FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Alpha And Omega Semiconductor Limited Announces Joint Venture Agreement In China

SUNNYVALE, Calif., March 29, 2016 (GLOBE NEWSWIRE) -- Alpha and Omega Semiconductor Limited (AOS) (Nasdaq:AOSL), a designer, developer and global supplier of a broad range of power semiconductors and power ICs, today announced that it has executed a definitive agreement with two strategic investment funds owned by the Municipality of Chongqing, China, to form the previously announced joint venture for a new state-of-the-art power semiconductor packaging/testing and wafer fabrication facility in the Liangjiang New Area of Chongqing (the "Joint Venture").

The initial capitalization of the Joint Venture under the agreement will be $330 million. This reflects cash contributions, primarily from the Chongqing funds, as well as existing packaging and testing equipment from AOS, and certain AOS intellectual property relating to packaging and wafer manufacturing technology. AOS will own 51%, and the Chongqing funds will own 49%, of the equity interest in the Joint Venture. The Joint Venture agreement is subject to approval by the relevant Chinese authorities.

Apple Signs Up To Google Cloud Services

Apple has moved some of its iCloud services on to the Google Cloud, marking one of the most high-profile wins for Alphabet’s rival to Amazon Web Services since it came under new leadership last autumn.

Google has been a distant third in its race with Amazon and Microsoft’s Azure as the trio vie for market share in cloud computing, but it has made strides since the appointment of industry veteran Diane Greene as head of that business in November.

Google also scored a victory with Spotify last month, when the music streaming service announced it would shift away from Amazon Web Services and move most of its services on to the Google Cloud platform.

Foxconn Seals $3.5bn Sharp Takeover

Sharp, a pioneer of the once-mighty Japanese electronics industry, has been taken over at a knockdown price by Taiwanese contract manufacturer Hon Hai Precision Industry in a watershed moment for corporate Japan.

Hon Hai, better known as Foxconn and which counts Apple among its top customers, is to pay Y388bn ($3.5bn) for Sharp. It will inject new capital into the company at a lower than expected price of Y88 a share after negotiating a Y100bn cut to a previously agreed deal.

The sale of such a storied name to a Taiwanese group is a painful milestone for corporate Japan. Sharp, a century-old brand, ran into financial trouble after the financial crisis and its banks chose a sale to Hon Hai over a government-funded rescue.

Google Data Centres To Shift To ARM, IBM Servers

Google is holding out for the prospect shifting its massive data centres from Intel x86 to IBM Power servers. It also is preparing for the possibility it may shift to ARM servers, but it's not quite as far along on that path. It has now ported to the Power8 server it developed two years ago many Google apps and most of Google's infrastructure software.

"For good software developers enabling Power is just modifying a flag in a config file and off they go," said Maire Mahony, an engineering manager in Google's platform group that is responsible for its data centre hardware and a director of the Open Power Foundation.

Imagination Technologies To Axe 200 More Jobs

Imagination Technologies, the UK chip design group that has struggled to adapt to the changing smartphone market, has announced 200 job losses as it tries to speed up a restructuring and cost-cutting programme.

The company said the job cuts were on top of 150 positions it had announced it would eliminate in February. However, it is also seeking to fill 50 posts in its graphics and multimedia division, which it sees as a core business.

Among the staff to depart last month were chief executive Sir Hossein Yassaie, who had been at the company for 18 years. His departure came as Imagination reported worsening losses and declining revenues.

Infineon Presents World's Smallest Plug-And-Play NFC Security Module For Smart Wearables

Munich, Germany and Beijing, China – March 21, 2016 – From fitness trackers and smart keys to chains, watches or wristbands – smart wearables of all kinds are increasingly including mobile payment functionality. Wearable manufacturers are thus challenged to equip even the smallest of devices with security and NFC technologies. The solution lies in a unique NFC security module series launched today by Infineon Technologies AG in collaboration with Beijing-based Mobile Payment Solutions Co. Ltd. (MPS). This new plug-and-play solution significantly reduces design efforts for device manufacturers by bundling a high-end Infineon security chip with NFC antenna components and software on smallest PCB footprint. The smallest module of the series measures only 4mm x 4mm.

The Boosted NFC security module series manufactured by MPS has now been awarded the Mobile Finance Secure Element Certificate by the China Financial Authentication body of the People's Bank of China (PBOC). The certificate is a key enabler in the move to address the fast-growing mobile payment market in China.

Gigoptix Buys Magnum Semiconductor In $55M Deal

GigOptix, which provides semiconductor and optical components, acquired chip and software provider Magnum Semiconductor on Monday.

The deal is valued at approximately $55 million and the combined company will rebrand as GigPeak Inc.

San Jose-based GigOptix is issuing about 7.1 million shares and paying an additional $35.8 million in net cash. GigOptix will fund part of the purchase price by incurring additional indebtedness through a $15 million term loan provided by Silicon Valley Bank. The company will continue to trade on the NYSE under the symbol “GIG.”

Taiwan Semiconductor To Build $3B Wafer Plant In China

Nanjing City Government to build an advanced wafer manufacturing facility in ChinaIn this regard, Taiwan Semiconductor plans to invest $3 billion. The new wafer manufacturing facility is expected to add 20,000 12-inch wafers every month, beginning the second half of 2018.

This initiative is part of the company’s goal to expand its operations in China which was restricted for a long time due to the political tension between the two countries.

China represents the largest and fastest growing market for U.S. semiconductors. According to the International Trade Administration (“ITA”), China represents 27% of the world’s floor space for semiconductor packaging and testing.

Also, China offers several tax benefits to ensure a conductive environment for fab construction. Many semiconductor companies, such as Intel Inc. (INTC - Analyst Report) and Samsung, have announced plans to build fabs in China. This could result in the country’s spending on fab equipment to rise 9.1% year over year to $5.3 billion in 2016 according to Semiconductor Equipment and Materials International (“SEMI”).

As China’s chip consumption is the largest in the world — more than 50% — the semiconductor giants are looking toward this growing market.

Xiaomi To Build 2 Plants In India, Release More Devices

Bin Lin, billionaire co-founder and president at Xiaomi, announced plans on setting up two manufacturing plants in India, aiming to launch more devices this year to ramp up its presence in the emerging market in contrast to its home market, which is growing pale in comparison.

The India plan includes manufacturing of handset peripherals and components, he said.

"We believe it (China) will be a flat market, if not, even decline," said 48-year-old Lin, worth nearly 7,480 crore ($1.1 billion) according to the Forbes list of billionaires.

Conversely, Lin expects India, already the world's fastest growing smartphone market, to further gain steam, selling around 140 million devices in 2016, compared with about a 100 million last yea

Apple Primed To Launch Cheaper Iphone

When Apple launched the iPhone 6 in 2014, its move to a larger screen yielded the most profitable quarter in US corporate history. Now, as the company faces the prospect that iPhone sales may fall this year for the first time, it is hoping a smaller and cheaper device will provide a much-needed sales boost.

Monday is expected to see Apple reveal a 4-inch iPhone SE, the same size as the 5 series introduced in 2012 but with updated technology, including Apple Pay, a better camera and a faster processor. New iPads with the same keyboard and Pencil accessories that arrived with last year's Pro version and extra bands for the Apple Watch are also expected.

It is unusual timing for a new iPhone. After the first iPhone was launched in January 2007, the device was updated every June until 2011's 4S, which began the now-familiar autumn refresh. A fuller update to its flagship smartphone is still expected in September.

Machines That Will Think And Feel

Artificial intelligence is breathing down our necks: Software built by Google startled the field last week by easily defeating the world's best player of the Asian board game Go in a five-game match. Go resembles chess in the deep, complex problems it poses but is even harder to play and has resisted AI researchers longer. It requires mastery of strategy and tactics while you conceal your own plans and try to read your opponent's.

Mastering Go fits well into the ambitious goals of AI research. It shows us how much has been accomplished and forces us to confront, as never before, AI's future plans. So what will artificial intelligence accomplish and when?

Endless Mini Review: Just How Good Is A $79 Computer?

One reason the Endless Mini is so cheap is that this grapefruit-sized PC is sold on its own. You supply the keyboard, mouse and display yourself. The computer, built with developing countries in mind, doesn't just hook into newer, flat-panel screens via HDMI—it also connects to older tube TVs by way of a composite video cable.

The Mini runs a Linux-based operating system that looks and works much like a tablet, with a row of app icons laid out in a grid on-screen.

Because Internet access isn't a given (even in the U.S.), the Mini designed to be useful without a Web connection. Straight out of the box, it has more than 100 apps pre-installed, in your choice of English or Spanish. These apps span from K-12 education, to a free office suite, to games and even recipes.

Nike Adds Self-Lacing Shoes To Sneaker Arms Race

Nike Inc. unveiled sneakers with self-lacing technology that it plans to sell later this year as the sportswear company looks to one-up rivals in an increasingly tech-driven athletic market.

In place of traditional laces or Velcro straps, the HyperAdapt Trainer 1.0 has a sensor in the heel that adjusts the sneaker's fit. Two side buttons allow the user to tighten or loosen the grip. Pricing for the shoe, which will be available for the 2016 holiday season, hasn't been determined, a Nike spokesman said.

Australian Company Launches Home Solar Storage Battery To Take On Electronics Giant Tesla

With the number of depleted home solar batteries being thrown away tipped to rise over the coming years, one Australian company is taking on electronic giants such as Tesla and Panasonic with the launch of an easily recyclable power source.

Key points:

- Unlike its big competitors, the ZCell does not use lithium
- It stores enough energy to keep most homes running for a day or two
- Concerns are being raised about how to dispose of dead home storage batteries

About 8,000 tonnes of lithium-ion batteries are thrown away every year and in the next 20 years that is expected to jump to 150,000 tonnes, partly due to a rise in the use of big home solar batteries, according to the Australian Battery Recycling Initiative.

Brisbane company Redflow says it has developed the ZCell battery that, unlike its competitors, does not use lithium and is more recyclable than its competitors.

Nanoscale MEMS Device Claims 100-Fold Power Generation

Scientists from Columbia Engineering, Cornell and Stanford have revealed that heat transfer can be made 100 times stronger than had been previously predicted by theory. They were able to do this by simply bringing two objects to within about 40nm of each other, without touching.

Radiative heat transfer by infrared light is usually much smaller than heat transfer by conduction and convection. A team led by Michal Lipson, professor at Columbia, and Shanhui Fan of Stanford have made a mechanical system that transfers heat using light between two parallel wires.

"At separations as small as 40nm, we achieved almost a 100-fold enhancement of heat transfer compared to classical predictions," said Lipson. He added that his team is the first to reach levels of performance that could be used for energy applications, such as directly converting heat to electricity using photovoltaic cells. This would be done by radiating heat energy exactly at the bandgap frequency of the photovoltaic cell.

Synopsys Researchers Hold High Hopes For Silicon Nanowires

Synopsys researchers have revealed that FinFET is dying, III-V on silicon is dead before its time, and the silicon nanowire transistor will extend Moore's Law all the way to single atom transistors round about 2043.

Invited speaker Victor Moroz, a Synopsys scientist cited sources claiming that "Moore's Law won't end until 2043 when there will be one atom per transistor," that "FinFETs are fading in importance" and that the nanowire is a much better solution than FinFETs or FD-SOI [fully-deleted silicon-on insulator].

Russian Startups Eye The Emerald Isle

Ireland's National Digital Research Center (NDRC) is offering Russian tech companies the chance to participate in a program on the Emerald Isle organized in collaboration with the Russian venture fund, Pulsar Ventures.

In April, Pulsar Ventures will announce 50 teams to join the international accelerator, and will bring together investors from Russia, Ireland and the U.S. Peter Lennox of Enterprise Ireland, the Irish government agency responsible for growing the country's business community, said his team's goal is to encourage Russian entrepreneurs to move to Ireland.

3D Printed Siberian Satellite Ready For Space Launch

Researchers at the Tomsk Polytechnic University (TPU) in Siberia have "printed out" a fully functional small satellite on a 3D printer. The spacecraft designated "Tomsk-TPU-120" will soon be taken to Baikonur, the main Russian launch center in the territory of neighboring Kazakhstan, and then a "Progress" cargo rocket will take it to the International Space Station (ISS) in orbit. The launch of the Tomsk-TPU-120 from the ISS is slated for March 31, the TPU website announced.

It's one of the CubSat type of nanodimensional satellites, sized 300x100x100mm. This is the world's first such project, in which the entire casing of a satellite is fully 3D printed. The spacecraft will operate at an altitude of about 400km for as long as six months.

Samsung Buys 3 Patents From Russian Life Monitoring Sensor Developers

Korea's Samsung has bought from an unspecified team of Russian developers three patents for a new advanced laser sensor system to gauge and monitor critical physiological indicators in the human body, Russian portal Hi-tech.mail.ru reported.

The innovative sensors are expected to give an examiner a clearer picture of a person's current physical status than the existing competition. They will be used to measure heartbeat, blood pressure and the speed of blood flow.

In addition, the new sensors are said to be able to analyze the status of one's skin. All these indicators are expected to enable an objective assessment of the user's body on a real-time basis, and generate plan of action type recommendations.

According to a patent application, the laser sensors can be built in two types of devices, including the smartphone and a gadget like fitness bracelet or "smart" watch.

Russia Pushes Its STT-MRAM Next Gen Memory Program

Crocus NanoElectronics, a portfolio company of Russia's nanotech giant, Rusnano, and the Moscow Institute of Physics and Technology (MIPT), a leading Russian technology university, have launched a joint research program in an effort to develop a next gen STT-MRAM magnetic memory and test production technology for that, Rusnano announced.

The partners expect to jointly develop new materials, design devices, and come up with new modeling and control methods. If they pull it off, the groundwork will be laid for the production of STT-MRAM-based items on the premises of Crocus NanoElectronics.

World Economic Round Up

The International Monetary Fund (IMF) has warned that the increasingly disappointing world economy is facing the threat of a synchronised slowdown and mounting risks including another bout of financial market turmoil and a political backlash against globalisation. They reduced the global growth forecast for 2016 by 0.2 percentage points to 3.2 percent, downgrading its expectations for a wide range of advanced and emerging economies. The IMF said the world economy was increasingly vulnerable to downside risks including further market turmoil in the wake of this year's China-led downturn as well as the political consequences of lacklustre growth since the 2008 global financial crisis.

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 2016

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 6th June 2016
- Industry Forecast Briefing, London – 20th September 2016

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

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY 6th JUNE 2016
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 20th SEPTEMBER 2016

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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