

**FutureHorizons**  
The Global Semiconductor Industry Analysts



Future Horizons Newsletter

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## Industry News By Company

### **Bosch To Exit Solar Business**

German engineering firm Bosch is shutting down its solar business due to global overcapacity. According to the company, it would stop making solar cells, wafers, and modules at the beginning of 2014.

Bosch said it will sell the module plant in Vénissieux, France; and plans to construct a manufacturing facility in Malaysia will be ended. To the extent possible, individual units would be sold quickly. All development and marketing activities are likewise to be ended.

### **After Cosmic Circuits, Cadence Agrees To Buy Tensilica**

EDA firm Cadence Design Systems, Inc. has signed a definitive agreement to acquire an IP core company Tensilica, Inc. for Rs.2,043.01 crore (\$380 million).

Tensilica offers dataplane processor IP core licensing with over 200 licensees. Seven of the top 10 semiconductor companies, have shipped over 200 crore Tensilica IP cores. The company had Rs.161.29 crore (\$30 million) in cash at the end of 2012.

Tensilica's dataplane processing units (DPUs) combined with Cadence Design IP will "deliver more optimized IP solutions for mobile wireless, network infrastructure, auto infotainment and home applications," Cadence CEO Lip-Bu Tan said.

### **Cadence: U.S. Lags China, India In Semiconductor Funding**

The China and India governments are making semiconductors a strategy industry, but I would hate to see those countries have the most semiconductor companies," said Lip-Bu Tan, the chief executive of Cadence Design Systems Inc.

In a roundtable with journalists before his keynote at annual CDN Line event, Tan said, "China and India are pouring money" into semiconductors and "the U.S. government should do the same," said Tan. If it doesn't, some day U.S. engineers "will have to go to China to work, and its painful to see your kids go to the other side of the world."

### **Dialog Semiconductor Extends Power Scalability For Smartphones And Tablets**

Kirchheim/Teck, Germany, 18 February 2013 – Dialog Semiconductor plc (FWB: DLG), a provider of highly integrated power management, audio and short range wireless technologies, today announced the first programmable multiphase DC-to-DC buck converter, the DA9210, that can be scaled for use across multiple, high-end smartphone and tablet platforms to help accelerate development cycles.

The new four-phase DA9210 buck converter delivers an output current of up to 12 Amp. This can be doubled to 24 Amps when two DA9210 converters are used in parallel and up to 38 Amps when combined with the Dialog's DA9063 System PMIC to supply other power rails in the system. This makes the DA9210 ideally suited to high performance, ARM® Dual big- Little or Cortex A15 multicore application processors that enable consumers to multi-task using several applications simultaneously.

### **Ericsson To Buy Microsoft's Internet TV Arm**

Ericsson will buy Microsoft's Mediaroom internet TV business, which provides the technology behind internet connected set-top boxes.

The Swedish telecoms equipment maker said it would become the leader in the internet TV platform market with more than a quarter of sales globally following the purchase.

Microsoft's Mediaroom makes the software that helps deliver TV over the internet in about 22m set-top boxes in 21 countries, including for companies such as AT&T, Deutsche Telekom and Telefónica.

### **ST-Ericsson Dies!**

Ericsson and STMicroelectronics have decided to end their loss-making mobile chip joint venture, ST-Ericsson. They are dividing parts of the business, leading to about 1,600 job cuts.

As part of the announcement, Ericsson will take on the design, development and sales of the LTE multimode thin modem products, including 2G, 3G and 4G multimode.

Ericsson will also assume approximately 1,800 employees and contractors, with the largest concentrations in Sweden, Germany, India and China.

### **Firecomms Teams With Cable Supplier LEONI To Develop Market For Redlink Fiber Optic LED Transceivers**

Firecomms Ltd of Cork, Ireland and Tongxiang, China, a manufacturer of fiber-optic solutions and optical transceivers, has teamed with LEONI, a supplier of cables, optical fibers and cable systems for the automotive sector and other industries, to offer its LED transceivers as an alternative to existing market-dominant systems.

Firecomms will collaborate with LEONI Group's Fiber Optics business unit to develop the market for its RedLink LED-based fiber-optic solution, which is offered with an LC connector and a connector interface that is compatible with Avago Technologies' Versatile Link interface.

### **Fujitsu Semiconductor Releases New 1 Mbit And 2 Mbit FRAM Products**

Yokohama, Japan, March 18, 2013 - Fujitsu Semiconductor Limited today announced the development of two new FRAM products, MB85RS1MT and MB85RS2MT, which feature 1 Mbit and 2 Mbit of memory, respectively, making them the largest density serial-interface FRAM products offered by Fujitsu Semiconductor. The new products will be made available in sample quantities starting end of March 2013.

The two new FRAM products guarantee 10 trillion read/write cycles, roughly ten times more than existing chips, making them optimal for use in applications such as smart meters, industrial machinery and medical devices. Compared to identical density EEPROM, MB85RS1MT and MB85RS2MT consume 92% less power during writing. In addition, because the new FRAM products can incorporate all the technology required for system memory components-which have typically consisted of EEPROM, SRAM and a battery for data retention-into a single chip, it is possible to substantially reduce

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component costs, mounted area, and power consumption. This, in turn, will also greatly contribute to the development of smaller, power-efficient equipment for which maintenance can be easily performed, since backup battery is not necessary.

### **[Nordic Semiconductor ASA : World's First Arduino-Compatible Micro-Computer With Bluetooth Low Energy Allows Electronics Makers To Add Smartphones And Tablets To Their Projects](#)**

Ultra low power (ULP) RF specialist Nordic Semiconductor ASA (OSE: NOD) today announces from wireless startup 'Open Source RF' - launched on KickStarter.com - the world's first 'Arduino' compatible open-source micro-computer that can communicate wirelessly with any Bluetooth® v4.0 (which includes Bluetooth low energy as a hallmark feature) compatible smartphone (including the iPhone® 4S/5) or tablet (such as the 3rd and 4th generation iPad® or the iPad mini) and is based on a new RFD51822 module that is based on the multiple-award winning Nordic nRF51822 SoC ('System-on-Chip') developed by Nordic's long standing module partner and wireless specialist, RF Digital.

Called the 'RFduino' and making full use of the Nordic nRF51822's powerful on-board 32-bit ARM® Cortex™ M0-based processor, this fully FCC and CE-compliant 2.4GHz wireless coin-sized micro-computer is designed to allow both electronics makers (e.g. students, hobbyists, amateurs) and professional developers (e.g. R&D engineers) to develop thousands of miniaturized Bluetooth low energy applications controllable from a Bluetooth v4.0 compatible smartphone or tablet in a very short amount of time at very low cost.

### **[Onechip Launches PIC-Based 100G Optical Interconnects For Data Centers](#)**

In booth 1127 at OFC/NFOEC 2013 in Anaheim, CA, USA (19-21 March), OneChip Photonics Inc of Ottawa, Canada, which designs optical chips and transceivers based on monolithic photonic integrated circuits (PICs) fabricated in indium phosphide (InP), has announced a family of PIC-based 100Gbps optical interconnect solutions, enabling transceiver makers to produce high-speed, low-power and small-size modules for data-center interconnect (DCI) applications.

The new family builds on the PIC-based receiver chips that OneChip announced, and made available for partner testing, in May 2012.

OneChip says that its fully integrated 100Gbps solutions provide advantages over solutions based on silicon photonics, discrete components and vertical-cavity surface-emitting lasers (VCSELs).

### **[Raspberry Pi Swaps Production Back To UK](#)**

The main distributor of the £25 Raspberry Pi computer has shifted its production back to the UK from China, in what is likely to prove a fillip for manufacturing in Wales.

Production of the credit-card-sized device – aimed at introducing schoolchildren to computer programming – is now almost solely based in the UK, after Element14, the electronics brand owned by FTSE 250 distribution company Premier Farnell, said it had moved all of its production to Sony's factory in the Welsh town of Pencoed.

The computer, which is based on an Arm microprocessor, had previously been produced in several global locations, including two plants in China

### **Richardson RFPD Introduces Avionics & Radar Tech Hub**

Richardson RFPD Inc (an Arrow Electronics Company) of LaFox, IL, USA has launched its Avionics & Radar Tech Hub, a micro-website featuring the latest news, innovations and new products related to avionics and radar applications.

The Avionics & Radar Tech Hub brings together all of Richardson RFPD's avionics and radar suppliers, including Microsemi, which has released the highest power GaN on SiC RF transistors for avionics and radar available on the market today.

In addition to Microsemi's GaN transistors, the new microsite features products from Richardson RFPD suppliers Freescale Semiconductor, M/A-COM Technology Solutions, Nitronex, Skyworks, TriQuint, and United Monolithic Semiconductors (UMS). The Tech Hub also offers links to transistor line-ups, associated products, and a wide range of technical resources that includes block diagrams, technical articles, white papers, and selector guides.

### **Samsung Sees Big Profit Boost From Smartphones .**

SEOUL—Samsung Electronics Co. 005930.SE +1.00% projected a sharp increase in first-quarter operating profit from a year earlier on strong sales of smartphones, a trend analysts expect will continue in the second quarter, when the company begins selling its next-generation flagship smartphone, Galaxy S 4.

.The world's biggest producer of mobile phones, televisions and memory chips said Friday it expects an operating profit of between 8.5 trillion won and 8.9 trillion won (\$7.6 billion and \$8 billion) for the three months ended March 31. That compares with a 5.7 trillion won operating profit a year earlier and a quarterly record of 8.8 trillion won in the fourth quarter of 2012.

## Industry News & Trends

### [GM To Wire Cars With 4G, Putting Web In Dashboard](#)

DETROIT—General Motors Co. GM -2.88% is escalating the battle over in-car connectivity with a plan to transform its vehicles into virtual smartphones armed with the fastest data speeds in the market.

The auto maker will begin wiring its 2014 models sold in the U.S. and Canada with 4G mobile broadband technology, one of the first auto makers to do so. A vehicle owner would select a subscription package and connect to the Internet or WiFi at speeds that are 10 times faster than current market offerings. The 4G feature will be offered across GM's Chevrolet, Buick, GMC, Cadillac, Opel and Vauxhall brands.

### [Wearable Tech For The Elderly](#)

Mobile World Congress launches seem to be all about slimmer, sleeker, smaller and shinier. But there's one stand where big buttons and rubber grips are all the rage. Emporia is here showing off a range of phones designed for older users—not in a patronizing, blue-rinse-color way, but to include features that take into account natural changes as we age.

“It's a very fine balance,” says Ian Hosking, a senior research associate at the Engineering Design Centre at the University of Cambridge. “It's about being accessible, without being stigmatizing.”

### [The Light-Touch Manufacturer](#)

A look of concern appears in Hans Langer's face when I mention I have an artificial hip. “A lot of people are walking around with an implant that's heavier than it needs to be. It's damaging their bodies,” he says.

What his proposed alternative would be is evident from the artefacts – from parts for car seats to handbags – on display at his company's headquarters near Munich. All weigh noticeably less than similar components usually do because they were made with the 3D printing machines manufactured by EOS, founded 24 years ago by a far-

EOS is one of the world's three biggest makers of 3D printers, a technology many experts now think could revolutionise manufacturing by ushering in a new era of “on demand” production of small batches of components. Although the technology has existed for a quarter of a century, it has taken this long for 3D printing machines to reach acceptable standards and for a base of users to develop. The other two industry leaders are 3D Systems in the US and the US-Israeli company Stratasys.

### [A Wristwatch Tells When Phone Calls, Emails Arrive](#)

Do you ever find yourself frantically trying to fish your phone out of a pocket or purse to find out whether that beep or buzz from the device is an important call, text or email—or just something you can ignore? What if you could simply glance at your watch to find out?

Well, now you can, thanks to a new \$150 digital wristwatch called Pebble that connects to an iPhone or Android phone wirelessly and displays notifications and previews of calls, texts and emails. Not only that, but the Pebble can control music playback on a phone and show at a glance the song that's playing, along with artist and album information. And of course, it tells time. It comes with multiple software watch faces and you can upload more.

### **Mobile Displays That Change Shape!**

The European Union has awarded Rs.17.77 crore (€2.47 million) for a three-year project, known as GHOST "Generic and Highly Organic, Shape-changing inTerfaces" that aims at extending the next generation computer and mobile display surfaces beyond the rigid, flat surfaces which people are familiar with and allow users to physically push, pull, bend, fold or flex the display.

GHOSTs are display surfaces made of malleable materials that can change into and retain arbitrary shapes so as to display output from the system or allow new actions. At the same time, GHOSTs enable users to deform, touch, or otherwise manipulate the shape of their display surface to provide input to the system

### **Team Demos Chip Based On Carbon Nanotubes Transistors**

At the Solid-State Circuits Conference held in San Francisco, a team of Stanford University researchers headed by associate professor Subhasish Mitra and Professor Philip Wong have demonstrated a computer chip that has transistors made of carbon nanotubes.

Transistors have of course, been getting smaller over the past few decades as engineers attempt to pack more computing power onto chips small enough to fit onto smartphones and other. There is a limit, though, to how small such circuits can be made using silicon—the material upon which modern computers are built. For that reason, researchers have been looking for alternative materials that can be used instead—materials that can do the same thing as silicon but at a much smaller size. Transistors of today fall roughly in the 20nm range—engineers want to reduce that by half, or better, but trying to do so using silicon won't be possible because of the limited number of atoms in silicon molecules.

### **Transparent Smartphone By Polytron**

The increasing craze of smartphone across the globe has led to tremendous advances in the mobile technology. And, the latest example is a "transparent" phone unveiled by a Taiwanese company. The futuristic phone comes with a body that's hard to believe.

Taiwan-based manufacturer of electronic and optical vision glass Polytron Technologies has showed a prototype of a "transparent smartphone."

The early prototype device is not running any software but does sport a SIM card, SD card, batteries, microphone, and camera.



### **'Smartphone Experience In A \$100 Package'**

"We need to build smartphones that are more affordable," said an ARM executive at the Common Platform Technology Forum. According to Dipesh Patel, general manager of ARM's physical IP division, cost is the big barrier to entry to the majority of people who still do not own smartphones.

"Smartphones and tablets that cost Rs.5,464.48 (\$100) will be the next big wave in mobile clients," he added.

Only five of the seven billion people in the world today have cell phones and only one billion are smartphones, Patel said. Even in the U.S. only 48 per cent of cell phone subscribers use smartphones.

Scanning the globe, the percentage of cell phone users with smartphones declines rapidly. In China 24 per cent of cellular subscribers use smartphones, in Brazil 20 per cent do, in Russia and Indonesia only nine per cent and in India just four per cent.

### **Scientists Develop Stretchable Battery**

Scientists at Northwestern University and the University of Illinois have demonstrated a stretchable lithium-ion battery capable of powering flexible electronics.

The rechargeable battery, that can stretch, twist, and bend and return to normal shape, can be used anywhere, including inside the human body.

"The implantable electronics could monitor anything from brain waves to heart activity, succeeding where flat, rigid batteries would fail," claim the researchers.

### **Robots Get Cloud Platform**

Five Europe-based universities have created a cloud-computing platform for robots that will allow them to connect to the Internet. When connected to the Internet, these robots can directly access the powerful computational, storage and communications infrastructures of modern data centres for robotics tasks and robot learning.

The platform, called RoboEarth Cloud Engine, continues the team's work towards an Internet for robots. It extends earlier work on allowing robots to share knowledge with other robots via a WWW-style database, greatly speeding up robot learning and adaptation in complex tasks.

### **New Technique May Lead To 'Paint-On' Plastic Electronics**

A team of engineers at University of Michigan have developed a new technique for aligning the molecules of semiconducting polymers that could pave the way for cheaper, greener, "paint-on" plastic electronics.

"This is for the first time a thin-layer, conducting, highly aligned film for high-performance, paintable, directly writeable plastic electronics," said Jinsang Kim, U-M professor of materials science and engineering, who led the research.

### **UK Electric Car Profile Shifts Up A Gear**

The profile of electric cars in Britain shifted up a gear on Thursday, with the start of production on the first all-electric car to be built in the UK: the Nissan Leaf.

Mass production of the 100 per cent electric Leaf, which began at Nissan's Sunderland plant, is the culmination of four years of preparation and £420m of investment at the site.

David Cameron, prime minister, visiting the plant, said the start of Leaf production was "the best possible rebuke" to those who said Britain could no longer design, make and export products.

### **Peratech Working On "Nose In Clothes" And Touch Technology For Wearable Electronics**

RICHMOND, North Yorks, England – 18 March 2013. Peratech, the innovators in touch technology, is working with the London College of Fashion, University of the Arts London to develop wearable electronics that use Peratech's award-winning QTC sensors. This is a three and a half year PhD research project funded by an EPSRC ICASE award to explore the needs base and applications for wearable technology bringing together the expertise of industry and academe in a highly creative way.

"We are very excited to be involved in this project," said David Lussey, Peratech's CTO. "Our QTC™ materials have already been used to provide switches in clothing for a number of years and so we know that it can withstand the rigors of being worn and washed. This project combines technology, design and user needs to work out how this growing area of wearable technology can be developed."

### **New TV Screen Lets You Smell Food!**

This TV will let you smell the coffee it's displaying on screen. Scientists at Tokyo University of Agriculture and Technology in Japan have invented what they call as "smelling screen."

Invented by Haruka Matsukura and team, the "smelling screen" television makes smells appear to come from the exact spot on LCD screen that is showing the image of any food item, for example a cup of coffee.

### **World's Smallest DNA Testing Chip**

Panasonic and Imec have jointly created a tiny chip that tests DNA in an hour. The new chip quickly detects SNPs (single-nucleotide polymorphisms) in whole blood.

"This is the chip we've actually developed. As you can see, it's less than half the size of a business card. It contains everything needed for testing DNA. Once a drop of blood is inserted, the chip completes the entire process, up to SNP detection," Diginfo.tv quoted scientists at Panasonic and Imec saying

## East European News & Trends

### [How Russia Is Bringing High-Speed Fiber to All Its Towns](#)

BARCELONA—Connecting up a country to a fiber-optic network is a tough challenge, but in a country that spans nine time zones and includes vast ice-bound wastelands, it is a daunting obstacle.

But that is what Russia intends to do, said its telecommunications minister, Nikolai Nikiforov, here at the Mobile World Congress in an interview with The Wall Street Journal.

Mr. Nikiforov also explained how the government was planning on helping to deliver next-generation cellphone services, LTE, to rural areas. “In Russia, we still have a lot of rural areas that are in what we call the ‘digital gap.’ They don’t have cell coverage, they don’t have broadband,” he said. “Broadband and LTE are strategic objectives.”

### [Russia’s Dual-Screen Yotaphone To Be Made In Singapore](#)

While most smartphones follow a very standard format, the YotaPhone is radically different. In fact, the design is so unusual, with an LCD screen on one side and an e-paper display on the other, that it was not unreasonable to wonder whether this was a prototype that would not be seen outside events such as next week’s Mobile World Congress in Barcelona.

But it seems the YotaPhone will be available by the end of the year, according to CNet.

### [Leading Russian Mobile Operators To Pool Efforts For NFC Promotion](#)

Russia’s leading mobile operators are considering jointly promoting the Near Field Communication (NFC) standards in Russia, East-West Digital News, the international resource on Russian digital industries, reported earlier today. To support the effort, the mobile giants envision establishing an alliance similar to such international NFC-focused industry unions as Oscar in the UK or ISIS in the U.S.

In an interview with the Russian business daily Vedomosti, Alexander Popovsky, the vice president of MTS, a leading Russian mobile operator and retailer, said that his company has been in talks with Vimpelcom and Megafon, the other mobile players in what is known as Russia’s “Big Three,” over setting up a joint venture to push an “integrated platform” on which to develop NFC-based solutions.

### [Windows Phone 3rd Among Smartphone Operating Systems In Russia; Symbian In Free Fall](#)

Windows Phone powered smartphones gained the third largest market share in Russia in the fourth quarter of 2012, East-West Digital News, the international resource on Russian digital industries, reported earlier today citing the Russian business daily Vedomosti and a study by IDC Russia/CIS.

Windows enabled mobile devices accounted for 7% of the Russian market, with the Microsoft operating system trailing only Google Android, the undeniable leader with 69.6%, and Linux, with a 12.3% share of the market. Windows outshone Nokia’s

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Symbian in the fourth quarter after having surpassed Apple's iOS in the previous quarter of last year.

### **Russian Oil Cash Fuels Mobile Bidding War**

A bidding war between Russian groups for Sweden's Tele2 Russia mobile phone operator erupted on Thursday, a day after it said it had accepted a bid from Russian state bank VTB.

On Thursday, both Moscow's Alfa Group and a joint consortium of mobile operators VimpelCom and MTS said they were ready to bid as well for the country's fourth-largest mobile phone operator by subscribers, and offered premiums over VTB's initial deal.

A1, part of Alfa Group, said on Thursday it would offer \$3.6bn-\$4bn, entirely in cash with no debt financing for Tele2 Russia. Alfa Group is cash rich from selling its stake in oil producer TNK-BP last week to state oil company Rosneft.

### **Windows Phone Beats iPhone In Eastern Europe**

Seems that eastern Europeans like Windows Phone. Microsoft-powered phones have outsold the iPhone in only seven markets globally and the majority of them are in eastern Europe: Poland, Ukraine, Russia, and a fourth market classed as "the rest of eastern and central Europe".

The figures from analysts IDC show that eastern Europe is the Windows Phone's power base. Elsewhere, Microsoft's smartphones outsold Apple's only in India, South Africa and Argentina.

### **Russian Chip Maker Challenges Major Western Electronics Manufacturers On Their Playground**

Mikron, a semiconductor chip-based electronics maker headquartered just outside Moscow in Zelenograd, is considering new markets for its products in Europe, the Middle East, Africa, and North America, RFID Expert reported last week.

Special Project: Top Russian start-ups Mikron reportedly has plans to expand into these markets in partnership with GoGlobal, a German start-up. The two want to offer their RFID tags operating in the UHF, HF and LF ranges, as well as their EAS tags, to markets across the globe.

It remains to be seen whether the Russian company is currently in a position to compete with major international players in the semiconductor sector such as NXP Semiconductors or Smartrac. Mikron is reported to make 200mm silicon wafers, while it is now standard internationally to use 300mm diameter wafers

## World Economic Round Up

Economic growth in the world's largest economies is set to pick up in the coming months, while slower growth in India will likely continue, according to the Organization for Economic Cooperation and Development's composite leading indicators. The World Trade Organization said it expects trade volumes to pick up only slightly this year from very low levels in 2012, and warned that a long period of weak economic growth may lead to increased protectionism. The OECD's composite leading indicators for January continued to point to acceleration in the U.S., Japan, Germany and China, as well as the euro zone as a whole but the leading indicators point to sustained weaker growth in India.

***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 2013

### Future Horizons Events

- [Silicon Chip Industry Training Seminar](#) – London – 17<sup>th</sup> June 2013
- [Industry Forecast Briefing](#), London – 23<sup>rd</sup> July 2013
- [International Electronics Forum – 2- 4<sup>th</sup> October](#)

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

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

### Industry Events

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MARK YOUR CALENDER FOR THE NEXT  
INDUSTRY FORECAST BRIEFING  
TUESDAY 23<sup>rd</sup> JULY 2013  
AND  
SILICON CHIP INDUSTRY WORKSHOP  
MONDAY 17<sup>th</sup> JUNE 2013  
BOTH BEING HELD AT  
NH HARRINGTON HALL HOTEL, LONDON  
AND  
INTERNATIONAL ELECTRONICS FORUM  
2-4 OCTOBER  
Crowne Plaza  
Dublin, Blanchardstown, Ireland

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