FutureHorizons
The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

[Dialog Semiconductor Announces Compatibility of EcoXiP Octal xSPI Flash Memory with Renesas's High-Performance RZ/A2M Microprocessor](#)

Dialog Semiconductor plc, a leading provider of power management, charging, AC/DC power conversion, Wi-Fi, and Bluetooth Low Energy technology, today announced that its EcoXiP octal xSPI non-volatile memory (NVM), which was added to Dialog's portfolio through its recent acquisition of Adesto Technologies, is now optimized to be used with Renesas's RZ/A2M Arm-based microprocessors (MPUs). Customers of the RZ/A2M, which is designed for high-speed processing of embedded AI imaging in smart appliances, service robots, and industrial machinery, can take advantage of the system-level benefits of EcoXiP, the industry's lowest-power octal xSPI NOR flash device.

For systems leveraging the Renesas MPU, EcoXiP enables ultra-fast boot for instant-on capability and real-time system responsiveness. It also offers efficient storing of AI weights for low-power AI inference. In addition, EcoXiP enables MPUs such as the RZ/A2M to operate in eXecute-in-Place (XiP) mode for code execution directly from external flash memory.

[Advancing Contactless Payments: Infineon And Fingerprint Cards Join Forces To Drive Mass Deployment Of Biometric Cards](#)

Munich, Germany, and Göteborg, Sweden – 14 August 2020 – Biometric payment cards with integrated fingerprint sensor make contactless payments more convenient, more secure and hygienic. The contactless card remains in the hands of the cardholder throughout the entire payment transaction, while eliminating the need for PIN entries or signatures to authorize even high-value payments. Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) and Fingerprint Cards AB (Fingerprints™, STO: FING-B) have joined forces to enable mass deployment of this emerging solution.

The world leaders for security controller in contactless payment and for fingerprint sensors incl. their related software aim to provide card makers with biometric semiconductor solutions which make integration particularly cost-efficient and scalable. The fingerprint information is stored on the card's embedded secure element and not shared with any third party, thus protecting the user's credentials.

"Authorizing payments without handing over the card is a huge step forward in terms of user experience, data security and hygiene. We selected Fingerprints as they are the leading biometric silicon and technology provider with market proven performance. Jointly, we want to to drive the industrialization of biometric payment cards from a niche into mass market rollout," said Bjoern Scharfen, Head of the Payment and Transport Ticketing product line at Infineon. "Combining Fingerprints' leading biometric technology with our expertise in chip security, energy efficiency and contactless performance, we will develop a system solution that is easy to integrate and gives our customers a head start in an emerging growth market."

Korean Electronics Industry Suffers 1st Setback in 10 Years in 2019

SEOUL, Aug. 13 (Korea Bizwire) — South Korea's electronics industry shrank in 2019 for the first time in 10 years as domestic and overseas demand weakened on a U.S.-China trade war and other negatives, a report showed Thursday.

The industry's output came to 321.9 trillion won (US$272 billion) last year, down 12.5 percent from the previous year's record high of 367.9 trillion won, according to the report from the Korea Electronics Association (KEA).

Its production had been growing at an average annualized rate of 2.5 percent over the past 10 years before reaching a zenith in 2019.

Output of semiconductors and display panels, which accounted for nearly 85 percent of the total, sank 17.5 percent on-year to 196.3 trillion won.

Marvell releases New Ethernet Switch And PHY portfolio

Marvell has released new Ethernet switch and PHY solutions that integrate security, analytics, and visibility for enterprise edge applications.

Growing remote workforces and future 5G and Wi-Fi 6 deployments mean that enterprises will become increasingly borderless. This entails a move from data center to the enterprise edge, and Marvell intends to capitalize on the trend with the introduction of new Ethernet switch and PHY solutions that integrate security, analytics and visibility to enable an intelligent edge.

According to Sameh Boujelbene, senior research director at telecoms research firm Dell'Oro Group, the growth of 5G, Wi-Fi 6 and internet of things (IoT) devices on the network means that enterprise switching will continue to extend beyond the traditional on-premises campus environment with increasing deployments at the access and intelligent edge. She commented, "These deployment use cases are driving emerging requirements in terms of security, analytics, visibility and automation. Marvell's new Prestera switch portfolio helps address those requirements."

Moortec Provides In-Chip Sensing Fabrics On TSMC N6 Process Technology

Moortec, the go-to leaders of innovative in-chip monitoring solutions today announced the availability of its well-established sensing fabric on TSMC's industry-leading N6 process technology.

TSMC N6 process provides significant power and performance enhancements of its industry-leading N7 technology and offers customers a highly competitive performance-to-cost advantage for a broad array of applications, ranging from high-to-mid end mobile, consumer applications, AI, networking, 5G infrastructure, GPU, and high-performance computing. In support of TSMC's customers, Moortec's embedded sensing technology enables the assessment of key chip parameters both during production test and the measurement of real-time dynamic conditions during mission mode. In-chip sensing continues to be an essential element to achieving the highest levels of performance and

reliability within today's advanced process technologies, underpinning optimization schemes, telemetry and semiconductor lifecycle analytics.

Qualcomm And CBN Achieve The World's First 700 MHz Band 5G Data Call

Qualcomm Technologies, Inc. and China Broadcasting Network (CBN) announced that the two companies successfully achieved the world's first large-bandwidth 2x30MHz 5G data call demonstration in the 700MHz (Band n28) FDD spectrum band. This demonstration was operated in compliance with the 2x30MHz technical specifications of CBN's 700MHz FDD band and utilized a 5G smartphone form factor mobile test device powered by Qualcomm® Snapdragon™ X55 5G Modem-RF System. This demonstration achieved download speeds of more than 300 Mbps and provides a foundation for further enhancing the spectral efficiency of the 700MHz band and accelerating CBN's commercial 5G rollouts nationwide.

In addition, Qualcomm Technologies has worked together with Vivo, ZTE, Quectel, Fibocom and Gosuncn to launch the first batch of commercial 5G devices that support CBN's 700 MHz including smartphones, CPE and 5G modules, all powered by the flagship Snapdragon 865 5G Mobile Platform and/or the Snapdragon X55 5G Modem-RF System.

High-accuracy, High-resolution, Low-power, 2-axis Digital Inclinometer with Embedded Machine Learning Core

The IIS2ICLX is a high-accuracy (ultra-low noise, high stability and repeatability) and low-power two-axis linear accelerometer with digital output.

The IIS2ICLX has a selectable full scale of $\pm0.5/\pm1/\pm2/\pm3$ g and is capable of providing the measured accelerations to the application over an I²C or SPI digital interface.

Its high accuracy, stability over temperature and repeatability make IIS2ICLX particularly suitable for inclination measurement applications (inclinometers).

The sensing element is manufactured using a dedicated micromachining process developed by STMicroelectronics to produce inertial sensors and actuators on silicon wafers.

The IC interface is manufactured using a CMOS process that allows a high level of integration to design a dedicated circuit which is trimmed to better match the characteristics of the sensing element.

The IIS2ICLX has an unmatched set of embedded features (programmable FSM, Machine Learning Core, sensor hub, FIFO, event decoding and interrupts) which are enablers for implementing smart and complex sensor nodes which deliver high accuracy and performance at very low power.

Industry News & Trends

Touchless Control Panels Facilitate Germ-Free Interactions In Public Places

The coronavirus has such robust transmissibility that keeping it contained is extremely difficult. That is stimulating a lot of system engineering efforts to make common user interfaces touch-free while employing existing technologies. Otherwise, in a public environment, it's virtually impossible to keep sterile all the user interface touch surfaces, such as elevator buttons and interactive kiosks.

Holo Industries has developed a line of touch-free control panels for germ-free interactions, with the first two entries targeting elevators and kiosks for restaurants. The devices project a floating image of the controls that the user can activate and senses the user's fingers as they "touch" these mid-air controls (Figure 1). A PC-based demo unit is now available for developers seeking to try out the technology and begin integrating it into their system designs. With no surfaces to get contaminated, the issue of sterilization becomes moot.

SDKs Finetune BLE SoCs For Contact-Tracing, Social-Distancing Designs

While Bluetooth Low Energy (BLE) solutions are finding a way into a variety of products to help slow the spread of COVID-19, the current technology for distance measurement and positioning—received signal strength indicator (RSSI) technology—is based on measuring the strength or power of the received radio signal. However, that is inherently flawed due to the sensitivity of objects in the radio path blocking or reflecting the radio signals.

Dialog Semiconductor's answer: the Wireless Ranging (WiRa) software development kit (SDK) that adds highly-accurate and reliable distance measurement capabilities to the company's BLE SoCs. The WiRa kit leverages a proprietary radar-like implementation for highly-improved distance measurement accuracy between BLE devices.

ONF Sets Out to Build 5G Open RAN Controller

he Open Networking Foundation (ONF) announced the formation of the SD-RAN project (Software Defined Radio Access Network) to help create open source software platforms and multi-vendor solutions for mobile 4G and 5G RAN deployments. The first O-RAN project the ONF is going to take on is building an open source controller for open RAN networks, aka a RAN intelligent controller, or RIC. Functionally, this controller will mediate between open RAN hardware and application software modules that have been dubbed "xApps."

Network operators have been adopting open systems for some time. It started with software-defined networking (SDN), which brought the open-systems approach to the network core. That trend that was furthered by network function virtualization (NFV).

Kneron's Next-Gen AI SoC Processes Video And Audio At The Edge

Kneron, the San Diego- and Taiwan-based AI silicon and IP startup, has launched an AI SoC which features an updated version of the company's neural processing unit (NPU) IP. The KL720 also features a Cadence DSP AI co-processor and an Arm Cortex M4 core for system control. While Kneron's next-gen AI SoC is aimed at low-power edge and smart home devices such as video doorbells and robot vacuum cleaners, the KL720 "can be used in everything from a Tesla to a toaster," according the company.

Kneron claims this second-generation chip outperforms chips from both Intel's Movidius line and Google's Coral Edge TPU in terms of energy efficiency. The KL720's NPU block can perform 1.4 TOPS while the whole SoC, including the additional DSP and Cortex M4 cores, comes in at 0.9 TOPS/W. This is sufficient for processing 4K resolution images and videos up to Full HD 1080p resolution. This compares favorably to Kneron's previous generation chip, KL520 which was released in May 2019, which could achieve 0.3 TOPS at 0.6 TOPS/W.

East European News & Trends

Apple Takes Over Sberbank-Supported Fintech Team

In a $100m deal, Apple has taken over a Montreal-based fintech company called Mobeewave which develops technology that turns a smartphone with a near-field communication (NFC) module into a payment terminal, Firrma.ru reported.

In its prior funding stage, Mobeewave was backed by Fort Ross Ventures, a VC fund invested by Russia's Sberbank. The fund supports start-ups in the U.S., Israel and Russia with clear focus on fintech, artificial intelligence, machine learning, cloud services, cyber security, marketplaces, and industrial automation. Fort Ross Ventures is headed by Viktor Orlovskiy who once ran Sberbank's IT Department.

With New Technology, Quantum Encryption Gets Less Costly And More Accessible

Scientists at ITMO University in St. Petersburg appear to have discovered a way of modifying quantum key distribution (QKD) protocols. The technology is expected to reduce the cost of and facilitate access to mass QKD networks. With the new approach, the conventional fiber optic communications infrastructure is believed to be quite enough to have the above achieved.

Quantum key distribution, or simply quantum encryption, is apparently one of the most reliable ways of encoding data known today. In a network that uses the technology, a quantum signal intruders would find tough to intercept is used as the data carrier.

"To make QKD possible, deliberately weakened laser light is used, as a rule, in which the average number of photons is below one. The emission demonstrates quantum effects that prevent a third party from penetrating the channel, cracking data, and walking away unpunished.

Russians In Silicon Valley Raise Fund To Boost Start-Ups In Eastern Europe

Untitled Ventures, a California-based VC firm of Russian origin, is raising ˆ50m for a fund that will invest in early growth stage tech companies from Eastern Europe, EU-Startups reported.

The future fund will reportedly focus on B2B AI, robotics, agritech, medtech, and data management. The backing of European institutions is expected.

"We target Eastern Europe talents for a reason. Given that Silicon Valley is filled with them, we are looking in the right place. Education system still has a strong focus on STEM [science, technology, engineering, mathematics—editor's note] and it is not a coincidence that Belarusian, Russian, Ukrainian university teams consistently win global programming competitions.

Russian Nanotech Giant Sets Up Fund To Back Advanced Tech

Rusnano, the Russian state-controlled nanotechnology corporation, has created a $53m fund to invest in digital technologies, EWDN reported.

Half of this amount purportedly came from state coffers as part of a national program to develop Russia's digital economy.

Starting from the end of this year, the fund is expected to invest in at least five projects at the later or growth stages. The investees, in their turn, are expected to generate $20m in revenues by 2024.

World Economic Round Up

Although the coronavirus was, by far, the biggest event of this year, the result of the US presidential election in November is likely to have a significant impact on the global economy, business environment, and geopolitics in general. The world view of the two candidates could hardly be more different. President Trump espouses a policy of "America First." Recall that this phrase was the basis of a movement in 1940 to keep the US out of World War Two. The adherents believed that the United States, buffered by two oceans, had no business being involved in the outside world. It opposed alliances, especially those involving military action, and supported restrictions on trade and immigration.

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 2020

Future Horizons Events
- Silicon Chip Industry Training Seminar – London – 9th November 2020
- Industry Forecast Briefing, London – 12 January 2021

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

Telephone: +44 1732 740440
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Download Future Horizons Full Events Calendar Here

Industry Events

- **MARK YOUR CALENDER FOR THE NEXT**

SILICON CHIP INDUSTRY WORKSHOP
MONDAY 9th November 2020
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 12th January 2021

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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