FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

India Approves Two Semiconductor Wafer Plants Worth $10 Billion

Feb 14 (Reuters) - India has approved the setting up of semiconductor wafer plants by two consortia, including IBM Corp, Israel's TowerJazz and STMicroelectronics NV, costing a total of 634.1 billion rupees ($10.17 billion).

India, which wants local production of chips to cut long-term import bills, has renewed a drive to attract investments after a previous attempt failed. The two groups had proposed building plants in India in September.

One of the consortia is made up of India's Jaiprakash Associates Ltd and TowerJazz and IBM. It plans to set up a plant near New Delhi at

S. Korea Overtakes Japan In Global Market Share For Semiconductors

SEJONG, Jan. 20 (Yonhap) -- South Korea is believed to have overtaken Japan in terms of global market share for semiconductors last year, the government said Monday.

The combined output of South Korean manufacturers of semiconductors is estimated to have surged 16 percent from a year earlier to about US$50.06 billion in 2013, according to the Ministry of Trade, Industry and Energy.

The amount accounts for 15.8 percent of total global supply, the second largest after the United States' estimated 52.4 percent, the ministry said, citing related data from the Korea Semiconductor Industry Association

3D-Micromac Acquires Jenoptik's Thermal Laser Separation Dicing Technology

As part of an asset deal, as of 1 January, Jenoptik of Jena, Germany has transferred expertise, patents and results relating to thermal laser separation (TLS-Dicing) technology developed by its Laser & Materials Processing Division to 3D-Micromac AG of Chemnitz, Germany (which has supplied laser micromachining systems as well coating and printing technologies since 2002), enabling immediate commercialization.

3D-Micromac says that the acquisition reinforces its know-how as a provider of laser systems in the semiconductor industry and advances the expansion of its product portfolio in this area. Jenoptik's Laser & Materials Processing Division will continue to focus on the 3D processing of plastics and metals (e.g. in the automobile industry).

"With TLS-Dicing we obtain a technology that will perfectly complement our product portfolio in the semiconductor industry and enable us to expand our market position," believes 3D-Micromac's CEO Tino Petsch. "In addition to component processing at wafer level, we can now also offer innovative solutions for separating of microchips," he adds. "In the coming months, we will continue to further develop the process in co-operation with the Fraunhofer IISB [Institute of Integrated Systems and Device Technology) in Erlangen, Germany] and implement it in industry-ready machine technology," he continues.

ARM Cortex A17 Aimed At Smartphones, Tablets

ARM has unleashed the ARM Cortex A17 intended for mid-range smartphones and tablets using chips from companies such as Mediatek, Realtek and VIA. According to the firm, the device offers a 60 percent boost in performance over the A9, matched with an A7 core to reduce the power in standby and phone mode. The update to the interface also allows other blocks such as the Mali-T720 GPU for graphics and GPU computing APIs, the Mali-V500 for video output and the Mali-DP500 display processor block that includes content protection, detailed the company.

The demand for big.LITTLE technology has driven a quick re-spin to produce the ARM Cortex A17.

The A17 is the success to the A9, which doesn't support big.LITTLE which requires the AMBA ACE interface. It is also successor to the A12, released in June last year that was also meant to replace the A9, but has an AMBA AXI interface rather than ACE

Cambridge Technology Giants Fight Skills Blight .

Cambridge technology leaders have joined forces in a bid to attract more young talent to the electronics industry to underpin the UK economy.

ARM, CSR, Plastic Logic, Broadcom and Nujira are among the world-class pioneers in the technology cluster involved in initiatives with the UK Electronics Skills Foundation.

They fear the future of the industry is at risk because of poor awareness among school leavers about the rewards of careers in electronics.

Cambridge is the hub of a new venture designed to turn the tables.

The UK Electronics Skills Foundation has teamed up with leading education charity the Engineering Development Trust (EDT) on its Go4SET programme and with some of the region's top firms to create an East of England competition for school students aged 12-14. It has just got underway in Cambridge and reaches a climax at the University at the end of March.

Entitled 'Our Electronics Environment', the 10-week Go4SET project will demonstrate the relevance of pursuing science, technology, engineering and maths (STEM) subjects to careers in electronics.

CSR Partners With Arm To Bring Connectivity And GPS To mbed™ Community

CSR plc (LSE: CSR; NASDAQ: CSRE) today announces that it has joined the ARM® mbed™ platform, an industry venture designed to nurture the growth of the Internet of Things (IoT), as a component partner. The partnership provides the mbed community access to CSR Bluetooth®, Bluetooth Smart, Wi-Fi® and GPS connectivity solutions and makes it easy for them to be integrated into existing microcontroller projects.

The ARM mbed IoT device development platform is an initiative which provides hardware and software building blocks to developers, lowering the barrier of entry for rapid development of Internet-connected products and concepts based on ARM

microcontrollers. The project also enables easy integration of connectivity and software components.

As a component partner, CSR is providing access to its world-leading range of connectivity and location solutions. CSR will be working to provide the mbed community with simple software access to its desirable wireless connectivity technologies including GPS, Wi-Fi and Bluetooth.

Dialog, Qualcomm Team Up For Rapid Mobile Device Charging

Dialog Semiconductor collaborated with Qualcomm Technologies to develop high efficiency AC/DC adapter interface IC for the latter's Quick Charge 2.0 power supplies.

The new iW620 rapid charge interface IC resides on the secondary side of the AC/DC charger power supply and works with Dialog's iW1760 PrimAccurateTM primary-side digital pulse width modulation (PWM) controller. Efficiency as high as 88 per cent enables the higher power density needed for smaller form-factor fast charging adapters. Quick Charge 2.0 is a proprietary protocol from Qualcomm Technologies, for charging smartphones, tablets and other mobile devices up to 75 per cent faster than conventional USB charging technology.

Dialog's Quick Charge 2.0 rapid charge AC/DC adapter solution delivers high efficiency up to 83 per cent without the need for a synchronous rectifier as required by competing solutions. For the ultimate in high power density and small form factor, Dialog's Quick Charge 2.0 rapid charge solution can be used with a synchronous rectifier to provide even higher efficiency up to 88 per cent.

IBM Sells x86 Server Hardware To Lenovo

Chinese OEM Lenovo announced yesterday its $2.3 billion offer to purchase IBM's x86 server hardware and related maintenance services. About $2 billion of the overall price will be paid in cash, and the balance in Lenovo stock. The announcement comes after several months of speculation, involving Lenovo, Fujitsu and IBM.

Lenovo's shopping basket includes System x, BladeCenter, and Flex System blade servers and switches. It will also include x86-based Flex integrated systems, NeXtScale and iDataPlex servers and associated software, and blade networking and maintenance operations. IBM said it will keep its System z mainframes, Power Systems, Storage Systems, Power-based Flex servers, and PureApplication and PureData appliances

Imec And Besi Pave Way For Industrial Adoption Of Thermocompression Bonding For 3D IC Manufacturing

Today, at the SEMI European 3D TSV Summit, world-leading nanoelectronics research center imec and Besi, a global equipment supplier for the semiconductor and electronics industries, announced they are joining forces to develop a thermocompression bonding solution for narrow-pitch die-to-die and die-to-wafer bonding with high accuracy and high throughput. Through this collaboration, imec and Besi will pave the way to industrial adoption of thermocompression bonding for 3D IC manufacturing.

3D IC technology, stacking multiple dies into a single device, aims to increase the functionality and performance of next-generation integrated circuits while reducing footprint and power consumption. It is a key technology to enable the next generation of portable electronics, such as smartphones and tablets, which require smaller ICs that consume less power.

INFICON Joins SEMATECH To Develop Analysis And Monitoring Solutions For Semiconductor Manufacturing Equipment

ALBANY, N.Y. and SYRACUSE, N.Y. – January 21, 2014 – INFICON, a leading provider of instrumentation, sensor technologies and advanced process control software, has joined SEMATECH to improve wafer processing capabilities and tool utilization across 200 mm and 300 mm semiconductor manufacturing facilities.

As a member of SEMATECH's Manufacturing Technology Program, INFICON will collaborate with SEMATECH engineers to improve sensors, data analysis and automation processes using INFICON's FabGuard Sensor Integration and Analysis System. The partnership will further the development of tool-based process control solutions that will improve fab productivity for semiconductor manufacturers.

Identity Protection on the Internet: Majority of European States Trust Security Solutions from Infineon for eIDs and Online Public Services

Neubiberg, Germany – January 23, 2014 –Internet is very much a part of modern life; today online world has pierced in every aspect of our lives such as online shopping, banking or chatting. Not only e-commerce is continuously growing, online services from public sector are also increasingly used throughout Europe. They provide a more convenient and efficient way for the public to access their government services and reduce the frequency of the time-consuming visits to their local government offices. Prerequisite to use online public services with a secure proof of identity is an electronic identity card (eID) with security chip. One recent example of such an eID implementation was the Slovak Republic which just started to issue an eID using solely security chips from Infineon Technologies AG to store the personal and confidential data of their citizens.

Intel Aims To Strengthen Presence In Cloud Service Market

In a bid to strengthen its position in the cloud service industry, Intel has unveiled the Powered by Intel Cloud Technology programme, which aims to improve customer experience and value, as well as the company's cloud service capabilities. Intel partnered with 16 other cloud service providers for the initiative. The partners, which reportedly haul in a combined $3.5 billion in cloud revenue, are pushing for brand visibility and plan to provide a service that allows clients to better understand the hardware behind their Intel-based cloud technology.

Intel's new programme helps communicate differentiation, Intel claimed, and it improves service performance—although the company failed to offer specifics. Intel promised it will also improve reliability and security, thus assuring that customers get solid return on investment. The programme includes Intel's integrated Cloud Finder online search engine,

which enables customers to find companies that provide cloud services built on similar Intel technology.

Charles King, president and principal analyst at market research firm Pund-IT, said in an interview with EE Times that Intel's new programme came out of cooperation between Intel and Amazon. "You could call this arose from a very successful experimental collaboration with Amazon," he said.

Panasonic To Sell SE Asia Chip Assembly Plants To UTAC Unit

Panasonic Corp (6752.T) said on Tuesday it would sell chip assembly plants in Southeast Asia to a unit of Singapore's UTAC Holdings Ltd as it moves into the final stages of a sweeping restructuring to unload unprofitable operations.

The company gave no financial details of the deal to offload three chip assembly units operating plants in Indonesia, Malaysia and Singapore.

Renesas To Transfer Wafer Fab Line To Sony

Renesas Electronics yesterday agreed to hand over the 12-inch front-end wafer fabrication line at its Tsuroka facility to Sony Semiconductor Corporation for a transfer price of about $73 million.

The Japanese firm has been promoting the realignment of Renesas Group's manufacturing sites at its home country in an effort to strengthen its financial base. As part of this process, Renesas Electronics is working to maintain and strengthen its high-quality technology in the areas where its strengths lie, such as flash MCUs and low-power operation technologies, while concentrating and consolidating its front-end facilities based on production efficiency and cost-to-performance ratio

SMIC Unveils 28nm Readiness And MPW Milestone .

SHANGHAI, Jan. 26, 2014 /PRNewswire/ -- Semiconductor Manufacturing International Corporation ("SMIC" NYSE: SMI; SEHK: 981) , China's largest and most advanced semiconductor foundry, announced today that its 28nm technology has been process frozen and the company has successfully entered Multi Project Wafer (MPW) stage to support customer's requirements on both 28nm PolySiON (PS) and 28nm high-k dielectrics metal gate (HKMG) processes. Over 100 IPs from multiple third party IP partners as well as SMIC's internal IP team are prepared to serve various projects from worldwide design houses that have been showing interest in SMIC 28nm processes.

28nm process technologies primarily target mobile computing and consumer electronics related applications, such as Smartphone, Tablets, TV, Set-top Boxes and networking. It provides customers high performance application processors, cellular baseband, wireless connectivity etc. According to IHS' forecasts, the pure-play foundry revenue potential for 28nm will continue to rise with a CAGR of 19.4% from 2012 to 2017.

ST Launches First 650V Sic Diodes With Dual Common-Cathode Or Series Configuration

STMicroelectronics of Geneva, Switzerland has launched dual-configuration Schottky silicon-carbide (SiC) diodes that are claimed to be the industry's first such devices with a voltage rating of 650V per diode in a choice of common-cathode or series configurations, allowing use in interleaved or bridgeless power-factor correction (PFC) circuits.

SiC power semiconductors have inherently higher energy efficiency and ruggedness compared to ordinary silicon alternatives, says ST. The firm's STPSC6/8/10TH13TI and STPSC8/12/16/20H065C devices (which have maximum average-current rating of 6A, 8A, 10A, or 8A, 12A, 16A and 20A, respectively) combine SiC performance advantages with the space savings and electromagnetic interference (EMI) reduction of dual integrated diodes. They are suitable for interleaved or bridgeless PFC (power factor correction) topologies that enhance the energy efficiency of equipment such as server and telecom power supplies, solar inverters or electric-vehicle charging stations.

Samsung Bolsters SSD Security For Enterprise Environments

Samsung has added new security features to its self-encrypting drive (SED), the 840 EVO SSD, making it compatible with professional security software employed by enterprise organisations, and positioning the company for what it expects is a market where encrypted SSDs are standard.

The new capabilities are enabled by the just released Samsung Magician 4.3 software and a firmware update that allows independent software vendors (ISVs) to provide enhanced security features required in enterprise user environments. Samsung's 840 EVO line now offers three security types: Class 0, TCG Opal, and Encrypted Drive (eDrive) from Microsoft on Windows 8. The new offering is also compliant with IEEE 1667 standards.

Tokyo Electron Exits Thin-Film PV Panel Business

The company, which is in the midst of merging with U.S. semiconductor giant Applied Materials, is terminating its PV equipment business in March.

Tokyo Electron will continue to provide support services for equipment that has already been delivered.

Tokyo Electron is exiting the thin-film PV panel production equipment (PVE) business following a vote by its board of directors on Thursday to withdraw from the sector.

The Japanese electronics and semiconductor company bought Switzerland-based Oerlikon Group's troubled thin film division in 2012 after having distributed Oerlikon Solar products in Asia-Oceania since 2009. Tokyo Electron initially marketed end-to-end manufacturing lines for the production of thin film silicon photovoltaic panels before acquiring Oerlikon Solar outright and making a full-fledged entry into the thin-film silicon PV panel market.

Bend It, Wear It, Drive It

The International Consumer Electronics Show (CES) is the biggest tech trade show of the year and a veritable phantasmagoria of light, sound and electricity. This year's edition was as much a tale of redemption and transformation as it was a peek into how technology at large will unfold in 2014.

Analysts have repeatedly dismissed the relevance of CES in the recent past, claiming that it has acquired a reputation of being more about incremental innovation and flashy toys that never get past the prototype stage. This could not be more wrong. The nature of innovation is to move incrementally; to move in small steps that mesh with the overall ecosystem. Real big-bang innovations have remained exceedingly few and far between.

Soitec's LED Tube Significantly Cuts Energy Costs

Soitec Lighting has announced a T8 LED tube product line for the North American market. According to the company, the solid-state replacement products for fluorescent T8 tubes complements Soitec's existing European tube series.

With illuminating power above 110lm/W in neutral white (4,000 degrees K), resulting in energy savings of more than 60 percent compared to fluorescent tubes, Soitec's LED tube is an efficient LED lighting solution. In addition, it has a lifespan of 50,000 hours, more than four times longer than the fluorescent tubes that it is designed to replace. The long-life solution reduces maintenance costs and, together with its high energy efficiency, offers a return on investment (ROI) of less than two years in typical applications.

Microchip Shows Off Power Monitoring IC

Microchip Technology Inc. has unleashed what it describes as a highly integrated, single-phase power-monitoring IC intended for real-time measurement of AC power. The MCP39F501 includes two 24bit delta-sigma ADCs, a 16bit calculation engine, EEPROM and a flexible two-wire interface. In addition, an integrated low-drift voltage reference on top of the 94.5dB of SINAD performance on each measurement channel allows accurate designs with just 0.1 percent error across a 4000:1 dynamic range, boasted the firm.

Broadcom Chip Brings Android, Graphics To Cheaper Smart Phones

Broadcom Corp. debuts the BCM21654 HSPA 3G baseband processor that integrates an ARM Cortex A9 processor with high-end 3D graphics support and advanced processing for mass-market Android handsets.

Made with a 40nm CMOS process, the processor provides mainstream smart phones with better graphics and user interface performance. It also includes built-in support for Android 2.3 and future releases.

IBM Has Just Made A Semiconductor Chip From Graphene: What You Should Know

The silicon chip is soon set to get competition as IBM has created a semiconductor chip that is made from grapheme.

The graphene-based circuit has been created by a team at IBM Research in Yorktown Heights, New York. The advanced circuit apparently performs 10,000 times better than current options and is based on an earlier proof-of-concept circuit the company made in 2011.

For the uninitiated, graphene is a crystalline version of carbon which is known to take in a honeycomb lattice shape on the atomic scale. Graphene is known for its strength and conductivity and is often seen as an alternative to silicon, which currently accounts for most electronic production. Graphene also transports electricity 200 times faster than silicon.

MIT Team Develops Paper Diagnostic For Cancer

MIT engineers have created what they describe as a simple, cheap, paper test that could improve cancer diagnosis rates and help people get treated earlier. The diagnostic, which works much like a pregnancy test, could reveal within minutes, based on a urine sample, whether a person has cancer. This approach has helped detect infectious diseases, and the technology allows noncommunicable diseases to be detected using the same strategy, the researchers added.

Cancer rates in developing nations have climbed sharply in recent years, and now account for 70 percent of cancer mortality worldwide. Early detection has been proven to improve outcomes, but screening approaches such as mammograms and colonoscopy, used in the developed world, are too costly to be implemented in settings with little medical infrastructure.

Gum-Like Material Cuts Fire Risk Posed By Li-ion cells

A team of researchers at Washington State University has created a chewing gum-like battery material that they say could reduce the fire hazard potential of lithium ion batteries. Led by Katie Zhong, Westinghouse Distinguished Professor in the School of Mechanical and Materials Engineering, the researchers reported on their work in the journal, Advanced Energy Materials.

The biggest potential risk for high performance lithium batteries comes from the electrolyte in the battery, which is made of either a liquid or gel in all commercially available rechargeable lithium batteries. The liquid acid solutions can leak and pose a fire or chemical burn hazard.

"While commercial battery makers have ways to address these safety concerns, such as adding temperature sensors or flame retardant additives, they "can't solve the safety problem fundamentally," explained Zhong.

MIT Team Creates Cochlear Implants With No Exterior Hardware

Giving hearing-impaired people a measure of hope, cochlear implants are medical devices that electrically stimulate the auditory nerve. Throughout the years, they have granted at least limited hearing to people who otherwise would be totally deaf. Existing versions of the device, however, require that a disk-shaped transmitter about an inch in diameter be affixed to the skull, with a wire snaking down to a joint microphone and power source that looks like an oversized hearing aid around the patient's ear.

A team of researchers at MIT's Microsystems Technology Laboratory (MTL), together with physicians from Harvard Medical School and the Massachusetts Eye and Ear Infirmary (MEEI), has developed a low-power signal-processing chip that could lead to a cochlear implant that requires no external hardware. The implant would be wirelessly recharged and would run for about eight hours on each charge

Rusnano Exits Superstrong Nanosprings Project In Mid-Volga

Rusnano has exited its successful superstrong springs project in Udmurtia, in the mid-Volga area, called NPTs Pruzhina. Russia's nanotech giant has sold its 34% stake to IST, a Russian multi-sector group, Russian news agency Interfax reported.

IST has thereby increased its shareholding in the Udmurtia company to a reported 69%.

NPTs Pruzhina was one of Rusnano's first portfolio companies set up to develop production of superstrong nanostructured springs "with enhanced strength, durability, and geometry accuracy." The company aims to supply railroad transport, the energy sector, mechanical engineering (including car making, agricultural machinery production and elevator building), and some others. The effort has received a reported total of about $34m in investment.

Chinese Car To Get New Russian Solar Batteries

In 2015, the new Hevel Solar factory in Chuvashia, in the mid-Volga area, will start the manufacture of innovation solar batteries for a new model of China's Great Wall electric car, Smartnews.ru reported.

A series of rigorous tests is said to have convinced the Chinese auto maker that the batteries, which will be produced starting this year already by Russian solar developer Hevel Solar at its new factory in Novocheboksarsk, have an optimal price-to-quality ratio for the Great Wall electric cars.

Yandex Driving Google Out On The Mobile Firmware Front

The Russian Internet company Yandex has launched a fee-free Android firmware kit in a bid to replace pre-installed Google firmware. The first Huawei and Explay devices with preinstalled Yandex.Kit should hit the stores this spring.

Yandex.Kit is based on the three-dimensional Yandex.Shell interface. Yandex offers users a bonus 50 Gb of space on its Yandex.Disk cloud storage service.

"Yandex.Kit will be useful not only to users but also to manufacturers of Antroid-based devices," says project manager Alexander Zverev. "The former will get a convenient phone, while the latter will have the necessary flexible development services and technologies. We will share the Yandex.Kit-generated revenue with the manufacturers. We are open to cooperation with any Android manufacturers on any markets. We have ready-made solutions for Russia, Ukraine, Belarus, Kazakhstan, and Turkey."

World Economic Round Up

The International Monetary Fund (IMF) has raised its global economic growth outlook for the year, with expansion to be fuelled by U.S., euro-zone and Japanese growth, though deflation and financial-sector risks threaten a full recovery. IMF Chief Economist Olivier Blanchard said that the recovery is strengthening, although it is still weak and uneven. .The U.S. leads the recovery. The IMF raised its forecast for U.S. economic growth this year by 0.2 percentage point to 2.8 percent, though it downgraded its 2015 outlook by 0.4 percentage point to 3 percent amid the fights in Congress over the federal balance sheet and spending. For Europe, however, officials warned that rising risks of falling prices threaten to stall the anaemic recovery. Mr. Blanchard said that although the fund raised its growth forecast for the U.K., Germany and Spain, Southern Europe continues to be the more worrisome part of the world economy.

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 2014
- Industry Forecast Briefing, London – 9th September 2014
- International Electronics Forum – 8-10th October

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

SILICON CHIP INDUSTRY WORKSHOP
MONDAY 17th March 2014
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 9th September 2014

BOTH BEING HELD AT
NH HARRINGTON HALL HOTEL, LONDON
AND
INTERNATIONAL ELECTRONICS FORUM
8-10th OCTOBER
Venue TBA

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