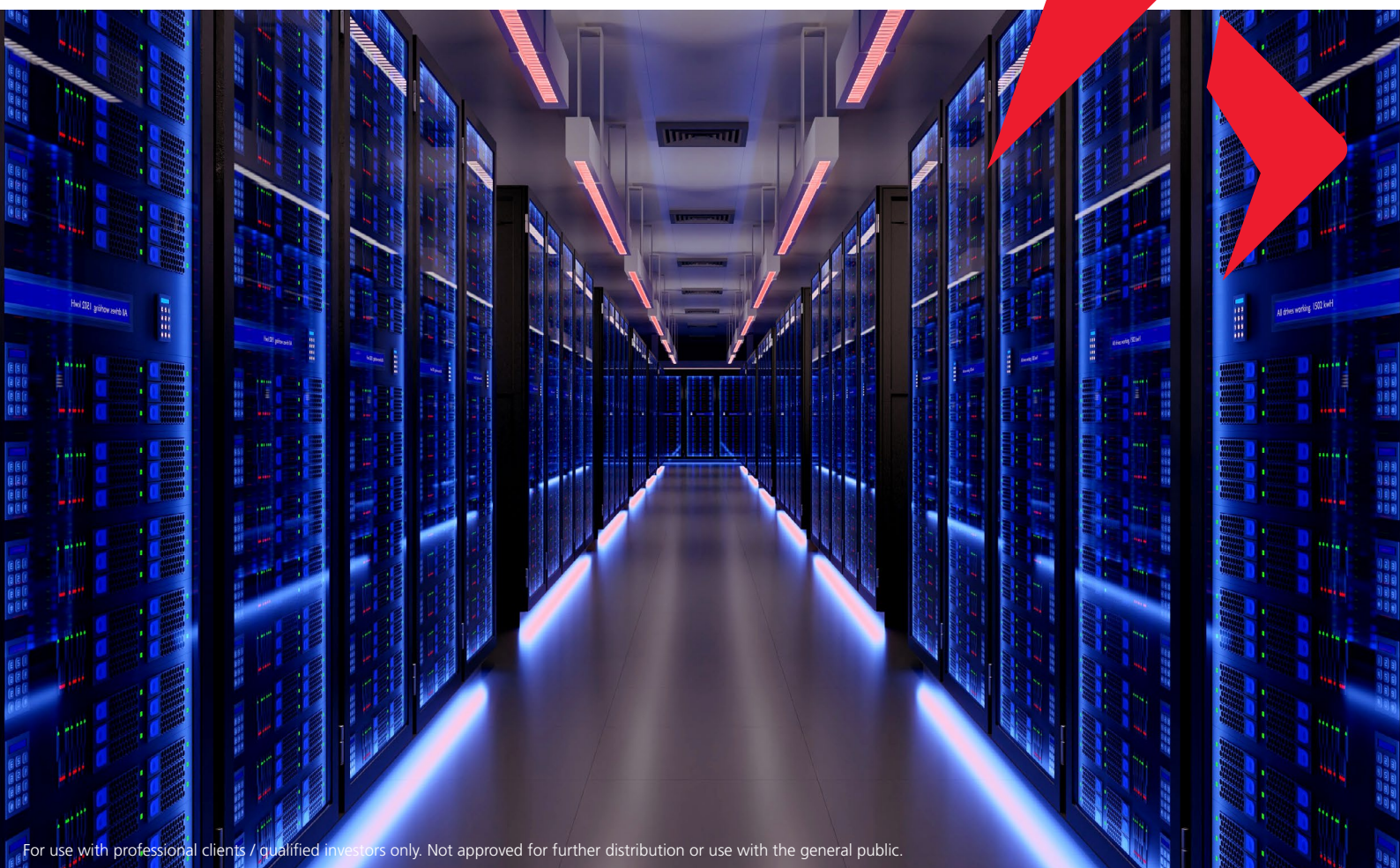


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Why Asia is central to the **AI server build out**

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Hi, how can I assist?



Give me a summary of the article



AI server demand is supported by rising AI adoption, growing inference workloads and continued investment in data centres.



Asia's deep manufacturing capabilities and integrated supply chains make it the backbone of the global AI server ecosystem.



Investors should focus on areas of the AI stack with the strongest pricing power as value shifts, making active investing essential.

While AI exuberance has focused on compute chips, the underlying build out is broader and more fundamentally anchored in infrastructure. The AI infrastructure market has consistently sustained high double-digit growth in recent years. According to International Data Corporation (IDC), it is projected to reach USD758 billion by 2029, driven primarily by investment in AI servers.¹ This is because the process starts at the server level.

A single server combines compute, control, memory, storage, networking, power and cooling stacked in a vertically integrated structure that enables greater density, efficiency and scalability. A data centre consists of thousands of server stacks; as per IDC, servers accounted for 98% of the total AI spending in 2Q25, growing 173.2% on a year-on-year basis.



What is the growth outlook for AI servers?



Traditional servers which are built around central processing units (CPU) are best for sequential tasks. In contrast, AI servers leverage graphics processing units (GPUs) to process thousands of operations simultaneously, allowing complex workloads to be completed faster and at much larger scale.

AI server demand will be supported by a) rising AI adoption across industries such as healthcare, retail, finance, automotive etc. b) hyperscalers continuing to

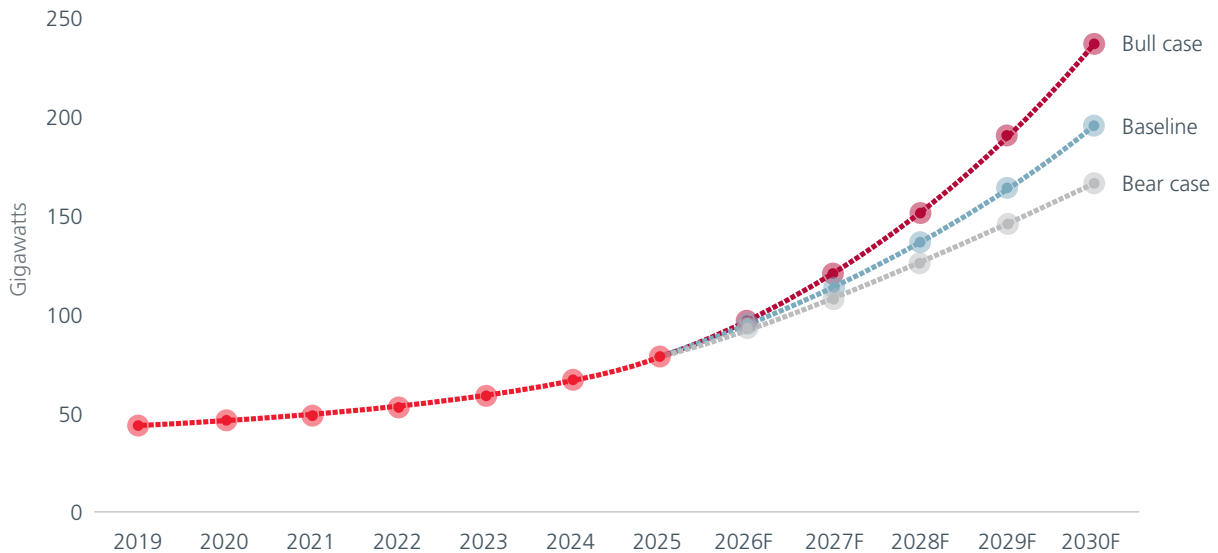
invest to maintain market position and capture future growth, and c) sovereign AI mandates with governments increasingly investing in AI research and development.

As AI adoption broadens, inference is expected to become an increasingly important driver of compute demand. Unlike training, which is periodic, inference requires ongoing processing each time AI applications are used, supporting sustained investment in data centres.

¹<https://my.idc.com/getdoc.jsp?containerId=prUS53894425>



Fig. 1 Global data centre capacity forecast



Note: Values are rounded.

Source: Bain Data Center Model, January 2026.



Why does AI infrastructure depend on Asia?



Asia's advantage in AI servers stems from its ability to supply critical components, deep manufacturing and assembly capabilities, and integrated supply chains that enable rapid scaling as AI demand accelerates. The ecosystem is highly interconnected, with Taiwan leading manufacturing and advanced packaging, South Korea dominating memory, Japan providing critical materials and equipment, Southeast Asia supporting assembly and deployment, and China contributing components and manufacturing scale.

The highest economic value often sits in US chip design and compute. Nevertheless, Asia too captures significant value across the AI server stack. Beyond its leadership in foundry manufacturing, memory and packaging, it remains deeply embedded in assembly and system integration, which are

becoming increasingly sophisticated as AI servers evolve towards rack-scale architectures, liquid cooling and higher-density interconnectivity.

Importantly, this ecosystem has been built over decades, creating scale, expertise and supplier networks that are difficult to replicate. While the US leads in chip design, software and cloud platforms, and Europe retains strengths in equipment and materials, neither has matched Asia's breadth across the AI server value chain. Other regions may benefit from growing data centre investment but remain less developed in semiconductor and AI server supply chains. As a result, Asia remains central to the global AI infrastructure build out.



● Fig 2: Asia's role in AI servers



Server stack layers	Functions and components	Regional dominance
1 	Compute · GPU Graphic processing units (GPU) - the engine for AI training and inference that does all the heavy computations	US (design) Asia (Taiwan – manufacturing)
2 	Control · CPU Central processing units (CPU) - coordinates and manages workloads that handles general purpose tasks	US (design) Asia (Taiwan – manufacturing)
3 	Memory · HBM High bandwidth memory (HBM) - feeds data to GPUs at high speed and is critical to handle rising inference workloads	Asia (Korea-led)
4 	Storage · SSD Solid state drive (SSD) - stores massive training datasets and models; fast storage is key for large-scale workloads	Asia (Korea, Japan)
5 	Networking · InfiniBand / Ethernet Connectivity (InfiniBand/Ethernet) - connects servers into clusters for distributed training and inference	US
6 	Packaging · CoWoS Integration (i.e. Chips-on-Wafer-on-Substrate (CoWoS) - integrates chips (GPUs) and memory (HBMs) to enable high speed and efficiency	Asia (Taiwan-led)
7 	Cooling · Thermal management Thermal management - removes heat from high-power components and keeps the system running at optimal temperatures	US Asia
8 	Power · Power delivery Power delivery – delivers stable, high-density power to all components; reliable power keeps thousands of GPUs running 24/7	-

Source: Eastspring Investments. June 2026.



How can investors navigate shifting value across the AI stack?



The different components of the server stack will gain or lose economic value over time. It is thus important to monitor how value is redistributed across the server stack as the industry evolves. CPUs have already ceded importance to GPUs, while custom chips are beginning

to take share from GPUs. Meanwhile, HBMs, advanced packaging and interconnect technologies are emerging as critical bottlenecks. Rather than disappearing, value is likely to shift towards the layers that remain essential to improving performance and efficiency.



For investors, the challenge is identifying where pricing power exists. Selectivity matters as not every company exposed to AI servers will benefit equally. Some companies may capture volume growth, but margins may remain under pressure. By contrast, areas such as memory, advanced foundry and packaging, interconnects, power and cooling could enjoy stronger pricing power if bottlenecks persist.

Ultimately, the durability of AI server demand will depend on successful AI monetisation. As AI adoption

broadens and inference workloads grow, infrastructure demand becomes increasingly tied to usage rather than speculative investment. At the same time, the pace of adoption is increasingly constrained by physical infrastructure, with power emerging as the most critical bottleneck. Together, rising AI utilisation and infrastructure constraints support a multi-year build out cycle with Asia at the centre of this physical infrastructure build out.



This article is the third in a five-part series on the AI technology cycle and the investment opportunities in Asia as the cycle evolves and matures.

Look out for the next article [Why the shift to edge AI favours Asia](#) which explores Asia's edge AI advantage.

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