FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

AMD Confirms Acquisition Of Xilinx For $35 Billion

AMD and Xilinx announced they have entered into a definitive agreement for AMD to acquire Xilinx in an all-stock transaction valued at $35 billion. The combination will create the industry's leading high performance computing company, significantly expanding the breadth of AMD's product portfolio and customer set across diverse growth markets where Xilinx is an established leader. The transaction is expected to be immediately accretive to AMD margins, EPS and free cash flow generation and deliver industry-leading growth.

The acquisition brings together two industry leaders with complementary product portfolios and customers. AMD will offer the industry's strongest portfolio of high performance processor technologies, combining CPUs, GPUs, FPGAs, Adaptive SoCs and deep software expertise to enable leadership computing platforms for cloud, edge and end devices. Together, the combined company will capitalize on opportunities spanning some of the industry's most important growth segments from the data center to gaming, PCs, communications, automotive, industrial, aerospace and defense.

Applied Materials And BE Semiconductor Industries To Accelerate Chip Integration Technology For The Semiconductor Industry

Applied Materials and BE Semiconductor Industries to Accelerate Chip Integration TechnologSANTA CLARA, Calif. and DUIVEN, the Netherlands, Oct. 22, 2020 (GLOBE NEWSWIRE) -- Applied Materials, Inc. and BE Semiconductor Industries N.V. (Besi) today announced an agreement to develop the industry's first complete and proven equipment solution for die-based hybrid bonding, an emerging chip-to-chip interconnect technology that enables heterogeneous chip and subsystem designs for applications including high-performance computing, AI and 5G.

As traditional 2D scaling slows, the semiconductor industry is shifting towards heterogeneous design and chip integration as a new way to deliver improvements in performance, power, area/cost and time-to-market (PPACt). To accelerate this trend, Applied and Besi have formed a joint development program and are establishing a Center of Excellence focused on next-generation chip-to-chip bonding technology. The program harnesses the companies' respective front- and back-end semiconductor expertise to deliver co-optimized integrated hybrid bonding configurations and equipment solutions for customers.y for the Semiconductor Industry.

GlobalFoundries Offers Ambitious Tech Plans, While Eying an IPO

GlobalFoundries has a unified growth vision for the whole company as well as local strategies to develop its major manufacturing clusters in Asia, Europe, and the U.S. The industry's third largest contract maker of semiconductors believes that it is on the right track with its specialty technology strategy, which it believes will eventually lead to net profitability. The company plans to continue expanding its production capacities and introduce process technologies that are relevant for high-volume, long-lifecycle devices.

Europe has a special place in GlobalFoundries's strategy, so it makes sense to take a look at the state of things here.

The world has significantly reinvented itself in the past 10 – 20 years, but in the next 10 we are going to face far more dramatic changes both for business and for society. Historically, major business and social transformations have always been enabled by technological advancements. When homo learnt how to control fire and produce stone tools millions of years ago, the society transformed dramatically. Fast forward to today, our technologies got drastically more sophisticated and the number of devices and tools we use in our daily life — for personal, business, and/or work matters — is countless. And since the world is always reinventing itself, these devices tend to get smarter, and the number of them we use keeps growing.

Nokia Selected By Telia Company To Deploy 5G In Finland And Implement 5G Standalone Core Across Markets

Espoo, Finland – Nokia today announced it has been selected by Telia Company as the exclusive provider of 5G RAN in Finland in a five-year deal that includes the modernization of legacy networks and will cover 7,500 sites. Nokia is a long-standing strategic partner to Telia Company and has also been chosen as the supplier of 5G standalone (SA) core in Denmark, Estonia, Finland, Lithuania, Norway and Sweden in the Nordic and Baltic regions.

Nokia will supply Telia with its AirScale portfolio including 5G RAN, AirScale base stations and Nokia AirScale radio access products. The deal will see the modernization of existing radio networks, as well as the rollout of 5G in Finland. Nokia is the incumbent radio provider for Telia Finland, as well as providing its 5G non-standalone cloud-native core for all countries. These solutions at the heart of the networks will enable Telia to build on its existing leadership position and deliver incredible connectivity and capacity benefits to its consumer and business subscribers.

Nokia's 5G core and Cloud Packet Core (CPC) portfolios will also supply Telia with a 5G SA core network, an expansion of the current core network from Nokia. Building upon Telia's existing Control/User Plane Separation (CUPS) core network architecture, Nokia's CPC's appliance solution will be used in the 5G SA user plane, making it highly scalable. Nokia's core solution allows Telia to build a unified core network offering quad-access (2/3/4/5G) services for a seamless experience to their subscribers.

Samsung Electronics Develops Industry-leading Blue QLED Technology

Samsung Advanced Institute of Technology (SAIT), Samsung's R&D hub dedicated to cutting-edge future technologies has secured industry-leading cadmium-free blue Quantum Dot light-emitting diodes (QLEDs) performance.

Since blue is known to be the most difficult color to implement out of the three primary QLED colors (red, blue and green), this achievement – coming in the wake of Samsung's development of red QLED technology last November – once again proves Samsung's excellence in the quantum dot technology sphere.

Blue Proves the Most Difficult of the Three Primary QLED Colors

South Korean Chipmaker Buys Intel's Flash Memory Chip Business for $9 Billion

The world's second-largest chipmaker, South Korea's SK Hynix, announced a record $9 billion deal Tuesday to buy Intel's flash memory chip operation as it seeks to bolster its position against rival behemoth Samsung Electronics.

SK Hynix is already the world number two maker of DRAM chips, used in computers and servers, and the second-largest chipmaker overall.

But it has lagged in the market for flash memory -- or NAND -- chips, which are used in everyday devices such as smartphones and USB storage drives, as well as industrial and medical equipment.

In a regulatory filing, SK Hynix said it will acquire Intel's "entire NAND business division excluding the Optane division" for 10.3 trillion won, with Intel's factory in Dalian, China, included in the deal.

Industry News & Trends

Western European Countries Lead in 5G Share of Smartphone Sales

According to the latest research from Strategy Analytics, three Western European nations are leaders in terms of 5G as a proportion of total smartphone sales in 2020.

Ken Hyers, Director at Strategy Analytics, added "The rapid adoption of 5G smartphones by consumers in Western Europe present an opportunity for vendors. Samsung and Apple are taking the lion's share of total 5G smartphone volumes but aggressive competition from Vivo, Oppo and Xiaomi as well as other Chinese vendors will reorder share in 2021. 5G smartphones are a wedge which will allow these vendors to grow in 2021 and beyond."

Is 5G Worth the Hype?

Moving beyond all of the marketing hype, 5G connectivity is finally starting to arrive in strategic locations across the country.

And according to a recent report by the Brookings Institute, the importance of 5G is undeniable. "It is the most significant network overall in history because the alchemy of digital technology allows the transformation of what was always done in hardware to become functions accomplished in software. Then, with such a virtualized network, the power of the lingua franca of Internet Protocol takes over to eliminate the need for specific technology protocols for specific functions," writes report author Tom Wheeler.

Unlike past wireless evolutions the move from 4G to 5G has the potential to offer significant benefits to manufacturers.The most notable benefit? Fueling the smart factory. "The biggest change is the number of devices that can be connected increases by 100 times and latency decreases to one-tenth of what it was. That's why 5G is known as the enabler of the Internet of Things (IoT)," says WIA President and CEO Jonathan Adelstein.

TSMC Sees HPC As Next Inflection Point

TAIPEI — Taiwan Semiconductor Manufacturing Co. (TSMC) expects the main driver of its growth in the next several years to be high-performance computing (HPC), overtaking its current smartphone business.

The world's biggest chip foundry said its technology leadership during the third quarter this year helped it capture 5G and HPC orders that will increase company growth by about 30% in 2020, leading overall gains in the semiconductor industry.

The company made those predictions in spite of losing sales to China's Huawei, which has been blacklisted by the US government in the tech war between the world's two biggest economies. TSMC said its sales to Huawei, in 2020 its second-largest customer after Apple, will drop to zero in the fourth quarter this year in compliance with US regulations. The company has apparently had no trouble compensating for the loss of Huawei's business, however; TSMC has had difficulty meeting customer demand as capacity utilization nears full loading.

Thailand's Electronics Sector Still A Magnet For Investors Thanks To Established Industries In Smart E&E And IoT

The COVID-19 pandemic and the US-China trade friction have failed to slow Thailand's resilient electronics and electrical (E&E) industry which on the contrary many investors see as a haven, Thailand Board of Investment (BOI) data shows.

In the first nine months of 2020, the number of foreign and domestic companies which applied to invest in Thailand's E&E sector actually rose to 106 projects, from 94 projects in the same period in 2019, making it by far the most popular sector, totaling over $1.2 billion in investment applications submitted to the BOI.

With a supply chain of some 2,500 companies and 800,000 employees ranging from researchers with doctoral degrees to vocationally trained technicians and experienced assembly line workers, it is the country's largest manufacturing employer, according to Thailand's Electrical and Electronics Institute (EEI).

300mm Fab Investments To Rise In 2020, To Boom In 2023

Global demand for 300mm capacity remains robust, driven by growth in cloud services, servers, laptops, gaming, and healthcare technology. According to SEMI trade organization, 300mm fab investments will grow by 13% year-over-year in 2020 and experience a record high in 2023.

In its latest report, SEMI covers the installed base of 300mm fab capacity, current and near-term market trends, and forecasts to 2024. After a surge in 2020, semiconductor fab investments are expected to continue to increase in 2021, but at the reduced rate of 4% year-over-year. SEMI then predicts a 2% slowdown in 2022, followed by a 20%, or $70 billion, record high in 2023. The year 2024 will, however, experience a 4% downturn, SEMI said.

SEMI has made the conservative projection that at least 38 new 300mm fabs will open from 2020 to 2024. Asia will be well represented since Taiwan and China are set to add eleven and eight 300mm volume fabs, respectively. The chip industry will then command 161 300mm volume fabs by 2024, SEMI said

East European News & Trends

Russian Nanotech Giant Readies New Support For Advanced Tech, Fund Set Up To This End

Rusnano, the Russian state-controlled nanotechnology corporation, steps us investing in digital technologies and earlier this fall set up a $53m fund to pursue the goal.

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.

Russian Development Fund To Help IT Start-Ups Go Global

Russia's Internet Initiatives Development Fund (IIDF, aka FRII in Russian), a major government-owned innovation support organization, recently announced that back in September 2020 it changed its investment strategy in favor of backing foreign-based young companies with Russian founders, USRBC reported.

The Russian business daily RBC quoted FRII Director Kirill Varlamov as saying that the fund's new strategy prioritizes investing in IT start-ups abroad in which Russians own at least 50% of shares. FRII will also invest in Russian IT start-ups that plan to enter international markets.

In 2021, FRII reportedly has plans to increase its annual venture investment eightfold to $2.6m while reducing the number of start-ups to invest in from the current 70-75 to 20. Additionally, the government fund undertakes to help Russian IT start-ups look for foreign investors and partners, which Mr. Varlamov said was essential for entering "certain foreign markets."

3D-Printed Aircraft Engine May Hit Market Next Year

A Russian 3D-printed gas-turbine aircraft engine designated MGTD-20 readies commercialization next year or in 2022 after it was successfully tested in flight this past summer in the mid-Volga region of Tatarstan.

In Russia's first-ever such effort, this 22 kilogram*force propulsion unit is a collaborative product of the federal Advanced Research Fund (of which the closest analog in the U.S., for example, is DARPA), the Moscow-based All-Russian Scientific Research Institute of Aviation Materials (VIAM in Russian), and the Simonov Aircraft Design Bureau headquartered in Kazan, in Tatarstan.

With a wingspan of three meters, the aircraft's take-off weight is 40kg and its payload is up to 10kg. During its test flight, the drone completed its flight plan in the autopilot mode, reaching all the areas it had been programmed to reach at an altitude of 170m and a maximum cruise speed of 154km/h, and landed problem free. The new engine operated at a maximum rotational speed of 101,600RPM.

World Economic Round Up

The global economy is climbing out from the depths to which it had plummeted during the Great Lockdown in April. But with the COVID-19 pandemic continuing to spread, many countries have slowed reopening and some are reinstating partial lockdowns to protect susceptible populations. While recovery in China has been faster than expected, the global economy's long ascent back to pre-pandemic levels of activity remains prone to setbacks. The United States and other nations are trying to stave off a liquidity problem that could crash world economies, as in the Great Depression.

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 2021

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – March 2021
- Industry Forecast Briefing, London – 12th 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

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY March 2021
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 12th January 2021

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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