FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

December 2018

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Industry News By Company

Q3 Chip Sales Reach All-time High

SAN FRANCISCO — Global semiconductor sales hit yet another all-time high in the third quarter, as the chip industry remains comfortably on track to pass the its revenue record of $412 billion set last year.

Third quarter chip sales totaled $122.7 billion, an increase of 4.1% compared to the second quarter and 13.8% compared to the the third quarter of 2017, according to the Semiconductor Industry Association (SIA).

“While year-to-year growth has tapered in recent months, September marked the global industry’s highest-ever monthly sales, and Q3 was its top-grossing quarter on record," said " John Neuffer, SIA president and CEO, in a statement.

The SIA, which reports chip sales statistics compiled by the World Semiconductor Trade Statistics (WSTS) organization, said the three-month rolling average of sales hit $40.9 billion in September, up 2% from August and up 13.8% compared to September 2017.

Apple Said to Inspire Intel 5G Chip

SAN JOSE, Calif. — Intel announced plans for an integrated 5G modem, targeting 2020, when the market is expected to be in full gear. The news could accelerate work on an integrated chipset from Qualcomm, which is expected to pick up the vast majority of the few sockets for 5G-only modems through 2019.

Intel said that its XMM 8160, a 5G modem chipset also supporting LTE and 2G/3G, will ship in the second half of 2019, six months earlier than first planned. It will support data rates up to 6 Gbits/s and come in versions for millimeter-wave and sub-6-GHz bands, supporting standalone and non-standalone 5G modes.

An earlier 5G-only modem, the XMM 8060, “is becoming a development platform” rather than a commercial product, said an Intel spokeswoman. Thus, Intel “will miss the 2019 5G launches, but it is targeting large-scale rollouts from customers such as Apple and [partner] Spreadtrum,” said Malik Saadi, vice president of strategic technologies for market watcher ABI Research.

ARM And Applied Funds MRAM Effort

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.

Denso Takes Equity Stake In Infineon

LONDON — Japanese automotive components supplier Denso Corp. grabbed a stake in German chipmaker Infineon Technologies, investing an undisclosed amount described as "the mid-double-digit million-euro amount."

Denso and Infineon aim to accelerate development of new and emerging automotive technologies — including automated driving, vehicle electrification and electro-mobility — using Infineon's intelligent sensors, microcontrollers and power semiconductors.

Infineon — which currently has a market capitalization of nearly $23 billion — said the two companies have been working together for more than 10 years and that Denso wanted to underline the partnership with a small equity stake.

In 2012, Infineon received a technical development award from Denso for its tire pressure sensor chip supporting built-in auto-location. The tire pressure monitoring system (TPMS) sensors measure pressure inside the tire and the pressure value is transmitted via RF to the receiving unit of the car. Auto-location means that the system automatically correlates the four received pressure signals with the appropriate four tire positions.

Chinese AI Chipmaker Horizon Robotics Raises Up To $1bn

Horizon Robotics, one of China's leading designers of artificial intelligence chips, is raising up to $1bn in a funding round that will value it at between $3bn and $4bn. The three-year-old company, which is backed by Intel, is one of a clutch of Chinese groups focused on developing AI chips for self-driving vehicles, surveillance cameras and other internet-connected smart devices. Horizon, which was co-founded by Yu Kai, who led the self-driving project at the tech giant Baidu, has a partnership with Audi to develop self-driving cars in the eastern city of Wuxi. Another of Horizon's chips runs facial recognition algorithms and enables cameras to identify faces from a database in the device of up to 50,000 faces.

Strong, Robust And Precise: New 2-Channel Isolated Gate-Driver IC Family From Infineon

Munich, Germany – 14 November 2018 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) introduces a new family of 2-channel isolated EiceDRIVER™ ICs for use in high-performance power conversion applications. The new gate-driver IC family is ideally suited for high-voltage PFC and DC-DC stages as well as for synchronous rectification stages in server, telco and industrial switching mode power supplies (SMPS).

Further applications are 48 V to 12 V DC-DC converters, battery and electrical vehicle charging stations as well as smart grid and solar micro-inverters.

The EiceDRIVER family offers industry leading precision timing characteristics, 7 ns accuracy for input-to-output propagation delay and maximum 3 ns channel-to-channel exactness, both across production and temperature range, enable the next level of power conversion system efficiency. The overall switching efficiencies of Infineon CoolMOS™ and OptiMOS™ power MOSFETs can also be greatly increased by the EiceDRIVER source and sink currents (up to 4 A and 8 A respectively).

Industry News & Trends

AI Silicon Startups Report Traction

SAN JOSE, Calif. — Graphcore showed a system that it has co-developed with Dell, and rival Habana snagged $75 million in a funding round led by Intel Capital. The deals reinforce a report earlier this year that the first AI chip startups are now in production with silicon that looks promising.

The news comes at a challenging moment for Nvidia, whose GPUs currently lead the rapidly emerging market for AI accelerators. Nvidia said that its fourth-quarter revenues will be down about 20%, mainly due to declining demand for its chips in cryptocurrency mining.

At a Dell event last week, Graphcore showed a system that the companies co-designed sporting 16 of its Colossus chips across eight PCI Express Gen 4 cards. As an investor in Graphcore, Dell was among the companies to receive cards from the startup's first production run, which it said in a blog post is sold out until early next year.

IBM Explores Copper Magnetism For Use In Memory

TORONTO — Every innovation in memory technology begins with basic research, and a team at IBM Research has developed new technique to control the magnetism of a single copper atom. The technology could one day allow individual atomic nuclei to store and process information, but there's a long path ahead to any form of commercialization.

In a paper recently published in the journal Nature Nanotechnology, IBM Research scientists Dr. Christopher Lutz and Dr. Kai Yang demonstrated how they can control the magnetism of a single atom's nucleus by performing Nuclear Magnetic Resonance (NMR) one atom at a time. NMR is an essential tool for determining the structures of molecules, but the work by Lutz and Yang is the first time NMR has been achieved using a Scanning Tunneling Microscope (STM), the Nobel Prize-winning IBM invention that allows atoms to be viewed and moved individually.

Tech Companies Tinker Under The Hood Of The Automobile Industry

Technology is changing all business models. That is the lesson that investors should take from General Motors, which is being attacked by Donald Trump and labour officials for laying off 14,300 and shuttering five factories in the US and Canada. Both the US president and the unions are focusing on arguments about sending jobs to China and Mexico. But the biggest challenge GM is facing isn't really one of labour costs, or outsourcing, or steel tariffs. It is the question of whether it will be able to own a large share of the economic value of the automobile industry in an era in which the car is becoming a smart device. The case study on what not to do comes not from another carmaker, but from Nokia. Remember the once-mighty Finnish phonemaker? I used one of its brick-like handsets to type some of my first text messages back in the 1990s. Then Apple's iPhone came along and Google's Android operating system. Both companies offered not just snazzy products but successful platforms for developers. Ecosystems of

apps grew around them. Nokia's Symbian operating system was, by comparison, hopelessly passé.

The Race For A Better EV Battery

The race to dominate the electric car market hinges as much on battery technology and improved recharging infrastructure as it does on sticker price, software updates, and styling. Which is why Chinese companies are investing massive sums in matching and surpassing Tesla's industry-leading battery technology and manufacturing capacity.

Nearly all of that capacity is focused on lithium-ion technology, but other approaches are emerging that promise to change the battery technology landscape to extend the range of electric vehicles. Increasing driving range to, say, the equivalent of a tank of gas could provide the inflection point that at last accelerates electric drivetrains past the internal combustion engine.

Aluminum- and zinc-air batteries

As new battery technologies emerge, new wireless schemes are also being demonstrated that could make recharging electric vehicle batteries as fast as filling a gas tank.

With lithium-ion battery technology perhaps approaching its own Moore's Law ceiling, researchers are branching out to pursue technologies like aluminum- and zinc-air batteries that are just now entering the market. The key to those emerging technologies is boosting recharging capability while demonstrating the ability to lower energy storage cost to the baseline of roughly $100 per kilowatt-hour.

In Search Of The Next Tesla

Despite nonstop drama, a cult of personality around its founder, expensive and damaging legal settlements with U.S. financial regulators, and an as-yet unproven ability to scale its manufacturing operations, the electric car maker Tesla and its iconoclastic leader, Elon Musk, have nevertheless transformed the global auto industry. Regardless of whether Tesla manages to thrive, much less survive, the company has put the electric car on a sustainable path.

As we reported during the summer, one satisfied Tesla customer plunked down more than $50,000 for a Tesla Model 3 after a two-year wait because, in his estimation, the third-generation Tesla vehicle had made electric cars "real."

So who are the electric vehicle wannabes and which will emerge as the next Tesla? Will it be an established car maker or a startup? Who among the growing list of e-car makers will succeed in developing a blueprint that combines key technologies like long-endurance batteries, agile manufacturing, autonomous driving capabilities, safety, styling, and affordable price?

East European News & Trends

Start-up Develops 3D Models Of e-commerce Customers

Texel, a Russian start-up, is developing 3D models of the human body for the retail market.

The young company has developed a 3D scanner that is said to be able to create a model of a person or large-sized item within 90 seconds. Its products, focused on retail, are already present in 11 countries. The start-up is currently working on artificial intelligence technology enabling the generating of a 3D model of a person without any scanner, when all the user needs to do so is his smartphone.

Texel hopes its parametric model development technology will help e-commerce operators reduce the percentage of refunds customers expect upon returning the items of clothes bought online. According to Hewlett Packard Enterprise estimates, reducing the returns of purchased clothes by 10% would help e-commerce operators save about $36bn globally.

Russian Developers Offer Internationally Focused Edtech

Educate Online, a young Russian company, is developing a domestic online platform that helps automate the selection of and admission to international private schools.

Over the next two years Educate Online is hoping to increase to 500 the number of students who will have chosen and entered an educational institution using the platform; to increase to 400 the number of schools covered (including those in the U.S., Canada and continental Europe); and to carve out a market in Asia (including Hong Kong and China at large). The platform is currently focused on schools in England.

The number of Russian children who entered English private schools between 2005 and 2017 increased by 77% from earlier results, global analysts at Knight Frank announced. The United States is another growing magnet for Russians for high school level education.

IT Security Developer Raises International Investment

Wallarm, a San Francisco based start-up of Russian origin, has raised $8m from an international investor consortium, Vc.ru reported. Wallarm is focused on security solutions for websites, apps and APIs that operate in private or public clouds.

It's Toba Capital that led this new investment round; other investors included Y Combinator, Partech and Gagarin Capital (which once invested in Prisma and MSQRD). Wallarm's valuation has yet to be disclosed.

In its previous round, the company raised $2.3m from Prisma investors and Y Combinator partners.

Speech Recognition And Machine-Human Interaction In Focus

Promobot, a Russian service robots developer, is working on various robotic applications, including speech recognition and machine-human interaction in the user's native language.

The Russian company has 20 different countries to sell its products to. Customers are diverse; Promobot's case studies over the past years included, among others, Intellitronix (a U.S. company), the Museum of Contemporary History in Moscow, the national postal system in Kazakhstan, a Russian shopping mall chain called Lenta, the Moscow Subway, and Astana Expo (Central Asia's largest exhibition center based in Astana, the capital of Kazakhstan).

Russia And Singapore To Launch New Start-Up Ecosystem

The Russian Direct Investment Fund (RDIF, a sovereign wealth fund of Russia), the Skolkovo Foundation and the Action Community for Entrepreneurship (ACE) of Singapore have agreed to cooperate in supporting global entrepreneurial initiatives in Russia and Singapore and assisting Russian start-ups in entering the Southeast Asian markets, reported Invest Foresight, a Russian online business magazine.

Under terms of the agreements, ACE and Skolkovo will jointly develop a Regional Innovation Hub to support innovation, share best practices and information on existing projects and business conditions, and jointly accelerate projects from both countries.

Factory Demise Symbolises Rot At Core Of Russian Economy

Evgeny Sidorov knew things were bad when the heating at the factory he worked at in central Russia was switched off in midwinter. The temperature was about minus 15C and many of the building's windows were missing. Since then, things have only got worse at the Ormeto-YUMZ machinery factory in the city of Orsk. The facility has been closed since September, salaries for its 3,000 workers are in arrears and as its banks, lenders and management argue over its debt load, many think it may never start up again."There are no materials, there is no money, there are no customers," said Mr Sidorov. "There is nothing . . . They do not care about us." The Orsk factory was once a symbol of Russia's industrial might — a manufacturing linchpin that built machinery for plants nationwide and in 30 other countries. Now it is an example of the rot in Russia's $1.7tn economy, which is crippled by chronic under-investment, long-delayed reforms, widescale state ownership and western sanctions that are slowly squeezing its banking sector.

World Economic Round Up

The euro dipped to a one-week low after a key economic indicator showed further signs of a slowdown in the European economy. The single currency was down 0.55 percent against the dollar at US$1.1342 in mid-morning trading in London after new PMI data showed that manufacturing output was stuttering in Europe's two largest economies. Underlining the growing concern over the bloc's economy, a measure of market-based inflation expectations dropped to its lowest level in more than a year following the release of the PMI data.

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 2019

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 11th March 2019
- Industry Forecast Briefing, London – 22nd 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 11th March 2019
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 22nd January 2019

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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