



Future Horizons Newsletter

January 2013

Happy New Year

Contents Page

Industry News by Company	Page 3 - 6
Industry News & Trends	Page 7 - 10
East European News & Trends	Page 11 - 11
World Economic Round Up	Page 12 - 12
Future Horizons & Industry Events	Page 13

Industry News By Company

[Anglia Creates UK Demand For STMicroelectronics](#)

Wisbech, UK, 11 December 2012 – Anglia Components today announced that it has been named UK Demand Creation Distributor of the Year by STMicroelectronics, a global semiconductor leader serving customers across the spectrum of electronics applications.

Commenting on the award, Frank Wolinski, EMEA Director Distribution Network and Demand Creation at STMicroelectronics said, “ST challenges all of its distribution partners and rigorously analyzes the demand creation performance of the whole of our UK network for the current and three previous years. We assessed the opportunities identified and the business that followed. Anglia led the field in the UK on project registrations, lines registered, design wins registered, and turning these design wins into revenue and we applaud their success.”

[ARM Launches Smartphone Security Venture](#)

ARM, Gemalto and Giesecke & Devrient (G&D) have launched 'Trustonic'—a security joint venture for connected devices.

Technology from Trustonic will allow consumers to view content on any screen and experience simpler, faster and safer payments, the company said.

The venture, which was formed in April, will focus on the development of a GlobalPlatform compliant trusted execution environment (TEE), which will offer a common security standard for connected devices. The TEE will be built upon ARM TrustZone technology, combined with security software and management systems contributed by Gemalto and G&D.

[Hitachi To Cease Chip Production By 2014](#)

The Japanese manufacturer said on Friday that the semiconductor industry has seen an "increasingly horizontal division of labor" in terms of development, design and manufacturing in recent years. In order to try and curb manufacturing costs and boost production efficiency, Hitachi has pushed the development of some semiconductor products to external outsourcers -- but considering the economic climate, the firm has decided to cut out semiconductor production altogether.

The Japanese manufacturer now plans to fully outsource semiconductor production for the information and telecoms business, which is presently held under the firm's Micro Device Division.

"The intent of this move is to optimally allocate management resources to bolster the competitiveness of the entire Information & Telecommunication Systems business." Hitachi said in a statement.

Huawei Sets Up in Nokia's Back Yard .

STOCKHOLM—Chinese telecoms giant Huawei Technologies Co. Monday said it plans to open a smartphone software development center in Helsinki and double the size of its research operations in Europe, stepping up the fight for a share of the smartphone market on Nokia Corp.'s NOK1V.HE -4.73% home turf.

Shenzhen-based Huawei plans to add a smartphone-software center in Helsinki.

The Shenzhen-based multinational, which makes telecommunications equipment, smartphones and tablet computers, wants to expand its research staff in Europe to 14,000 people over the next three to five years from around 7,000 now, aiming to become a leading player in the global mobile industry.

Intel Designs New Process For Mobile Chips

Intel Corp. INTC +2.63% on Monday disclosed details of a new recipe for making chips for mobile devices, a key element of the technology giant's high-stakes campaign to improve its lagging position in that fast-growing market.

The Silicon Valley company last year broke new ground by introducing three-dimensional transistor structures into its chips, a sharp departure from past designs to boost computing speed and reduce power consumption. But Intel had not yet adapted those tiny switching elements—which Intel calls TriGate transistors—for products such as smartphones and tablets.

Intel, in a technical paper released at the 2012 International Electron Devices Meeting in San Francisco, provided a number of performance metrics about a new version of its production process designed to do just that. Industry experts, however, remain divided about the benefits of the new transistors in the mobile products market.

Sony And Toshiba Set To Increase Chip Spending In 2013

Sony next year is expected to purchase \$8.4 billion worth of semiconductors, up nearly 5 percent from \$8.0 billion in 2012, according to an IHS Semiconductor Spend Analysis report from information and analytics provider IHS (NYSE: IHS). Company spending will rise slightly again the following year by 0.1 percent.

Meanwhile, Toshiba's spending will increase 2.0 percent to \$6.1 billion in 2013, up from \$6.0 billion in 2012. Toshiba's spending will surge by another 6.3 percent in 2014, reaching \$6.5 billion, as presented in the figure attached.

In contrast, spending at the other major Japanese consumer electronics OEMs, Panasonic and Sharp, will decline in 2013 and 2014—with Panasonic enjoying a minor rebound of 2.4 percent in 2014.

STMicro To Exit Ericsson Joint Venture .

PARIS—The shrinking market for low-cost cellphones is helping squeeze Europe's largest semiconductor producer out of the wireless communication-chip business.

Franco-Italian chip maker STMicroelectronics NV [STM +3.40%](#) said Monday it plans to exit its cellphone-chip joint venture ST-Ericsson by the third quarter of next year, as part of a strategic plan to focus on more profitable businesses like motion sensors and automotive electronics.

The Geneva-based company said it is in negotiations on "exit options" from the unprofitable joint venture, which it created nearly four years ago by merging its cellphone chip business with those of Swedish communications-equipment maker Telefon AB L.M. Ericsson. The joint venture has been reeling as its business making chips for cheap phones has plummeted, and it has had trouble getting traction with smartphone makers.

STMicroelectronics Announces Its 28nm FD-SOI Technology Is Ready For Manufacturing In Its Leading-Edge Crolles Fab

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, announced today another step towards the availability of its 28nm FD-SOI Technology Platform, now open for pre-production from its Crolles (France) 300mm manufacturing facility. The announcement confirms ST's ability to provide its planar fully-depleted technology from the 28nm technology node, essential in quenching the market's appetite for embedded processors in multimedia and portable applications that can meet the industry's highest performance and lowest power demands vital to deliver all the stunning graphics, multimedia and high-speed broadband connectivity without sacrificing battery life.

The announcement coincides with a workshop on fully-depleted-silicon-on-insulator (FD-SOI) technologies held by the FD-SOI Consortium in San Francisco.

Innovation By STMicroelectronics Boosts High-Speed Wi-Fi Performance In Mobiles, Tablets and PCs

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has revealed a new chip for faster wireless networking with smartphones, tablets and other connected devices. The innovation enables designers to save space and power consumption allowing more features and longer battery life.

ST's new DIP2450 diplexer is used to connect a Wi-Fi IC to a single antenna hence simplifying circuitry and saving pc-board space. It can also connect a Bluetooth IC to the same antenna. Leveraging ST's Integrated Passive Device (IPD) process technology, the DIP2450 has extremely small dimensions of only 1.1 x 1.25 mm and passes signals efficiently enabling high-speed communications and low power consumption

Ultratech Acquires Assets Of Cambridge Nanotech

Ultratech Inc of San Jose, CA, USA, which designs and manufactures photolithography and laser-processing systems used to make semiconductor devices and high-brightness LEDs (HB-LEDs), has acquired the assets of Massachusetts-based Cambridge Nanotech Inc.

Spun off from Harvard University's Gordon Lab in 2003, Cambridge Nanotech makes atomic layer deposition (ALD) equipment, with hundreds of system installed in research and manufacturing worldwide.

Ultratech says that, with the acquisition, it is expanding its nanotechnology and intellectual property (IP) portfolio with ALD technology to provide solutions for new layers within the electronics industry and entry into new markets, such as biomedical and energy.

Industry News & Trends

[A Smarter Sharp Shooter](#)

In a perfect world, great cameras would be Internet-connected or smartphones would take better pictures. The Samsung 005930.SE -1.01% Galaxy Camera—which looks like a point-and-shoot with a smartphone fused to the back—takes a step closer to that ideal. It connects to a cellular data network, so you can email and share photos anywhere you have wireless coverage. The Galaxy runs Google's GOOG +0.18% Jellybean Android mobile operating system, which gives you access to powerful photo editing apps (for cropping, reducing red-eye and adding vintage effects right on the camera) and a touch-screen keyboard for typing captions when sharing photos on social networks. The Galaxy also has a handy voice-control function: step into the frame and, when you're ready, snap the shutter by saying "Cheese"

[Nanoglue Boosts Heat Transfer](#)

Researchers at Rensselaer Polytechnic Institute have developed a new method for significantly increasing the heat transfer rate across two different materials. Researchers say the results could enable new advances in cooling computer chips and lighting-emitting diode (LED) devices, collecting solar power, harvesting waste heat, and other applications.

By sandwiching a layer of ultrathin "nanoglue" between copper and silica, the research team demonstrated a four-fold increase in thermal conductance at the interface between the two materials. Less than a nanometre—or one billionth of a metre—thick, the nanoglue is a layer of molecules that form strong links with the copper (a metal) and the silica (a ceramic), which otherwise would not stick together well. This kind of nanomolecular locking improves adhesion, and also helps to sync up the vibrations of atoms that make up the two materials which, in turn, facilitates more efficient transport of heat particles called phonons. Beyond copper and silica, the research team has demonstrated their approach works with other metal-ceramic interfaces.

[Imec Develops LCD-Based Contact Lens Display](#)

The Centre of Microsystems Technology (CMST), imec's associated laboratory at Ghent University (Belgium) touts the first step towards fully pixelated contact lens displays with an innovative spherical curved LCD display, which can be embedded in contact lenses.

This achievement is said to have potential wide-spread applications in medical and cosmetic domains.

Unlike LED-based contact lens displays, which are limited to a few small pixels, imec's innovative LCD-based technology permits the use of the entire display surface. By adapting the patterning process of the conductive layer, this technology enables applications with a broad range of pixel number and sizes, such as a one pixel, fully covered contact lens acting as adaptable sunglasses, or a highly pixelated contact lens display.

Future Horizons Ltd, • 44 Bethel Road • Sevenoaks • Kent TN13 3UE • England

7

Tel: +44 1732 740440 • Fax: +44 1732 740442

Affiliates in Europe, India, Israel, Japan, Russian, San Jose California, USA

e-mail: mail@futurehorizons.com • www.futurehorizons.com

Semiconductor Funnel Could Boost Solar Cells

computer simulations by researchers in the US and China could lead to solar cells that work efficiently across a broad range of the solar spectrum. Dubbed a "solar energy funnel", the new concept offers a way of using strain to modify the band gap of a semiconductor so that it responds to light within a range of different wavelengths. However, the funnels have yet to be made and tested in the lab – some researchers suggest using them in practical devices could prove problematic.

The basic operating principle of a solar cell is that an electron in the valence band of a semiconductor material absorbs a photon and jumps across an energy "band gap" into the conduction band. The result is an electron and a positively charged hole, which do not move separately through the semiconductor but instead form a bound state called an exciton. To extract electrical energy, the electron is collected at one electrode and the hole at another.

Flexible Semiconductor Woven Together To Make 'Solar Fabric'

In the near future, fashion might not just involve eye-catching ways to display your personal sense of style but to provide a personal supply of clean energy.

Solar powered fabric, which could catch the rays of the sun and convert it into power, would allow for a wide array of solar power techniques – such as solar clothing. The trick would be to somehow make solar cells that are extremely flexible and light-weight.

A team of chemists, physicist and engineers led by John Badding, a professor of chemistry at Penn State University, has developed a fiber made out of crystalline silicon – a common semiconductor material used in solar photovoltaics – that can function as a solar cell.

New Transistor May End Silicon's Dominance

MIT's new research challenges 'silicon' dominance in computers and smart devices. The US-based research university has developed what it claims to be the "smallest indium gallium arsenide transistor ever built."

The compound transistor performs well despite being just 22nm in length, claims a team in MIT's Microsystems Technology Laboratories.

"This makes it a promising candidate to eventually replace silicon in computing devices," said co-developer Jesús del Alamo, the Donner Professor of Science in MIT's Department of Electrical Engineering and Computer Science (EECS).

Worms Turn Metal Into Semiconductors

Worms are useful in the garden and great for fish bait, but one of their talents has remained hidden — until now. Scientists have discovered that worms can manufacture tiny semiconductors.

At King's College in London, researchers fed an ordinary red worm, *Lumbricus rubellus*, soil laced with metals. The worm produced quantum dots, nano-sized semiconductors that are used in imaging, LED technologies and solar cells. The experiment was published in the Dec. 23 issue of the journal *Nature Nanotechnology*.

IBM: Computers Will Have All Human Senses

IBM has unveiled its seventh annual 'IBM 5 in 5'—a list of innovations that have the potential to change the way people work, live and interact during the next five years.

This year IBM presents the '5 in 5' in five sensory categories – touch (will be able to touch through your phone); sight (a pixel will be worth a thousand words); hearing (computers will hear what matters); taste (digital taste buds will help you eat smarter); and smell (computers will have a sense of smell).

Scientists Develop Peel-Off Solar Cells

Researchers at Stanford University have developed what they claim as world's first peel-and-stick thin-film solar cells. The flexible solar panels can be peeled off like band-aids and stuck to virtually any surface, from papers to cell phones to window panes.

Unlike standard thin-film solar cells, peel-and-stick thin-film solar cells do not require any direct fabrication on the final carrier substrate, claim researchers.

Indian Electronics Industry To Become \$400b In 2020

The Indian market for electronic products is growing at a compounded annual growth rate of over 22 per cent, creating a huge opportunity for jobs in the country.

“At present, the electronic goods (systems) market in India is pegged at around \$100 billion (approximately Rs 5,00,000 crore) and growing at a CAGR of over 22 per cent,” Santhanakrishnan Raman, managing director of LSI India R&D, the Indian arm of the American LSI corporation and general co-chair of the 26th International Conference on VLSI (very large scale integrated) Design and 12th International Conference on Embedded Systems told *Financial Chronicle*.

Scientists Create 'Liquid Metal Marbles'

Scientists have created "liquid metal marbles"—droplets of liquid metal coated in nanoparticles – that will advance research in soft electronics and industrial sensing technologies.

"The breakthrough could pave the way for new developments in soft electronics," said lead investigator Dr Vijay Sivan from RMIT's Platform Technologies Research Institute.

A team of researchers developed the new platform by covering the surface of liquid metal droplets with selected nano-coatings, resulting in "marbles" that were both non-stick and durable. The liquid metal marbles—which have a highly conductive core and a coating of functional nanoparticles with highly controlled electronic properties—were developed as part of investigations into flexible conductive systems for electronic and electromagnetic units.

[Intel, Plastic Logic Unveil Flexible 'Paper Tablet' At CES](#)

Researchers from Queens University in collaboration with Intel Labs and Plastic Logic have created a flexible tablet design that boasts innovative control features.

The "PaperTab" tablet includes a flexible 10.7inch (271.78mm) plastic display developed by Plastic Logic (Cambridge, England). The tablet is powered by a Core i5 processor. Early prototypes appear to be based on Plastic Logic's black and white monochrome display.

The PaperTab project was developed at the Human Media Lab at Queen's University and Plastic Logic and includes different use and control schemes based on the flexibility of the display. For example, PaperTab allows users to send a photo simply by tapping one PaperTab showing a draft email with another PaperTab showing a photo. The photo is then automatically attached to the draft email. The email is sent either by placing the PaperTab in an out tray, or by bending the top corner of the display.

East European News & Trends

["Micron" Will Launch Intelligent Visual Sensor](#)

"Sitronics Microelectronics" a joint venture with Franco-Italian STMicroelectronics to develop and manufacture of vision sensors and systems, hardware processing of signals coming from them. This was stated by the head of the Russian company Gennady Krasnikov and vice president of production team from the European side Alain Astier (Alain Astier).

The final product should be a small device that can be used in gadgets, medical technology, on city streets in traffic lights, mean the number of backlog at the intersection of cars and light bulbs which economize on energy.

[Lithuanian Firm Brolis Semiconductors Opens New Laser-Diode Facility](#)

Vilnius, Lithuania--Brolis Semiconductors has opened a new production facility for laser diodes and molecular-beam epitaxy (MBE) equipment. The site was established from scratch in just nine months, with total investment of around Euro 5 million.

Brolis specializes in mid-IR type-I gallium antimonide (GaSb) laser diodes (1800-4000 nm wavelength) on GaSb substrates, targeting markets from gas sensing for industrial process monitoring, medical, and defense to high-power laser diodes and laser-diode bars for plastic laser welding. Earlier this summer the company secured state support for its development of long-wavelength semiconductor laser technology. It also has secured venture capital funding and grants from the EU.

The new building features Class 1000/10000 cleanroom environment with dedicated facilities for molecular beam epitaxy and optoelectronic device testing and packaging. Company COO Augustinas Vizbaras has said that its first laser products will fall in the 2090-3400 nm wavelength range, some of which will be for high power.

[In War Of Smartphones, The Russians Are Coming](#)

MOSCOW—In a country whose best known contribution to global technology may well be the Kalashnikov rifle, a new mobile-phone company once tied to Russia's state-run defense corporation hopes it will have as deep an impact on the world's next generation of smartphones.

Yota Devices is betting on its soon-to-be revealed dual-screen product to break the mold of mobile technology—combining a traditional LCD screen on one side and an electronic-paper display on the other, allowing for seamless information streaming while promising better battery life than the average smartphone.

"We created this to be different," said the company's 43-year-old chief executive, Vladislav Martynov, while demonstrating a prototype at his sleek Moscow office filled with antique telephones. "Most phones nowadays are boring—they are just boxes. This is a phone for people who want to be outside that box."

World Economic Round Up

The world economy is likely to recover slowly in 2013 due to many complex and uncertain factors. BRICS countries are putting more influence on the world economy, owing to their rapid economic growth and huge market potential. The Brazilian economy is facing some uncertainty. Backward infrastructure remains a bottleneck in Brazil's economic development and the lack of high calibre talent has directly affected the production efficiency of companies, which makes them reluctant to increase investment. One economist believes that the Russia needs to increase investment and improve productivity in 2013 and cannot just rely on consumption to boost economic growth.

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

- Industry Forecast Briefing MT, London – 23rd July 2013
- Silicon Chip Industry Training Seminar – London – 18th March 2013
- Silicon Chip Industry Training Seminar – London – 17th June 2013
- Industry Forecast Briefing, London – 23rd July 2013

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

Telephone: +44 1732 740440

Email: mail@futurehorizons.com

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

**MARK YOUR CALENDER FOR THE
NEXT
INDUSTRY FORECAST BRIEFING
TUESDAY 23rd JULY 2013
NH HARRINGTON HALL HOTEL,
LONDON
AND
SILICON CHIP INDUSTRY WORKSHOP
MONDAY 18TH MARCH 2013
NH HARRINGTON HALL HOTEL,
LONDON**

Follow Us On Twitter

For weekly semiconductor news and updates follow us on Twitter.