

FutureHorizons

The Global Semiconductor Industry Analysts



Future Horizons Newsletter

November 2018

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Industry News By Company

[Alten Calsoft Buys Bengaluru Semicon Firm Si2Chip](#)

BENGALURU — Alten Calsoft Labs, a subsidiary the \$2.2-billion French IT firm Alten Group, has acquired Bengaluru-based chip design company Si2Chip to expand its footprint in the VLSI (very large-scale integration) domain and enhance its semiconductor portfolio. The acquisition adds 200 engineers to Alten Calsoft's VLSI division.

According to a report in The Times of India, sources said that at the size of the acquisition is under \$10 million but the company declined to comment on the deal size.

Si2Chip has delivered over 200 projects to over top ten semiconductor companies who are its customers. Founded in 2013, Si2Chip has a deep understanding of IPs, and optimisation of system-on-chip (SOC) designs.

Gerald Attia, deputy CEO of the Alten Group, said the company continues to have an organic and inorganic play. “We are poised to deliver excellence in next-generation technologies like AI, IoT, autonomous vehicles, and high-throughput technologies such as 5G and augmented/virtual reality. The acquisition allows us to leverage opportunities in future-ready technologies,” he said.

[Apple Acquires PMIC Tech](#)

LONDON — Apple will acquire the majority of U.K.-based chipmaker Dialog Semiconductor's power management IC business for a total of \$600 million, including \$300 million for 300 Dialog engineers already focused on Apple chip development — plus assets — and a \$300 million prepayment for Dialog products to be delivered over the next three years.

Announced as a partnership and technology licensing agreement, Dialog will have guaranteed contracts for products over the three-year deal. Its 2018 revenue from Apple for PMICs is expected to be \$875 million but will start declining from the second half of 2019 and be phased out by 2022.

Dialog says that it expects no new revenue contribution from main PMICs for 2019 iPhone models and for the 2020 iPad or Watch models. Beyond this period, Dialog expects to continue to work with Apple to deliver sub-PMIC products, but that will be a much smaller proportion of its business.

[Arm, Applied Back MRAM Startup](#)

SAN FRANCISCO — Magneto-resistive RAM (MRAM) developer Spin Memory Inc. — formerly known as Spin Transfer Technologies — announced \$52 million in series B funding led by IP supplier Arm and the venture capital arm of chip equipment vendor Applied Materials.

Spin Memory, based in Fremont, Calif., also announced a deal with Applied to create an embedded MRAM solution. The company also announced that Arm has licensed the

company's Endurance Engine architecture to deliver new SRAM-like embedded MRAM design solutions to customers.

John Kispert, Spin Memory's chairman and the former CEO of Spansion, said through a statement that the deals with Applied and Arm would provide the opportunity for ecosystem collaboration. "We are proud to be engaging with industry leaders in our mission to enable new and exciting embedded memory applications," Kispert said.

Intel Decreases ASML Stake

SAN FRANCISCO — Intel has cut its stake in lithography vendor ASML holding to just below 3%, according to a regulatory filing made with the the Netherlands' Authority for Financial Markets earlier this week. The filing was reported by the Reuters news service earlier Friday.

ASML did not immediately respond to request for comment by EE Times. A spokeswoman for Intel, declined to comment, citing company policy against commenting on public company investments beyond that required by applicable securities or other laws.

In 2012, Intel, Samsung and TSMC all invested heavily in ASML as a way to jump-start development of extreme ultraviolet (EUV) lithography, with Intel sinking in \$4 billion to acquire a 10% stake.

All three chipmakers have now cut their stakes in ASML by at least 50%. TSMC sold all of its ASML shares in 2015, while Samsung and Intel began unloading ASML shares in 2016.

Introducing The dsPIC33CH Dual Core Family

System developers designing high-end embedded control applications with multiple software teams can benefit from a new family with two dsPIC® Digital Signal Controller cores in a single chip enabling easier software integration. The dsPIC33CH has one core that is a master while the other is a slave. The slave core is for executing dedicated, time-critical control code while the master core is busy running the user interface, system monitoring, and communications functions, customized for the end application.

The dsPIC33CH is designed to facilitate independent code development for each core by separate design teams and later enables seamless integration when they are brought together in one chip. The dsPIC33CH family is optimized for high-performance digital power, motor control and other applications requiring sophisticated algorithms. This includes applications such as wireless power, server power supplies, drones and automotive sensors. Download the dsPIC33CH datasheet to learn more. Visit MPLAB® Code Configurator Support for Dual-Core Devices to learn more about how to setup dual core devices in MCC.

Qualcomm Dramatically Extends Wi-Fi Experiences To The 5G Era With 60ghz 802.11ay Solutions

Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated (NASDAQ: QCOM), today announced a family of 60GHz Wi-Fi chipsets, the QCA64x8 and QCA64x1, delivering 10+ gigabit-per-second (Gbps) network speeds and wire-equivalent latency, while setting the industry low-power benchmark for extended device battery life. As a new connectivity era dawns, reliance on high-bandwidth mmWave spectrum will increase, bringing powerful new wireless experiences like ultra-high-definition video streaming, Virtual/Augmented Reality (VR/AR), mobile screen casting and fixed wireless mesh backhaul. Qualcomm Technologies' 60GHz Wi-Fi portfolio has the flexibility to meet those challenging demands while harnessing unique capabilities that support new 60GHz Wi-Fi Sensing applications like proximity and presence detection, gesture recognitions, room mapping with precise location and improved facial feature detection. Qualcomm Technologies is the first-to-market with a 60GHz Wi-Fi solution with optimizations based on the 802.11ay specification, enabling best-in-class 60GHz Wi-Fi speeds and unmatched coverage performance.

Startup Beats Samsung In Foldables

SAN JOSE, Calif. — Samsung grabbed world headlines on Wednesday when it announced plans to ship a foldable smartphone sometime next year. But a little-known rival was actually first to announce such a product a few weeks ago and aims to beat the South Korean giant again by shipping it in December.

Startup Royole started ramping a Gen6 fab for flexible displays at its Shenzhen headquarters in June. Its whopping \$1.7 billion in private financing and staff of 2,000+ is matched by its outsized ambitions to become a conglomerate like Samsung selling both leading-edge displays and consumer devices that use them.

Royole's FlexPai tablet is based on its 7.8-inch AMOLED display that folds into the size of a smartphone. The flexible display is in pilot production in a 1.1 million-square-foot fab that will ultimately be able to produce a million 8-inch panels a month.

UltraSoC Adds AI To Debugging

MADISON, Wis. — Designing a complex SoC by mixing and matching different semiconductor IP cores is hard enough. The job gets tougher, with higher costs and arduous process of the validation and verification, after the SoC comes back from a fab, according to Rupert Baines, CEO of UltraSoC.

To address such post-silicon woes, UltraSoC, a Cambridge, U.K.-based supplier of advanced debugging and analytic technology for embedded systems, is claiming that it has devised for SoC designers “a complete integrated development environment that combines comprehensive debug, run control, and performance tuning.”

By leveraging technologies from Imperas and Percepio, UltraSoC updated its debugging toolset, now called UltraDevelop 2. It plans to offer “system-level on-chip monitoring

and analytics infrastructure” with advanced visualization and machine-learning capabilities, according to the company.

Industry News & Trends

[GOWIN Semiconductor Brings Ultra Low Power Programmable Logic Devices to Market](#)

SAN JOSE, Calif. and GUANGZHOU, China, Oct. 29, 2018 (GLOBE NEWSWIRE) -- GOWIN Semiconductor Corp., the world's leading innovator of programmable logic devices, introduces its latest family of small size and low power FPGA products, the GW1NZ "Mobile FPGA". Using proprietary design techniques and the latest in ultra-low power processes, GOWIN continues to add value to mobile and wearable applications through the development of its innovative FPGA solutions.

Today, mobile and wearable applications are pushing the limits on power usage, especially where the size of devices are causing batteries to get smaller. Yet end users are wanting better battery efficiency to reduce their charging time. GOWIN addresses these concerns with the GW1NZ "Mobile FPGA." Based on its CoolSmart® technology and TSMC's 55nm Ultra Low Power Embedded FLASH process, GOWIN delivers an ultra-low power, small size, and cost-effective FPGA solution targeted for these mobile and wearable applications.

"Mobile and wearable device manufacturers are struggling to get the best power efficiency out of their products," said Scott Casper, Director of Sales, Americas. "The Mobile FPGA allows these manufacturers to further stretch the power limits of their designs with a small size and cost-effective solution. We believe the GW1NZ Mobile FPGA is the first of its kind offering a cost comparable alternative to off the shelf MCU's or ASIC's but running faster and more efficient."

[ARM In Xilinx Tie-Up For FPGA Development](#)

BENGALURU — Arm has announced it is collaborating with Xilinx, the market leader in FPGAs, to bring the benefits of Arm Cortex-M processors to FPGA providing scalability and a standardized processor architecture across the Xilinx portfolio.

This collaboration will help embedded developers speed up and enhance FPGA projects with fast, free, easy access to proven Arm IP, it is now possible to gain fast and no cost access to proven, soft processor IP, easy design integration with Xilinx tools and comprehensive software development solutions to accelerate success on FPGA.

This new no license fee, no royalties access model aims to help more developers benefit from Arm technology, with a common software base across their entire device portfolio.

[10nm On Track For Late 2019: Intel](#)

SAN FRANCISCO — Intel said that it's making progress on improving 10-nm yields and reiterated its pledge to have 10-nm chips shipping by the 2019 holiday season.

In a conference call with analysts following a financial report that beat analysts' expectations for the 12th straight quarter, Venkata (Murthy) Renduchintala, president of Intel's Technology, Systems Architecture and Client Group, said that 10-nm yields are

now tracking roughly in line with what the company experienced at the 14-nm node when it prepared to make that transition.

“We’re still very much reinforcing and reaffirming our previous guidance that we believe that we’ll have 10 nm shipping by holiday of 2019,” said Renduchintala. “And if anything, I feel more confident about that at this call than I did on the call a quarter ago. So we’re making good progress, and I think we’re making the quarter-on-quarter progress that’s consistent with prior generations having reset the progress curve.”

TI Aims Sitara At Industrial Applications

MADISON, Wis. — Texas Instruments unveiled on Tuesday its new generation of industrial microprocessors, Sitara AM6x. TI calls it “the industry’s first multi-protocol gigabit time-sensitive networking (TSN)-enabled processor family.” “If you’ve followed TI over the last few years, you’ve noticed that we’ve dramatically shifted our business focus to industrial and automotive markets,” said Adrian Valenzuela, TI’s director of marketing for Sitara processors, in an interview with EE Times. “Our goal is to be the world leader in these applications.”

Indeed, in a recent Q3 earnings conference call, TI’s head of investor relations, David Pahl, said, “We continue to focus our strategy on the industrial and automotive markets, where we have been allocating our capital and driving initiatives to strengthen our position. This is based on a belief that industrial and automotive will be the fastest growing semiconductor markets. They have increasing semiconductor content. And these markets provide diversity and longevity. All of this translates to a high terminal value of our portfolio.”

Wearable Semiconductor Cloth Eyed For New Designs In Smart Clothing

Researchers have made big strides in the last several years to develop textiles that include sensors and other electronic components to support the design of smart clothing. Now, a team at MIT—in collaboration with other scientists—has made a key breakthrough in advancing these technologies with the development of cloth embedded with semiconductors. The researchers believe that their findings could accelerate the development of wearable technology.

Researchers from MIT and industry group Advanced Functional Fabrics of America have produced fibers with embedded semiconductors that are so flexible they can be woven into soft fabrics and made into wearable clothing. (Image source: MIT)

Specifically, researchers from both academia and the private sector have embedded high-speed optoelectronic semiconductor devices within fibers that were then turned into soft, washable fabrics that can serve as high-tech communication systems. The company Inman Mills in South Carolina fabricated the cloth, producing a kind of “soft hardware” that people can wear, researchers said in an MIT news release.

Testing Millimeter Wave for 5G

The telecommunications world is hurtling toward 5G, but there is no consistency about how this next-gen wireless technology will be rolled out across various regions and plenty of unknowns about how it will be tested and how reliable it will be initially.

A fair amount of confusion exists around what 5G constitutes in the first place. There is sub-6GHz 5G, which is sometimes referred to as 4.5G. And then there is the millimeter wave band, which radically changes the wireless communications paradigm because of improvements in speed.

There also are significant limitations on how far a millimeter wave signal can travel, and perhaps even more important, how far it can travel without any loss of signal integrity. The signal has to be line of sight, point-to-point. The signal doesn't go around objects well; a person, a tree, a building will interfere with the signal. The solution is beamforming, which aims or bounces the beam off an object like billiard ball bound for a side pocket.

Edge Computing Accelerates ROI Of Iot

The rise of edge computing is critical to scale up iot deployment, owing to its reduced bandwidth and latency, plus faster application response times.

Mission-critical applications such as factory automation require not only ultra-low latency but also high reliability and fast, on-the-fly decision-making.

Conventional centralized communication architectures are not able to provide the new performance requirements mostly due to congestion, high latency and slow backhaul links.

Furthermore, fast decision-making on highly automated machinery needs advanced computing capabilities right on the spot, which can be provided only by onboard computers or interconnected edge-computing local nodes working together.

Edge computing speaks to a computing topology that places content, computing and processing closer to the user/things or "edge" of the networking. It is

East European News & Trends

New Industrial Scanner Focused On Global Markets

InSize, a Russian company, has developed and is offering a special industrial scanner that enables the measuring of the key parameters of goods (height, length, width, weight, etc.) of any shape.

InSize's key competitive advantages are said to include the high speed of equipment maintenance and a very competitive price among systems used to gauge irregularly shaped items. With the Russian system, additional parameters can be taken into account when gauging goods, such as the type of material, storage conditions, allowance for one item being put inside another, etc.

Artificial Intelligence Now Helps Recognize Clothes

Sarafan Technology, a Russian start-up, is developing artificial intelligence enabled technology for the recognition of fashionable and beauty items on photos and videos.

The team has plans to launch international sales and expand partnerships, said Andrei Korkhov, the CEO and founder of Sarafan.AI.

Set up in 2016, Sarafan Technology Inc. can now process 300,000 images a day. A reported 300 vogue venues are linked to it both in Russia and internationally, including Cosmopolitan, 7 Days, Eva.ru, and Lifehacker.

AI Will Not Destroy Humanity—Russian Futurologist

Artificial intelligence (AI) and robotics will help create 58 million new jobs, according to a recent World Economic Forum forecast. Scientists present innovative AI developments almost every week. Our colleagues at the business webzine Invest Foresight talked to Jin Kolesnikov, a futurologist, foresight practitioner and the founder of SingularityU Moscow, who shared his views of when robots would become smarter than humans and whether artificial intelligence might be a threat. This interview is published by courtesy of Invest Foresight.

How much time is needed for a strong, super-smart AI system to be built?

First, we need to agree what we mean by “strong artificial intelligence.” In the classic interpretation, we are talking about a self-aware AI. This kind of system is not born overnight – it takes time. But if we mean robots that can pass the Turing test, according to the latest forecasts, they will appear in 2030 – smart systems ranging from smart homes to smart cars. People will be able to talk to them without knowing if they are talking to a robot or a person.

Young Russian Developers Present Biodegradable Stent

A six-year-old team in Ulyanovsk, Modern Technologies Innovative Company, has developed a prototype of a biodegradable endovascular implant that can replace metallic ones in atherosclerosis surgery, online business magazine Invest Foresight reported.

The idea is that, after the patient undergoes treatment that clears their vessel from the atherosclerotic plaque, the implant also dissolves without a trace, while a metallic stent is implanted into the vessel and remains in the body forever, causing further vasoconstriction, explained Vladislav Shchepochkin, the co-owner and technical director of the medical company.

The developers have obtained eight patents for the invention, including those for the material and the stent delivery method. Preclinical trials on animals, chinchillas and pigs, are underway in a special laboratory in Shanghai, China. A similar center has recently opened in Perm; perhaps tests will be also conducted there.

[Russia Invests In IT Solutions For Medicine](#)

Russia's Advanced Research Fund (ARF) has been boosting support for developers of IT projects to be used in medicine.

In addition to an array of projects already supported in the fields of mobile apps for telemedicine, nervous disorder diagnostics by analyzing the way a person speaks, rehabilitation following strokes and brain damages, the areas for the Fund to keep focusing on include self-learning image recognition algorithms (such as advanced MRI imaging), algorithms for diagnosing diseases, biomedical 3D modeling and design systems for therapeutic and grafting purposes, systems to support decision-making, AR/VR technologies, and medical robotics.

World Economic Round Up

The international oil price has stabilised, following its worst one-day plunge since July, as fear over a slowdown in global demand gripped the market. Brent crude was 1.6 percent higher in London trading at just over US\$66 a barrel after plunging 6.6 percent. While the oil price has been in retreat since hitting a four-year high in early October, traders pointed to technical factors in the options markets to explain the severity of the drop. Options on WTI for December delivery are due to settle today and large positions remained outstanding for put options conferring the right to sell WTI at US\$55 a barrel.

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 2018

Future Horizons Events

- [Silicon Chip Industry Training Seminar](#) – London – March 2019
- [Industry Forecast Briefing](#), London – January 2019

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 11 March 2019

AND

INDUSTRY FORECAST BRIEFING

TUESDAY 15 January 2019

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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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