FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

Seeking More Reliable Supply, Ford Signs A Deal With A Huge Chip Maker

Amid a global computer chip shortage that has gridlocked the world's automakers, Ford Motor is attempting to secure more reliable supply in a deal with chipmaker GlobalFoundries.

The maker of Mustangs and F-150 pickups said Thursday that it has signed a nonbinding agreement that could eventually lead GlobalFoundries, which is headquartered in Malta, N.Y., to produce more chips for Ford.

The companies also plan to collaborate on research and development for new chips needed to power electric vehicles, autonomous driving systems and other future technologies, said Mike Hogan, GlobalFoundries' senior vice president of automotive.

Syntronixs Asia Becomes Part Of Infineon

Infineon Technologies (Malaysia) Sdn. Bhd. acquired Syntronixs Asia Sdn. Bhd., a Melaka-based electroplating company. Founded in 2006, Syntronixs Asia has a workforce of more than 500 people and has been a major service provider for Infineon since 2009. The company specializes in precision electroplating, a key process in the assembly process of semiconductors, which is required to ensure high quality and long-term reliability of Infineon's products.

"Infineon is committed to taking the necessary steps to continuously enhance our global manufacturing footprint," said Alexander Gorski, Executive Vice President, who is responsible for Infineon's global Backend Operations. Dr. Thomas Kaufmann, Executive Vice President and COO of Infineon's Automotive Division, said: "Through this acquisition, we have made another important step to strengthen the resilience of our supply chain".

Infineon maintains 13 backend sites worldwide, the largest of them located in Melaka. The parties agreed not to disclose the purchase price.

Metron3D Launch

Abingdon UK, December 6, 2021. Infinitesima Corporation today announced the launch of the Metron3D, an in-line metrology platform designed for high volume semiconductor manufacturing applications. The Metron3D combines the well-established benefits of Atomic Force Microscopy with several fundamentally new inventions that increase throughput at least 100 times, and probe lifetime by 10 times. The ability of the Metron3D to operate at such high speed while maintaining very high accuracy, will permit chipmakers to benefit from process insensitive profilometry for in-line metrology and inspection applications for the first time. The measurement module of the Metron3D, dubbed the RPM for Rapid Probe Metrology, is integrated into a platform that has been developed using existing solutions from well-established suppliers in order to ensure a reliable, fab ready tool.

The Metron3D platform enables critical metrology and inspection capabilities that are required to advance semiconductor process control for maximizing yield and lowering wafer costs. As dimensions shrink and device architecture becomes more complex, the Metron3D offers measurement advantages in areas such as CMP performance - both local and long range, EUV Resist characterization and Logic FEOL analysis.

Lattice Acquires Mirametrix

Lattice Semiconductor Corp. has acquired Mirametrix Inc., a software company focused on advanced artificial intelligence (AI) solutions for computer vision applications, in an all-cash, accretive transaction.

Mirametrix software has been successfully deployed in more than 20 million end user systems worldwide. Combining Mirametrix's expertise with Lattice's innovative hardware and software solution stacks creates an end-to-end AI and computer vision solution that spans from the hardware to the application layer.

"Providing easy-to-use application-specific software solution stacks continues to be a key part of our strategy to make it easy for customers to adopt Lattice and get to market quickly. Adding Mirametrix's proven AI and computer vision software to our existing solution stack portfolio will make it even easier for our customers to quickly add more intelligence to their applications," said Jim Anderson, President and CEO, Lattice Semiconductor. "Having worked closely with Mirametrix as a partner for nearly two years, we are excited to welcome them to Lattice as we continue to expand our talented software team."

Qualcomm Reveals The Three Benefits It Expects From Its Partnership With Sony Semiconductor Solutions

During the opening keynote at its annual Snapdragon Summit where it revealed its new Snapdragon 8 Gen 1 mobile platform, Qualcomm announced it has partnered with Sony Semiconductor Solutions to work alongside one another inside Qualcomm's San Diego headquarters to push mobile imaging into the future.

While the exact details of this partnership remain under wraps, Qualcomm mentioned three specific benefits it expects to gain from the partnership as it pertains to camera advancements.

The first benefit is the ability to expedite image processing development on Snapdragon 8 devices. Imaging capabilities of smartphones are some of the most important features of newer flagship devices and it seems Qualcomm's plan is to use Sony's expertise in the area to more rapidly improve its image signal processing technology.

Samsung Announces New Advanced Semiconductor Site In Taylor, Texas

Samsung Electronics announced today it has selected a site in Taylor, Texas, to build a new semiconductor wafer fabrication plant that is set to produce advanced logic devices.

The estimated $17 billion investment, which will mark the largest investment made by Samsung in the U.S., is expected to create about 2,000 new jobs directly and thousands of related jobs once the new facility is in full operation. The funding will bring Samsung's total investment in the U.S. to more than $47 billion since beginning U.S. operations in 1978.

The Taylor site, about 16 miles from Samsung's current manufacturing site in Austin, is expected to serve as a key location for Samsung's global semiconductor manufacturing capacity along, with its latest new production line in Pyeongtaek, South Korea.

STMicroelectronics Upgrades Automotive Positioning Accuracy with Single-Chip Triple-Band Satellite-Navigation Receiver

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has introduced a world-first automotive satellite-navigation chip that delivers high-quality position data needed by advanced driving systems.

Joining ST's Teseo V family, the STA8135GA is the first automotive-qualified GNSS (Global Navigation Satellite System) receiver to integrate a triple-band positioning measurement engine on-chip, in addition to standard multi-band Position-Velocity-Time (PVT) and dead-reckoning.

Triple band has historically been used in professional applications such as surveying, mapping, and precision agriculture that demand millimeter accuracy with minimal reliance on correction data. Until now only available in chipsets or modules, which are typically larger and more expensive than ST's single-chip solution, triple-band enables the receiver to efficiently acquire and track the largest number of satellites in multiple constellations simultaneously for superior performance in difficult conditions such as in urban canyons and under tree cover.

Industry News & Trends

How Ford's Farley Dug Fields of Gold

Ford has been on a roll ever since it promoted Jim Farley to the C-suite, first as COO and more recently as CEO. Read on as I piece together various technology announcements underpinning the revival and take a look at recent developments for clues as to what the future may hold.

Returning from the Frankfurt Auto Show in September 2019, I wrote an article describing how the automotive industry was undergoing a pivot away from the trend known as C.A.S.E. (connected, autonomous, shared, electric) and towards C.A.P.E. (connected, assisted, personalized, electric). Let's review announcements from each of those four areas to understand more about Ford's newfound success.

Following Tesla's success with over-the-air (OTA) updates, Ford has developed a similar capability that it calls "Ford Power-Up" which appears to be based on NXP's vehicle network processors.

IIoT, IoT Adoption Seen on Fast Trajectory Path

After a sluggish start, notably in Europe, the pace of adoption of industrial internet of things (IIoT) networks and the IIoT's more consumer-facing relative, the IoT, has picked up. The outlook is brighter — albeit with bumps along the way.

Companies focusing on designing and manufacturing the very specific ultra-low–power chips, chipsets, and modules for the networks are becoming much more positive about the prospects, as are some of the cellular network operators.

And perhaps most significantly, large organizations across numerous and widely differing sectors, such as utilities, agriculture, logistics, telemedicine, and transport, are moving from trialing and qualifying the variety of IIoT networks now available to implementing them.

Bosch Launches Semiconductor Production In Germany

After several years of development, Bosch in Reutlingen has now started large-scale production of power semiconductors made of silicon carbide (SiC). In parallel, however, the further development of the semiconductors and the expansion of production capacities are already underway.

The start of production of SiC semiconductors is not a reaction to the current chip shortage, but is due to the trend towards electromobility: Semiconductors based on silicon carbide are more efficient than those made from other sulitium substrates. If they are installed in the power electronics of an electric drive system, for example, the higher semiconductor efficiency increases the range of the electric vehicle without having to install a larger battery. In addition, faster charging processes become possible.

Two years ago, Bosch had already announced that it would enter the production of SiC chips and push ahead with their development – until now, Bosch has manufactured more conventional silicon semiconductors in Reutlingen. “The future for silicon carbide semiconductors is bright. We want to become a global leader in the production of SiC chips for electromobility,” says Harald Kröger, member of the board of management of Robert Bosch GmbH.

TSMC Begins Pilot Production Of 3nm Chips

Taipei: The world’s largest contract manufacturer for chips, Taiwan Semiconductor Manufacturing Company (TSMC) has begun pilot production of 3-nanometer chips, and expects to be producing them in volume at the end of 2022.

According to DigiTimes, TSMC has kicked off pilot production of chips built using N3 (namely 3nm process technology) at its Fab 18 in southern Taiwan.

Currently, Apple uses TSMC’s 5nm processors for the M1 chips and it is expected that TSMC’s 3nm processors will power the next generation of Apple Silicon.

Meanwhile, TSMC is teaming up with Sony on its new $7 billion chip factory in Japan, the companies have announced jointly.

The new plant, as had been previously announced, will focus not on cutting edge chips but rather older 22nm and 28nm processes in an effort to meet supply shortfalls for older chips which has steadily impacted everything from cars to smartphones.

The new factory had previously been announced in October by TSMC CEO C.C. Wei, although at the time, it had yet to be approved by TSMC’s board of directors.

East European News & Trends

3D Printers May Get New Wax Filaments

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, Scientific Russia reported.

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.

With Computer Vision, Sales In Stores Get Smarter

A Russian start-up called Intelligence Retail employs computer vision in merchandising.

Intelligence Retail uses computer vision to help companies step up the efficiency of shelf utilization in stores. Its software scans assortments, prices and other relevant information in real time. It reportedly takes the service 10 seconds to generate an e-report on one retail section audit with an image recognition accuracy of as high as 99%.

The software recognizes more than 2.5 million photos a month; its image library contains about 100,000+ items of various FMCG assortments.

New Approach To Quantum Dots May Bolster Electronics

Researchers at the Moscow Institute of Physics and Technology (MIPT, aka Phystech) in collaboration with colleagues from the Institute of Problems of Chemical Physics based in Chernogolovka outside Moscow are offering a simple and convenient way of obtaining quantum dots of certain sizes and properties through chemical aging. The method may help simplify and cut the cost of making solar cells, TV sets or fire detectors.

The aging of crystals is a widely used scientific term for controlled change of materials' characteristics as certain time lasts.

"We have developed a solution that would enable experimenters who have 10 nanometer sized quantum dots to age them down to 8 nanometers tomorrow, to 6 nanometers two days from now, and so on and so forth.

New Russian site launched to make domestic electronics

A Russian electronics maker has launched a new manufacturing site outside Nizhny Novgorod in the mid-Volga region to produce domestic laptop and tablet computers, as well as server platforms, based on Russian and imported chips, the regional business daily Delovoy Kvartal reported.

The project owner is Rikor Electronics, a sizable Russian developer and manufacturer of computing equipment. A few hundred new jobs have been created at Rikor's own factory in Arzamas some 400km east of Moscow. For this $43m effort, Russia's federal Industry Development Fund has provided a low-interest loan.

The now revamped factory is expected to manufacture servers and server platforms based on a range of chips, including imported Intel and AMD chips and domestic Baikal and Elbrus ones. Also, Intel chip powered laptop computers will be made, as well as tablets based on a Russian-developed processor called Skif.

World Economic Round Up

The global economic recovery remains strong, helped by government and central bank support and by progress in vaccination. But although global Gross Domestic Product (GDP) has now risen above its pre-pandemic level, the recovery remains uneven with countries emerging from the crisis facing different challenges. Large differences in vaccination rates between countries are adding to the unevenness of the recovery. Renewed outbreaks of the virus are forcing some countries to restrict activities, resulting in bottlenecks and pressures on supply chains. A rapid increase in demand as economies reopen has pushed up prices in key commodities such as oil and metals. Food prices are also rising, boosting prices especially in emerging markets. Tensions along supply chains caused by the pandemic have added to cost pressures. At the same time, shipping costs have increased sharply.

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 2022
- Industry Forecast Briefing, London – January 2022

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

Telephone: +44 1732 740440
Email: mail@futurehorizons.com

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Industry Events

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY March 2022
AND
INDUSTRY FORECAST BRIEFING
TUESDAY January 2022

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON