DTech News

DIGITIMES

COMPUTEX 2025 Special Issue

Top News

- AI servers take center stage as COMPUTEX 2025 showcases next-gen innovations
- COMPUTEX 2025: Qualcomm and MediaTek set to reshape AI PC landscape

Research & Analysis

- AI resource bottleneck creates opportunity for CXL with related ecosystem anticipated to shine in 2025,says DIGITIMES
- Ten-year cycle:quantum computers aim for achieving supremacy
- OCP targets 1MW racks to cut data center energy losses to 7%

Publisher:DIGITIMES & DIGITIMES ASIA

INTERVIEW

From Cloud to Edge Computing, Silicon Motion Enables High-Performance and Low-Power Storage for the AI Era

Wallace Kou expressed that the fast-paced development of generative AI has led to lower barriers to adoption for related applications. Silicon Motion aims to satisfy the market's needs through offering a diverse range of high-efficiency, low-power storage solutions. Silicon Motion Technology Corp.

"With 2025 Computex Taipei focusing on the three major themes of "AI & Robotics", "Next-Gen Tech" and "Future Mobility", global technology giants have gathered to display their AI technology prowess, focusing on the core concept of "AI Next". The rapid deployment of AI applications has also accelerated urgent demand for high-efficiency storage technologies across various application scenarios. As the global leader of NAND Flash controllers, Silicon Motion plays a key role in AI ecosystem development."

Meeting Diverse Storage Requirements, from Low Latency and Power Efficiency to High Data Throughput, to Support Edge AI Growth

"The emergence of DeepSeek has greatly lowered the threshold for AI applications," pointed out Wallace Kou, President and CEO of Silicon Motion. As an open source technology, DeepSeek has been able to reduce the cost of language model training. It has gradually subverted the industry's traditional views on AI and led to the accelerating popularization of edge applications. He emphasizes that a wave of AI adoption has already begun for devices from smartphones and laptops to wearable devices, and that storage technologies are crucial in supporting this revolution.

In his analysis of AI storage architecture, Mr. Kou remarked that the storage system requirements for each stage of the implementation process differ when implementing AI applications in various scenarios, from initial data ingestion to the preparation, training, and inference stages. For instance, data ingestion requires import of a large amount of data, meaning that high write throughput is required. On the other hand, low latency performance and support for a wide variety of I/O sizes has greater importance in the model training stage. Although these requirements vary, the overall architecture must still possess five core characteristics: high data throughput, low latency, low power, scalability, and high reliability, in order to meet the needs of AI applications.

In response to the massive data demands of AI applications, Silicon Motion leads innovation in storage technologies by upgrading NAND controller technology. Mr. Kou said that data application processes can be effectively optimized through hierarchical management and smart identification mechanisms. Flexible data placement (FDP) technology can also serve to improve efficiency and durability, while also offering the advantages of being low latency and low cost. For data security and reliability, the product also adopts advanced encryption standards and a tamper-proof hardware design. In combination with end-to-end data path protection mechanisms and Silicon Motion's proprietary NANDXtend™ technology, this enhances data integrity and prolongs the SSD's lifespan. In addition, Silicon Motion supports 2Tb QLC NAND and 6/8-Plane NAND, combining smart power management controllers (PMC) with advanced process technology to effectively reduce energy consumption while improving storage density.

Not only that, it can also be paired with Silicon Motion's unique PerformaShape technology, which utilizes a multi-stage architecture algorithm to help optimize SSD performance based on user-defined QoS sets. Together, FDP and PerformaShape can not only help users effectively manage data and reduce latency, but also significantly improve overall performance by approximately 20-30%. These technologies are specifically suited for AI data pipelines in multi-tenant environments, including key stages such as the data ingestion, data preparation, model training, and inference processes.

Creating Comprehensive Solutions to Realize Customer AI Applications Across Cloud and Edge Computing

In response to data center and cloud storage needs, Silicon Motion has launched the world's first 128TB QLC PCIe Gen5 enterprise SSD reference design kit. By adopting the MonTitan SSD development platform, which comes equipped with an SM8366 controller, it is able to support PCIe Gen5 x4, NVMe 2.0, and OCP 2.5 standards. With a continuous read speed of over 14 Gb/s and a random access performance of over 3.3 million IOPS, it boasts a performance improvement of over 25%. This design is able to speed up training of large language models (LLM) and graph neural networks (GNN) while also reducing AI GPU energy consumption, allowing it to meet high-speed data processing demands.

For edge storage solutions, Mr. Kou stated that the number of edge devices with AI capabilities will grow rapidly. He forecast: "The AI humanoid robot market will see explosive growth in the next 5 to 10 years." Systems at different levels have different storage requirements. For example, at the sensor level, data needs to be processed and filtered in real time to ensure accurate data sensing, while decision-making relies on multi-modal fusion reasoning, which entails more demanding storage performance and data integration capabilities. Meanwhile, at the execution level, various calibration parameters must be stored to enable the robot to act and think more similarly to humans. In response, Silicon Motion has actively deployed NVMe SSD, UFS, eMMC, and BGA SSD storage solutions, and values greater cross-industry collaboration to build a shared eco-system, in order to promote the further evolution of smart terminal storage technologies.

Additionally, Silicon Motion has launched a variety of high-efficiency, low-power controller to meet the AI application needs of edge devices: The SM2508 PCIe Gen5 controller is designed for AI laptops and gaming consoles, featuring up to 50% lower power consumption compared to similar products. The SM2324 supports USB 4.0 high-speed portable storage devices up to 16TB in size. The SM2756 UFS 4.1 controller has a 65% higher power efficiency compared to UFS 3.1, providing an excellent storage experience for AI smartphones. In response to the urgent need for high-speed and high-capacity storage required for self-driving cars, Silicon Motion has also joined hands with global NAND manufacturers and module makers to jointly create storage solutions for smart automobiles.

"Storage technology undoubtedly acts as a core link in the AI ecosystem," emphasized Mr. Kou. Taiwan has a complete and highly integrated semiconductor and information and communications industry chain. It is capable not only of building AI servers, but also possesses great potential for promoting the development of AI applications. He believes that more practical AI edge computing devices and groundbreaking applications will be launched at a rapid pace in the future, and that storage solutions will face increasingly demanding requirements due to challenges in processing massive amounts of data. Silicon Motion will continue to use technological innovation as a driving force to actively support AI development.

The Defining Piece That Powers AI

COMPUTEX 2025

Built for AI

From chips to factories

Three major topics

- AI servers push data center performance to new heights
- Next-gen PC chips unlock everyday AI productivity
- Smart manufacturing accelerates automation with AI at the core

Aaron Lee and Ninelu Tu, DIGITIMES, Taipei

AI servers take center stage as COMPUTEX 2025 showcases next-gen innovations

Computex 2025 has arrived, with AI servers remaining the focal point of attention. Major players such as Foxconn Electronics (Hon Hai Precision Industry), Quanta Computer, Wistron, Wiwynn, Inventec, Gigabyte Technology, and Asustek Computer are showcasing their latest server products. Following the success of the GB200 server rack in 2024, attendees can expect to see various companies unveiling the GB300 server rack along with related solutions.

DIGITIMES Research estimated that revenue from Taiwan's server-related businesses grew significantly by 63% in 2024, outperforming the growth of shipments. With higher unit prices for AI servers, it is anticipated that applications of large language models (LLMs) will begin to proliferate in 2025. Demand for commercial GPUs and self-developed AI ASIC servers from cloud service providers is expected to continue its substantial growth, leading to an increase in revenue for Taiwanese ODMs exceeding 50%.

Computex 2025 serves as the optimal platform for showcasing the strength of the AI server supply chain, primarily because 90% of global AI servers are produced by Taiwan's EMS providers and ODMs. Despite ongoing geopolitical issues and tariffs causing varying degrees of market turbulence, the development of the AI industry remains a trend that most companies prioritize.

This year's Computex not only continues to focus on AI servers that support the industry's development, but also highlights the increasing maturity of product technology. With the next-generation B300 series set to launch in the second half of 2025, both AI servers and their supply chains have become key areas of interest for participants.

Several AI server supply chain companies, including Foxconn, Quanta, Wiwynn, and Inventec, are showcasing their already mass-produced GB200 series solutions at the event. For the B300 series, each company is also displaying different solutions, with products such as HGX, MGX, and the GB300 server racks also becoming major spotlights.

Particularly concerning the high power consumption challenges faced by new-generation AI servers and AI data centers, supply chain companies proposed various solutions tailored to the needs of AI data centers. They hope to engage in discussions through industry exchanges on how to create efficient and low-power data center architectures.

Nvidia previously showcased the so-called MGX series product ecosystem at the GTC 2025 conference. With Nvidia's backing, a more comprehensive and complete industrial supply chain will be present at Computex, covering everything from quick-connect fittings, power cable assemblies, cold plates, power supplies, to racks and even whole systems.

Additionally, several component manufacturers specializing in cooling and power supplies also appear at Computex to unveil new products. Notable exhibitors include chassis suppliers Chenbro Micom abd UNEEC (Chenming Electronic Tech); cooling module suppliers Auras Technology, Forcecon Tech, and Kaori Heat Treatment; and power supply players Delta Electronics and Liteon Technology, all contributing to this event.

It is reported that securing a booth at this year's Computex was highly competitive, indicating its popularity.

In addition to a keynote speech by Nvidia founder Jensen Huang, Foxconn Chairman Young Liu will make his debut on the exhibition stage to share insights into Foxconn's vision for smart manufacturing, electric vehicles, and smart city applications, as well as the role of robots in future factories.

As Computex 2025 revolves around AI technology applications and solutions, participating companies will not only demonstrate their strengths within the AI server supply chain but also highlight other AI-related service application technologies, including various robotic products and applications, beyond just systems and solutions.

Foxconn showcased its GB300-powered AI server jointly developed with Nvidia for the first time at GTC 2025, and other ODMs' GB300 products are unveiled at Computex 2025

Photo: Foxconn

Jay Liu, DIGITIMES, Taipei

COMPUTEX 2025: Qualcomm and MediaTek set to reshape AI PC landscape

Computex 2025 is set to take place on May 20 in Taipei. Many have noted that this year's keynote speeches will feature Nvidia CEO Jensen Huang, while the CEOs of Intel and AMD, who made rare appearances in 2024's event, are expected not to attend this time.

This situation has allowed the CEOs of Qualcomm and MediaTek, both attending for the second consecutive year, to significantly advance their keynote speaking schedules, making them among the most anticipated speakers alongside Nvidia.

Qualcomm and MediaTek, once fierce rivals in the mobile market, now seem poised to become the new leaders of Computex. This shift, although somewhat unexpected, indeed demonstrates both companies' success in challenging traditional IT chip powerhouses.

Qualcomm's AI PC chip product line has been on the market for some time. Despite facing challenges such as an incomplete Windows on Arm ecosystem and low visibility in the emerging chip brand market, Qualcomm believes it has achieved commendable PC penetration rates in several key markets within a short period. For a company relatively new to the PC sector, this is considered a solid achievement.

Looking ahead, Qualcomm remains optimistic about its future development. The company has launched various solutions across different specifications and price ranges, which positively supports its strategy to accelerate the expansion of the AI PC concept and brand image.

Industry experts generally estimate that when Qualcomm CEO Christiano Amon visits Taiwan in 2025, he may not announce many new developments regarding the AI PC chip platform but could introduce some new AI PC applications or further collaborations with the Taiwanese ecosystem.

Additionally, Qualcomm previously mentioned that beyond the PC ecosystem, industrial control applications are also a significant focus area for the company.

As the trend of AI flourishing at the edge becomes increasingly clear, there is potential for Qualcomm to promote further collaboration with Taiwanese industrial control partners concerning AI developments during this keynote speech.

On the other hand, MediaTek's existing cloud ASIC applications are likely to be one of the highlights of its presentation. This area represents a strategic divergence between MediaTek and Qualcomm. Recently, MediaTek has engaged in further cooperation with Nvidia in the ASIC domain, which is expected to enhance its development in cloud ASICs.

However, industry observers do not anticipate any major new announcements from MediaTek regarding its ASIC business. The focus will primarily remain on promoting its existing technical capabilities and partnerships, as most customers in this market prefer to maintain a low profile.

The question of whether MediaTek will launch its own AI PC platform during this keynote session is what the public eagerly awaits. Earlier, MediaTek announced the release of its latest flagship Chromebook chip platform, boasting 50TOPS of AI computing power, seen as a precursor to launching AI PC chips.

Given its visible technological prowess, MediaTek certainly possesses the capability to develop competitive AI PC chips. If rumors hold true that they incorporate Nvidia GPUs internally, this would add another exciting topic to their promotion, potentially invigorating the entire AI PC market.

Of course, this indicates that Qualcomm and MediaTek are set to re-enter direct competition in the AI PC arena. However, industry insiders view this scenario favorably, as the PC chip sector has remained stagnant for quite some time. The fruitful achievements of these two new forces in the market will not only intensify competition but also inspire more innovative design ideas, representing a positive development for the overall PC ecosystem and consumers alike.

Qualcomm CEO
Cristiano Amon

MediaTek CEO
Rick Tsai

Qualcomm designs Snapdragon X Elite processor specifically for AI PCs.

Driving AI Innovation
Flash Storage!

- SM2504XT & SM2508 PCIe Gen5 client SSD controllers
- SM2324 USB4 portable SSD controller
- MonTitan® PCIe Gen5 enterprise SSD development platform

Visit us at Suite G0001, 3F, Taipei Nangang Exhibition Center Hall 1!

By invitation only. Please contact our sales representative or apply via QR-Code.

Corporate Website

LinkedIn

Facebook

DIGITIMES Special Report No. 4, 2025/03

2023»2025 Global Server Supply Chain Status and Analysis

"Real Factories. Real Risks. Real Shifts."

Tariffs and geopolitics are reshaping the global supply chain.

DIGITIMES reveals the real production footprint of the world's **top 6 EMS providers** - with **over 400 factory-level datapoints** and **500+ verified suppliers**, all visualized through an interactive global map showing actual capacity and flow.

Why this report matters

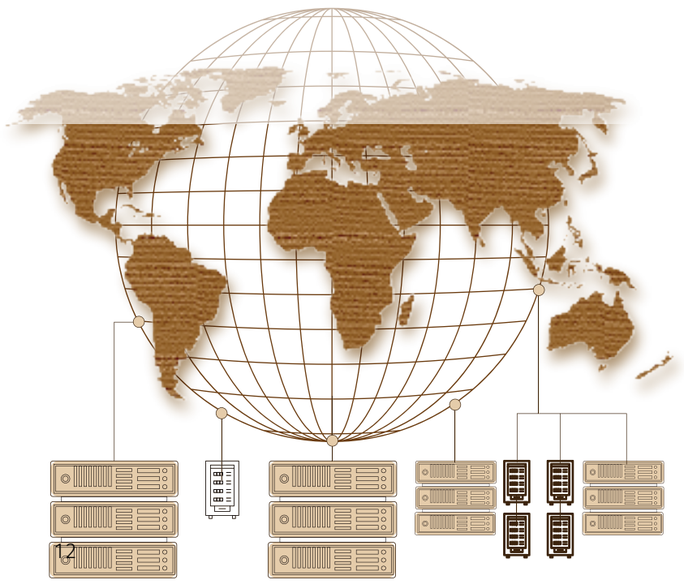
Know where your servers are really built—and what it means for your sourcing strategy.

1.
Identify China, Mexico risk before it impacts your bottom line

2.
Visualize upstream–downstream risk clusters

3.
Track capacity shifts across Asia, Mexico, United States, and beyond

4.
Benchmark EMS providers by customer and factory mix



Smarter sourcing starts with better visibility.

PURCHASE REPORT **CONTACT SALES**

How this EMS Factory Analysis Helps YOU

Struggling with visibility into your EMS risk?
This report helps you:

Know exactly where your servers are really built
→ Get factory-level data across Asia, Europe, and Americas

Assess reciprocal tariffs exposure by production origin
→ Understand which EMS sites are impacted—and how to avoid them

Spot China+1 / ASEAN+1 / U.S.+1 diversification
→ See who's already shifting—and where your next site should be

Benchmark factory mix across key sourcing hubs
→ Compare manufacturing-level and customers across top EMS providers

Present data-backed proposals with confidence
→ Use interactive maps and datapoints to support internal decisions

Report Summary

The surge in demand for AI servers, driven by the wave of AI trends, and the impact on the supply chain influenced by geopolitical factors, has made the supply chain deployment of the server industry a focal point of attention. Regarding EMS providers, Taiwanese companies account for 80% of the shipment volume, playing a crucial role within the supply chain, which makes their production deployment also an area of interest in the market.

DIGITIMES conducted an investigation on the upstream-downstream supply chain relationships and the production sites of major EMS providers from Taiwan and China involved in server products, focusing on two critical assembly dimensions: L6 and L10-12, to unveil the information within the vertical connections. The report covers primary EMS providers, including Foxconn, Wistron, Wiwynn, Quanta, Inventec, Mitac, and LCFC, and analyzes over 400 pieces of relevant supply chain information from the past three years.

By meticulously comparing data from various factories operated by EMS providers, the report outlines the upstream and downstream relationship diagrams for each factory. It utilizes comprehensive lists for comparison to grasp the supply chain deployment of EMS providers. Finally, through visual representation on maps, the report intuitively captures changes in the supply chain and analyzes trends among different companies, revealing trends of how server upstream players manufacture products via multiple dispersed locations before being consolidated in Mexico for downstream assembly, ultimately exporting to the US.

The core topic explored in this research report is how the supply chain's deployment will be influenced and its future development directed by market changes and geopolitical impacts. DIGITIMES uses the large volumes of information and data, which it collected through precisely breaking down component sources within the server supply chain, EMS production sites, and final customer locations, to assist it in analyzing and making calls.

AI resource bottleneck creates opportunity for CXL with related ecosystem anticipated to shine in 2025, says DIGITIMES

Kaylee Chiu, DIGITIMES, Taipei

As AI significantly enhances the computing power demand of data centers and servers, the previously quiet Compute Express Link (CXL) protocol standard is driving a transformation in data centers towards more flexible and dynamically adjustable modular computing environments through its groundbreaking interconnect architecture and dynamic resource sharing mechanisms. DIGITIMES observes that a robust supply chain is coalescing around CXL, and expects a tightly knit ecosystem to emerge by 2025.

CXL only gained market attention after version 3.0

CXL underwent several major technological upgrades before gaining market traction with version 3.0. Released in 2019, CXL 1.0 was based on PCIe 5.0 and provided three protocols: CXL.io, CXL.cache, and CXL.mem, offering low latency, high bandwidth interconnects between CPUs and accelerators; however, existing PCIe and DDR memory architectures were still sufficient for most workloads at the time.

The release of CXL 2.0 in 2020 introduced features such as memory pooling and Persistent Memory (PMem), and introduced the concept of CXL switches, yet it failed to gain widespread adoption because market demand was still limited.

The gradual adoption of CXL after version 3.0 is driven by two main factors: higher link efficiency and an explosive rise in server performance requirements. Launched in 2022, CXL 3.0, based on PCIe 6.0, supports a transmission rate of 64GT/s and enhanced multi-level switching capabilities, making memory sharing more efficient. Following this, CXL 3.1 focused on enhancing memory pooling and sharing capabilities tailored to the needs of data centers and high-performance computing. The boom in generative AI from 2023 to 2024 sharply increased AI server demand for compute performance, memory capacity, and bandwidth. During both training and inference, models must read, process, and move data within extremely short timeframes; any delay can significantly degrade overall system performance. Furthermore, the computing process heavily relies on high bandwidth memory (HBM) and high-speed interconnect technologies, highlighting the inadequacy of traditional memory architectures for these workloads.

Faced with soaring compute requirements, companies have adopted Nvidia solutions while seeking greater control over their own system designs—opening a window for CXL adoption.

Major specification development roadmap of CXL 1.0-3.0

2024-2025	CXL 3.1 Release	· Enhancing security and consistency · Optimizing transmission efficiency
2022/8	CXL 3.0 Release	· Based on PCIe 6.0 with 64 GT/s transmission speed · Supports multi-level switching
2022	Intel Sapphire Rapids AMD Genoa	· First processor supporting CXL 1.1
2020/11	CXL 2.0 Release	· Memory pooling addition · Supports single-level switching
2020/6	CXL 1.1 Release	· Compatibility and error correction improvements · Enhanced security
2019/3	CXL 1.0 Release	· PCIe 5.0 · CXL.io, CXL.cache, CXL.mem protocols · Low latency, high bandwidth interconnection · between CPU and accelerators

Source: DIGITIMES, May 2025

CXL's 3-phase technological roadmap improves overall hardware resource utilization

As a hardware interconnect technology, CXL's core value lies in transforming how resources are managed and collaborate within data centers. Through its three phases – memory expansion, memory sharing, and resource pooling – CXL cuts total cost of ownership (TCO) and boosts hardware resource efficiency.

In the initial phase of "memory expansion," CXL allows CPUs to access external CXL memory with extremely low latency, enabling efficient computing even when internal DRAM capacity is limited by leveraging external memory resources.

The "memory sharing" mechanism enables multiple processors to simultaneously access and share the same memory pool. This shared memory pooling mechanism is evolving towards the concept of "resource pooling." Under CXL technology, whether it's CPU, GPU, or FPGA, each can dynamically allocate their respective computational resources and memory according to actual needs. This flexibility allows for the allocation of computing and memory resources based on load conditions across multiple tasks and application scenarios, preventing resource idling or over provisioning inside individual servers. DIGITIMES believes

that resource pooling is key to further promoting flexible scheduling in data centers, which is why subsequent data center operators place great importance on CXL.

Three major core technologies and advantages of CXL

About CXL technology

Memory Expansion

1 CXL enables low-latency access to external memory, alleviating bandwidth and capacity constraints for AI models managing larger datasets

Memory Sharing

2 CXL enables multiple processors to share a common memory pool, reducing high-latency access issues found in traditional NUMA architectures and improving system efficiency

Resource Pooling

3 CPUs, GPUs, and FPGAs can dynamically allocate resources based on demand, improving data center flexibility and efficiency while preventing resource idling or overprovisioning in a single server

Advantages

Total cost of ownership reduction

CXL enhances resource efficiency, helping businesses cut unnecessary hardware costs and reduce overall ownership expenses

Source: DIGITIMES, May 2025

CXL ecosystem accelerates formation, with a complete ecosystem set to shine in 2025

CPU suppliers such as Intel and AMD plan to launch products supporting CXL 3.0 by 2025. Meanwhile, Samsung Electronics, Micron, SK Hynix, Smart Modular, and Innodisk intend to expand their CXL product lines in 2025. Interconnect technology firms such as Xconn and Alphawave Semi are actively advancing CXL switch technology, while other suppliers of IPs, controllers, and embedded solutions are also planning support and applications for CXL. CXL will drive the evolution of AI servers and data center architectures, prompting enterprises to accelerate the adoption of more flexible and scalable computing models, allowing AI training and inference to operate in optimized resource scheduling environments. As the supply chain deepens its deployment, technical standards mature, and end-user applications expand, CXL will propel data centers toward greater flexibility, modularity, and cost-effective high performance. The relevant supply chain is rapidly forming around CXL, with expectations of a tightly-knit ecosystem gradually taking shape by 2025.

INTERVIEW

AI Agents: The New Frontier of Solo Entrepreneurship and Innovation

> We've crossed a threshold. AI is no longer just about research papers and benchmark scores—it's pushing a new gold rush of innovation.

AI agents are not only solving problems; they're creating new opportunities for solo entrepreneurs to revolutionize industries. The shift is monumental: from AI science to AI software. The systems being built today aren't just proving what's possible—they're powering real applications and services that are entering the hands of users around the world.

This transformation isn't limited to large companies with deep pockets anymore. A solo developer with a vision and the right tools can now create an AI-driven app and bring it to market. The barriers are gone, and the door to innovation is wide open.

"This year can truly be considered the inaugural year of artificial intelligence applications," said Alex Yeh, Founder and CEO of GMI Cloud, following his visit to NVIDIA's GTC 2025 in San Jose. What once felt like long-term speculation is now unfolding rapidly—with real use cases and a surge of AI-native products from solo developers and startups.

At the heart of this momentum is the rise of AI agents: software systems that can perceive, reason, plan, and take autonomous action. They're powering everything from intelligent customer support tools to domain-specific solutions like personalized fashion search engines that not only identify styles but also suggest looks and purchasing options in real-time.

AI agents are distinct from traditional software in that they possess a level of autonomous decision-making that allows them to learn from interactions and adapt in real time. This makes them more dynamic, responsive, and capable of handling complex tasks with minimal human oversight, paving the way for smarter, more personalized user experiences.

Fueling this shift is a convergence of trends: powerful open-source LLMs like DeepSeek and LLaMA4, a growing emphasis on inference, and a robust ecosystem of modular, composable AI tools. Together, these advances allow small teams—or even individuals—to build sophisticated AI agents at an unprecedented speed.

But this accessibility depends on infrastructure that can keep pace. High-performance GPUs, flexible environments, and tightly integrated tools are necessary for developing good AI solutions. Building from scratch is expensive and risky, especially with the current pace of development. That's why platforms that provide a fully integrated AI development stack are becoming essential accelerators, enabling innovators to focus on their ideas without worrying about the infrastructure.

Companies like GMI Cloud have emerged as key enablers in this landscape. With four data centers in Taiwan and the U.S., access to over a thousand NVIDIA H100 and H200 GPUs, and a nearly 50-member technical team, GMI Cloud has built an AI application development platform that streamlines the entire lifecycle—from training and fine-tuning to inference and deployment.

By integrating computing resources with popular open-source tools, GMI Cloud gives developers and enterprises a unified environment that dramatically shortens the path from prototype to product. Users can deploy AI applications using a simple API interface and scale resources in real-time through flexible subscription or pay-as-you-go pricing models.

This flexibility extends to deployment environments as well—cloud, on-prem, or hybrid—depending on client needs. That makes it easier for businesses to maintain data security while still taking advantage of GPU acceleration.

The Era of Solo Entrepreneurs Is Here— Industrial Sectors to Lead in AI Robot Adoption

"In the age of AI Agents, we're on the verge of seeing explosive growth in solo entrepreneurship," said Alex Yeh. There's a growing need for AI startups for accessible conditions to fuel good AI development. In the past, accessing the infrastructure and resources needed for AI development was often a costly and complicated process. Developers had to invest heavily in high-performance hardware, navigate complex software environments, and deal with long deployment cycles. Now, with neoclouds like GMI Cloud, users can simply create an account, pay, and book a time slot to access training resources. Pricing is available via subscription or pay-as-you-go models, giving users the flexibility to scale computing resources in real time according to demand.

As AI agents continue to evolve, solo developers are empowered to create intelligent, scalable products that can disrupt industries. Take, for example, a solo developer who used open-source LLMs to create an AI-powered personal finance assistant. With minimal initial investment, this product is now helping thousands of users optimize their financial decisions. These are the kinds of innovations that AI agents unlock, enabling anyone to build impactful solutions.

This year's Computex will revolve around the theme "AI Next," highlighting three major areas: "Smart Computing & Robotics," "Next-Gen Technologies," and "Future Mobility." Alex Yeh believes the logical next step in this AI Agent era is the deployment of intelligent robots across real-world environments, with industrial applications being the most promising. GMI Cloud will showcase its powerful AI capabilities at Computex, demonstrating how its unique business model addresses the global shortage of GPUs for AI development. At the same time, the company continues to fulfill its mission: "Build AI Without Limits."

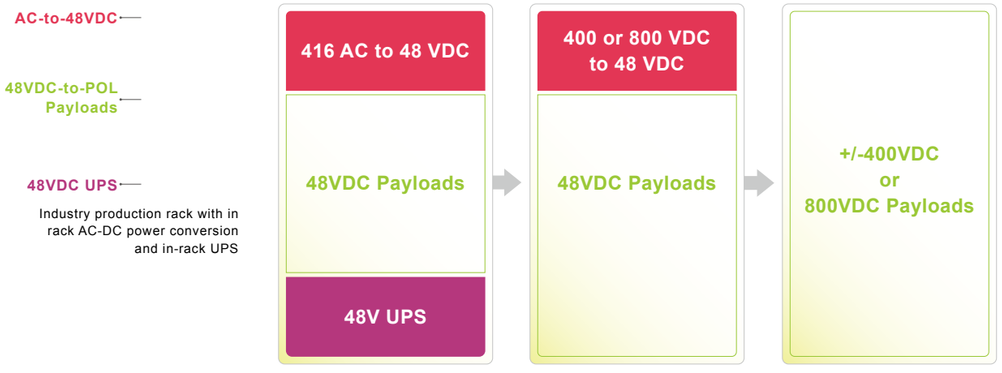
OCP Targets 1MW Racks to Cut Data Center Energy Losses to 7%

Vyra Wu, DIGITIMES Asia

The Open Compute Project Foundation (OCP) is redesigning data center power architecture to support AI's growing demands, introducing "1 Megawatt racks" that could slash energy losses from 40% to just 7%, according to Chief Innovation Officer Cliff Grossner.
With AI infrastructure stretching the limits of current systems, OCP's community of over 400 corporate members is developing open standards to address critical bottlenecks in compute density, power distribution, and cooling.
"The industry is at an inflection point," said Grossner. "We no longer assume that all processors can be generic. We need to create custom processors for specific workloads."

Power Revolution

Current power conversion processes waste approximately 40% of energy when converting from high voltage to chip-level voltage—a significant inefficiency as facilities increasingly consume hundreds of megawatts.
OCP's proposed "1 Megawatt racks" would move power supplies out of server racks into separate units. Eventually, power generation could move entirely outside computing floors, with facilities re-architected to supply 400 or 800 volt DC power.
Future data centers may incorporate on-site renewable energy generation through solar, wind, and potentially small nuclear reactors as part of an ecosystem approach to power management.



(a) One version of rack with 48 VDC supply to IT and 416 VAC from data center to the rack

(b) Nominal depiction of removal of BBUS (Battery Backup Units) from rack to make space for IT

(c) Nominal depiction of removal of AC to DC power converasion unit and BBUS from rack to make space for IT

Transitioning from AC to DC power conversion and UPS functionality from inside the IT Rack to outside of the IT Rack to make room for more interconnected chips. (Credit: OCP)

Environmental Focus

With data centers projected to consume 3% of global electricity by 2030, sustainability has become a priority. OCP is developing metrics beyond traditional Power Usage Effectiveness (PUE) to address water consumption and equipment efficiency.
"A data center is not a standalone object in the future," Grossner noted. "It's going to be part of an ecosystem that includes potentially a wind farm next to it, and proximity to buildings that can use the heat produced."
The organization is also investigating alternative concrete formulations to reduce carbon emissions in construction and collaborating with Infrastructure Masons on standardized carbon accounting for IT equipment.

Cooling Transformation

Increasing computational density is forcing a transition from air to liquid cooling systems. "The thermal management needs of current and next-generation silicon make it pretty clear that chips will be cooled either by single or two-phase liquid cooling," Grossner said.
OCP is working to standardize liquid cooling delivery systems, including specifications for connectors, pressures, and fluid properties to ensure interoperability across vendors.

Silicon Innovation

OCP has established a marketplace with over 25 suppliers offering modular semiconductor components, positioning itself as the "front door to the open chiplet economy." This approach enables specialized silicon components to be combined for optimal performance.
The organization envisions distinct roles in this ecosystem: companies creating chiplets, businesses building ASICs, and firms providing support through design tools and testing services.

Education Initiatives

OCP recently launched the OCP Academy to support adoption of its standards and provides access to hundreds of OCP-recognized products through its marketplace. OCP aims to remain the premier organization for AI infrastructure by standardizing silicon, power, cooling, and interconnects; supporting complete system development; and providing industry education.
As AI continues to redefine computing requirements, OCP's role in fostering open, sustainable, and scalable infrastructure appears increasingly vital to managing the environmental impact of explosive computational growth.

Global Expansion

With 30% of its membership in Asia-Pacific (primarily Taiwan), OCP will hold its APAC Summit in Taipei on August 5-6, 2025. "Taiwan's semiconductor industry is a key partner," Grossner emphasized.

Scan the QR code to learn more and register.

Access the Intelligent Transformation

Ten-year cycle: quantum computers aim for achieving supremacy

Ashley Huang, DIGITIMES, Taipei

The recent timeline for the commercialization of quantum computers has sparked heated discussions. Many in the industry believe that the technology still faces significant challenges and will require years of research and development before it holds commercial value. The key issue lies in the instability of quantum states, which are easily disrupted by environmental interference, affecting computing accuracy. Companies investing in quantum computing are focusing on quantum error correction (QEC) technologies to overcome decoherence and noise issues, with a goal of achieving quantum supremacy within the next ten years.

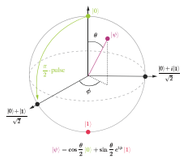
Three fundamental elements of quantum: superposition, entanglement, and no cloning

Quantum computers utilize quantum bits (qubits) and employ algorithms such as Shor's or Grover's for computing. The three main characteristics of qubits are superposition, entanglement, and no cloning. Superposition refers to the ability of qubits to exist in a linear combination of 0 and 1, allowing quantum computers to compute multiple possibilities simultaneously, unlike classical computers that calculate sequentially. Entanglement describes the close interconnection between two qubits, reducing computing steps and enhancing efficiency. No cloning makes it difficult to directly store or back up quantum information, increasing the complexity of error correction and data processing. However, in quantum communication, this feature prevents message theft, ensuring secure communications.

Diagram illustrating the three main characteristics of qubits

Superposition

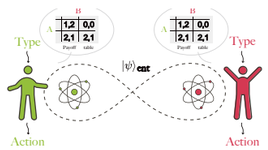
Unlike traditional bits, which are either 0 or 1, a qubit can exist in superpositions of both states



Use the Bloch Sphere to represent quantum states

Entanglement

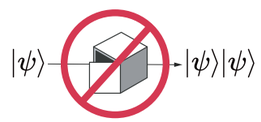
Measuring one entangled qubit can reveal the state of the other, even when they are far apart



The blue figure on the left and the brown figure on the right represent two entangled quanta that influence each other regardless of distance

No-cloning theorem

It is impossible to replicate a qubit without interfering with the original



|ψ>denotes a quantum state, and once in the machine, it's impossible to produce two identical states

Source: Compiled by DIGITIMES, April 2025

Building quantum computers is highly challenging, as qubits must maintain stabil Disrupting the future remains challenging: the real-world obstacles of quantum computers

ity during the computing process; otherwise, operations cannot proceed. This characteristic is known as coherence.

The duration for which a quantum state can be maintained is referred to as coherence time. For superconducting quantum computers (SQC), this typically lasts only from 0.1 to 1 millisecond. During this period, qubits must avoid environmental disturbances; otherwise, they may become entangled with external factors and lose their stable state, leading to unpredictable results. This phenomenon, known as decoherence, poses the greatest barrier to the development of quantum computers.

As the number of qubits increases, the risk of decoherence also rises because entanglement becomes more complex, and external interference has a greater impact, making control increasingly difficult. To reduce error rates, scientists use QEC to compensate for interference, but this requires a substantial number of additional qubits, raising hardware demand and costs. Therefore, how to scale up qubit numbers while suppressing decoherence remains crucial for the commercialization of quantum computers.

QEC: a solution to break through the bottleneck of quantum computers

The QEC technology distributes the information of logical qubits across multiple physical qubits to compensate for decoherence caused by environmental noise, thereby extending the lifespan of qubits and maintaining data integrity. Different hardware architectures necessitate different error correction methods.

Constructing one logical qubit typically requires between 1,000 to 10,000 physical qubits, and to achieve a universal quantum computer, at least 1,000 logical qubits are needed, translating to approximately 100,000 to one million physical qubits.

Currently, companies can manipulate around 1,000 physical qubits at most, but the actual formation of logical qubits is minimal, far from supporting effective quantum computing. Thus, current quantum computers remain in the exploratory phase of technology, with genuine commercialization still some distance away.

Comparing quantum computer architectures: who leads among superconducting, ion trap, and photonic quantum?

The hardware technologies for quantum computers can be divided into two major categories: artificial particles and natural particles. The former includes superconducting, silicon quantum dots, and topological quantum bits, while the latter encompasses ion traps and photons as qubits. In terms of error rates, superconducting and ion trap systems have the lowest rates, around 0.1%; silicon quantum dots are about 1%; while photonic quantum systems are higher, reaching 10%.

From the perspective of industry deployment , the Chinese Academy of Sciences and the University of Science and Technology of China focus on superconducting, silicon quantum dot, and photonic qubit technologies. In the US, IonQ and Quantinuum concentrate on ion traps, while PsiQuantum and Canada's Xanadu specialize in photonics.

Each architecture has its advantages and disadvantages. Superconducting and silicon quantum dots need to operate in extremely low-temperature environments to maintain quantum states; ion traps are stable and accurate but slower in computing and require large laser systems; photonic quantum systems can operate at room temperature, yet emitting and controlling single photons remains a technical challenge.

Comparison of hardware architectures for quantum computers

	Advantages	Disadvantages
Superconductivity	· Rapid technological breakthroughs make it the most mature solution	· Quantum states are prone to collapse · Must be kept at very low temperatures for stable operation.
Silicon quantum dots	· Rely on mature semiconductor nanostructure technology	· The low number of entanglements leads to reduced computing efficiency and necessitates maintaining a low temperature.
Topological qubit	· Highest stability, significantly reduced error rate	· The most difficult implementation among all proposals.
Ion trap	· The confinement of ions and quantum gate stability are good, and the probability calculations are reliable.	· Slow calculation speed requires a vacuum state. · Demands a complex laser system, complicating development.
Photon qubit	· Can be operated at room temperature	· Creating a high-efficiency, stable single-photon source presents major challenges.

Source: Compiled by DIGITIMES, April 2025

Current goals for quantum computers focus on achieving supremacy, lacking practicality

The development of quantum computers can be divided into three stages, each marked by a decade. Currently, we are in the first stage, aiming to achieve quantum supremacy, which means identifying areas where quantum computers outperform classical ones and hold practical applications. At present, quantum computers lack practical value. For instance, while a quantum computer could calculate all possible trajectories of fragments after a coffee cup breaks — potentially taking a classical computer a year — such problems offer little help in real-world applications.

The second stage of quantum computing will involve developing dedicated simulators to assist classical computers in handling specific tasks like quantum chemistry, drug development, and materials research. For example, Mercedes-Benz and IBM Quantum are researching lithium-sulfur batteries, while Ford utilizes qubits to analyze battery materials.

The third stage aims to develop universal quantum computers capable of tolerating computing errors and applicable to various problems. However, this requires controlling hundreds of thousands to millions of qubits and overcoming challenges related to stability and precision, presenting technical difficulties comparable to controlled nuclear fusion. Currently, quantum computers continue to face challenges regarding stability and computing accuracy, indicating that true commercialization is still a considerable way off.

Cutting Power and Costs: DEEPX Outperforms Even Free Chips in TCO

> In today's AI economy, reliability is not optional—it's essential. AI now runs factory lines, city cameras, and delivery robots, where even a one-second pause can trigger costly failures or safety risks. Any AI system that can't operate 24/7 without human intervention is simply not viable. To succeed at the edge, AI must meet four strict demands: sub-100 ms latency, 99.999% uptime, a power budget under 20 W, and junction temperatures below 85 °C. Without these, systems overheat, slow down, or fail in the field.

Architected for Reliability: DX-M1's Thermal and Performance Breakthroughs

The GPGPU-based AI systems fall short of these requirements. They consume over 40 W—far beyond what low-power infrastructure and mobile robot batteries can support. They also require fans, heat sinks, and vents, which add noise, cost, and new points of failure. Moreover, their dependence on remote servers introduces cloud latency and ongoing bandwidth expenses.

DEEPX overturns these hurdles. The DX M1 chip delivers GPGPU-class accuracy while consuming less than 3 W of power. In thermal testing with YOLOv7 at 33 FPS under identical conditions, DX M1 maintained a stable 61.9 °C, while a leading competitor overheated to 113.5 °C—enough to trigger thermal throttling. Under maximum load, DX M1 sustained 75.4 °C while achieving 59 FPS, whereas the competitor reached only 32 FPS at 114.3 °C. This demonstrates that DX M1 delivers 84 % better performance while running 38.9 °C cooler.

A key strength of the DX-M1's architecture is its balance of speed and stability. Unlike some DRAM-less NPUs that rely on bulky on-chip SRAM—often leading to overheating, slowdowns, and low manufacturing yield—DX M1 combines compact SRAM with high-speed LPDDR5 DRAM positioned close to the chip. This results in smoother, cooler, and more reliable AI performance, even in compact, power-constrained environments. As a result, DX-M1 reduces hardware and energy costs by up to 90 %, making it one of the most cost-effective AI chips available.

The True Cost of AI Hardware: More Than the Price Tag

DEEPX recently supported two customers building AI systems for factory robots and on-site servers. At first, both companies planned to use 40 W GPGPUs. But during testing, they realized the hidden costs:

- Running a 40 W GPGPU nonstop for five years uses twice as much money in electricity as it costs to buy one DX-M1 chip.
- The heat from GPGPUs requires fans and cooling systems, which consume extra power and increase maintenance needs.
- Even if the GPGPU hardware were free, the total cost of operation would still be more than double compared to using DX-M1.

When the companies tested multiple NPU vendors for power efficiency, heat, and accuracy, they found that DEEPX's DX-M1 was the best fit for their real-world use. Over five years, DX-M1 cuts electricity and cooling costs by about 94% compared to GPGPU-based systems. This huge saving gives companies using AI at scale a major business advantage.

In short, the most cost-effective AI hardware is not the one with the lowest price tag—but the one that delivers high performance with low power, stable heat, and reliable results over time.

The future of AI will be built not just on speed or model size—but on reliability. Without stable, predictable performance, AI cannot scale into the real world. In factories, cities, and autonomous machines, even a momentary delay can lead to failure, risk, or lost trust. That's why reliability isn't just important—it's foundational. DEEPX is leading this transformation by reducing risk, lowering long-term costs, and delivering AI that operates independently, safely, and without interruption.

SECURE NEXT

Demo Pod

Security for AI Blueprint

Inside the Mind of the Adversary

Secure Your AI Factory

Lightning Session

Imagine with AI : Your Blueprint for a Secure AI Future

Proactive Strategies to Secure Your AI Data and Models

Securing the AI Stack : Microservices, Infrastructure & Network Defense

Securing the Human Element : Managing AI Access and User Interaction Risk

Outsmarting the Enemy : Leveraging Your Digital Twin for Real-Time Attack Simulation

Sovereign by Design : Compliant Innovation with Full Control

Scan and Win!

Have your badge scanned by our booth staff and receive a complimentary box of Elliot's ice cream!

INTERVIEW

Empowering the Intelligent Future: Fibocom Elevates AI Capabilities for Next-Gen Innovation

Empowering the Intelligent Future: Fibocom Elevates AI Capabilities for Next-Gen Innovation

The global wave of Artificial Intelligence (AI) is reshaping industrial paradigms across sectors. The convergence of wireless communication and AI is propelling AIoT into a new era, where diverse intelligent applications demand optimal performance, power efficiency, and cost-effectiveness to achieve scalable deployment. As a global leading provider of wireless communication modules and AI solutions, Fibocom is redefining its core competencies through an AI-centric platform approach, driving the deep integration of AI and connectivity to unlock new opportunities for intelligent transformation across industries.

"Traditionally, the core value of communication modules was 'connectivity,' but today, we're seeing AI capabilities rapidly extending to the edge," said Tiger Ying, CEO of Fibocom. "Modules are evolving into intelligent hubs capable of computation, sensing, and decision-making. The edge-cloud collaboration exemplifies the value of AI-communication convergence, and the role of the module is being redefined."

Seamless Integration of Hardware and Software: Fibocom's Full-Stack Solutions Empowering the AIoT Era

With deep expertise in wireless communication, AI technologies, and integrated software-hardware abilities, Fibocom is actively deploying AI at edge computing nodes to enable intelligent terminals. Through its "AI for X" initiative, the company delivers all-around AI capabilities, products, industry solutions, and ecosystem collaborations to accelerate the industries transformation from "connect everything" to "intelligently connectivity."

Fibocom's AI offerings are tailored for a wide range of vertical scenarios, including smart robotics, autonomous driving, industrial control, and smart retail. For lightweight AI applications, the company has introduced large-model solutions supporting voice and vision interaction, ideal for upgrading devices like AI toys and smart speakers. On the edge AI front, solutions such as the Nebula Series and 5G FWA SkyEngine Solution enable deployment of large models directly on devices, significantly reducing latency and power consumption while enhancing real-time responsiveness and user experience.

Fibocom's one stop solutions encompass AIoT modules, AI models, AI Agent, global connectivity, and cloud services, driving the digital intelligence upgrades in industries such as robotics, consumer electronics, low-altitude economy, intelligent transportation, smart retail, and smart energy. Built on the foundation of seamless software-hardware integration and full-stack coordination, these solutions reinforce Fibocom's position as a leading AIoT platform enabler.

AI+Vertical Applications: Accelerating Commercialization and Validation of Smart Terminals

In recent years, Fibocom has made remarkable progress in the field of smart robotics. Its self-developed embodied intelligent development platform whose name is Fibot integrates AI algorithms, IoT connectivity, and automated control, enabling leading global robotics brands to elevate their product intelligence and performance.

A remarkable milestone is the launch of the world's first "vision-only" intelligent lawn mower solution in 2025. Unlike traditional lawn mower solutions, this breakthrough solution requires no physical boundary setup or base station support. Instead, it relies entirely on machine vision and AI algorithms for precise navigation and obstacle avoidance—delivering a true "perception-to-action" experience. "This is more than a technical innovation—it's a glimpse into the future of smart devices," noted Tiger Ying. The solution has already been rolled out across several European markets and earned a 5-star rating from Germany's leading tech media outlet Heimwerker, underscoring Fibocom's global competitiveness in AI innovation.

Beyond robotics, Fibocom is redefining the value of 5G FWA through its SkyEngine solution, which combines AI computing with advanced connectivity. Designed to support local AI inference, concurrent multi-tasking, and cross-device collaboration, the platform serves as a powerful "super-intelligent agent" at the edge—enabling applications in smart homes, remote work, and multimedia processing. It also empowers telecom operators to evolve from bandwidth providers into intelligent service enablers.

Driven by a dual-engine strategy of "algorithms + computing power," Fibocom is accelerating the commercialization of vertical AI applications—solidifying its transformation from a wireless communication module supplier to a global leader in AI-driven solutions.

Addressing AI Integration Challenges with Systematic Innovation

As edge AI adoption accelerates, Fibocom is proactively addressing the associated challenges through a comprehensive and forward-looking approach. In the realm of data security and privacy, the company adheres to a "data minimization" principle from the design stage—enhancing on-device processing to reduce data exposure risks and strengthen user trust.

For power-sensitive applications, Fibocom delivers high-performance, energy-efficient AI hardware solutions, optimizing resources from semiconductor architecture to algorithmic efficiency. Meanwhile, to address the complexities of computing scalability and ecosystem integration, Fibocom is building an open, flexible collaboration platform that enables customers and partners to co-create value, share in the AI-driven ecosystem, and accelerate real-world deployment across diverse use cases.

"We are committed to long-term value creation and scalable commercialization, with a sharp focus on edge AI solutions," said Tiger Ying. "Modules are not only the nearest data entry point to end devices—they are also the critical gateway to unlocking the full potential of AI."

At the forefront of the AI revolution, Fibocom continues to be a foundational force in enabling intelligent connectivity, propelling the AIoT industry into a new era of transformation.

DIGITIMES asia
since 1998

From detection to domination—partner with DIGITIMES to future-proof your business.

DIGITIMES was founded in 1998 by Chairman Colley Hwang, with the support of Taiwan's ICT industry leaders.DIGITIMES' founding shareholders include the founders of TSMC, Acer, and MiTAC, as well as industry leaders from Advantech, Foxconn, and Wistron.

DIGITIMES is an information platform focused on the Asian supply chain, leading businesses to look towards the global market. It has become Taiwan's largest B2B technology media platform, reporting on global supply chain and technology trend news.

Your brand could be here.

Let's make it happen.

Your Go-To Partner for B2B Events

When it comes to tech industry events, we've got it down to a science—actually, 27 years of experience! With 1,000+ companies working with us annually and 3,500+ events under our belt, we know exactly what it takes to pull off a forum, seminar, VIP gathering, livestream webinar, exhibition, or anything in between.

Want something hybrid, virtual, or on-site? We've got you covered. Big or small, we help craft experiences that make an impact. With 500+ events per year, trust us—there's no format we haven't tackled.

At DIGITIMES, we don't just manage events. We create moments that matter, connections that count, and opportunities that drive the industry forward.
Let's make your next event unforgettable.

Empower Your Business with MaaS Team

Marketing as a Sevice

As businesses face rapid changes, many are turning to Marketing as a Service (MaaS) for flexible, outsourced marketing solutions. DIGITIMES' MaaS team of 50+ experts provides end-to-end support, covering industry trends, campaign planning (overall 500+ event organized per year), creative design, and event execution, delivering maximum marketing impact with minimal resources.

Talk with our marketing expert :

Ms. **Sam Fam** | sam.fam@digitimes.com

Our MaaS includes

- Digital Marketing
- Customized Seminars / Webinars
- Editorial Interviews / PR Services
- Event Management
- Video / Podcast Production
- And more more more....

DIGITIMES asia Key Metrics

(English Website)

>70k
Worldwide Members

> 6,000k
Impressions / month

73%
Members are Management Title

> 450k
Unique Visits / month

DIGITIMES Key Metrics

(Mandarin Website)

> 110k
Overall Members

> 5,500k
Impressions / month

> 128k
YouTube Subscribers

> 850k
Unique Visits / month

Want to learn more?
Scan the code and explore our services!

Apacer Technology
Booth No. J1217a

TEL +886-22678000 www.apacer.com

Apacer offers CoreVolt 2 for voltage stability, CoreEnergy for power savings, BiCS 8, Raspberry Pi-compatible SSDs, and CAMM2 for AI PCs. Consumer lines include MagSafe SSDs and RGB DDR5. For sustainability, we provide fragrance SSD, e-paper, and fully lead-free SSDs and DRAM.

GMI Cloud
Booth No. I1209

TEL +886-2-77119600 www.gmicloud.ai

GMI Cloud demos NVIDIA B200/H200 AI servers with Cluster & Inference Engines for rapid AI deployment.

Fibocom
Booth No. K0727a

www.fibocom.com

Fibocom, founded in 1999, is China's first publicly listed wireless communication module company (stock code: 300638). As a global leading provider of wireless communication modules and AI solutions.

NXP
Welcome to visit the NXP Technology Partner booth (P0413a、K0605、I0607a、I0617a、L0118、N0814(TADA)、G0017、K0515a、L0106、P0425a、L0617a)

TEL +886-2-8170-9999 www.nxp.com

NXP drives edge AI with advanced technology innovation, accelerating AI and machine learning development. NXP empowers smart, connected devices with sense, think, and action capabilities, seamlessly integrated with functional safety and cybersecurity, and modern software-defined development.

AWS

aws.amazon.com

Amazon Web Services has been providing world-leading cloud technologies. We work backwards from our customers' problems to provide them with cloud infrastructure that meets their needs, so they can reinvent continuously and push through barriers of what people thought was possible.

JMicron Technology

TEL +886-3- 5797389 www.jmicron.com

- JMS591 (USB 3.2 Gen2 x2 & eSATA 6Gb/s to 5 ports SATA 6Gb/s) multi-bay hardware RAID solution
- JMB595 (PCIe Gen4x4 to 16 ports SATA 6Gb/s) multi-bay storage solution prototype
- Smart sensing solution

Lynwave Technology Ltd.
Booth No. J1433

TEL +886-2-3501-8700 www.lynwave.com

With 15 years of wireless expertise, Lynwave is excited to join COMPUTEX under the "NEXT AI" theme. We will showcase our flagship ATM solution and an advanced WiFi 8 Smart Antenna concept, empowering high-performance connectivity across smart surveillance, manufacturing, and warehousing scenarios.

Trend Micro
Booth No. N0114

TEL +886-2-2378-9666 www.trendmicro.com

Proactive security starts here!
- Security for AI Blueprint: Safeguarding Your AI Investments
- Inside the Mind of the Adversary: Simulating Cyber Attacks with Your Digital Twin
- Secure Your AI Factory: Full Control Meets Built-In Protection

Carl Zeiss
Booth No. I0318

TEL +886-3-5753747 www.zeiss.com.tw

As AI server design and manufacturing advance in precision and complexity, quality has shifted from a final checkpoint to a core strategy driving performance and delivery. ZEISS is not only the guardian of quality, but an essential element in the AI server architecture.

KIOXIA
Booth No. X0001

TEL +886-2-25089909 tw.kioxia.com

KIOXIA is set to make a dynamic appearance at COMPUTEX, presenting its latest flash memory and SSD solutions.Driving innovation across both business and consumer markets, KIOXIA will showcase cutting-edge advancements and next-Gen technologies, empowering the industry to accelerate in the AI booming era.

DEEPX
Booth No. L0409

TEL +886-2-287978337 deepx.ai

DEEPX, a leader in AI semiconductors, collaborates with Taiwan-based companies to advance Smart Factory, Robotics, Smart City, and AI Servers. By leveraging edge AI and intelligent automation, DEEPX drives efficiency, sustainability, and innovation across industries, shaping a smarter, connected future.

Silicon Motion
Booth No. G0001

TEL +886-2-2219-6688 www.siliconmotion.com

PCIe Gen5 Client/Enterprise SSD controller, USB4 Portable SSD Controller, Embedded Storage, Display Interface SoC

Note

INTERVIEW

JMicron x KaiKuTeK 2025 COMPUTEX Showcase the Latest Hardware RAID Solution and AI Sensing Technology

At the 2025 COMPUTEX Product Showcase, JMicron Technology Corp., a global leader in high-speed interface bridge controllers, alongside its wholly-owned subsidiary KaiKuTeK Inc., introduced a new line of ultra-fast storage bridge controller solutions. These advancements enable next-generation enclosure types and open the door to a wide range of new applications in data storage. In addition to the storage innovations, the companies also unveiled their latest breakthrough in smart sensing: a 60GHz millimeter-wave radar-based AI sensing technology, bringing exciting news for the smart home experience.

JMS591 multi-bay hardware RAID solution

JMicron demonstrated its latest high-speed bridge controller, highlighting the JMS591 and the JMB595 solution. The JMS591 (USB 3.2 Gen2 x2 & eSATA 6Gb/s to 5 ports SATA 6Gb/s), a single-chip multi-bay hardware RAID solution which supports RAID 0/1/5/10/JBOD, demonstrated that sequential read/write performance can reach 2,000 MB/s, and it can also control computer fans and a liquid crystal display module (LCM). Compared to current solutions, the JMS591 upgrades data transfer speeds, improving the stability and effectiveness of hardware RAID functions. Moreover, it is expected that the JMS591 will be adopted widely across multi-bay application such as network-attached storage (NAS), direct-attached storage (DAS), network video recorder (NVR) and digital video recorder (DVR) markets by providing a high cost-effective multi-bay RAID storage solution, while the market will continue to keep an eye on the JMS591. On the other hand, the JMB595 (PCIe Gen4x4 to 16 ports SATA 6Gb/s), a multi-bay storage solution prototype, is not only suitable for high-end surveillance and private cloud applications, but also serves as another option in the entry-level server market. Hence, the industry shows high expectations on the JMB595.

"Through our accumulation of technical expertise and position as a market leader, we are creating a high-speed data transfer and storage application trend, collaborating with our key clients to develop the next-generation bridge controllers," said Tony Lin, JMicron's VP of Marketing & Sales Center.

KaiKuTeK unveiled its latest 60GHz mmWave radar AI sensing technology, which integrates a proprietary antenna design, advanced DSP and AI accelerators, and self-developed algorithms. This innovation brings precise target behavior tracking and positioning recognition. The breakthrough effectively addresses long-standing challenges in traditional smart home products related to human presence detection. For instance, smart electronic locks can detect an approaching person via mmWave radar and automatically activate facial recognition or other unlocking modes. Fans and air conditioners can detect user locations to adjust airflow dynamically, creating a "wind follows the person" effect or enabling personalized temperature control. Meanwhile, TVs can optimize sound staging based on viewer positioning, delivering an immersive experience. This innovation not only enables electronic devices such as electronic locks, fans, air conditioners, and TVs to interact with users more intelligently, but the streamlined design significantly reduces the Total Cost of Ownership (TCO) and delivers simultaneous benefits of energy conservation and carbon reduction, setting a new standard in the consumer electronics market.

"Our long-term focus is on integrating mmWave radar with DSP and AI to create more intuitive and intelligent human-machine interfaces," said Mike Wang, CEO of KaiKuTeK. "The adoption of 60GHz mmWave radar represents a breakthrough, not only solving smart home detection challenges but also introducing unprecedented convenience for users. We look forward to expanding this technology into industrial and IoT applications."

With its leading expertise in DSP/ AI/ ML technologies and antenna design, KaiKuTeK continues to demonstrate its strong potential for technological innovation. The future of mmWave radar applications seems promising, a trend driven by rising demand for contactless technologies and intelligent automation. In response, KaiKuTeK is actively partnering with global technology leaders to fast-track commercialization efforts. The company plans to introduce a new wave of consumer products featuring this advanced radar technology in the second half of 2025. This innovation opens new growth opportunities across industries, setting the stage for the next generation of smart environments.

We sincerely invite you to visit JMicron and KaiKuTeK at Courtyard by Marriott Taipei #Sea Hall during COMPUTEX.

Note

COMPUTEX TAIPEI 2025 InnoVEX

AI NEXT

MAY 20-23, 2025
TaiNEX 1 & 2

- COMPUTEX Keynote
- COMPUTEX Forum
- Tech' em High
- ESG GO!
- Guided Tour
- Pitch Contest

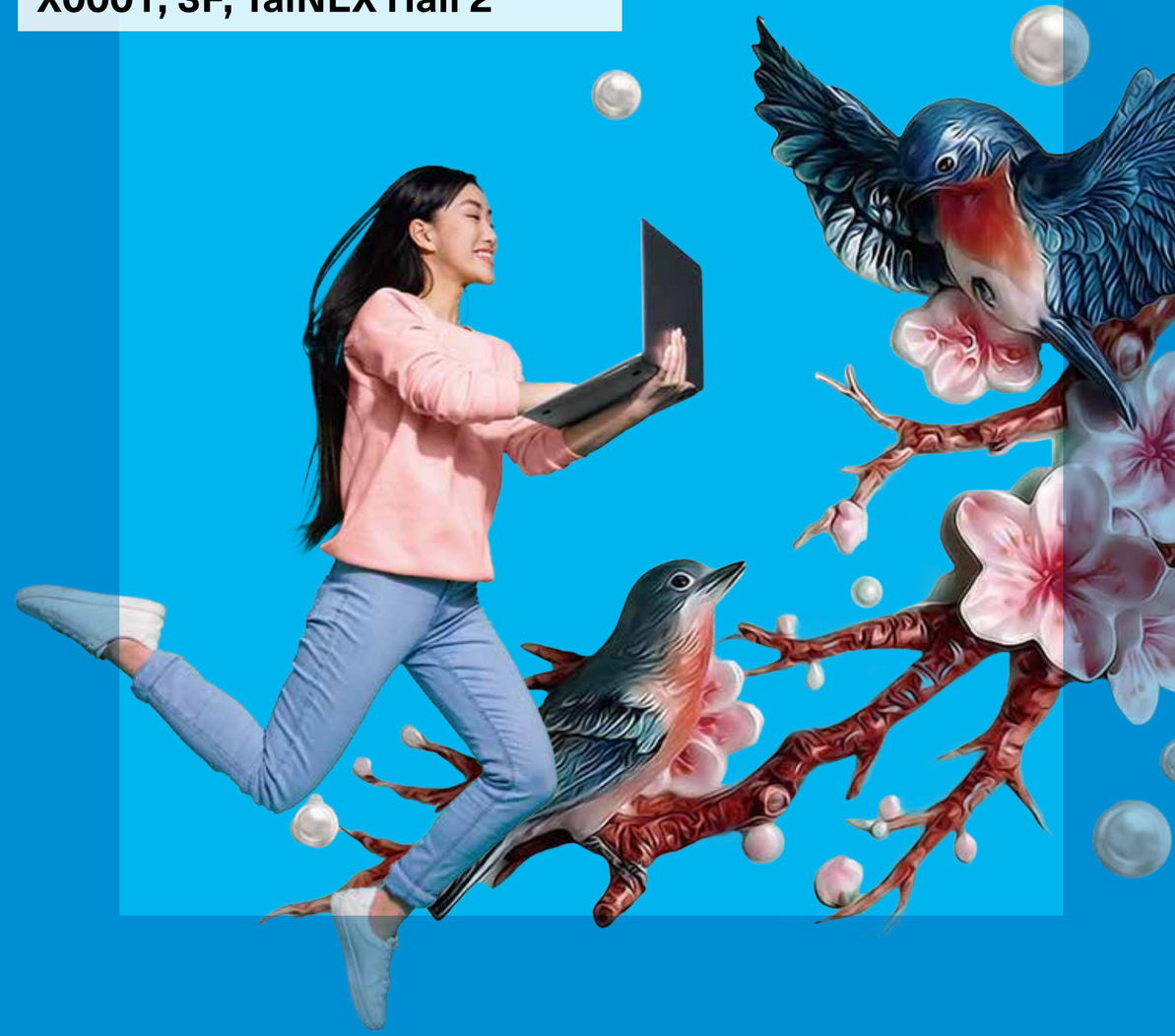
COMPUTEX
Returns to
TWTC Hall 1
June 2-5, 2026
www.COMPUTEXTaipei.com.tw
www.InnoVEX.com.tw
Organizers: TAITRA TCA

KIOXIA

It's a New Beginning with KIOXIA!

Celebrating our next chapter with leading flash memory and SSD innovations for every application

X0001, 3F, TaiNEX Hall 2



It's not just a book about Taiwan. It's a roadmap to what's next.

SEMI Country

Trump Storm, and the Island of No Significance

Global tech is being reshaped, by politics, by AI, by uncertainty and fear.

Amid the chaos, Taiwan offers a rare vantage point.
Not because it's big,
but because it's been here before.
Surrounded by giants, it learned to survive by being smart.
And today, it sits at the heart of the global chip supply chain.

This book isn't just about Taiwan.
It's about how the next tech order will be built
and why those who understand Taiwan
may be the first to understand what comes next.

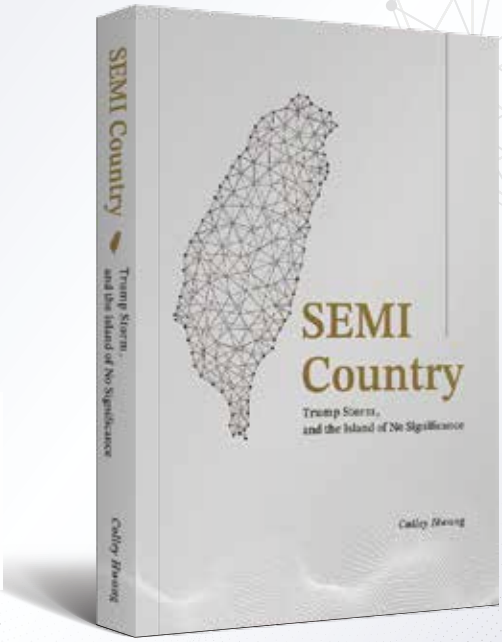
Understand the chip war. Start here.

Decision Makers | Policymakers | Investors

Now Available on Kindle & DIGITIMES

Kindle

Contact Sales



Colley Hwang
Founder of DIGITIMES
40+ years in Asia's tech industry, policy & supply chain