

FutureHorizons



The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

[Conversant Announces Semiconductor Memory Patent License Agreement With Toshiba](#)

OTTAWA, Sept. 18, 2017 /CNW/ - Conversant Intellectual Property Management Inc. announced today a semiconductor memory patent license agreement with Toshiba Corporation. Toshiba offers a wide range of semiconductors and storage products that make possible today's latest smartphones, tablets, ebooks, digital cameras, head mounted devices, medical devices, automotive applications, networking, enterprise applications, and PC and notebook storage. Under the agreement, Toshiba receives a license under certain Conversant worldwide patents and patent applications for products including flash memory, MRAM, FeRAM, and other storage-class memory. The terms of the agreement are confidential.

[Dialog Semi To Buy Silego For Up To \\$306 Million](#)

SAN FRANCISCO — Dialog Semiconductor said it would buy privately held configurable mixed-signal IC (CMIC) vendor Silego Technology for up to \$306 million, in a deal it said would grow Dialog's sales at existing customers and also expand its customer base. Dialog executives described Silego's technology as highly complementary to Dialog's own power management and connectivity offerings. They estimated the deal would expand Dialog's total addressable market by more than \$1.4 billion.

Silego's CMICs combine analog, digital, and nonvolatile-memory functionality with software tools in a flexible, cost-effective design and prototyping platform. Silego (Santa Clara, Calif.) announced in August that it shipped its 3 billionth device.

[Will Imagination Deals Deliver MIPS to China?](#)

TOKYO — Semiconductor industry watchers are pointedly curious about the fine print of two separate agreements governing the sale of U.K.-based IP licensor Imagination Technologies.

The sales of imagination was widely anticipated after the firm put itself up for sale in June, two months after its largest customer, Apple, said it would phase out use of Imagination technology in products that include the iPhone. But the deals announced Friday (Sept. 22), in which Imagination sold itself to Canyon Bridge Capital Partners and MIPS to Tallwood Venure Capital, left market watchers with several questions.

First, did Imagination structure both agreements in such a way as to allow Canyon Bridge — a private equity firm backed in part by the Chinese government — to have access to MIPS CPU IP?

More specifically, do the two VCs — which are buying Imagination and MIPS independently — know each other?

[Infineon Technologies To Sell Newport Manufacturing Site To Neptune 6 Ltd.](#)

Munich, Germany and Newport, United Kingdom – September 21, 2017 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) and a private company trading under the name Neptune 6 Ltd. today announced that they have signed a definitive agreement under which Neptune 6 will acquire IR Newport Ltd., a subsidiary manufacturing site of Infineon. Both parties expect to conclude the deal by the end of September 2017. Infineon and Neptune 6 have also entered into a two-year supply agreement ensuring a mutually smooth transition phase. Upon closing, the buyer intends to operate the site under the name Newport Wafer Fab Ltd.

Jochen Hanebeck, member of the Management Board Operations at Infineon Technologies AG, said: “I am convinced that with Neptune 6 we have found the right partner who will secure production and jobs in Newport. Knowing we would have to part with the Newport site, it was my personal concern to make sure it will be in good hands. I am also delighted that the solution we have found now enables us to support our customers even better and more flexibly. The transfer of the fab is a major step in consolidating our frontend manufacturing footprint after the acquisition of International Rectifier. I would like to express my sincere thanks to Neptune 6, the Welsh Government and above all to the highly committed employees at the Newport facility who have always excelled by their enormous commitment and expert knowledge.”

[Semiconductor, SMIC And Synopsys Collaborate To Deliver Low Power Platform For The Internet Of Things](#)

Brite Semiconductor ("Brite"), Semiconductor Manufacturing International Corporation ("SMIC"; NYSE: SMI; SEHK: 0981.HK) and Synopsys (Nasdaq: SNPS) today announced a collaboration resulting in an IoT platform that enables designers, system integrators and OEMs to accelerate and differentiate their next-generation IoT systems. The platform consisting of Synopsys' DesignWare® ARC® Data Fusion Subsystem with ARC EM9D processor, USB, I3C and Mobile Storage IP solutions was integrated by Brite Semiconductor design services using SMIC's 55-nm ultra-low power (ULP) process. The collaboration resulted in the successful development of a test chip demonstrating up to 45 percent reduction in dynamic power and 70 percent reduction in leakage power compared to SMIC's 55LL process technology. This platform provides customers with a proven starting point for creating their IoT designs and enables the integration of customized functions on demand, while lowering costs. In addition, Synopsys is offering an ARC IoT Development Kit based on the platform to ease software development for ARC processor-based systems.

[Synopsys Buys Materials Modeling Tool Firm QuantumWise](#)

SAN FRANCISCO — EDA and IP vendor Synopsys Inc. has acquired QuantumWise, a provider of simulation tools for materials modeling in early manufacturing process development. Financial terms of the deal were not disclosed.

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Synopsys (Mountain View, Calif.) said the deal would help it support chip makers, which are evaluating new materials to extend Moore's law and develop novel memories. Synopsys said the QuantumWise solution reduces time and cost by enabling earlier co-optimization of materials, processes, devices and circuits for 5nm and beyond.

QuantumWise, founded in 2008, is based in Denmark. The company claims more than 400 commercial and academic customers worldwide for its tools for atomic-scale modeling of materials.

Toshiba Agrees To Sell Chip Unit To Bain-Led Group

SAN FRANCISCO — Toshiba said it signed an agreement to sell its semiconductor unit to a consortium led by private equity firm Bain Capital for about \$18 billion, the latest twist in a months-long saga over the Japanese conglomerate's effort to sell its prized NAND flash business to offset massive losses incurred by its U.S. nuclear power subsidiary.

Toshiba said the deal is based on the premise that the sale would move forward even if courts impose an injunction against Toshiba in response to legal challenges brought by Western Digital, the parent company of Toshiba's long-time partner in the NAND flash business, SanDisk.

The deal, agreed to by Toshiba's board of directors at a meeting Wednesday (Sept. 20), came just hours after the Reuters news service, citing anonymous sources, reported that Toshiba was once again leaning toward accepting a rival bid from Western Digital.

Industry News & Trends

iPhone 8 Chips Come Into View

SAN JOSE, Calif. — Apple shrunk the applications processor in its iPhone 8 Plus by 30 percent while adding two CPU cores and a machine-learning block, according to the first public teardown of the chip. TechInsights reported details of the SoC as well as camera and modem chips in the handset as part of a chip teardown still in progress.

The A11 Bionic AP sports a die size of 89.23 mm², a 30 percent shrink compared to the A10 chip. While the CPU1 block hewed to the average overall shrink, the GPU and SDRAM blocks shrunk by 40 percent each, a TechInsights representative told EE Times.

The CPU2 block on the A11 is larger than the same block on the A10, mainly because Apple doubled its core count to four. The GPU is still a six-core block. The blocks take up similar locations and space on both chips with the CPUs at about 15 percent of total area, GPUs at 20 percent and the SDRAM interfaces at 8 percent.

3D Printing Shortens PCB Prototyping Cycle

Among manufacturers, there is a common perception that the more complicated the concept, the longer it takes to produce a market-ready functional object. This is especially relevant for the highly competitive electronics industry, where product complexity is continuously increasing and improved time-to-market is a primary business objective. It all starts with the Printed Circuit Board (PCB) and electronics design and development companies' need for shorter, more agile and efficient product development cycles.

Most of today's PCB prototypes are produced by traditional subtractive manufacturing methods, often by overseas vendors—most often located in Asia. Producing the PCB is a tedious multistage process, including milling, drilling, film transfer, and plating machines; copper etching baths; and a press. Standard turnaround times are generally two to three weeks, although circuit prototypes can often be produced in less time for a substantial urgency fee.

An even greater challenge is when design complexity rises, as in the creation of professional multilayer prototype boards needed to create ground-breaking new applications and electronic products. A tiny mistake in design, resulting in a poor circuit, could lead to risky product recalls and other quality problems. To avoid costly mistakes of this kind, there is usually a need for proof-of-concept, design validations, and other interim steps en route to a final full-board prototype. This means that even after the PCB prototype has been produced and tested, problems are often discovered and designs need to be updated, further increasing the lead time and cost for each PCB, making iterative design and testing virtually impossible.

Intel May Sit Out Race To EUV

SAN JOSE, Calif. — A race is on to qualify advanced semiconductor process technologies using extreme ultraviolet (EUV) lithography, but Intel is said to be sitting on the sidelines.

ASML reported in July a backlog of 21 orders for the EUV systems which cost as much as \$150 million each. The company is expected to take through 2019 to fill the orders. It announced in March its NXE:3400B as its first production-ready system.

“The biggest problem is getting more lenses, Zeiss doesn’t have capacity to supply more,” said G. Dan Hutcheson, chief executive of market watcher VLSI Research. Hutcheson expects eight or nine systems will be delivered this year.

After years of achingly slow development, the systems are now approaching production worthiness. In addition, demand from leading-edge chip makers has accelerated just as foundries realized they could use the systems more extensively at introduction than once believed.

ON Semi Ups Stake In Fujitsu Fab

SAN FRANCISCO — ON Semiconductor increased its stake in a 200-mm Fujitsu wafer fab in Japan and said it would continue increasing its investment until it takes full ownership of the facility in 2020.

Under the terms of a deal announced Tuesday (Oct. 10), Phoenix-based ON Semi increased its stake in the 200-mm fab to 40 percent. The company plans to increase its stake to 60 percent of the fab by the second half of next year and to 100 percent by the second half of 2020. Financial terms of the deal were not disclosed.

The two companies originally entered into an agreement in 2014 under which ON Semi acquired a 10 percent stake in the fab, located in Aizu-Wakamatsu, Japan. ON Semi wafers were in production at the fab by early 2015.

MIT Spins Second Wireless Charger Start-up

LAKE WALES, Fla. — The Massachusetts Institute of Technology has spun off a second wireless recharging start-up. Pi Inc. (San Bruno, Calif.), which made its formal debut this week, is readying a beam-forming magnetic induction wireless recharging station that will charge multiple devices within a range of about a foot from the charger in any direction.

Inside the Pi wireless charger are beam-forming magnetic induction coils that can charge your smartphone or tablet from a distance of about a foot in any direction, provided you buy a special case with a matching set of coils.

Pi’s rollout comes roughly a decade after MIT spin-off WiTricity Corp. (Watertown, Mass.) first promised a magnetically coupled resonant wireless recharger that would work over a distance of up to 3 feet. Neither technology has appeared in a product yet, although both spin-offs are promising announcements by Christmas.

There are already more than 700 wireless rechargeable devices and chargers available that adhere to the Wireless Power Consortium’s licensable Qi standard, which works over a distance of about an inch. All of these chargers and wirelessly rechargeable devices — such as Apple’s new iPhone-8 — use a pad on which the user places the device for

wireless charging via resonant inductive coupling. There are also 14 Qi-compatible chargers designed to be built into furniture for a planar profile.

East European News & Trends

[A Renewed Focus On Technology Can Lift Russia's Economy](#)

If Russia is to remain a globally relevant power in the 21st century, it will have to win one of two bets on technology — or possibly both.

The first was identified by President Vladimir Putin in a recent talk with students in which he discussed how artificial intelligence was creating big opportunities and threats. “Whoever becomes the leader in this sphere will be the ruler of the world,” he said.

There is no doubt about Russia's periodic ability to compete at the leading edge of technology. Think Sputnik. The country still churns out world-class mathematicians and engineers with a reputation for ingenuity.

[St. Petersburg Start-Up Gets Promising Foothold In Bavarian Market](#)

Data MATRIX, a St. Petersburg start-up developing clinical data processing solutions, has since August been operating out of its new rep office in Munich, in southern Germany; it also then joined the Bavarian biotech cluster.

Data MATRIX's new Bavarian office is expected 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 Technologies Shine At SLUSH Singapore](#)

Oz Forensics, a Russian start-up developing a cutting-edge document management solution, has made it to the finale of the competition of this year's edition of SLUSH Singapore, EWDN reported. The young company is a graduate of the GenerationS-2016 start-up accelerator run by RVC, Russia's national fund of funds for innovation.

This top-tier international start-up competition is being held as part of the Singapore Week of Innovation & Technology (SWITCH 2017). Every year SLUSH Singapore brings together over 300 start-ups from Europe, the U.S., Southeast Asia, India, China, and Japan to showcase their projects to investors from the largest multinational corporations and mass media. The winners will be offered an opportunity to visit start-up capitals — San Francisco, Tokyo, Helsinki, Shanghai — and showcase their projects to the global venture community.

[New Smart Wristband Attracts Investors](#)

AURA Devices, a start-up developing smart wristbands to gauge the wearer's weight and other parameters, has raised \$105+K as a convertible loan at a seed investment stage from a group of yet-unspecified Russian investors. Each of the investors will now own about 10% of the start-up, Firma.ru reported, citing AURA Devices founder and CEO Stanislav Gorbunov.

The new investment will be reportedly used to fine-tune a prototype to an industrial-quality level and to make first inroads into a number of markets. At the heart of the AURA Band technology is bio-impedance analysis that enables the gathering of data on any change in the composition of the wearer's body.

New Wax-Based 3D Printing Technology Developed In Siberia

Krasnoyarsk scientists at the Reshetnev Siberian State Aerospace University (SibSAU) have developed a new method of using wax in 3D printing. Products for metallurgy can now be made from ordinary candle grade paraffin.

“Unlike classical technology that requires fairly costly materials such as silicone or ceramics, this technology enables the use of cheap expendables, for example, hard-melting wax used in foundries. We could even use ordinary paraffin to make candles with,” the university explained.

The Krasnoyarsk project is expected to cut the cost of casting processes while improving its quality. The technology is said to enable the manufacture of a casting pattern with an accuracy of 0.05mm, taking just a few hours to complete the process, not months as taken in conventional techniques.

World Economic Round Up

A synchronized global economic expansion is leading to a big shift in monetary policy around the world—toward central banks shrinking rather than growing—with implications for markets, inflation and the outlook for growth. Following the financial crisis from 2007-2009, the world's big central banks had been net buyers of financial assets in global markets, expanding their portfolios of government bonds, mortgage debt and corporate securities by 1 percent to 3 percent of global economic output per year for much of the past six years.

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 – 16th January 2018

To book your place on any of our events please contact us on:

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[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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