

FutureHorizons
The Global Semiconductor Industry Analysts



Future Horizons Newsletter

June 2014

Contents Page

Industry News by Company	Page 3 - 7
Industry News & Trends	Page 8 - 10
East European News & Trends	Page 11 - 12
World Economic Round Up	Page 13
Future Horizons & Industry Events	Page 14

Industry News By Company

[Agilent Acquires Gradient Design Automation's Electrothermal Analysis Technology](#)

Agilent Technologies Inc of Santa Clara, CA, USA has acquired electrothermal analysis technology from Gradient Design Automation Inc of Palo Alto, CA, which provides HeatWave electrothermal analysis software (used to identify hazards and improve performance in integrated circuits subject to temperature variations during operation).

Agilent EEsof EDA (which supplies electronic design automation software for microwave, RF, high-frequency, high-speed digital, RF system, electronic system level, circuit, 3D electromagnetic, physical design and device-modeling applications) now has sole ownership of Gradient's core technology and will serve customers of both Agilent's integrated Advanced Design System software solution and Gradient's HeatWave solution.

The electrothermal analysis technology allows designers to identify and correct thermal problems during integrated circuit development.

"Thermal management is one of the toughest challenges facing modern IC designers," says Agilent EEsof EDA's general manager Todd Cutler. "That's why our integrated ADS electrothermal solution was so well received by customers following its introduction and has already been adopted by several major RFIC/MMIC vendors." The latest announcement "further reinforces our commitment to continue working to solve this difficult challenge," he adds.

[Avago Technologies Completes Acquisition Of LSI Corporation](#)

SAN JOSE, Calif. and SINGAPORE, May 6, 2014 (GLOBE NEWSWIRE) -- Avago Technologies Limited (Nasdaq:AVGO) and LSI Corporation (Nasdaq:LSI), today announced Avago has completed its acquisition of LSI Corporation for \$11.15 per share in an all-cash transaction valued at approximately \$6.6 billion. The acquisition creates a highly diversified semiconductor market leader with approximately \$5 billion in projected annual revenues.

Avago believes the acquisition of LSI positions Avago as a leader in the enterprise storage market. The acquisition also expands Avago's product offerings and brings system-level expertise in its wired infrastructure market. With increased scale and a diversified product portfolio across multiple, attractive end markets, the combined company is strongly positioned to capitalize on the growing opportunities created by the rapid growth in data center IP and mobile data traffic.

[Cadence Announces Immediate Availability Of Industry's First Verification IP For PCI Express 4.0 Technology](#)

SAN JOSE, Calif., May 15, 2014 /PRNewswire/ -- Cadence Design Systems, Inc., a leader in global electronic design innovation, today announced the availability of the industry's first verification IP (VIP) supporting PCI Express® (PCIe®) 4.0 architecture. This VIP enables designers to quickly and thoroughly complete the functional

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

verification for their system-on-chip (SoC) designs with less effort and greater assurance that the design will operate as expected.

[GLOBALFOUNDRIES Debuts 55nm Semiconductor Manufacturing Platform For The Automotive Industry](#)

GLOBALFOUNDRIES today introduced an optimized semiconductor manufacturing platform aimed specifically at meeting the stringent and evolving needs of the automotive industry.

Built on the company's 55-nanometer (nm) Low Power process and AEC-Q100 Group D qualified, the solution includes a comprehensive set of technology and design enablement capabilities tailored to improve the efficiency, performance, and power consumption of automotive ICs while maintaining adherence to the industry's strict safety and quality standards.

[Infineon Introduces DrBlade™ 2 Power Stage Enabling High Efficiency In Server and Datacom Systems; Complete System Solution For DC/DC Voltage Regulation Available](#)

Neubiberg, Germany – June 16, 2014 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) today announced DrBlade™ 2, an integrated power stage device that combines two power MOSFETs and a DC/DC driver IC with integrated current and temperature sensing in a compact, low-profile package that helps engineers of server and datacom applications handle high power density requirements and shorten design-in cycles. The breakthrough power package uses galvanic and lamination processes, resulting in a significantly reduced package footprint and height, superior electrical resistance and inductance specs, and improved cooling capabilities. Infineon also offers complete high performance DC/DC voltage regulation solutions based on DrBlade 2 power stages and Infineon's fourth generation digital controller ICs.

“Infineon's system solution with DrBlade 2 offers highest efficiency at all load conditions and enables fast and effective power management design in server and datacom applications,” says Richard Kuncic, Senior Director System Segment DC/DC at Infineon Technologies. “We are proud that DrBlade 2 has been selected by industry leading power engineers for their latest designs.”

Intel, Rockchip Join Forces For tablet SoC dev't

Intel has revealed that it will co-design an integrated tablet SoC with Rockchip, a China-based designer of ARM-based SoCs. This move signifies the x86 maker's aggressive pursuit of the mobile market.

Although an unusual pairing of rivals, the deal appears to be a win/win. Intel gets deeper access to China's tablet makers and Rockchip gets a part with integrated 3G communications, something ARM currently cannot provide Rockchip's rivals such as AllWinner.

Intel and Rockchip will ship in volume before July 2015 a quad-core 3G SoC aimed at entry-level tablets. It will use Intel's Atom processors and 3G silicon and may use graphics and connectivity blocks from Rockchip, said Intel CEO Brian Krzanich.

Jenoptik Acquisition Boosts Presence In India

Jenoptik has announced that it is increasing its shares in the HOMMEL-ETAMIC Metrology India Pvt Ltd joint venture in India from 51 to 100 per cent. Its previous joint venture with Francis Klein Ltd will be terminated. In the next few months, the company in Bangalore with 16 employees will be fully integrated into Jenoptik.

In future, the new Jenoptik company will be active in the Indian market as a subsidiary of the Jenoptik holding company in Asia and will be open to all divisions of the Group. To date, Jenoptik has been mainly present in India with its industrial metrology division and has oriented itself with its product range and service to the automotive industry and its suppliers in particular. "From our point of view, India also offers great potential in the markets of traffic safety, optical systems, and for civilian applications of our defence and civil systems division," said Jenoptik CEO Michael Mertin

Mentor Graphics Acquires Nimbic, Inc

WILSONVILLE, Ore., May 20, 2014 /PRNewswire/ -- Mentor Graphics Corp . /quotes/zigman/75299/delayed/quotes/nls/ment MENT +0.14% today announced that it has acquired Nimbic, Inc., a leading provider of Maxwell-accurate, 3D full-wave electromagnetic (EM) simulation solutions. Nimbic's high-performance high-end simulation capability and ability to accurately calculate complex electromagnetic fields will expand and strengthen Mentor's chip-package-board simulation portfolio.

"Nimbic's world-class 3D electromagnetic simulation solutions for signal integrity, power integrity, and EMI (electromagnetic interference) analysis are used by numerous leaders in the electronics industry to address their enterprise-wide challenges for chip-package-board design," said Raul Camposano, CEO, Nimbic, Inc. "Nimbic's recognized solutions enable the industry to cope with increasingly higher-end complexity. We see joining Mentor Graphics as a natural fit with its own leadership in PCB and package systems design, global footprint, and extensive network of enterprise customers. We view this transaction as very positive for our customers, our employees, and the industry as a whole."

Peregrine Semiconductor : Ships First UltraCMOS® 10 Production Units

Peregrine Semiconductor Corp. (NASDAQ: PSMI), founder of RF SOI (silicon on insulator) and pioneer of advanced RF solutions, announces shipment of the first RF switches built on the UltraCMOS 10 technology platform. With partner

GLOBALFOUNDRIES, the company also announces the completion of product and process qualification for the advanced RF SOI technology.

Introduced in October 2013, UltraCMOS 10 technology provides smartphone manufacturers with unparalleled performance and flexibility. The 130 nm technology combines the performance of UltraCMOS technology with the economies of SOI, and it delivers a more than 50-percent performance improvement over comparable solutions. The advanced technology addresses the unique growth requirements for mobile applications and is the foundation for Peregrine's next-generation RF switches, tuners and power amplifiers, including the industry's first reconfigurable RF front end, UltraCMOS Global 1.

[Renesas To Sell LCD Chip Business To Synaptics](#)

Renesas Electronics Corp. has announced its plan to sell its majority stake in Renesas SP Drivers, its LCD chip joint venture with Sharp Corp. and Powerchip Group, to Synaptics, a mobile device chip provider. This is according to a report from Reuters that also revealed Apple as a potential buyer of Renesas' 55 share of the venture, which is the smartphone maker's only source of LCD chips for the iPhone. However, discussions apparently didn't push through, prompting Renesas to make a deal with Synaptics.

The companies would not confirm the report.

"Synaptics is passionate about developing human interface technology that changes the way people interact with PCs, mobile devices and next-generation consumer devices," Synaptics noted. "We are committed to driving advances and innovations that enhance the human interface experience. Recent media reports regarding Renesas Electronics Corp. were not based on a Synaptics' announcement and we will not comment on any speculation at this time."

[Samsung And STMicroelectronics Sign Strategic Agreement To Expand 28nm FD-SOI Technology](#)

STMicroelectronics /quotes/zigman/220261/delayed/quotes/nls/stm STM -0.31% , a global semiconductor leader serving customers across the spectrum of electronics applications, and Samsung Electronics Co., Ltd., a global leader in advanced semiconductor solutions, today announced the signing of a comprehensive agreement on 28nm Fully Depleted Silicon-on-Insulator (FD-SOI) technology for multi-source manufacturing collaboration.

The licensing accord provides customers with advanced manufacturing solutions from Samsung's state-of-the-art 300mm facilities and assures the industry of high-volume production for ST's FD-SOI technology. FD-SOI technology at 28nm delivers faster, cooler, and simpler semiconductor devices to meet the continuing demand for higher-performance, lower-power systems-on-chips for next-generation electronic products, such as mobile and consumer applications.

STMicroelectronics Hails Success Of Advanced Single-Chip Integration In New Wireless Modules From SenseAnywhere

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has announced that SenseAnywhere, a leader in tags and modules for wireless sensing and location, has qualified the world's first wireless devices incorporating ST's new single-chip balun, which integrates essential circuitry for radio systems in a footprint of only 2.1mm².

The SenseAnywhere AiroSensor and AssetSensor active-RFID modules combine advanced RF transceiver technology with a low-power processor, low-voltage EEPROM, and miniature temperature, humidity, and ultra-efficient motion sensors to enhance performance and save cost in Internet of Things (IoT) applications such as environmental monitoring, cold-chain compliance, theft protection, and asset tracking.

TSMC To Mass Produce 16-nm FinFET Chips From 2015

Taiwan Semiconductor Manufacturing Company, the world's largest contract chipmaker, is planning to start mass production of chips on its new 16-nanometer (nm) FinFET process next year.

In its annual report for 2013, the company said the production of 16-nm FinFET chips will come on stream one year after it begins mass production of its 20-nm planar technology in 2014.

Industry News & Trends

[SRC Funds Inexpensive 3D Chip Fabrication Technique](#)

Semiconductor Research Corp. (SRC) at the University of California at Berkeley has recently funded a novel technique using low-temperature materials that claims to be the most flexible and inexpensive method of fabricating 3D chips yet. The technique fabricates active devices interleaved between the metallisation layers atop a standard CMOS die, eliminating the expense of vertically stacked transistors or of stacking dies with TSVs.

"To me the exciting part of this is that it is a monolithic integration, as opposed to the chip stacking techniques that have been used for 3D integration thus far," stated Bob Havemann, director of nanomanufacturing Sciences at SRC. "This method offers a lot more flexibility at a much lower cost."

[Raspberry Pi Finds Competition In Banana Pi](#)

A single-board computer has been recently announced that claims to rival the Raspberry Pi. Banana Pi is an exact replica of Raspberry Pi, except that it boasts more memory and a faster processor. At \$57, it features a 1GHz Allwinner A20 dual-core ARM Cortex-A7 processor and 1GB of RAM, and is said to enable the development of wireless servers, computers, games, HD video, speakers and more, since it is open-source.

Banana Pi also features HDMI and composite video inputs, a 3.5mm audio input, SD card slot, built-in microphone, 2 USB 2.0 ports, Gigabit Ethernet, an IR receiver, SATA port, Micro USB port for power, and Raspberry Pi-compatible headers, including camera connector and 26-pin header.

[Fujitsu Harvests Low-Potassium Lettuce Grown In Semiconductor Plant](#)

Electronics maker Fujitsu Ltd. has begun selling low-potassium lettuce, which is grown in a special clean room at its semiconductor plant in Aizu-Wakamatsu, Fukushima Prefecture.

Normally, vegetables need to be heated to decrease potassium levels. However, patients suffering from kidney disease or those undergoing dialysis — who are restricted in their potassium intake — can now enjoy salad made with Fujitsu's lettuce, which the company began selling May 7.

Fujitsu renovated a section of one of its virtually dust-, germ- and sunlight-free clean rooms at the plant to create the Aizu-Wakamatsu Akisai Vegetable Plant. The low-potassium lettuce is the first installment of its "Kirei Yasai" (Clean Vegetable) series.

[Molybdenum Disulfide Ultra-Thin Semiconductor Material On The Horizon](#)

A local research team succeeded in developing an ultra-thin electronic element using molybdenum disulfide, expediting the development of next-generation ultra-thin semiconductor materials.

Seoul National University Physical Astronomy Professor Lee Tak-hee said on May 7 that he, together with Pohang Accelerator Research Institute PhD Baek Jae-yun and Pohang University of Science and Technology Professor Shin Hyun-joon, developed

an extremely thin electronic element using semiconductor trait-bearing molybdenum disulfide.

Molybdenum disulfide (MoS₂) is extremely thin and is also a semiconductor. The research was published in the international academic journal ACS Nano's online version on April 14.

A4WP Boosts Wireless Charging To 50W For Tablets, Laptops

The Alliance for Wireless Power (A4WP) has expanded its Rezenec-based wireless charging capabilities to offer a specification for multi-device wireless charging. Increasing the range to 50W, the scope of products capable of using Rezenec technology has also extended beyond smartphones to include laptops, tablets, and other consumer electronics. To support upcoming rapid product launches, publication and upgrade to the existing Baseline System Specification and certification program is expected by the end of the year.

Dell, Fujitsu, Hon Hoi (Foxconn), Lenovo, Logitech and Panasonic have all joined the A4WP with the aim of integrating wireless charging into a wide range of consumer electronics devices. A4WP's membership has now passed 100 mark.

Toyota Developing Chips To Boost Hybrid Efficiency Up To 10%

TOKYO -- Toyota Motor Corp., aiming to extend its lead in hybrid technology, has developed a new semiconductor it says can boost fuel efficiency in hybrid cars such as the Prius by up to 10 percent.

The world's biggest maker of gasoline-electric cars said it has already achieved a 5 percent improvement in fuel efficiency in test vehicles and aims to commercialize the technology around 2020.

The advancement comes in the semiconductors that manage the flow of electricity through the power control unit that integrates a hybrid vehicle's battery, motor and generator.

Freescale Vision Chip Makes Self-Driving Cars A Bit More Ordinary

Self-driving cars today are exotic. But with a partnership between chipmaker Freescale and software companies Neusoft and Green Hills Software, the idea is becoming just another technology on the computing industry's parts list.

The partnerships will produce an automotive vision chip that can be used to help cars understand the environment around them. That includes things like detecting pedestrians, traffic lights, collisions, drowsy drivers, and road lane markings.

Those tasks initially are more the sort of thing that would help a driver in unusual circumstances rather than take over full time. But they're a significant step in the gradual

shift toward the computer-controlled vehicles that Google, Volvo, and other companies are working on.

Samsung Preps For Medical Revolution

Young Sohn, the chief strategy officer of Samsung Electronics, has joined the digital medical revolution. He is developing a platform for devices and apps that let consumers manage their fitness and ultimately, according to him, their healthcare.

Many others are trying to create this revolution. They too want to create bracelets and watches and smartphones and apps that disrupt today's medical establishment.

At a developer conference in San Francisco this fall, Sohn will publish hardware interfaces for Simband, an open specification for a bracelet that can accommodate a wide array of fitness and medical sensors. At the event he will also release software interfaces for writing programs and cloud services for the platform.

East European News & Trends

Mordovia Nanotech: From Heat Insulation To 'Nanotweezers'

Mordovia's Center for Nanotechnology and Nanomaterials in the mid-Volga area has been pushing a number of advanced projects in new materials, lighting engineering, and especially nanotech, regional portal Vestnik-RM reported.

Some of those projects can soon go global, experts believe. For example, scientists at a local team called "Nanopincer" have developed an extremely small pair of tweezers that can help grasp, hold and manipulate microscopic objects such as carbon nanotubes or even viruses.

New Russian Laboratory To Develop Fighting Robots

An advanced robotics laboratory has been launched in a yet-unspecified region of Russia to focus on the development of robots for combat operations, the Russian news agency ITAR-TASS reported, citing Oleg Bochkaryov, the deputy chairman of the Russian Government's Military and Industrial Committee.

Mr. Bochkaryov declined to provide any further detail regarding the new laboratory which was originally meant as a private-public partnership.

Intel To Complete Research Center At Skolkovo "In A Year Or Two" Despite Sanctions

Intel plans to set up its research division at Skolkovo "either in 2015 or 2016," according to Christian Morales, the corporation's vice president for EMEA.

In the 2011 agreement signed by Intel and Skolkovo, the research and design center was scheduled for launch by 2015, reported East-West Digital News, the first all English-language online resource dedicated to Russian digital industries. Intel Capital, the venture arm of the international electronics giant, received the status of accredited venture fund.

"Skolkovo is a terrific initiative that we are deeply immersed in. Negotiations are continuing on the creation of an R&D center, and they will take a year or two," Mr. Morales said, noting that the total volume of Intel investment in Russia in the last 20 years has been around \$1bn (not counting Intel Capital investment).

MegaFon Signs Equipment Deal With Huawei

MegaFon, the Russian telecoms operator, has acquired about \$600m of equipment and maintenance services from China's Huawei Technologies.

The seven-year contract between MegaFon and Huawei will "amount to dozens of billions of roubles", according to the Russian company. It covers equipment for the

Huawei is already one of the largest suppliers to MegaFon, having helped upgrade its 3G equipment and supported the "Eurasia" intercontinental high-speed network.

Wan Biao, president of Huawei's Russia business, said the region was "one of the most promising" for the group. The deal comes as Russian companies are forging strong ties with China in the face of Western sanctions following Russia's involvement in Ukraine.

Future Horizons Ltd, • 44 Bethel Road • Sevenoaks • Kent TN13 3UE • England 11

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

Russian-American Startup ibuildapp Raises Another \$200,000

Mobile app builder iBuildApp has raised \$200,000 from Starta Capital and Nikolay Belykh. iBuildApp is an international project that enables clients to build and manage mobile apps. As well as being a resident of Moscow's Skolkovo IT-Park, the project also has its headquarters in Foster City, California.

This investment brings the total invested in the project to \$1.9 million, including \$175,000 injected at seed stage by Starta Capital. The startup's latest round of funding came a few months ago with a group of private investors bringing in \$525,000.

The startup has clients all over the world, and by March this year these had created more than 660,000 apps using iBuildApp's platform. In Russia the project's most famous client is Sberbank, which has created more than 50 apps via iBuildApp. According to its CrunchBase profile, its platform is also used by a number of Fortune 2000 companies in the US.

World Economic Round Up

Five years after the financial crisis ended, soft growth in Europe, a stop-and-start U.S. recovery and waning momentum in China have policy makers wondering what to do next. A spate of worrying economic data has shaken stock and bond markets. Economic activity in the 18-country euro zone expanded at a weak annual rate of 0.8 percent during the first quarter. Excluding Germany, which grew at a robust 3.3 percent pace, the rest of the euro-area economy contracted slightly during the quarter. European Central Bank (ECB) officials are now moving toward enacting additional low interest-rate policies to prevent the region from sliding into a lengthy period of economic stagnation, while the U.S. Federal Reserve guardedly tries to wind down a bond-buying programme meant to revitalize economic growth. Meantime, Chinese authorities are trying to encourage banks to lend more to first-time home buyers shut out of their real-estate market.

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 – 15th September 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:

Telephone: +44 1732 740440

Email: mail@futurehorizons.com

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

Industry Events

-

MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP

MONDAY 15th September 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 2014

Venue TBA

Follow Us On Twitter

For weekly semiconductor news and updates follow us on Twitter.

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

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