FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

Accenture Buys Semiconductor Services Provider Xtremeeda

Accenture has entered into an agreement to acquire XtremeEDA, a semiconductor engineering services provider based in Ottawa.

Accenture Industry X.0 modelXtremeEDA provides semiconductor engineering services for clients seeking custom silicon solutions used in consumer devices, cloud data centers, machine learning and artificial intelligence (AI) computational platforms to enable edge AI deployment.

The acquisition of XtremeEDA will expand Accenture Cloud First's capabilities in edge computing to help clients improve how they manage and use physical assets at or near the user and create new interactive, human experiences.

"The XtremeEDA team's expertise will help us bring more specialized, high-performance and scalable compute capabilities to our clients as they utilize the power of the Cloud Continuum to reinvent their enterprises," said Karthik Narain, global lead of Accenture Cloud First.

Infineon Adds The AIROC™ CYW20820 Bluetooth® & Bluetooth® LE System On Chip For Flexibility, Low Power, And High-Performance Connectivity

Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) is adding the AIROC™ CYW20820 Bluetooth® & Bluetooth® LE (low energy) system on chip (SoC) to its AIROC Bluetooth Portfolio. The AIROC CYW20820 Bluetooth & Bluetooth LE SoC is a Bluetooth 5.2 core spec compliant device tailor made for IoT applications. It is designed to support a wide spectrum of use cases for home automation and sensors including medical, home, security, and industrial, as well as lighting, Bluetooth Mesh, or any IoT application that needs Bluetooth LE or dual mode Bluetooth connectivity.

The AIROC CYW20820 Bluetooth & Bluetooth LE SoC provides reliable connectivity and low power with high performance compute capability integrating an ARM® Cortex®-M4 microcontroller unit with floating point unit. It is a highly integrated device with multiple digital interfaces, optimized memory subsystem, and power amplifier delivering up to 11.5 dBm transmit output power in LE and BR (basic rate) modes, reducing the device footprint and the costs associated with implementing Bluetooth solutions.

Infineon is also adding to its extensive AIROC Bluetooth module portfolio with three modules that include onboard crystal oscillator, passive components, and the AIROC CYW20820 system on chip. These highly integrated modules are globally certified to support fast time-to-market of IoT devices. The AIROC CYBT-243053-02, CYBT-253059-02, and CYBT-243068-02 modules are supported by ModusToolbox™ software and tools with code examples to support rapid development of Bluetooth applications.

Infineon And Oxford Ionics Join Forces To Develop Leading Trapped Ion Quantum Processors

Munich, Germany – 6 July 2022 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) and Oxford Ionics announce a collaboration to build high-performance and fully integrated quantum processing units (QPUs). The combination of Oxford Ionics' unique electronic qubit control (EQC) technology with Infineon's world-leading engineering and manufacturing capabilities, as well as expertise in quantum technology, will lay the foundations for the industrial production of QPUs offering hundreds of qubits within the next five years.The goal is to move quantum computing technology out of the research lab into real industrial solutions.

Quantum computing opens up the next frontier in computing power for many industries seeking radical improvement in their processes and capabilities. Getting there requires developing qubit technologies that can be built at a massive scale while controlling a growing number of qubits and maintaining quantum error levels at and below the current state-of-the-art. Oxford Ionics' EQC technology offers a path to integrating trapped ion qubits – the leading qubit technology by quantum error levels – into Infineon's mature semiconductor processes.

Samsung Beats Taiwan Semiconductor, Becomes First Foundry To Mass Produce 3 Nm Chips

Samsung (OTC:SSNLF) said on Thursday that it became the first foundry to mass produce 3 nanometer chips globally, beating its rival Taiwan Semiconductor (NYSE:TSM) in achieving the feat.

The newly developed 3 nm chips have 45% less power than the 5 nm chips that are standard today, as well as a 23% improvement in performance and use 16% less surface area, according to a statement from Samsung.

"We will continue active innovation in competitive technology development and build processes that help expedite achieving maturity of technology," said Dr. Siyoung Choi, President and Head of Foundry Business at Samsung Electronics, in the statement

STmicroelectronics Reveals A Ready-To-Use In-Vehicle System-On-Chip Solution For Secure Car Access CCC Release 3 Compliant

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, announces a new platform to accelerate the introduction of digital car keys giving consumers keyless access to vehicles via their mobile device.

In addition to strengthening security, digital car keys can deliver greater owner conveniences including customizable usage privileges while continuing to secure the vehicle. Activities such as car sharing, fleet management, and vehicle rental gain benefits such as easier key issuance, usage controls, and access for valeting and servicing.

Based on the most recent ST Automotive grade Secure Element hardware, the global solution, developed in collaboration with Giesecke+Devrient (G+D), supports the latest

Car Connectivity Consortium (CCC) Digital Key release 3.0 standard, ensuring the highest security and protection currently available.

TSMC Creates Design Options for New 3nm Node

Taiwan Semiconductor Manufacturing Co. (TSMC) has created versions of its upcoming 3nm FinFET node that's ramping up later this year, allowing chip designers to enhance performance, power efficiency, and transistor density — or select a balance of those options.

TSMC's 3nm technology, starting production later in 2022, will feature the company's FinFlex architecture offering choices of standard cells with a 3–2 fin configuration for performance, a 2–1 fin configuration for power efficiency and transistor density, or a 2–2 fin configuration for efficient performance.

The world's leading chip foundry announced FinFlex at its 2022 North America Technology Symposium last week. With the new architecture, customers can create SoC designs with functional blocks implementing various fin configurations to meet performance, power, and die–size targets.

"Demand for computational power and energy efficiency is growing faster than ever before, creating unprecedented opportunities and challenges for the semiconductor industry," TSMC CEO C.C. Wei said at the event.

By offering a range of choices when the new 3nm node starts up, the company will plug gaps that rivals like Samsung or Intel may seek to exploit as the three companies aim for process technology leadership. TSMC has captured 90% of the business in the advanced 7nm and

Industry News & Trends

LG Display To Order Microoled Equipment To Win Apple's MR Device Order

LG Display is expected to order a deposition equipment to make MicroOLED from Sunic System, TheElec has learned.

The move is aimed at developing and manufacturing a MicroOLED panel to supply to Apple for their mixed reality (MR) device, sources said.

Cupertino is expected to use Sony's MicroOLED panel for the screen on its first MR device while the outer screen, or an 'indicator', which will be a regular OLED panel, will be provided by LG Display. Apple's new device is expected to launch during the first half of next year.

LG Display is aiming to supply the MicroOLED panel on the iPhone maker's follow-up to its MR device.

MicroOLED technology mounts the OLED on a silicon substrate, unlike conventional panels that mount them on glasses.

UK Targets Light-Touch Regulation To Boost Tech Sector, Minister Says

Britain launched a digital strategy on Monday focused on simplifying regulation, supporting critical technologies like semiconductors and tackling skills gaps to help drive economic growth.

Tech minister Chris Philp said UK firms had raised more than 12 billion pounds ($14.6 billion) in venture capital so far this year, second only to the United States, and the new plan would ensure the country remained a science and tech superpower.

Government would work across departments to support critical future technologies, such as quantum computing and advanced semiconductors, he said.

The country's position in semiconductors suffered a major blow in 2016 when flagship company ARM was sold to Japan's Softbank (9434.T).

TSMC Says It Will Have Advanced ASML Chipmaking Tool In 2024

SANTA CLARA, Calif., June 16 (Reuters) - Taiwan Semiconductor Manufacturing Co (2330.TW) executives said on Thursday the world's biggest chipmaker will have the next version of ASML Holding NV's (ASML.AS) most advanced chipmaking tool in 2024.

The tool called "high-NA EUV" produces beams of focused light that create the microscopic circuitry on computer chips used in phones, laptops, cars and artificial intelligence devices such as smart speakers. EUV stands for extreme ultraviolet, the wavelength of light used by ASML's most advanced machines.

"TSMC will bring in high-NA EUV scanners in 2024 to develop the associated infrastructure and patterning solution needed for customers to fuel innovation," said Y.J. Mii, senior vice president of research & development, during TSMC's technology symposium in Silicon Valley.

Mii did not say when the device, the second generation of extreme ultraviolet lithography tools for making smaller and faster chips, would be used for mass production. TSMC rival Intel Corp (INTC.O) has said it will use the machines in production by 2025 and that it would be the first to receive the machine.

As Intel enters the business of making chips that other companies design, it will be competing with TSMC for those customers.

Nvidia Describes 3D MoMa Research To Help Designers Improvise 3D Objects

Nvidia presented research this week at CVPR 2022 in New Orleans on a method for turning a series of photos into 3D objects with the help of increased compute power.

Called Nvidia 3D MoMa, the company believes it will one day help designers import an object into a graphics engine. There, they can modify the object's size or change it in different ways, including the materials or different lighting effects. Ultimately, the research hopes to reduce the time required for content creators to produce graphics.

The method uses inverse rendering, a widely used technique to reconstruct a series of photos into a 3D model.

Asia Likely to Lead Record Fab Expansions in 2022

Asia's two largest chipmaking nations are expected, once again, to lead the rest of the world in new fab investments in 2022, according to a recent report from industry association SEMI.

Taiwan and South Korea will account for more than half of the $109 billion in expenditures on fab equipment this year.

Global fab equipment spending for front-end facilities is expected to increase 20% year-over-year (YOY) to an all-time high of $109 billion in 2022, marking a third consecutive year of growth following a 42% surge in 2021, according to SEMI's latest quarterly World Fab Forecast report.

Despite signs of a slowdown in demand for electronics such as smartphones and PCs, the report said fab equipment investment is expected to remain strong in 2023. Chipmakers are racing to meet demand as semiconductor shortages persist for manufacturers of systems ranging from automobiles to arms.

East European News & Trends

Biotechnology Enables Fast Detection Of Viral Infections

A Russian start-up called Troitsk Engineering Center (part of TechnoSpark Group) has developed a special device, the Indicator-BIO, to diagnose viral infections.

Their partners in the project, biologists and physicians from the Federal Medical-Biological Agency (FMBA), have, in their turn, come up with advanced chips and reagents to go with the device, which are said to take within 15 minutes to pinpoint in biological fluids an array of dangerous viruses, including the COVID-19.

Wax Comes To Compete With Polymers In Next Gen 3D Printing

A research team at the Samara Polytechnic University (SamPU) in Russia's Lower Volga region has developed a brand new type of wax filaments for 3D printing.

Wax filaments are in extremely short supply in the market, compared to polymeric ones which are so easy now to come by, SamPU senior engineer Anton Barinov emphasized. "They [wax filaments] are very expensive, and only a handful of companies manufacture them," he added.

Doctors May Get New Diagnostics Enhancement Tool Based On AI

Researchers at Tomsk-based SibMed University (Siberian State Medical University) have developed new hybrid artificial intelligence (AI) technology to control multiple cyber-physical systems across medical disciplines.

At the core of the development are AI-driven systems to support physicians' decision-making process which are based on data and on knowledge.

As modern computing and communication devices are getting increasingly compact and affordable, the creation of an array of sensor- and actuator-enabled cyber-physical systems is no longer a future plan. Sensors and other slave gadgets help collect tons of data on processes that take place in physical and biological objects.

What the SibMed team focused on was the development of decision-making support systems for doctors which could operate where datasets available are very limited and where both data and empirical and theoretical knowledge are required to do the job.

World Economic Round Up

Russia's invasion of Ukraine and its effects on commodity markets, supply chains, inflation, and financial conditions have steepened the slowdown in global growth. One key risk to the outlook is the possibility of high global inflation accompanied by tepid growth, reminiscent of the stagflation of the 1970s. This could eventually result in a sharp tightening of monetary policy in advanced economies, which could lead to financial stress in some emerging market and developing economies. A forceful and wide-ranging policy response is required to boost growth, bolster macroeconomic frameworks, reduce financial vulnerabilities, and support vulnerable groups. Sustained US job growth and an unemployment rate near a 50-year low bolstered bets that the Federal Reserve will proceed with another big interest-rate hike this month to rein in demand and tamp down inflation.

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 2022

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – September 2022
- Industry Forecast Briefing, London – September 2022

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

Telephone: +44 1732 740440
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Industry Events

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY September 2022
AND
INDUSTRY FORECAST BRIEFING
TUESDAY September 2022

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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