

FutureHorizons



The Global Semiconductor Industry Analysts

Future Horizons Newsletter

May 2018

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Industry News By Company

Arm Transfers IP To Chinese Joint Venture

LONDON — With China looking to bolster its own semiconductor industry and reduce dependence on foreign technology, microprocessor IP firm Arm Holdings confirmed last week that its separate local joint venture entity, Arm mini China, started operations to license its technology locally in China.

This move effectively completes a process of technology transfer to its Chinese operation enabling local chip developers to license its technology directly in China.

The U.K.-headquartered parent Arm had already announced intentions to establish the joint venture in China in February 2017, following the launch of the HOPU-Arm innovation fund. Backed by investments from a leading Chinese sovereign wealth fund and Chinese investment institutions and companies, it stated at the time its aim to invest in emerging technology companies and startups in China to accelerate development of applications in IoT, autonomous vehicles, cloud computing, big data, and artificial intelligence (AI).

Zero Defects In Four Years: Infineon Receives Highest Quality Award From Toyota's Hirose Plant

Munich, Germany, and Tokyo, Japan – 27 April 2018 – Achieving zero defects in automobile electronics is becoming increasingly important in light of many new functionalities such as automated driving. Today Infineon Technologies AG (FSE: IFX/OTCQX: IFNNY) received an award from Toyota for continuously outstanding product quality: The automaker's Hirose plant presented its Honor Quality Award to the Munich-based chip maker for its CAN transceivers – devices that enable various electronic control units (ECU) in the car to exchange data.

“Automotive chips from Infineon are designed from the start to meet the demanding requirements of car applications,” said Frank Auer, Head of Quality Management for the Power Supply and Network ICs business line at Infineon. Together with Masayuki Takazawa, Head of Quality Management at Infineon Japan, he represented Infineon at the award ceremony. “We also integrate the latest findings in order to continually improve even established products along with their production processes,” said Auer. In addition, Infineon ensures its ability to supply by offering most wafer and packaging technologies from multiple locations.

Intel's Move Beyond PC Chips Boosts Revenues

Intel's long-running efforts to carve out a future beyond its traditional PC chips business took a big step forward in the first quarter, as revenues from newer markets such as AI and driverless cars came within a whisker of overtaking sales of PC chips for the first time.

The US chipmaker's shares surged nearly 8 per cent in after-market trading after it reported revenues that were \$1bn ahead of market estimates and boosted its forecast for the rest of the year by 4 per cent.

The first-quarter outperformance was heavily dependent on a 24 per cent jump in revenues from the data centre division, which has grown to become the second pillar of Intel's business behind its PC operation.

Light Smartphone Recession Doesn't Stop ST Sales

LONDON — Results coming in from several of the chip companies this week have shown a seasonal decline in demand from smartphones impacting revenue growth. STMicroelectronics announced strong first quarter results despite slowdown in sales for smartphones, while Austrian chipmaker ams expects a significant short-term impact from changes in its customers' smartphone programs.

STMicroelectronics' announced net revenues of \$2.23 billion in Q1 2018, up 22.2 percent year-over-year, but a sequential decrease from the previous quarter of 9.8 percent.

ST President and CEO Carlo Bozotti, who is retiring May 31, said in a press statement that the company expects second quarter revenue to be up about 17.5 percent compared with the second quarter of last year, "despite the weak demand we are experiencing for smartphones in the first half of 2018."

Bozotti said ST's projections for second quarter growth come from strong sales in automotive, industrial and IoT chips.

TI Leads Way On Analog IC Market

SAN FRANCISCO — Texas Instruments expanded its lead in analog IC market share last year with \$9.9 billion in analog revenue, more than twice that of No. 2 player Analog Devices (ADI), according to market research firm IC Insights.

TI held 18 percent of the analog IC market in 2017, compared to 8 percent for ADI, IC Insights said.

Overall, the top 10 analog chip vendors accounted for \$32.3 billion in sales, a cumulative market share of 59 percent, according to IC Insights. The cumulative sales total was up 14 percent compared with 2016, and the top 10 players combined picked up two points of market share, the firm said. The total analog market was worth \$54.5 billion in 2017. TI's analog chip sales accounted for about 71 percent of the company's total semiconductor revenue last year, according to IC Insights' estimates.

TI's 2017 analog revenue represented 76% of its \$13.0 billion in total IC sales and 71% of its \$13.9 billion total semiconductor revenue, based on IC Insights' estimates. The firm also estimates that about half of TI's analog revenue last year was generated on devices built on 300mm wafers, which are still somewhat new to analog

Wilson Electronics Announces Powerful RV Cellular Signal Booster - The Connect RV 65

ST. GEORGE, Utah--(BUSINESS WIRE)--Apr 30, 2018--Wilson Electronics, the industry leader in cellular boosting technology, today announced the launch of the Connect RV 65, a powerful in-vehicle cellular signal booster designed to provide solid cellular connectivity in your stationary RV. Priced at \$649.99, the Connect RV 65 is certified by the Federal Communications Commission (FCC) and Industry Canada. It is compatible with all mobile phones and wireless carriers in the U.S. and Canada, allowing RVers to enjoy strong call quality, fewer dead zones and faster data upload/download speeds while parked at a camping ground or other location.

“Your cell phone is an essential part of your life. You depend on it to stay connected to everything important - family, friends and work. The weBoost Connect RV 65™ cellular signal booster is a powerful, effective solution to maintain continuous communication for all cellular-enabled devices in your parked RV,” said Wilson Electronics CEO Bruce Lancaster. “Because you’re parked in a single location, the weBoost Connect RV 65 is able to use a more powerful outside directional antenna pointed directly toward the nearest tower with a telescoping pole that can reach up to 25 feet. This enables a stronger signal than our mobile RV products, whose antennas are optimized to work even while driving.”

Industry News & Trends

[France's LETI Revs up 5G Research Projects](#)

LONDON — As the European association that brings together four leading research institutes in microelectronics meets this week in Brussels to mark its 10th anniversary, EE Times spoke to Emmanuel Sabonnadiere, CEO of Leti in France, to get a perspective on some of the work emerging from the French technology research institute — including its outdoor super-Wi-Fi communications network based on its multicarrier block-filtered OFDM (BF-OFDM) waveform technology.

The Heterogeneous Technology Alliance (HTA) is an association of four major European research institutes in micro- and nanotechnologies — Leti (France), Fraunhofer (Germany), CSEM (Switzerland), and VTT (Finland). At this week's event, along with some of their industrial partners such as Globalfoundries, Soitec, Nestlé, and Murata, they are presenting their strategy and vision for development in Europe for various aspects of future developments needed in electronics.

[New Tech Marries The Best Of Photonics And Electronics On The Same Silicon Chip](#)

Optical communication has revolutionized long-distance data transfer, but scaling it down to microchips is tougher. Now, though, a new technique means optical components can be integrated into general purpose chips using standard manufacturing processes and materials.

Light can carry data faster than electrical connections, which makes it highly attractive to chipmakers eager to boost the speeds of their devices. And, unlike electrical wiring, it also generates very little heat, which is significant when you consider the enormous cost of keeping servers cool.

But light cannot be manipulated the same way electricity can, and tech companies have spent the better part of a century perfecting their technology for the latter. To avoid reinventing the wheel, there has been considerable interest in silicon photonics—an attempt to use the semiconductor industry's favorite material to create optical circuits.

[STT Structure Turbocharges MRAM](#)

TORONTO — One the primary players in the emerging MRAM market has developed proprietary technology it says will enhance the performance of any MRAM array by increasing the retention while simultaneously reducing current. Announced at Intermag, a conference on applied magnetism, Spin Transfer Technologies (STT)'s Precessional Spin Current (PSC) structure has the potential to enhance MRAM's density and zero leakage capabilities, according to Mustafa Pinarbasi, the company's chief technology officer. In a telephone interview with EE Times, Pinarbasi said the structure could be applied in mobile, datacenter CPUs and storage, automotive, the Internet of Things and (IoT) and artificial intelligence, among others.

Pinarbasi said the PSC structure will increase the spin-torque efficiency of any MRAM device by 40 to 70 percent. This means not only are its data retention capabilities are much higher, but it will consume less power. Pinarbasi said the gain translates into retention times lengthening by a factor of more than 10,000 — so one hour becomes more than one year — but the write current is reduced. In addition, the PSC gets even more efficient as the perpendicular magnetic tunnel junction (pMTJ) gets smaller. “The structure that we have developed is a modular structure, and it really is an extension of the PMTJ device,” Pinarbasi said.

ST Sees Sales Growth Despite Weak Smartphone Demand

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East European News & Trends

Smart Wristband To Gauge Your Body

A Russian start-up called AURA Devices is developing smart wristbands to gauge the wearer's weight and other parameters.

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.

The AURA Band bracelet-like gadget is said to be able to measure body composition, water level and heartbeat as the user walks, and also to identify the wearer's physiological rhythms (run or sleep, for example). All this can be sent out via the start-up's proprietary mobile app.

New Fund To Back U.S. Start-Ups As They Enter Russian Market

FortRoss Ventures, an international VC fund of Russian origin, has closed a \$200m fund to support U.S. start-ups that are seeking ways into the Russian market, VentureBeat reported.

The fund will focus on fintech start-ups and also ones that develop solutions in the field of artificial intelligence, cyber security and e-commerce.

The venture capitalists will not only invest in start-ups but also offer consulting services to help international companies better adapt to Russian business and general culture and to the intricacies of Russia's political and financial reality, the fund management believes.

Researchers Unveil "Unprecedentedly Sensitive" Biochips

Researchers at the Moscow Institute of Physics and Technology (MIPT), a top technology university in Russia, have developed new biosensor chips of "unprecedentedly high sensitivity." They replaced gold, which is typically used in such devices, with copper. The approach is expected to not only lower the cost of the end solutions but also make biosensor manufacturing technology much simpler, the developers claimed in their English-language article in Langmuir.

In their experiments, nanooptics and plasmonics specialists at MIPT's Center for Photonics and 2D Materials used copper and graphene oxide to create the key sensitive element of their biosensor. That reportedly resulted in a dramatically increased sensitivity without any noticeable change in chip configuration, which makes the new solution compatible with the biosensors that are currently available in the market, such as Biacore, Reichert, BioNavis or BiOptix.

Russia And French Retailer To Nurture Retail Start-Ups

The French hypermarket chain Leroy Merlin, operating in Russia in the field of retail for household and countryside cottage construction/repairs, and the government-owned Internet Initiatives Development Fund (IIDF, aka FRII in Russian) are launching a joint acceleration program for retail-focused start-ups, Firrma reported.

Leroy Merlin is interested in start-ups that develop services using big data and machine learning and are focused on marketing products, solutions to automate and robotize business processes, logistics technologies, including ones that make it easy to deliver goods of different sizes to customers, solutions for the uberization of high-tonnage long-haul transportation, and also services that help optimize and better control internal management and operation processes.

Each start-up the partners will pick for acceleration will be eligible for anything between \$40K and \$400K in investment from IIDF. The teams will benefit from consulting by Leroy Merlin and IIDF experts in marketing, sales, market analytics, and are expected to learn how to launch pilot projects in Leroy Merlin outlets they will choose.

World Economic Round Up

Vladimir Putin started his new presidential term with a pledge to improve living standards massively through spending on healthcare and education and to breathe life into Russia's stagnant economy. In a decree signed just hours after his inauguration for another six years, Mr Putin ordered the government to work towards breakthrough scientific and technological and socio-economic development. Mr Putin demanded that the government work towards meeting nine "national development goals" by the end of his term in 2024, including catapulting Russia into the top five of the world's largest economies and halving poverty levels.

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 – 11th June 2018
- [Industry Forecast Briefing](#), London – 18th September 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 11th June 2018

AND

INDUSTRY FORECAST BRIEFING

TUESDAY 16th September 2018

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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