

5G spurring tech advancements at suppliers

DIGITIMES staff

The coming of the 5G era promises drastic changes to people's live, but all these changes will not come without equipment, device and component suppliers making advances in their technologies and offerings, according to speakers at a Digitimes-arranged forum during Computex 2019.

Commercialization of 5G is just around the corner, but compared to 4G, which has been focusing on mobile communications, the scope of 5G applications will be much broader. The 2019 Computex Taipei 5G Mobile Technology Trend Forum, with the theme of "Recreating Industry Values," brought together heavyweight industry experts to shed light on the development of 5G.

Broad application

In his opening speech, ST Liew, vice president of Qualcomm Technologies and president of Qualcomm Taiwan &SEA, noted that smart connection has become an inevitable trend in the future world and that through 5G's traits of high networking speed, broad bandwidth and low latency, digital technology applications will proliferate constantly. He said the world will march toward an era of inventions, with new applications and business models emerging continuously to bring major changes to industries and



The Digitimes-arranged 5G forum brings together industry experts.

people's lives. And all these will be based on 5G technologies and solutions offered by various types of businesses.

AIoT

The extended applications of 5G will be extremely broad through the integration with AIoT, and diverse software and hardware technologies required in the 5G application architectures will be sharply different from the past, according to Morris Chen, product marketing manager at STMicroelectronics. He said that for 5G application to both consumer and industrial domains, sensors are needed at the bottom layer of the architecture to detect surrounding environments and

equipment conditions and transmit relevant data collected to upper layers. Accordingly, demand for sensors will rise sharply in the future, and their sturdiness and communication capability must be simultaneously upgraded.

Importance of memory

Besides sensors, memory is also among devices that must undergo constant advancements. Mirian Kuao, senior marketing manager at Macronix, pointed out that 5G base stations are an important area for memory application. As base stations have long life cycles, their components must be highly stable and reliable. Memory suppliers for 5G base stations must guarantee long-term supplies, and their

products must operate in wide ranges of temperatures and provide high storage densities.

In terms of communications, frequency bands for 5G applications will be far broader than those for 4G, and system makers need brand-new development kits to support their product designs. In this regard, SW Chang, president of TMYTEK, noted that there are now fewer users of 30GHz mmWave for 5G application, as it involves greater difficulty in technology although it can provide cleaner and faster transmission. Chang disclosed that his firm's 5G beamforming antenna system development kits can help makers more easily develop antennas and test modules and

baseband systems.

Regulations and standards

At the forum, Daniel CC Lee, director of industrial service group product certification at TUV NORD Taiwan, explained 5G regulations and standards enforced in the US and Europe. Lee said that besides regular security certifications for electronics products, extra information security and function safety are also required for 5G devices to ensure that the entire system can maintain safe operation in case of device malfunction. He advised Taiwan firms to join the 5G mmWave Channel Model Alliance under the National Institute of Standards and Technology to access more 5G-related information available worldwide for use in their product designs.

Roger Huang, director of Digitimes Research, said that the US and Korea will start commercialization of 5G services in 2019, while Japan and China will follow suit soon, inspiring major tech firms to step up development of diverse vertical application equipment in addition to smartphones. He concluded that the ever-proliferating 5G applications will usher in ever-expanding business opportunities, and Taiwan firms must speed up their deployments in related aspects to create more value-added services.

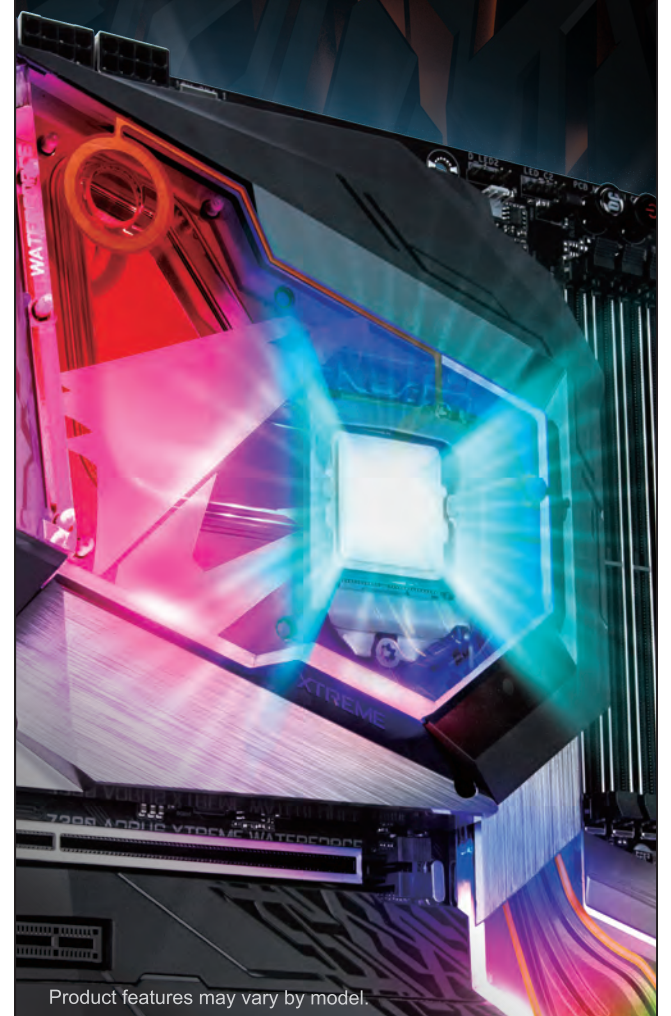
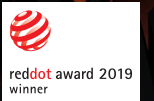
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Nvidia pushing the rapidly expanding GPU computing market by extending AI inference to industries

The Nvidia T4 is a new product based on the latest Turing architecture, delivering increased efficiency on any mainstream enterprise server. However, it is not a replacement for the previous bigger and more powerful GPUs like Nvidia V100 which are designed for specialized scale-up servers for AI training and HPC. Instead, it offers good performance while consuming very little power and has a lower price tag. This approach will help rapid



On the other hand, with billions of IoT sensors being used by enterprises and generating huge volumes of data, there is a strong demand to process the data for business insights. Kharya mentioned that to be most useful for decision making the data needs to be processed with AI in real-time. The edge computing technology allows data produced by sensor devices to be processed closer to where it is created instead of sending it across long routes to the clouds. Edge computing complements the cloud and enables customers to do AI computing for automation even when network connection is weak or lost. Nvidia announced a scalable platform named EGX that allows enterprises to easily deploy systems to meet their AI

To simplify management of AI applications on distributed servers with enterprise-grade software, Nvidia released Edge Stack software suite. Nvidia Edge Stack is optimized software that provides container-based application management and includes Nvidia drivers, a CUDA Kubernetes plugin, a CUDA container

The NGC-Ready program features a select set of systems powered by Nvidia GPUs with Tensor Cores that are ideal for a wide range of AI workloads. The same approach will apply to the edge computing solutions. Nvidia Edge Stack is optimized for certified servers and downloadable from the Nvidia NGC registry. For businesses interested in the deployment of applications from edge to the cloud, customers will be able to connect to AWS Greengrass or Microsoft Azure IoT cloud platforms, allowing for easy scalability depending on the required tasks.



MOST showcases GLORIA projects at Computex 2019

Press release

Ministry of Science of Technology (MOST)’s Global Research & Industry Alliance (GLORIA) is participating at Computex, showcasing the research results and integrated solutions from 18 alliances formed by different universities and industry sectors.

Each of the GLORIA-sponsored projects integrates the respective school’s interdisciplinary technical teams and industrial experts.

The universities featured at the event are: National Taiwan University, National Tsing Hua University, National Chiao Tung University, National Cheng Kung University, National Chengchi University, National Yang-Ming University, National Central University, National Sun Yat-sen University, National Chung Hsing University, Taipei Medical University, China Medical University, National Taiwan University of Science and Technology, National Taipei University of Technology, National Formosa University, Far East University, Feng Chia University, Chung Yuan Christian University, and National Taiwan Ocean University.

GLORIA focuses on universities, and offers related customized services according to different levels of membership in the form of industry-academia collaborative projects, including talent matching, technical advisory, business matching, laboratory equipment, and database access. This time around, MOST leads a group of top technical teams in areas of intelligent manufacturing, semiconductor, AI, and IoT, to offer energy for upgrade targeting smart living and industrial needs.

In the area of intelligent manufacturing, traditionally, agriculture requires extensive manpower to patrol the fields daily. Pest and sudden natural disasters often result in severe losses. National Sun Yat-sen University has developed an intelligent farming server system, monitoring illuminance, irrigation water quality, water content, soil conductivity and soil infiltration rate.

All observation data will be uploaded to the cloud via wireless transmission, building big data for analysis and prediction to remind farmers of harvesting time or monitor the results of breed improvement at all times, thus minimizing the likelihood of loss due to natural disasters.

In the area of semiconductor, National Tsing Hua University’s Candlelight OLED Triggering Lighting Renaissance is the world’s very first hazard and pollution-free display lighting technology. In addition to being praised by journals of clinical oncology as the innovative lighting technology that helps fight breast cancer, it can also be used extensively as lighting in hospitals, hotels, homes, and factories, effectively mitigating the hazard of lighting in modern cities and lowering the possibility of eye disease or skin disease resulted from long-term exposure to light.

Preliminary assessment of the draft STO bill

By Kelvin Chung,
special to DIGITIMES

The first case of initial coin offering (ICO) appeared in 2017, generating much interest and new financing opportunities. But many ICO teams have declared failures or vanished soon after completing fundraising operations due to lack of government supervision. To revive the sluggish market sentiment, industry players have called for regulatory supervision over the securities token offering (STO).

In response to the call, Taiwan’s Financial Supervisory Commission (FSC) has announced that it will formulate relevant regulations by the end of June, and it already hosted on April 12 a public hearing session for representatives from the industry, government, and academic sectors to express their opinions on draft regulatory rules.

The move received a lot of media attention. Indeed, the FSC is worthy of praise for daring to map out brand a new bill governing the emerging STO business operations. But since the full text of the draft bill was not available at the public hearing, some of the points may deserve more attention or need to be clearly explained. The following are three preliminary suggestions for the writing of a law in the direction of “developing a sound STO, conducting efficient supervision, and building international connection.” It is hoped that Taiwan’s STO market can take off and grab future international financing opportunities for STOs.

Introducing an additional international STO version to govern issuances by foreign companies or overseas fundraising activities

The draft bill available at the public hearing confines STO issuers to companies in Taiwan, excluding offshore firms. As STO technology boasts the trait of facilitating cross-

nation fundraising operation, it is advisable that besides the current domestic version of the STO draft bill, an international version should be devised to govern STO issuance by foreign companies or to simply regulate overseas fundraising. The international version must also include relevant procedures such as those for registration to facilitate overall management and help access and develop international markets, so as to effectively boost international visibility of Taiwan’s STO development

Meanwhile, the draft bill stipulates that any dedicated STO investor is required to have a minimum wealth of NT\$30 million, but sets maximum STO subscription amount at only NT\$100,000. Most attendees at the public hearing regarded the wealth bar as too high and the subscription ceiling too low. The draft stipulations observe the international practices that STOs are less open to retail investors; and to safeguard the interests of investors, the FSC adopts the high criteria for dedicated investors by taking reference from the regulations governing offshore structured products. But the draft bill should also consider flexible credit lines as set for margin trading and short selling of marketable securities. In accordance with different risk tolerance capabilities of different investors, the minimum wealth requirement criteria and the maximum subscription amount can be flexibly adjusted along with risk degrees, so as to fulfill the purpose of protecting investors on the one hand and to develop the securities token-based capital market and attract international funds on the other hand.

Clarifying the relationship between STO platform operators and issuers

The draft bill requires STO issuers to channel their issuances through STO platform operators (securities dealers). But what

about the relationship between platform operators and issuers – total underwriting or commissioned underwriting? The answer cannot be found from the public information. The draft bill asks, on the one hand, STO platform operators to screen the regulatory compliance by issuers in launching securities tokens on the platforms. And it also allows, on the other hand, the operators to engage in STO trading after completing the screening process by offering quotes based on market conditions to profit from the spread between token buying and selling prices. Do the dual roles played by platform operators contradict each other? Furthermore, the existing draft regulations also blur the boundary between the primary and the secondary STO markets. Accordingly, the regulator should incorporate the role of an intermediary into the draft bill and the relationship between STO platform operators and issuers be further clarified and clearly stated.

Innovativeness of financial regulatory sandbox

In case of the STO fundraising amount exceeding NT\$30 million, the draft bill stipulates that the issuer must enter the financial regulatory sandbox experimentation, for which a so-called “innovativeness” is required. Accordingly, if there is only one issuer applying for entering the sandbox experimentation, other issuers cannot develop the same or similar business until the issuer completes its experimentation. In order to accelerate multiple developments of the STO industry, the FSC should broaden the definition of “innovativeness” of individual STO projects, so as to allow more opportunities for issuers to meet financial regulatory sandbox requirements.

(Kelvin Chung is senior attorney and sub-leader of Cryptoassets and Token Economy Taskforce of KPMG in Taiwan)



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The LAN7430/1 allows the host device to deliver audio, data or video information through the 10/100/1000 Ethernet network in an automotive or other embedded environment. Connection to the host is achieved via PCIe 3.1, providing up to 2.5 Gigatransfers per second (GT/s) in each direction simultaneously.

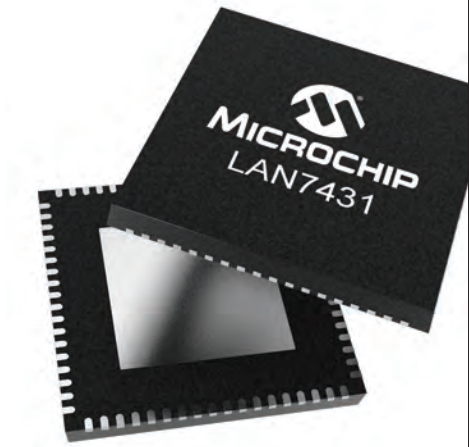
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ViewSonic to deliver solutions for education and business

Press release

ViewSonic, a leading global provider of visual solutions, will showcase at their Asia Pacific headquarters during Computex 2019 in Taipei.

Total solutions for education and corporations will be showcased including ViewBoard interactive displays with enhanced collaboration and myViewBoard collaborative digital whiteboard software.

In addition, a full line up of ViewSonic’s latest products including the new touch monitors, advanced ergonomic workplace displays, gaming monitors, as well as the new X Series of smart 4K Ultra HD LED home entertainment projectors, will also be available to be experienced.

myViewBoard digital whiteboard ecosystem



myViewBoard digital whiteboard ecosystem delivers the digital whiteboard experience over multiple platforms. With an open-source design embedded, myViewBoard ecosystem supports Google and Microsoft integration, making it adaptable to any school or institution regardless of operating system. The addition of a mobile app facilitates sign-in and allows quick access to all the

documents in the cloud drive. myViewBoard ecosystem integrates into any meeting space, supporting multi-location screen sharing from a huddle space to a large conference venue. In addition, its multi-factor authentication feature meets the highest digital data security standards. myViewBoard on-boarding process allows IT professionals to securely integrate

with Azure Active Directory and Google single sign-on for great functionality including user deployment and device management.

Brand new ViewBoard series with advanced touch technology

To offer users a smooth, responsive touch and writing experience, ViewSonic will present a new generation of ViewBoard, the award-winning interactive displays with various advanced touch technologies that match users’ natural writing style.

The all new flagship IFP70 series comes with PCAP touch technology that provides high touch detection accuracy and light transmittance, offering the best user experience of all the touch technologies. This display integrates a Microsoft Azure digital twin smart sensor hub,

camera, Skype for Business, and IPv6 network protocol to provide the smart building integration. The IFP70 also comes with a smart active pen for a rich interactive experience; making it a great collaboration interactive display for corporate usage.

The ViewSonic IFP60 Series incorporates in-glass touch, security authentication and rich collaboration tools, earning it a place in the finalist pool of the 2019 InAVation Awards in the “Collaboration and Conferencing – Interactive Display Product” category. The IFP60 series’ built-in FIPS201-certified biometric recognition system prevents unauthorised attempts to access user accounts while also allowing users to login easily without having to type in their passwords.

The new 2019 ViewSonic IFP50 series comes with advanced ultra fine touch technology.

Colorful announces iGame Z390 Vulcan X

Press release

Colorful has recently announced the new 2019 addition to its gaming motherboard product family, iGame Z390 Vulcan X, powered by the Intel Z390 chipset. The flagship motherboard features 14-Phase iGame Pure Power and full tantalum capacitors with longer service life compared to conventional capacitors, high temperature resistance, high precision and superb high-frequency filter performance to better guarantee the overclocking stability of the 9th generation Intel processor.

On the CPU power supply module, Colorful uses the Silver Shark 2.0 Cooling Armor with a whole new “Shark Bionics” look. The designs of “Branchial cleft” and metal lamination” on the cooling armor enables air flow in the sealed case for better heat dissipation.

Memory slots on the motherboard are protected with 15μ gold-plated slot design. It ensures integrity of slot contacts and prevents arc wounding, adhesion, oxidation contacts and other problems caused by electric shocks during power-on or power-off. It also supports XMP memory automatic overclocking technology.

With their unique GamerVoice recently upgraded to version 3.0, the iGame series motherboards use Realtek ALC 1220 sound cards and Japanese HIFI audio capacitors as well as an audio cut-off line design on the audio section of the motherboard. The signal IO interface uses gold-plated non-magnetic jacks to reduce signal loss during transmission, achieving a 120dB signal-to-noise ratio to drive 600-ohmage impedance headphones.

The iGame Z390 Vulcan X motherboard is geared with Intel’s latest 219 network adapter to ease the CPU workload as well as Intel’s premium CVNi AC9560 wireless network interface controller, which supports 2x2 MU-MIMO and the 160MHz frequency band. The theoretical bandwidth of 5Hz frequency band can reach 1.733Gbps. Bluetooth 5.0 is also supported.



MSI to unveil solutions for gamers and creators

Press release

MSI is showcasing a range of products at Computex 2019, including notebooks and desktops powered by Nvidia GeForce RTX GPUs, and its newest selection of Prestige series, gaming graphics cards, gaming motherboards, gaming monitors, gaming gear, as well as servers, rugged tablets and more.

Furthermore, the Mystic Light zone brings visitors immersive gaming with Ambient Link synchronized game lighting.

“We look forward to bringing Computex 2019 the best-in-class hardware lineup for gamers, creators and all,” says Sam Chern, MSI Marketing VP. “Whether it’s the Best Choice Golden Award winner GT76 Titan gaming laptop, the Best Choice Category Award winner Prestige P100 Series desktop, the cutting-edge TRI-FROZR Thermal Design of MSI graphics cards, or Ambient Link interactive lighting, MSI is showcasing

not only innovation across various fields, but also team achievements made possible.”

MSI GT76 Titan

The MSI GT76 Titan is the first gaming laptop to ever feature a full desktop Intel Core i9 processor with 8-core 16-thread configuration for 5.0GHz overclocking capabilities. The new MSI Cooler Boost Titan cooling design, now armed with four fans and 11 heat pipes, is able to generate 2.25 times the airflow for extreme gaming performance. Coupled with GeForce RTX 2080 graphics, the GT76 Titan once again exceeds the laptop performance boundaries.

The GT76 Titan is built with high quality aluminum chassis, carbon fiber themed ventilation grilles and thin bezel design for minimized dimension.

MSI GE65 Raider

The latest GE65 Raider continues the core of powerful performance from

its predecessor. Forged with the latest RTX graphics and 9th Gen Intel Core i9 processor, the GE65 Raider can handle AAA games titles. In addition, the 240Hz IPS-level thin bezel display ensures sharp, clear images in a compact form factor. The new two-toned mesh design at the bottom provides better ventilation and prevents hot air recirculation. The GE65 Raider also features the latest Killer Wi-Fi 6.

MSI Trident X Plus

MSI Trident X Plus is the world’s smallest gaming desktop to incorporate 9th Gen Intel Core i9 CPU which improves the performance by up to 50% with boosted gameplay and faster rendering. Also, the Trident X Plus is the first compact desktop to incorporate an SFX power supply and the latest MSI GeForce RTX graphics card into a 10 liter case. The Trident X Plus delivers the cooling and stable performance with MSI’s Silent Storm Cooling 3 technology



separating the CPU, VGA and PSU into independent chambers for optimized airflow.

Optix MPG341CQR

MSI Optix MPG341CQR provides both the best visual experience and convenient user experience. With its UWQHD (3440 x 1440) high resolution and 21:9 screen ratio, gamers are able to enjoy their games with a chatting or streaming software together on the screen. MPG341CQR has a curved panel with 1800R curvature.

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