FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

Startup Looks To Put Pas On CMOS Express

SAN FRANCISCO—After emerging from semi-stealth mode to announce the infusion of $35 million in April, ACCO Semiconductor Inc. is looking to take its CMOS-based RF power amplifier business to the next level.

The Sunnyvale, Calif.-based startup, which traces its roots back to 1994, believes it can cash in on the growing opportunity for RF front end chips for cell phones and Internet of Things (IoT) products by strapping power amplifiers (PAs) to the same economic engine that has propelled most other types of chips: complementary metal–oxide–semiconductor (CMOS) process technology.

FEI Launches Three New Tools For Next-Generation Semiconductor Manufacturing

FEI announced today the release of three new tools for process control and defect/failure analysis in advanced semiconductor manufacturing. Two of the tools are specifically targeted at the 7nm node, and all are designed to allow manufacturers to address critical production issues with industry-leading time-to-data, throughput and low cost-per-sample.

"Perhaps more than any other industry, time is money in advanced semiconductor manufacturing," said Rob Krueger, vice president and general manager of FEI's Semiconductor Business. "The time required to analyze a sample affects the cost-per-sample directly, but even more importantly, the time required to answer critical production questions can reduce losses and increase production of the entire process. These new tools are the first on the market to allow fast, automated analysis of critical structures that are 7nm and smaller, enabling manufacturers to develop and scale new processes faster, and get new products to market sooner and more profitably than their competitors."

Around One In 15 New Cars Uses Radar Chips From Market Leader Infineon For Driver Assistance

Munich, Germany – June 21, 2016 – By the end of 2016, more than half of all new automotive 77-GHz radar systems worldwide will be equipped with chips from Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY). Statistically speaking, that means around one in 15 new cars will use a driver assistance system with 77-GHz radar chips from Infineon.

The market leadership of Infineon in the rapidly growing market for radar chips for driver assistance systems was also recently confirmed by market research company IHS Technology. While Infineon has sold a total of 20 million radar chips in the past few years, the company intends to have shipped a further 30 million chips for driver

assistance systems next year alone. Infineon would have thus doubled its radar chip sales annually for five years in a row.

"Of the world's five largest manufacturers of radar systems, four already rely on 77-GHz radar chips from Infineon," said Ralf Bornefeld, Vice President & General Manager, Sense & Control at Infineon Technologies. "We make driving safety the standard in mid-sized and small vehicles. Our sensor chips place the vehicle inside the kind of safety cocoon that is essential for autonomous driving."

Infineon Backs European Commission In Developing Cybersecurity Guidelines

Munich, Germany and Strasbourg, France – July 5, 2016 – Infineon Technologies AG takes an active role in the development of European-level cybersecurity guidelines. Today, the European Commission signed the contract for a Public-Private-Partnership (PPP) with the European Cyber Security Organisation (ECSO) ASBL. Representing the private sector, ECSO will work directly with the European Commission to improve Europe's industrial policy on cybersecurity. As part of ECSO, Infineon joined the signing ceremony at the European Parliament in Strasbourg. The ceremony was hosted by Vice President for Digital Single Market, Andrus Ansip, and Commissioner for Digital Economy and Society, Günther Oettinger.

The objective of the contractual PPP is to promote, encourage and build a strong, harmonized and competitive cybersecurity market across various sectors such as energy, transport, health and finance. The partnership is expected to raise around 1.8 billion Euro of investment by 2020 and with this, develop innovative and trusted cybersecurity solutions, products and services in Europe.

Intel, CEA Team On IoT Research

LONDON--Intel Corp. and France's CEA have signed a five-year agreement to enable a shared R&D program and the submission of proposals jointly for European Union funded collaborative R&D projects.

The agreement will be particularly relevant to high-performance computing as part of the Horizon 2020 program, CEA said. The deal covers several research programs at CEA-Leti in Grenoble, including the Internet of Things (IoT), wireless communications, security, and 3D displays.

Intel launched its own Europe-wide network of R&D labs in 2009. A virtual umbrella organization that covered about 800 researchers across Europe the Intel Labs Europe name was created at a time when Intel faced the possibility of billion-dollar-plus fines from the European Commission for previously having abused its market dominance in microprocessors.

Oxford Instruments Announces Mos2 Growth Process

Process solutions firm Oxford Instruments has announced the development and launch of the MoS2 growth process using its Nanofab nanoscale growth system.

Single layer MoS2 is a direct band gap semiconductor which has wide ranging applications in optoelectronics such as LEDs, photovoltaics, photodetectors, and bio sensors. Multi layer MoS2 is an indirect band gap semiconductor which shows promise in future digital electronics.

Oxford Instruments says that its scientists have undertaken extensive research and optimisation of this CVD process, developed on a Nanofab system equipped with precursor delivery modules capable of delivering a wide range of liquid/solid/metal organic precursors suitable for 2D materials growth.

STMicroelectronics Gets Software Support For Smarter Phones

A combination of STMicroelectronics' unique, flexible sensor architecture and Qualcomm All-Ways Aware sensor-processing abilities will emphasise performance and minimise power consumption in mobiles.

Semiconductor company STMicroelectronics is collaborating with Qualcomm Technologies to create smarter mobile devices.

Under the partnership, Qualcomm Technologies Inc. will add software support for ST's inertial sensor solutions such as the iNEMO inertial module to enable the rapid introduction of Android smartphones based on Qualcomm Snapdragon processors with minimised power consumption and high-performing sensor capabilities through the use of hardware features integrated into the sensor. The reference software is already available to address the specific needs of OEMs creating new devices. While the agreement extends to all of ST's inertial modules and sensors (motion, environmental, and acoustic), first efforts will focus on supporting ST's LSM6DS3 inertial module in key Qualcomm Technologies' reference designs. The LSM6DS3 is an always-on, low-power inertial module combining a 3D accelerometer and a 3D gyroscope with superior sensing precision.

Synopsys Buys Glasgow EDA Startup

LONDON--EDA vendor and IP licensor Synopsys Inc. (Mountain View, Calif.) has acquired Gold Standard Simulations Ltd. (GSS), a spin-off from Glasgow University that specializes in TCAD software for nanometer-scale electronic devices.

The amount Synopsys paid has not been disclosed but described as "not material to Synopsys financials."

GSS was founded in 2010 by Professor Asen Asenov, James Watt Chair in Electrical Engineering in the College of Science and Engineering, with £720,000 (about $950,000) seed funding and support from Scottish Enterprise. GSS specialises in predictive physical simulation of performance and atomic-scale transistor variability, and statistical "compact" models for circuit simulation.

Industry News & Trends

Printed Memory To Secure Iot

TORONTO--There's a lot of talk about developing small, low-power memories for connected devices for the rapidly growing Internet of Things (IoT) market. But there are opportunities for memory where devices need not be connected, and that's where printed memory can play a role.

Thin Film Electronics ASA (ThinFilm) is one company that has a developed printed electronics and smart systems, including memory, which was recently demonstrated at Drupa, the world's largest printing equipment exhibition, by Xerox. It licensed the technology in January 2015 and is modifying a production line in one of its existing facilities in Webster, N.Y., to produce the memory labels.

Bluetooth Steps Beyond PAN

SAN JOSE, Calif. – Bluetooth will expand beyond its personal-area network with version 5.0 and a parallel effort on mesh networking, taking on Zigbee in home and building automation. Long term, vendors and analysts are calling for links among networks to enable interoperability in the emerging Internet of Things.

BT5 raises peak data rates from 1 to 2 Mbits/second and max range from 30 to 100 meters. The enhancements, along with expanded data broadcasting enables "us to move away from the app-paired-to-device model to a 'connectionless' IoT," according to the Bluetooth SIG in a statement officially announcing the BT5 and mesh specs.

Chips designed for BT5, which requires extensions to the physical layer, will start to ship by the end of the year. The so-far unnamed BT mesh spec will work with current chips and so is expected even earlier.

Electronics On The Fly

This probably won't be the first time you've seen the term 'Factory in a Box'. We've seen it in the maker community where desktop machines are described as your very own home manufacturing device all the way through to institutions like the Manufacturing Technology Centre in the Coventry, which recently launched an initiative under the moniker to turn small and medium-sized UK manufacturing businesses into global digital factories.

Founded in 2012, Israeli tech company, Nano Dimension has taken a different view on the term with the launch of its DragonFly 2020 3D Printer, designed to be the ultimate rapid prototyping tool for professional electronics. Envisaged as the first system to solve a real problem in the manufacture of electronics, the DragonFly brings a traditionally outsourced part of the manufacturing process in-house via "one box".

SRAM Takes The Wheel In Autonomous Vehicles

TORONTO—One area where SRAM is seeing some continued stickiness is the growing automotive segment, as vehicles continue to get smarter and provider more digital information, whether it's to help the driver or entertain the passengers.

The segment also includes autonomous vehicles, something Renesas Electronics Corp. has in mind for its new two-port on-chip SRAM for use in SoCs for in-vehicle infotainment systems. The new on-chip SRAM will be used as video processing buffer memory in high-performance SoCs that will play an important role in making the autonomous-driving vehicles of the future safer and more reliable.

In a telephone interview from Tokyo with EE Times, Koji Nii, chief professional for the Design Platform Business Department within Renesas' 1st Solution Business Unit, said the autonomous vehicle market is fast approaching on the horizon in Japan, as the country has committed to making it possible for highways to accommodate self-driving cars by 2019, followed by downtown city cores in 2022.

UK's Artemis Facility Demonstrates Optical Control Of 2D Semiconductor Bandgap

Schematic of a laser beam energizing a monolayer of molybdenum disulphide. (Credit: Der-Hsien Lien, Berkeley)

The expanding toolbox of 2D materials has allowed researchers to assemble new materials that could have a disruptive impact on optoelectronic technologies. The all-carbon 2D material graphene is an excellent conductor when supported on a substrate and hence promises to be an ideal electrode material in a 2D device.

By placing a single-layer of the semiconductor molybdenum disulphide (MoS2) on top of the graphene, one obtains a heterostructure with enhanced optical properties. MoS2 plays an important role in such an assembly because it transforms from an indirect-bandgap semiconductor to a direct-bandgap semiconductor in the 2D limit. This greatly enhances the material's ability to absorb light and leads to new properties such as an ability to discriminate the polarization of an optical excitation.

Co-Robots Tend 3-D Printers

LAKE WALES. Fla. — Tend.ai claims to be the world's first artificially intelligent (AI) cooperative robot (co-robotic) tender of 3-D printers, in-circuit-testers (ICTs) for printed-circuit boards (PCBs), punch presses and other automated manufacturing devices. It now aims to bring manufacturing back to the U.S. by offering a cloud-based software automation system for users with no technical knowledge.

Using a web-cam attached to the robot's gripper and thin-client into which the user plugs all their devices, its AI software in the cloud manages the performance of all the tasks workers would have to perform manually. This includes configuring all devices, pushing their buttons, moving partly constructed devices from machine to machine, fetching the final manufactured parts and packaging them into boxes.

East European News & Trends

Russian Start-Ups To Get Funding And Broader Backing From Irish

Four Russian start-ups operating in the fast-growing IT markets for business, tutoring and personal needs will each get ^50,000 in investment from Enterprise Ireland, the Irish national innovation support agency, Russian portal Firrma.ru reported, citing a source in the Irish agency.

LiveCatalog is a developer of interactive solutions for wholesalers, supply chains, e-commerce operators, as well as for publishers.

BikesBooking offers a handy option for fast and inexpensive bicycle, scooter or motorcycle rental in any part of the world.

RealSpeaker has developed IT-enabled technology to convert voice messages into text without the need to type texts on a keyboard.

Russia And Chinese Region To Set Up Fund For Tech Start-Ups

The RVC Seed Fund run by Russia's key fund of funds for innovation, RVC, and its Chinese partners have agreed to team up in bringing Chinese investors into a new mutual fund that would support tech start-ups operating in biomedicine, energy saving, IT and electronics in the two countries. An agreement was inked yesterday for 2016-2019 between the Seed Fund and the International Technology Union of the southeast Chinese province of Guangdong, Russian portal Science and Technologies of RF reported.

Under terms of the agreement, the RVC Seed Fund undertakes to provide expert assessment and offer whatever help would be needed in project screening, and also act as the key supplier of potentially promising projects and technologies for the prospective new fund.

Nanomaterials For New Memory Devices Developed In Voronezh

Scientists at the Voronezh State University (VSU) in Central Russia have developed new magnetic nanostructured materials which could be used to make next gen memory devices.

The VSU team is said to have aimed to develop Si-Me based nanostructured materials "with an optical magnetization reversal effect" to come up with new memory components.

As a result of research, the team is reported to have developed materials that are expected to enable "ultra-high speed," an improvement that stems from an innovative method of storing data no devices available today currently use.

World Economic Round Up

As the UK and the rest of the world adjust to last month's historic vote to leave the EU, a big issue remains far from decided: what kind of relationship post-Brexit Britain will seek with the rest of the bloc. One scenario much discussed by free traders within the Brexit ranks, as well as those who want a clean break with the rules of the EU, is known as World Trade Organisation access. Under this model the UK would rely on its membership of the WTO for access to European markets and as a first step towards full-blown free trade agreements with other blocs and countries, including the EU.

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 2016

Future Horizons Events
- Silicon Chip Industry Training Seminar – London – 14th November 2016
- Industry Forecast Briefing, London – 20th September 2016

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 14th NOVEMBER 2016
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 20th SEPTEMBER 2016

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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