

FutureHorizons



The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

[NEC and Analog Devices Enable 5G O-RAN for the Next Communication](#)

Analog Devices Inc. (ADI) and NEC are collaborating to provide 5G O-RAN massive MIMO radio for Rakuten Mobile. ADI's fourth-generation software-defined radio is designed to support wireless applications such as massive MIMO and small cell systems, simplifying design and lowering power consumption. The radio unit has a 5G open vRAN (virtual RAN) interface corresponding to Rakuten Mobile's virtualized end-to-end native cloud mobile network. The system performs digital pre-distortion in addition to digital beamforming.

In an interview with EE Times, Joe Barry, VP of Wireless at ADI, said, "Rollouts are progressing from coverage to capacity deployments with standalone 5G functionality, and we're seeing the potential of virtualization of the networks. This effort is establishing the first leg of 5G — ultra-high-speed mobile data access to the mobile user. Achieving the full potential of 5G will come from reaching the emerging opportunities in Industrial, Transportation, Medical and immersive consumer markets. With such a diverse set of use cases across so many markets, robust and disruptive ecosystems are required to tackle these challenges."

[Cambridge Wireless, Huawei Plan 5G Network In Science Park](#)

Cambridge Wireless (CW) has teamed up with Huawei to build a 5G mobile private network on the Cambridge Science Park, as part of a testbed due to go live in January 2021.

The new set-up will allow companies on the Cambridge Science Park to explore how advanced wireless technology can have a far-reaching impact on both society and the economy. With over 120 companies on the park, they will be encouraged to undertake research and trial applications using 5G in key areas such as autonomous vehicles, clean energy and remote surgery.

It is part of three-year partnership between CW and Huawei, which will involve digital training, business support and joint events. CW said that it had contracted with Freshwave, a network service provider to build the network. Abhi Naha, chief commercial officer at CW, told EE Times Europe that the network will be a light proof-of-concept network which will provide a testbed to see how they can get companies to use 5G to solve specific challenges. He added, "We are looking for organizations who would like to create, accelerate and test out new and innovative applications and products on the CW 5G testbed."

[Infineon's SECORA™ Pay Solutions Enable Contactless Payments With Environmentally Friendly Card Body Materials](#)

Munich, Germany – 23. November 2020 – Contactless payment innovations from Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) contribute to a more sustainable use of resources. To support the payment industry's move towards the use of more environmentally friendly materials for smart card manufacturing, Infineon is now

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offering a complete, single-source solution that is easily adaptable to different projects and market requirements. SECORA™ Pay with Coil-on-Module (CoM) package comes with a newly developed antenna, specifically designed for cards made from recycled ocean-bound plastic or wood. It is the industry-wide thinnest payment module with a copper wire antenna, which allows cost-efficient card manufacturing for mass deployment.

“Infineon’s Coil on Module technology is one of the most important innovations for contactless and dual interface payment cards,” said Bjoern Scharfen, who heads the product line Payment & Ticketing Solutions at Infineon. Communication between chip module and card antenna is based on a radio frequency (RF) link, no electrical connection is required. “By using CoM, our chip solutions can be easily integrated into contactless cards made of different materials. Manufacturers can flexibly and cost-effectively change their card designs and offer consumers sustainable, long-lasting products.”

Mythic AI Accelerator Targets High-End Edge With 35 TOPS

AI accelerator chip startup Mythic has launched its first product, a 35-TOPS “high-end edge” accelerator whose analog compute-in-memory architecture enables low power consumption and low cost, alongside low latency and deterministic behaviour.

The M1108 uses Mythic’s analog compute-in-memory technique based on 40-nm Flash memory cells. It’s aimed at edge applications such as power-over-ethernet security cameras that need to run sophisticated AI models within a power budget. Another likely application is video analytics boxes which need to accelerate multiple AI models on high-resolution footage while managing power and heat.

Qualcomm, LG Uplus and LG Electronics Bring 5G mmWave to South Korea

Qualcomm Technologies, Inc., LG Uplus and LG Electronics today announced that they have successfully deployed South Korea’s first 5G mmWave network using a commercial 5G smartphone at the Kumoh National Institute of Technology (KIT). The 5G mmWave network will enable new, innovative services for KIT employees, professors and students, showcasing the technology’s ability to power a Smart Campus model that will transform education. This milestone also represents an important step toward the commercialization of 5G mmWave in South Korea, which is expected to ramp in 2021.

These Smart Campus services will be accessible through the LG Uplus 28 GHz 5G mmWave network on a commercial smartphone by LG Electronics, which is powered by the Qualcomm® Snapdragon™ 865 Mobile Platform with the Snapdragon X55 5G Modem-RF System.

Mythic’s AI accelerator chip is capable of a substantial 35 TOPS. The market leader in this space, Nvidia’s Xavier AGX, clocks in at 32 TOPS.

Chinese Consortium Invests \$106 Million In Israeli 3D Imaging Semiconductor Company Inuitive

Chinese consortium Yinniu Microelectronics has made a massive \$106 million investment in Israeli company Inuitive, a source told Calcalist under the condition of anonymity. The Chinese consortium is made up of companies that are clients of Inuitive, founded by CEO Shlomo Gadot and CTO Dor Zepeniuk in 2012. Inuitive had previously raised a total of \$103 million.

Inuitive is a leading fabless semiconductor company in the area of 3D imaging. It has developed technology that optimizes consumer experiences and enhances competitive advantages in the areas of robots, drones, augmented reality, and virtual reality. The company's product combines algorithms, ASIC, and system solutions to realize the AI practice enabling devices to acquire more human-like capabilities.

FeFET Memory Startup Gets \$20m to Turn Logic into Memory Cells

The Ferroelectric Memory Company (FMC), a startup in Dresden, Germany, has raised \$20 million in an oversubscribed series B funding round, to bring its ferroelectric field-effect transistor (FeFET) memory solution to the non-volatile memory market.

In an interview with EE Times, Ali Pourkeramati, CEO of FMC, said there's considerable interest in its FeFET memory. The company has exclusive license to two fundamental FeFET patents through the Technische Universität Dresden (TUD). The company was spun out from TU Dresden in 2016 by its co-founders Stefan Muller and Menno Mennenga.

“We started off looking to raise \$5 million, but subscriptions kept coming,” Pourkeramati said. “We had to stop at \$20 million. All the investors are strategic investors with an interest in memories, so are important to us,” Pourkeramati said. The funding round was led by new investors M Ventures (the corporate venturing arm of Merck) and imec.xpand, with participation from SK Hynix, Robert Bosch Venture Capital, and TEL Venture Capital. Existing investor eCapital also participated in this round

Industry News & Trends

[NXP AI Ethics Initiative Aims To Put Security And Privacy By Design In All Products](#)

According to NXP, the biggest challenge for AI is that there are many independent actors within the ecosystem. “Encouraging security and privacy by design as guiding principles and prerequisites for the deployment of safe AI systems will add value for all players inside the ecosystem. The AI industry should aspire to introduce elaborate security management across entire product lifecycles.” says the NXP whitepaper “The Morals of Algorithms.”

That’s why NXP is launching their “AI Ethics Initiative.” The initiative details the company’s framework for AI principles: non-maleficence, human autonomy, explicability, continued attention/vigilance, and privacy and security by design.

“As innovators in AI, we are committed to applying ethical principles. Consumers depend on AI for more responsibilities and decision making in their lives, especially at the edge where people want their devices to operate transparently, fairly and safely, while giving them control over their privacy. And security is key – we believe that building trust in AI starts with protecting devices.” says Kurt Sievers, NXP President and Chief Executive Officer.

<https://businessmirror.com.ph/2020/11/22/samsung-intensifies-chip-wars-invests-116-billion-to-match-taiwan-semiconductor-manufacturing-co/>

Samsung Electronics Co. is pouring \$116 billion into its next-generation chip business that includes fabricating silicon for external clients, betting it can finally close the gap on industry leader Taiwan Semiconductor Manufacturing Co. as soon as two years from now.

South Korea’s biggest company will mass-produce 3-nanometer chips in 2022, a senior executive at its foundry division told attendees at an invite-only event last month. That target, which hasn’t previously been reported, means it’s on a path to start churning out the industry’s most advanced semiconductors the same year as its Taiwanese rival expects to pass that milestone. Samsung is already developing initial design tools with key partners, Park Jae-hong, executive vice president of foundry design platform development, told conference delegates.

If Samsung succeeds, that will be a breakthrough for its ambition to become the chipmaker of choice for the likes of Apple Inc. and Advanced Micro Devices Inc. that now rely on foundries like TSMC. The business isn’t new to Samsung, which was the first manufacturer of Apple’s A-series iPhone processors, but the company’s renewed push is now shepherded by billionaire heir Jay Y. Lee, who wants to see it establish tech leadership across advanced sectors like chipmaking and 5G networking to power its next phase of growth. Park’s comments suggest Samsung is accelerating its bid to compete with iPhone-chipmaker TSMC, one of the biggest beneficiaries of this year’s wave of stay-at-home demand for personal electronics.

5G O-RAN mMIMO Radio For Next-Gen Communication

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Sound Recognition AI Optimized for Smartphones

British sound recognition AI experts Audio Analytic have pre-validated and optimized their ai3-nano sound recognition AI software for Qualcomm's latest Snapdragon platform, giving mobile phones the ability to recognize audio scenes and adjust their audio output accordingly.

Audio Analytic's sound recognition AI can tell the difference between chaotic, lively, calm and boring acoustic scenes – offering important contextual information which OEMs can use to adapt how phones behave. For example, if the user is in a busy train station, the phone would recognize that as a chaotic scene and boost the volume of notifications so that the user doesn't miss an important call. When the user returns to a calm environment like an office, the volume of notifications can be reduced or turned off, to avoid annoying their colleagues.

East European News & Trends

Russia Plans To Lend IT Start-Ups A Hand In Going Global

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

According to FRII Director Kirill Varlamov, 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.

Start-Up Offers Computer Vision To Support Merchandising

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%.

Russia Launches "Development Institutions" Optimization

Russia is beginning what sounds like a comprehensive reform of its "development institutions" – government agencies and state companies that implement or fund development programs in various sectors.

Prime Minister Mishustin was quoted earlier this week by the U.S.-Russia Business Council as saying that the reform will put VEB Bank in charge of several companies and agencies including Rosnano, the Skolkovo Foundation, the Russian Export Center, the Industry Development Fund, and the Corporation for Small and Medium-Sized Enterprises. The Russian Venture Company will become part of the Russian Direct Investment Fund.

GSM And LTE Enable Remote Health Monitoring

MegaFon, one of Russia's leading mobile operators, earlier this year introduced its proprietary digital service for remote health status monitoring.

The new service reportedly enables medical facilities across the country to launch across-the-board telemedicine projects with medical instruments that are capable of transmitting diagnostics data all on their own.

The project provides a system for hypertension patients, making it possible to monitor one's blood pressure and pulse rate. The mobile operator is reported to have plans to integrate its platform with medical information systems at government-owned and commercial clinics.

World Economic Round Up

US shares hit fresh records with the Dow Jones index closing above 30,000 points for the first time amid hopes of a strong economic recovery and end of political uncertainty. The S&P 500 also hit an all-time high as investors bought economically sensitive financial and energy stocks. Trading was fuelled by positive Covid vaccine news and moves to start the Joe Biden presidential transition. Europe's main markets also jumped, with London's FTSE 100 closing up 1.5 percent. President Donald Trump has given the green light for the formal transfer of power to begin following Mr Biden's election victory and positive news about coronavirus vaccines has boosted hopes that the US and global economies could be on the path to normality next year.

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:

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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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