expected to be immediately add to Lattice Semiconductor's adjusted earnings per share.

Latest Chip Brings 3D Gesture Recognition To Embedded Devices

Microchip Technology Inc. has revealed that its most recent offering allows any embedded device to recognise 3D gestures in mid-air. The company claimed that its latest GestIC chip is the most cost-effective gesture detection system available in the market.

"We not only provide the lowest-cost entry point for easy-to-use yet advanced 3D hand gesture recognition," stated Fanie Duvenhage, director of Microchip's human machine interface division, "but by focusing our newest family member, the MGC3030, on the core gesture detection function, we make the software engineers job quick and easy too, using our free, downloadable Aurea graphical user interface (GUI) and Colibri Gesture Suite."

Chipmaker Qualcomm Hit By Apple Surge

Qualcomm on Wednesday cut its outlook for the year, as the rise of Apple's iPhone dents sales of leading smartphone makers that the chipmaker counts as its key customers, notably Samsung.

Its shares were off nearly 7 per cent in after-market trading as the company forecast fiscal year 2015 sales of $26bn-$28bn, a decrease from its previous forecast of up to $28.8bn in sales.

In a further setback, Qualcomm said that its top-of-the-line Snapdragon chip was not expected to be included in "a large customer's flagship device" — a reference to Samsung's upcoming Galaxy S6 phone. Samsung is reportedly using a chip it made itself for that model.

Samsung Mass Producing Industry's First 8Gb GDDR5 DRAM –

Samsung Electronics Co., Ltd., has announced that it has begun mass producing the industry's first 8 gigabit (Gb) GDDR5 DRAM, based on the company's leading-edge 20-nanometer (nm) process technology. GDDR5 is the most widely used discrete graphics memory in the world.

Designed for use in graphics cards for PCs and supercomputing applications, and on-board graphics memory for game consoles and notebook PCs, discrete graphics DRAM provides an extensive amount of bandwidth to process large high quality graphically-oriented data streams. With the rising popularity of 3-D games and UHD video content soon to be widespread, the need for high-performance, high-bandwidth graphics memory has begun to rapidly increase –

ST's Guibert: New Applications Will Drive Growth In 2015

The year 2015 looks likely to be a mixed bag of fortunes. Forecasts by various analysts show contrasting views on where the market will go. Even among industry players themselves, opinions differ. Generally, growth will be tempered by soft market

conditions. Hence optimism is found mostly in new applications as well as enhanced applications for existing products.

The relatively mature smartphone is still the focus of continuous enhancements and, as a result, is still a major growth driver. Just within the MEMS segment alone, smartphones first drove demand for accelerometers and gyroscopes, then they drove adoption of magnetometers.

Transphorm And Fujitsu Semiconductor Announce The Start Of Mass Production Of Transphorm's Gan Power

GOLETA, Calif., Jan. 26, 2015 /PRNewswire/— Transphorm Inc., Transphorm Japan Inc., and Fujitsu Semiconductor Limited announced today that Fujitsu Semiconductor group's CMOS-compatible, 150mm wafer fab in Aizu-Wakamatsu, Fukushima, Japan, has started mass production of Gallium Nitride (GaN) power devices for switching applications. The large-scale, automotive-qualified facility, which is providing exclusive GaN foundry services for Transphorm, will allow dramatic expansion of Transphorm's GaN power device business. This stepped up production can satisfy the increasing market demands for GaN devices, thereby enabling the next wave of compact, energy-efficient power conversion systems.

Designers Need To Act Fast: Wearables Novelty Could Wear Off

The innovation presented by wearables has taken a strong grip of the world's attention and has secured it in a tight grip. With a fast-growing fan base that goes almost head-over-heels across a wide selection of wearable devices, things are truly looking up for the market. However, it is not without threats. For one, the novelty could overstay its welcome, and consumer fatigue could set in.

Wearables represent a huge emerging market for app developers but require significant tailoring in what data is captured and how it is presented, according to a recent white paper.

ST, Microsemi Team Up For Electric Car Charger

Microsemi Corp. has joined forces with STMicroelectronics in developing an electric vehicle (EV) car charger solution using Microsemi's power line communication (PLC) line driver. The module for EV supply equipment (MEVSE) featuring vehicle-to-grid (V2G) communication and support for various network and application protocols from Tatung, uses the Le87501 PLC line driver and the ST2100 STreamPlug SoC from ST, along with a proprietary state machine, event-driven-(SMED) based digital power controller and is supported by the OpenV2G software stack

Intel's 5th Gen vPro Enables 60ghz Wireless Docking

ITablets, laptops, detachable 2-in-1s and any other x86-based form factor can now get rid of all cords with Intel's new Pro Wireless Display (WiDi) and 60GHz Wireless Docking technology.

Keyboards, large-screen displays, printers, network connections, mice, USB accessories and everything else that once required a wire is now obsolete when using Intel's 5th gen vPro core processors, according to Intel's Tom Garrison, vice president and general manager of the Business Client Platform Division within the PC Client Group. HP and Fujitsu already have models available for sale, 12 worldwide OEMs have committed to 5th gen vPro and the top six OEMs have demonstrated their offerings in New York City and London.ntel's 5th gen vPro enables 60GHz wireless docking

Toyota Unveils Silicon Carbide Semiconductor Trial

Toyota unveiled its plans Wednesday to trial a new hybrid system using silicon carbide power semiconductors that could find its way into hybrids and EVs.

The trial will compare the new silicon carbide semiconductors with silicon units currently found in many a hybrid’s, FCV’s and EV’s power control unit, which are linked to a 20 percent loss in overall electric power. The aim is to increase powertrain efficiency by mitigating said losses through the new semiconductors.

Berkeley Lab Shows New Precision Growth Technique For GaN Nanowires

In a recent issue of Nano Letters, scientists from the US Department of Energy's Lawrence Berkeley National Lab (Berkeley Lab) demonstrated a new growth technique

for GaN nanowires that uses specially engineered catalysts. The catalysts, which are precursors to growing the nanowires, have given them more options in turning the colour of light-emitting nanowires.

The new approach could potentially be applied to a variety of materials and be used for making next-generation devices such as solar cells, LEDs, high power electronics and more, says Shaul Aloni, staff scientist at Berkeley Lab's Molecular Foundry, a DOE user facility, and lead author on the study.

Since the early 2000s, scientists have made steady progress in cultivating nanowires. Initially, early nanowire samples resembled "tangled noodles or wildfire-ravaged forests," according to the researchers. More recently, scientists have found various conditions lead to the growth of more orderly nanowire arrays.

Industrial Robots Steal A March In East Asia

Robots will replace a growing number of jobs in industries including automotive and electronics in the next few years, particularly in east Asia, according to new research.

Worldwide sales of industrial robots rose 23 per cent last year and are on course to double by 2018, driving radical change in many manufacturing sectors, Boston Consulting Group said.

Although robots have been used in industry for decades, recent advances in technology have cut their costs and increased their capabilities, as a new generation of reprogrammable, multipurpose machines comes into service.

Drones Take On Non-Military Applications

Unmanned aerial vehicles (UAVs), or more commonly known as drones, have a negative reputation for their use as weapons, invaders of privacy or annoying toys. However, drones are slowly becoming necessary in a growing number of other applications, attracting investors and making them a hot prospect for 2015.

Unlike traditional radio-controlled (RC) hobbyist aircraft, UAVs exercise a great deal of autonomy in their operation even though they might have a (remote) human pilot. Sensors and on-board computing, for instance, automatically stabilise the UAV's flight in the presence of wind and other perturbations, eliminating the need for flying skills. Some UAVs are even able to follow pre-defined flight plans or automatically return to their launch point without additional human intervention at all. UAVs are to RC aircraft what CNC machines are to manual lathes; a robotic version.

Toshiba Announces 10W Wireless Power For Mobile Devices

Toshiba Electronics Europe has released the TC7765WBG, a wireless power receiver IC and the TB6865AFG Enhanced Version, a transmitter IC that target faster mobile device charging. Compatible with the Qi standard low power specifications version 1.1 defined by the Wireless Power Consortium (WPC), the chips can be used as 10W-class wireless power system for smartphones, tablets and mobile accessories.

Ford Infotainment System Packs TI OMAP 5 Processor

Texas Instruments (TI) and Ford Motor Co. have forged a partnership to deliver an infotainment solution that promises to improve the way consumers interact with their vehicles. The latest Ford SYNC 3, a communications and entertainment system, features TI's OMAP 5 processor, a member of the "Jacinto" family of automotive processors, the WiLink 8Q platform, a single-chip combining high performance WiFi, Bluetooth 4.0 and GNSS, as well as power management and FPD-Link III SerDes wired connectivity solutions, detailed the companies.

Dual-Screen YotaPad Under Development

The Russian Yota Devices Company, which recently released the YotaPhone2 smartphone, is working on a new tablet. Just like the smartphone, the tablet will have a dual screen. One of them will be standard, while the other will be based on electronic ink technology, says Yota Device President Vladislav Martynov. In his words, the company is currently focusing on its main product, the YotaPhone2. The tablet is in the process of development, but no final decisions have yet been made about its release.

Dmitri Gorilovsky, an inventor of the YotaPhone, is convinced that if Yota Devices produces the tablet, it will have to be big, with a screen size of nine or 10 inches. This means that it will not be a low-cost product.

To Charge Your Cell Phone, HandyPower Will Use… Water

HandyPower, a Russian start-up funded by two of Russia's largest nanotech centers, Dubna from outside Moscow and Sygma.Novosibirsk from Siberia, has developed what appears to be a brand new charging device for a variety of portable gadgets, Rusnanonet.ru reported.

The innovation draws upon the principles of hydrogen energy. The HandyPower charger is said to enable the charging of various gadgets, including mobile phones, iPods, navigators, portable lighting systems, laptops, etc. which are located far from sources of electricity.

New TeXet iX-Maxi Smartphone Is No iPhone 6 Clone, Say Developers

Russian company Alkotel has defended claims that its new TeXet iX-maxi smartphone is a rip-off of Apple's iconic iPhone 6. The new smartphone, which bears more than a striking resemblance to the iPhone 6, will go on sale in Russia in mid-February.

The new device is much cheaper than Apple's popular product and costs around $179. Alexei Ryazantsev, Head of Alkotel's GSM department, told RBTH that the company is not afraid of lawsuits. According to him, most smartphones "are similar to each other, including the hardware component."

Admitting that the Alkotel model has elements that are similar to the iPhone 6, Ryazantsev said that "the main purpose was to create an i-style design for those who do not like iOS and the Apple policy." However, he was at pains to stress the differences between the TeXet iX-maxi and the iPhone 6.

Pen That Draws 3D Images With New Siberian Ink Reaches Production

A yet-unnamed Chinese company has launched the manufacture of what is believed to be the world's first 3D pen with safe cold ink, developed by DI-Group in Tomsk, in Siberia, the regional news agency RIA Tomsk reported.

According to the developer, the Tomsk pen enables a user to draw three-dimensional objects, including magnetic and aromatized ones, and ones that emit light in the dark. The CreoPop pen, which uses a storage battery for operation, is said to be safe for children as unlike analogs, it doesn't warm, the Siberian company claims. "The 3D pens were put into production in China in December 2014, and in April 2015 they will hit broad markets," the source said.

World Economic Round Up

Brazil is set to increase taxes on fuel and loans to individuals and adjust other duties to help plug the government's yawning budget deficit. New finance minister Joaquim Levy announced the measures on the eve of a visit to the World Economic Forum in Davos, during which he would be seeking to convince investors that Latin America's biggest economy is setting its finances back on track. Denmark became the latest European country to cut its interest rates as it attempted to dampen investor interest in the Danish krone ahead of the European Central Bank's policy meeting. The European Bank for Reconstruction and Development forecast Russia's economy will shrink by close to 5 percent in 2015, the, while average growth for eastern Europe and the former Soviet Union will fall into negative territory for the first time since 2009.

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 2014

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 17th March 2015
- Industry Forecast Briefing, London – 15th September 2015

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

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Industry Events

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MARK YOUR CALENDER FOR THE NEXT

INDUSTRY FORECAST BRIEFING
TUESDAY 15th September 2015
and
SILICON CHIP INDUSTRY WORKSHOP
MONDAY 17th March 2015

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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