FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

Alpha and Omega Semiconductor Announces License Agreement enabling New Power IC Products

SUNNYVALE, Calif., Sept. 05, 2017 (GLOBE NEWSWIRE) -- Alpha and Omega Semiconductor Limited (NASDAQ:AOSL), a designer, developer and global supplier of a broad portfolio of power semiconductors ("AOS"), announced today that it has entered into a license agreement with STMicroelectronics that would enable AOS to expand into new markets for advanced low-voltage power IC products with multiple functionalities, primarily for applications in computer servers. The agreement allows AOS to develop, market and distribute products based on a specific digital multiphase controller technology developed and currently used by STMicroelectronics, and AOS will continue to improve and enhance the performance and capabilities of these products by combining its own power IC expertise with the licensed technologies under the agreement.

"We are excited by the new opportunities presented to AOS by this license agreement," said Mike Chang, the chief executive officer of AOS. "STMicroelectronics has made significant progress to develop multiphase controller technology to achieve optimal performance, programmability and ease-of-use, and we are pleased to be able to build on this progress and to provide existing and future customers with enhanced services and offerings. Furthermore, this license agreement demonstrates our commitment to execute our strategies to diversify our product offerings, particularly our focus to expand power IC products to new markets. By adding a low-voltage multiphase controller product line to our power IC and MOSFET products, AOS can offer a complete solution to customers in the burgeoning server market."

CoolMOS™ P7 in SOT-223 combining performance and ease of use with a cost-effective package solution

Munich, Germany – 22 August 2017 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) is expanding its recently launched CoolMOS™ P7 superjunction power MOSFET family with a SOT-223 package. The device has been developed as a one-to-one drop-in replacement for DPAK. It is fully compatible with a typical DPAK footprint. The combination of the new CoolMOS P7 platform with the SOT-223 package is a perfect fit for applications such as charger for smartphones, laptop adapters, TV power supply, and lighting.

The new power MOSFET CoolMOS P7 is designed to address needs of the low power SMPS market. It offers excellent performance and ease-of-use, allowing designers to take advantage of improved form factors. It uses a price competitive superjunction technology, which results in a reduced overall Bill of Materials (BOM) on the customer side.

Cambricon employs Moortec's embedded PVT Monitoring Subsystem IP to their Artificial Intelligence (AI) and Machine Learning Chips

Moortec, providers of complete In-Chip Monitoring PVT Subsystems today announced that Cambricon have used Moortec's 16FFC In-Chip Monitoring Subsystem IP in their artificial intelligence (AI) and machine learning chips.

"After a comprehensive investigation on almost all commercial solutions, we concluded that the PVT sensors from Moortec were the best IP solutions that can meet our chip requirements." said Dr. Daofu Liu, Vice Predent at Cambricon. "The Moortec PVT sensors were easy for integration and have been silicon-proven in many projects, which allows us to reduce time-to-market and project risk. Besides, the technical support from Moortec was also very prompt and effective"

Huawei Armed With New AI-Enhanced Chipset for Battle With iPhone

Chinese telecom giant Huawei Technologies Co. launched a new chipset with built-in artificial-intelligence capabilities to power its next-generation smartphones and take on rivals Apple Inc. AAPL 0.03% and Samsung Electronics Co.

Though Huawei is well known in the smartphone business—it is No. 3 world-wide behind Apple and Samsung—it is lesser known as a maker of chips for its own phones. The company says its new Kirin 970 chip will power its forthcoming Mate 10 smartphone, set to launch next month to compete against the coming 10th-anniversary iPhone.

Infineon Strengthens Its Expertise In Voice-Controlled Human Machine Interface With Strategic Investment In XMOS

Munich, Germany and Bristol, United Kingdom – 7 September 2017 – Cars, homes, industrial plants and consumer devices are rapidly becoming connected to the Internet: 3 years from now, 30 billion devices will belong to the Internet of Things (IoT). While today the interaction between humans and machines is mostly done by touch, the next evolutionary step of IoT will lead to the omni-presence of high-performance voice control. Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) wants to further develop its capabilities to shape this market segment. Complementing other partnerships, Infineon has made a strategic minority investment in XMOS Limited, a Bristol based fabless semiconductor company that provides voice processors for IoT devices. Infineon leads the recent USD 15 million Series-E funding round.

"Through this investment, Infineon will further explore the high potential of voice control and is well positioned to address future use cases like speaker authentication or contextual awareness" said Andreas Urschitz, President of the Power Management & Multimarket (PMM) Division at Infineon. The market for consumer devices with voice-controlled human machine interface (HMI) such as digital home assistants is estimated to grow at a compound annual growth rate of 46 percent in the coming years, according to IHS (IHS Markit Digital assistants and AI, May 2017)

Lam Research Acquires Coventor

In a move to expand its product portfolio, Lam Research has acquired Coventor, a provider of simulation and modeling solutions for the semiconductor and MEMS industries.

With the acquisition of Coventor, fab tool vendor Lam enters the simulation and modeling technology market. Coventor sells the so-called SEMulator3D modeling and analysis platform, which simulates a fab process flow. The "virtual fabrication" technology allows engineers to understand manufacturing effects early in the development process and reduce time-consuming and costly silicon learning cycles.

Plasma-Therm And Trymax Partner To Distribute Resist Ashing Products In North America

ST. PETERSBURG, Florida and NIJMEGEN, The Netherlands (Aug. 15, 2017) — Plasma-Therm LLC, and Trymax Semiconductor Equipment BV, announced today that they have entered into a distribution agreement for North America. The agreement gives Plasma-Therm the exclusive rights to distribute all of Trymax's NEO products for ashing applications.

Plasma-Therm and Trymax can now address all ashing, polymer removal and dry cleaning applications in the served markets, for all wafer sizes including 12 inches. This alliance will provide a full set of stripping technologies to customers in North America, from low temperature at 50 C to high strip rate at higher temperature.

"Partnering with Trymax allows Plasma-Therm to offer resist strip and ashing products which complement well our existing High Denisty Radical Flux (HDRF) technology which targets polymer removal and low damage surface treatment" commented Yannick Pilloux, business development manager at Plasma-Therm.

STMicroelectronics to Showcase Smart Driving and IoT Offerings at electronica India 2017

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, is demonstrating its latest solutions for the Smart Driving and Internet of Things (IoT) at the 18th edition of electronica India in New Delhi, September 14-16 2017. The exhibition will showcase innovative products, solutions, and technologies combined with ample learning and networking opportunities to the electronics manufacturing industry.

Built on the theme of "ST is Making Everything Smarter", the Company will demonstrate its technologies and solutions for Smart Driving, Smart City/Homes, and Smart Things. These products are already enabling IoT ecosystem development in India and around the world.

A highlight of the event is a special exhibition highlighting ST's contributions to shaping the automotive electronics for the last 30 years. This showcase can be found at the e-Automotive pavilion in Hall No 11.

TMSC, ARM, Xilinx, Cadence Partner On 7-nm Process

TAIPEI — Xilinx, ARM, Cadence, and TSMC have announced a partnership to build a test chip in 7-nm FinFET process technology for delivery next year that promises to speed data center applications.

The chip will be the first demonstration in silicon of Cache Coherent Interconnect for Accelerators (CCIX) enabling multi-core high-performance ARM CPUs working via a coherent fabric with off-chip FPGA accelerators, said the partners in a press statement.Accelerating applications in data centers is a growing requirement due to power and spaceconstraints. Applications such as big data analytics, search, machine learning, wireless 4G/5G, and network processing benefit from acceleration engines that move data effectively among various system components.

Industry News & Trends

5G Spans Last Mile to Handset

SANTA CLARA, Calif. – 5G cellular will start with fixed-wireless services, lead to big changes in smartphones and ultimately rack up some staggering numbers, according to a keynote from a senior Ericsson engineer.

Verizon and AT&T have already announced plans to use 5G at 28 and 39 GHz as a last-mile access technology starting late next year. "It will be easier to plop a pole in a neighborhood than connect homes via fiber," said Dave Allen, a distinguished engineer at Ericsson speaking at Hot Interconnects last week.

Thanks in part to such services, Ericsson expects by 2027 more traffic will run over wireless than wired nets. The initial 5G fixed-wireless services will act as neighborhood extensions of carriers' core LTE networks.

Facebook Shows Smartphone AI

SAN JOSE, Calif. — Facebook is using OpenGL to deploy to smartphones' visual effects created with machine learning. The open API is delivering solid performance across iOS and Android phones; however, a lead developer called for a move to more modern Vulkan or Metal APIs to ease mobile graphics programming.

That was one of several news nuggets from @Scale, the social network's event targeting software engineers. In other developments, an exhibitor showed a copper alternative to solder, a startup demoed its 16-lens camera, and an academic described progress using DNA for computer storage.

Facebook runs the event in various cities to spawn a collaborative ecosystem using open-source software to solve some of the biggest issues plaguing big data centers.

DARPA's ICECool Chills 3-D Stacks

LAKE WALES, Fla. — The Defense Advanced Research Projects Agency's Intrachip/Interchip Enhanced Cooling (ICECool) program, which teamed IBM and the Georgia Institute of Technology to solve the liquid cooling problem for 3-D chip stacks, has yielded an approach that uses an insulating dielectric refrigerant instead of water. Researchers who worked on the prototype say the approach will lower the cost of cooling supercomputer CPUs by pumping refrigerants through microfluidic on-chip channels and will cool the interior of even the thickest 3-D chip stacks by safely running refrigerants between each die.

DARPA's Intrachip/Interchip Enhanced Cooling (ICECool) program sought to overcome the limitations of remote cooling with 'embedded' thermal management using microfluidic cooling inside the substrate, chip, or package.

"Our prototype was an eight-core based Power7 supercomputer with microfluidic channels etched in its backside to remove heat, sitting alongside an air-cooled Power7 supercomputer for comparison," said Tim Chainer, principal researcher at IBM's Thomas J. Watson Research Center (Yorktown Heights, N.Y.), told EE Times in an interview.

“The resultant improvements lowered junction temperatures by 25°C [44°F] while using 7 percent less power and a much simpler cooling infrastructure. We also aim to overcome the scaling limits of Moore's Law by enabling 3-D chips to be stacked to any height,” said Chainer, whose team worked with IBM Research colleagues in Zurich, with support from researchers at Georgia Tech.

Newly-Discovered Semiconductor Dynamics May Help Improve Energy Efficiency

Researchers examining the flow of electricity through semiconductors have uncovered another reason these materials seem to lose their ability to carry a charge as they become more densely "doped." Their results, which may help engineers design faster semiconductors in the future, are published online in the journal ACS Nano.

Semiconductors are found in just about every piece of modern electronics, from computers to televisions to your cell phone. They fall somewhere between metals, which conduct electricity very well, and insulators like glass that don't conduct electricity at all. This moderate conduction property is what allows semiconductors to perform as switches and transistors in electronics.

The most common material for semiconductors is silicon, which is mined from the earth and then refined and purified. But pure silicon doesn't conduct electricity, so the material is purposely and precisely adulterated by the addition of other substances known as dopants. Boron and phosphorus ions are common dopants added to silicon-based semiconductors that allow them to conduct electricity.

Movandi Optimizes Mmwave 5G Front Ends

Anyone who has visited the Movandi website already knew the high-profile startup was working on technology for high-frequency millimeter-wave (mmWave) bands. The company finally emerged from stealth mode, providing a few more particulars on its portfolio of products for 5G base stations and similar products.

The company expects its technology, branded as BeamX, will make it far easier and less expensive to create customer premise equipment (CPE) for 5G wireless networks and satellite communications systems.

Radio technology for wireless networks operating at 6 GHz and below is fairly well understood. Around the world, additional bands of spectrum have been set aside for 5G network use, including frequencies from 26 GHz to 40 GHz – millimeter wave bands.

East European News & Trends

Russia's First "Smart Factory" To Open Later This Year

Russia's first "smart factory" is slated for launch by the end of this year in Rybinsk, in the Yaroslavl region north of Moscow. It will become a test range to fine-tune and commercialize domestic innovative solutions for industry which are expected to pave the way for developing a new model of industrial management in this country. The factory will be based at UEC – Gas Turbines, a large industrial company formerly known as Saturn and even earlier Rybinsk Engines.

As part of this test range project, IT solutions by Russian developers will be used to manufacture complex products, such as engine components. It is not another technopark where developers work separately from real industry, the project owners emphasized. It is going to be collaboration with UEC – Gas Turbines' highly skilled staff, using well developed infrastructure.

All parts of the "smart factory" will be fully automated, turning the premises into a "Lego" kind of industrial site with all production lines easily upgradable and refocused. Industrial Internet of Things (IoT) solutions are at the heart of a self-contained system that will run all subsystems within the project. Management will be fully renovated, based on advanced product lifecycle management (PLM) approach that is expected to ensure integration with logistics and servicing centers, and provide feedback.

High-Tech Road Revs Up Driverless Testing In Moscow

Driverless cars are already appearing on public roads around the world, and Russian developers also have the ambition to introduce self-driving technology to consumers.

Yandex recently posted a YouTube video showing the test of its driverless vehicle prototype, and state-owned KAMAZ plans to unveil a driverless truck during the 2018 World Cup.

This week, a new road for self-driving cars was launched in Moscow. It's only 400 meters long, and imitates city streets with signs, bus stops, and pedestrian pathways.

Sberbank Seeks New In-Memory Tech Solutions, Launches Competition

Sberbank, Russia's largest national savings bank, has announced a competition for Russian-based IT developers to create new prototype solutions enabling the provision of financial services in real time.

The bank is leaving it to competition participants to pick areas of solutions applications. The only strict requirement is for developers to tap into in-memory technology (in-memory data grid or in-memory computing).

Coming up with Internet of Things (IoT) and/or artificial intelligence (AI) based solutions will be a plus, Sberbank pointed out.

St. Petersburg Start-Up Makes Inroads Into Bavarian Market

Data MATRIX, a St. Petersburg start-up developing clinical data processing solutions, has opened a rep office in Munich, in southern Germany, and joined the Bavarian biotech cluster, Russian portal Firrma.ru reported, citing a source in the start-up.

Data MATRIX is reportedly expecting the new office to facilitate the Russian company's interaction with international customers. The start-up also hopes to find prospective partners among Bavarian cluster resident companies.

The St. Pete start-up will offer its new clients the company's existing products and services, as well as its new R&D product for clinical trial control called CTMS.

Russian Fintech Start-Up In UK Plans Expansion

Revolut, a UK-based start-up of Russian origin operating in the fintech sector, earlier this year raised $66m from a consortium of venture funds to support a major expansion in Asia and North America, and also to develop new services enabling customers to use cryptocurrencies.

Revolut offers a MasterCard banking card with accounts in three different currencies which are managed through a mobile app. Using the Revolut solution also enables clients to send money to a variety of MasterCard and other accounts.

World Economic Round Up

Finland's economy suffered its worst performance in five years in the second quarter of the year, falling into contraction for the first time since the depth of its woes back in 2012. A measure of adjusted year on year GDP fell 0.5 percent in the three months to June, down from growth of 2.5 percent at the start of the year. Outside the southern European member states, Finland has been one of the worst performing economies in the single currency area over the last decade. The country has struggled to adjust to the decline of its powerhouse industries such as paper and downfall of national telecoms champion Nokia.

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 2017

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 13th November 2017
- Industry Forecast Briefing, London – 19^{6h} January 2018

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 19th November 2017
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 16th January 2018

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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