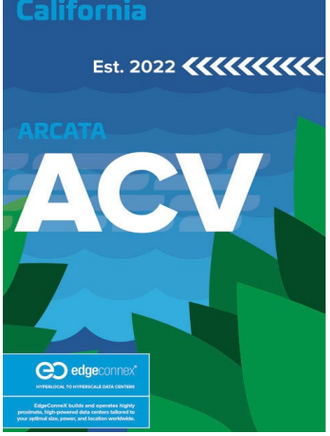
AUTUMN 2025 ISSUE 03

THE TECH CAPITAL

HOLDING THE LINE

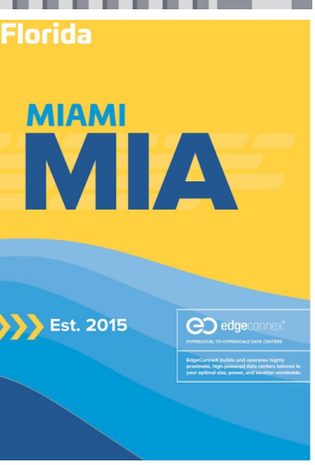
THE BATTLE FOR THE WORLD'S CHIPS

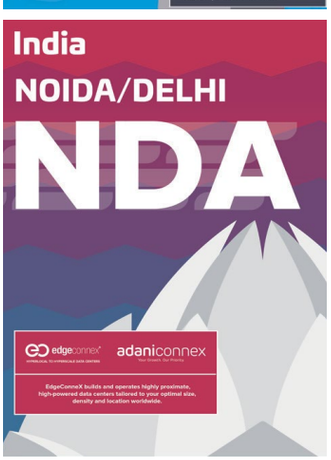
Taiwan's "Silicon Shield" is its microchips, not missiles. Producing 90% of advanced semiconductors, the island dominates global supply. But with China expanding capacity and the US relocating fabs, Taiwan's shield faces unprecedented strain.

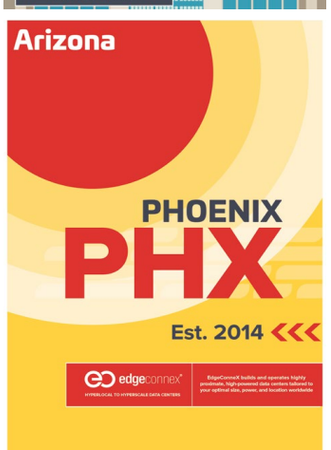


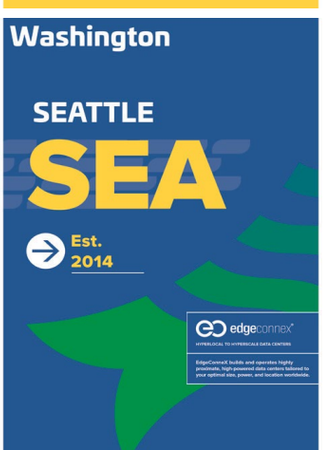
Hyperlocal to Hyperscale

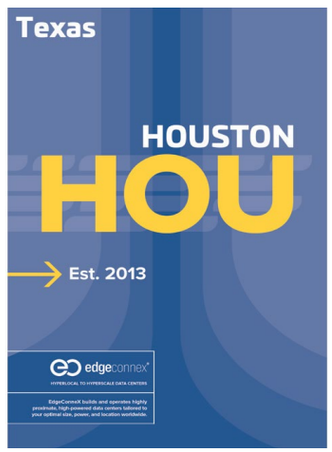
Customer Defined Data Centers

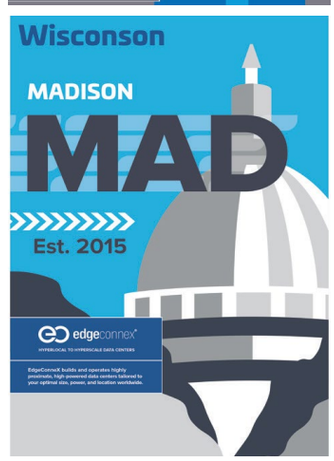


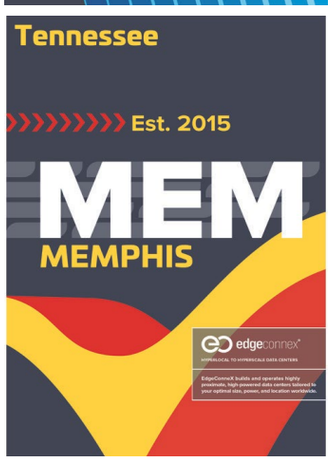












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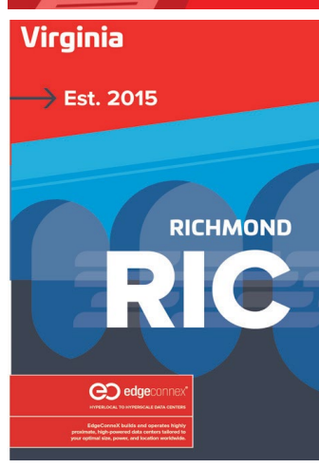


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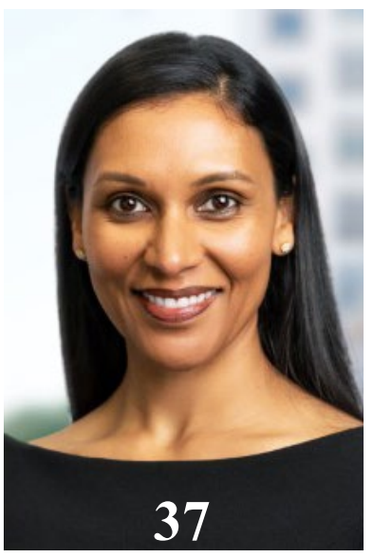

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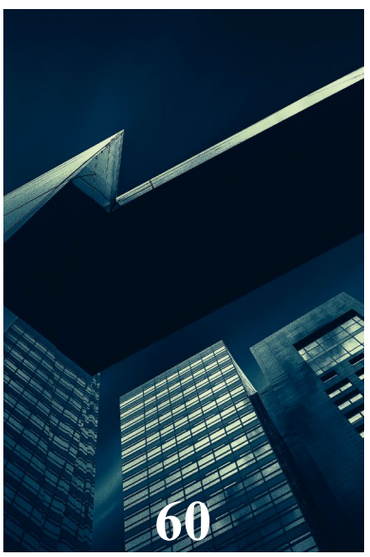

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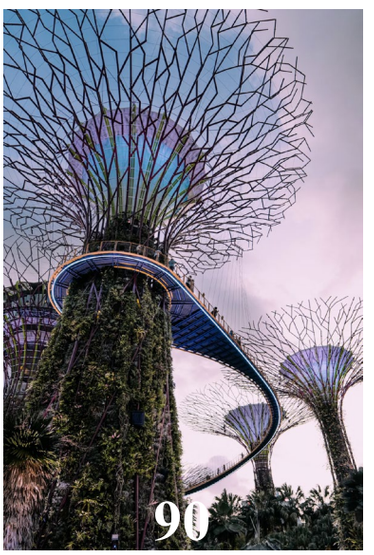

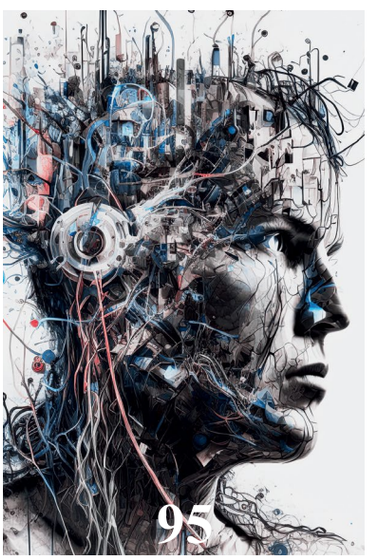

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SHIFTING CURRENTS

It is impossible to look at the world today without noticing the shifting currents of the global economy. Interest rates, supply chain recalibrations, and geopolitical competition are redrawing the map of capital flows and asset allocation. For investors and operators in digital infrastructure, the implications are profound: financing models are being stress-tested, and the global race for data capacity and connectivity has never been sharper.

This issue of The Tech Capital Magazine places Asia-Pacific at the centre of that story, coinciding with our APAC Finance Forum in Singapore. The region is not just a growth market—it is becoming a laboratory for new investment models, policy frameworks, and technological innovation that will reverberate far beyond its borders.

Our cover feature on Taiwan explores its critical role in the global chip wars: a linchpin in the supply chain, a flashpoint in geopolitics, and a factor every digital infrastructure investor must weigh when mapping risk and opportunity. We also spotlight Australia, a market balancing ambitious digital ambitions with questions of scale, sustainability, and capital intensity.

On the real estate front, we unpack the evolving economics of cell towers and the dynamics reshaping ownership, tenancy, and valuation. Our investment deep dives explore sovereign wealth funds' appetite for digital assets, China's current data centre market, and the pressures U.S. AI adoption is placing on global bandwidth and mobile infrastructure.

Finally, we look ahead. As the industry races to meet today's demand, what lies beyond? In our closing feature, we explore neuromorphic computing—a glimpse into a future where digital infrastructure may need to evolve in fundamentally new directions.

The currents are strong, the risks are real, and the opportunities are immense. It is a fascinating time to be investing in, financing, and operating the infrastructure of the data economy.

I invite you to dive into this issue, and I look forward to continuing the conversation in Singapore and beyond.

João Marques Lima


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GROWTH UNDER STRAIN

ECONOMIC HEADWINDS TEST ASIA'S RESILIENCE AND INVESTMENT OUTLOOK

TRADE FRICTIONS, SLOWING INVESTMENT, AND STRUCTURAL PRESSURES ARE WEIGHING ON ASIA'S GROWTH, WITH UNEVEN EFFECTS ACROSS THE REGION. DIGITAL INFRASTRUCTURE OFFERS POTENTIAL, BUT RISKS PERSIST. JOÃO MARQUES LIMA EXPLORES HOW INVESTORS CAN RESPOND.

The Great Wave off Kanagawa, Katsushika Hokusai, 1831. Print, The Metropolitan Museum of Art.

Asia, once the world's most dependable growth engine, is slowing under the weight of global and domestic headwinds. The IMF's April 2025 Regional Economic Outlook for Asia and the Pacific projects growth of 4.5% this year, down from 5.0% in 2024, citing weaker global demand, elevated tariffs, and lingering stress in China's property sector. The Asian Development Bank's Asian Development Outlook July 2025 offers a similar picture, lowering its forecast for developing Asia to 4.7% on the back of tariff hikes and uncertainty, particularly acute in Southeast Asia. The World Bank's April East Asia and Pacific Economic Update is even more cautious, projecting only 4.0% growth, warning that consumer and business confidence is being eroded by rising policy uncertainty and protectionism. These multiple sources underscore that the region's growth deceleration is neither isolated nor temporary, reflecting broader shifts in the global economic order.

Across the region, the pace varies but the direction is consistent. China, according to the IMF, is expected to expand by 4.0% in 2025, supported by fiscal measures but constrained by property market weakness and slower household consumption. India's momentum remains stronger, with the ADB projecting growth of 6.5%, though this too is a slight downgrade from previous years. Southeast Asia tells a more fragile story: Singapore is expected to grow by just 1.5%, Thailand by 1.6%, as exposure to external demand drags on activity. Even Pacific Island economies, which benefited from post-pandemic rebounds, are now projected by the World Bank to decelerate to 2.5%. What unites these different cases is the heavy shadow of a less predictable external environment, characterised by geopolitical tensions, volatile commodity markets, and uneven recovery among key trading partners.

Trade and Policy Headwinds

The headwinds are strongest where Asia has long drawn its strength: trade. The IMF notes that global trade volumes are stagnating, while the region faces the brunt of US tariff measures. ADB estimates suggest that if trade frictions escalate, Asia's GDP could be reduced by up to two percentage points in 2026, potentially undermining years of export-driven progress. The World Bank underscores that countries such as Cambodia, Vietnam, Malaysia, and Thailand are among the most exposed, given their integration into US and China-dependent value chains now under stress. Beyond tariffs, uncertainty around regional trade agreements and supply chain reshoring by advanced economies adds additional friction that could slow recovery.

Inflation is, in contrast, moderating. The ADB forecasts price growth at 2.0% in 2025, down from 2.3% the previous year, as energy and food costs soften. Yet the policy environment remains constrained. The IMF observes that while some central banks are shifting cautiously toward loosening, persistently high rates in advanced economies restrict their ability to ease aggressively without risking capital outflows. The World Bank reports that outflows have already surfaced in some ASEAN economies, underscoring the fragility of financial stability in the current environment. At the same time, governments are experimenting with targeted stimulus programs and social safety nets, though their efficacy will be tested amid persistent uncertainty.

Even so, financial markets have shown resilience. The ADB highlights that equity indices across developing Asia rebounded through mid-2025, supported by a weaker US dollar and improved sentiment. But volatility remains elevated, and any renewed tariff escalation, geopolitical flare-up, or financial shock could swiftly reverse these gains, reminding investors that gains remain conditional and fragile.

Structural Drags on Growth

The cyclical slowdown overlays more enduring challenges. The World Bank points to the weakness of private investment across the region, which remains below pre-pandemic levels in most countries except Malaysia and Vietnam. In China, declines in real estate investment have only partially been offset by increases in manufacturing and infrastructure spending. Meanwhile, small and medium-sized enterprises across Southeast Asia continue to struggle with access to affordable credit, limiting their capacity to scale and innovate.

Demographics further complicate the outlook. East Asia is aging rapidly, with Japan, Korea, and Thailand facing shrinking labour forces. Without reform, the Bank estimates that potential growth in the region could decline from 4.8% to 4.3% in the second half of the decade. At the same time, climate pressures add to vulnerabilities. The region is not only highly exposed to extreme weather events but is also facing trade policy shifts such as the EU's Carbon Border Adjustment Mechanism, which could reshape export competitiveness for economies like Vietnam, Indonesia, and China. These structural drags are reshaping Asia's long-term growth story, emphasising the need for innovation, sustainability, and strategic planning.

The IMF warns that sustaining momentum will require reforms that boost productivity, deepen regional integration, and restore policy credibility. Without such measures, Asia risks entering a prolonged period of weaker growth, fragile investment, and persistent exposure to external shocks, which could have lasting implications for employment, social stability, and regional influence.

Implications for Digital Infrastructure Investment

For investors in digital infrastructure, Asia's slowing growth is not the end of the story — it is a pivot point. Demand for digital services continues to climb, powered by AI, cloud adoption, and 5G, even as broader economic conditions soften. KPMG projects that Asia Pacific's total data centre capacity will double to 37,580 MW by 2030, with Southeast Asia alone expected to triple, reaching 5.2–6.5 GW as AI computing drives a tenfold increase in processing demand.

Colocation is also booming. The top ten Asian markets already hold 27% of global colocation capacity, and capacity in 2023 alone rose 40%, pushing the region past 10 GW. Global hyperscalers are at the centre of this expansion: AWS, Microsoft, Google, and Alibaba are pre-leasing hyperscale facilities across Asia, while the regional SaaS market is forecast to grow at a 21% CAGR between 2025 and 2029. The 5G rollout is reinforcing this trajectory — smartphone adoption is projected to hit 94% by 2030, and the market for micro-data centres is expected to grow 15.8% annually through 2032, opening opportunities well beyond major capitals and into tier-2 and tier-3 cities.

Yet the risks are equally real. Power remains the sector's biggest bottleneck. Grid capacity and energy reliability issues in markets like Korea, Japan, and much of Southeast Asia have driven up costs and created permitting delays. Governments are responding by tightening sustainability and efficiency requirements: Singapore now mandates strict efficiency benchmarks for new facilities, while Japan and Korea are exploring hydrogen and renewable-powered centres. This environmental push is reshaping how projects are financed and approved.

Policy and regulation also define the playing field. Rules on data sovereignty and cybersecurity vary widely across the region. Vietnam and Indonesia impose some of the toughest data localisation requirements, raising compliance costs for foreign players, while Singapore and Hong Kong continue to position themselves as open, globally integrated hubs. At the same time, governments are using tax incentives, land grants, and energy subsidies to court new data centre investment — particularly in emerging markets such as the Philippines, Indonesia, and Thailand.

The financing landscape is adapting too. Strategic carve-outs and joint ventures are becoming common, unlocking capital and attracting global operators. KKR's $800 million acquisition of a 20% stake in Singtel's Digital Infrastructure Co. and Equinix's joint venture with Astra in Indonesia illustrate how international investors are pairing with local incumbents to share risk and accelerate expansion.

For Asia-born investors, aligning with national strategies — such as Singapore's Smart Nation programme or India's Digital India initiative — offers resilience amid volatility. For foreign capital, the path lies in green data centres, joint ventures, and next-generation connectivity projects that can withstand regulatory fragmentation and shifting geopolitics.

Asia's digital infrastructure story is no longer about unfettered growth at any cost. It is about smart, sustainable, and strategically aligned investment. Those who combine ambition with adaptability will be best placed to capture the next chapter of one of the world's most dynamic digital markets.

WHERE WILL INFERENCE BE DEPLOYED?

THE BATTLE OVER WHERE AI INFERENCE WILL LIVE HAS BEGUN, AND THE EXPERTS CAN'T AGREE. WILL IT BE FORGED IN SPRAWLING GIGAWATT DATA FORTRESSES, SCATTERED ACROSS METRO HUBS, OR PULLED DOWN ONTO THE VERY DEVICES IN OUR HANDS? THE ANSWER WILL SHAPE THE FUTURE OF AI INFRASTRUCTURE DEPLOYMENT AND INFORM WHERE DATA CENTRE OPERATORS SHOULD INVEST. JACK HADDON REPORTS.

The data centre industry has been asked a lot of billion-dollar questions as of late. But a trillion-dollar question is lurking in the background:

Where do we need to build data centres for AI inference at scale?

While the breed of data centre facility that is required for training AI is now well understood: we need infrastructure that can support vertically scaled computing, large clusters of high-powered GPUs that can be liquid cooled to ensure maximum efficiency and more power to scale it all, delivering better and more powerful models.

But there is no blueprint for inference – or the infrastructure required for actually using a trained model.

This presents both an opportunity and a challenge for the data centre industry. It means that there is room for several different business models to support different types of inference workloads, but it also means that meeting holistic demand will require an understanding and anticipation of emerging use cases to ensure the right infrastructure is built at the right time and in the right place.

In this article we explore the different locations that AI inference compute could be deployed; why; and what data centre developers need to consider to be able to deliver.

The experts don't agree. Some see inference collapsing back onto devices. Others believe hyperscale facilities will dominate. Still others point to metro colos, sovereign data centres, or hybrid setups straddling all of the above. The answer, as always, depends on who you ask, and what problems they're trying to solve.

"There's really no simple rule," says Jeff Denworth, co-founder of AI operating platform VAST Data.

"You're going to have easy stuff that can run on one GPU and hard stuff that will require whole data centre sized systems."

Denworth uses the example of asking ChatGPT what time sundown is (an easy task) compared to a drug discovery use case or a deep research report where a large amount of data is analysed, and the findings returned.

Fortunately, the large-scale AI factories that are being built to support training workloads can also be used for inference.

This is encouraging, as concerns have been raised that improvements in the techniques used to train new AI models on less compute power, such as those exhibited by DeepSeek in early February 2025, means that the multi-hundred megawatt or even gigawatt sites that are being planned may become stranded assets with no customers requiring large clusters of compute in remote locations.

The flexibility to support inference workloads extends the life of these of these facilities, making them less risky to deploy and reducing the risk priced into construction financing.

Many of these large AI factories are being built in remote locations, where access to large quantities of power to meet the desired IT capacity was the primary driver of their location.

That means that network latency between the data centre and an end user is likely higher than that of a cloud availability zone or a local colocation facility.

These large AI facilities have already been designed for scale and powerful compute, meaning they are best suited to asynchronous processing, or batch inference, a powerful and highly efficient method for generating predictions on a large volume of data when immediate, real-time responses are not required.

For example, Denworth's drug discovery use case, which would require a significant amount of scientific research papers to be uploaded and analysed; looking for correlations that have yet to be drawn.

Unlike online inference (asking ChatGPT what time sunrise is), batch inference operates on data that has been collected over a period of time.

This approach prioritises high throughput and computational efficiency over low latency.

Not being time sensitive means compute resources can be used when they are most available or least expensive, significantly lowering operational costs for end-users.

There are also benefits for the tenants of these data centres to processing batch inference here.

The conventional wisdom among frontier model developers is that accessing more powerful GPUs from NVIDIA or another supplier is the best way to create better and more powerful AI.

While Google, AWS and Microsoft are all busy creating their own AI chips, for now buying from NVIDIA is the go-to. To avoid falling behind in the AI race, these companies need to be securing the latest, most powerful chips that are being released on a regular basis, often with notable performance increases.

These chips are expensive. So rather than being used for a year and then cycled out as NVIDIA releases a new product, they can instead be transferred to support batch inference.

“I was speaking with NVIDA about this the other day,” Denworth reveals. “How do we build reference architectures? Do we build one for training and one for inference? Well we can’t, because these machines get reborn. based upon different requirements and different dynamics.”

Paul Roberts, Director of Technology, Strategic Accounts at AWS is seeing this play out first hand.

“We're seeing folks now training and inferencing on the same hardware,” he explains, whether that’s NVIDIA solutions or Amazon’s custom silicon.

“We also have customers that are using older NVIDIA hardware, like the Hopper Platforms -they're still using them, and they are inferencing and training with them.”

Robers adds that AWS are always looking at the usage of the existing compute and infrastructure in its different facilities and cycle them out as usage drops to “free up more space and power”.
So far everything seems quite simple. But what about when latency does become an issue.

For some use cases, these large, remote AI factories will not suffice.

If proximity to end users is crucial for the inference application, another approach needs to be considered.

From the data centre to the device

Starting off at the other end of the spectrum to the large AI factory data centre, Switch Chief Strategy Officer Jason Hoffman draws comparisons with GPUs previous killer app, which happens to be latency sensitive itself: gaming.

“We saw attempts like Google Stadia to use infrastructure to stream games to light devices. What's been shown time and again is that it's actually better, faster, cheaper, and easier to make a more powerful device than to build out infrastructure between the physics engine and the device,” he explains.

Hoffman thinks the same thing will play out with AI.

“People in infrastructure keep saying they'll build dedicated inference infrastructure distributed in cities, but I can point to half a dozen historical examples of other computer workloads that followed the same pattern: devices got more powerful, and data centres became more centralised, while the middle continued to get commoditised.”

Hoffman says the same happened with mobile devices. When the iPhone first came out, people thought it was an opportunity for telcos to build more services in their networks to serve these "weak" devices.

But what turned out to be true?

“For a given country, you basically need two, three, or four packet cores that are centralised and run the accounts and connections, while Apple and Samsung became some of the most valuable companies by making very powerful devices,” he says.

“If you have a workload that has to run in a specific location, we need to support that,” he adds. “It's either in a big data centre, on the device, or somewhere in between. Often these "edge services" or "inference nodes" will mostly be coordinating between what's happening on the device and in big data centres.”

Prem Ananthakrishnan, managing director and global software lead at Accenture agrees – to an extent.

“There's always an intent to push as much as possible to the device, but the devices aren't there yet - that's part of the problem,” he says.

“Currently, the practical "edge" where inference models can run is probably in a colocation facility in the local Metro network. As models become smarter and can run on actual edge devices, we'll likely push capabilities even closer to the end user,”

But he adds that inferencing is going to be an extremely fragmented compute landscape in the long run, and the opportunity for colo providers isn’t just as a stopgap.

“You'll have tiny models running on phones or laptops. Then there will be mid-sized models requiring more than what edge devices can handle, and colos may still have an opportunity to host these. The giant,

context-hungry large models will eventually go to hyperscalers and neoclouds,”

Where is the Edge?

One of the firms building this middle-mile inference infrastructure is Flexential.

“We're not chasing the gigawatt campuses. We are chasing these edge inference nodes that are going to have relevant enterprise use cases,” says President and COO Ryan Malloney.

More specifically, Flexential is focused on developing sites around 36MW where it will allocate a portion of the data centre to an AI company or a private enterprise.

“We're looking at what I'd call the "middle edge" component, where you have strong network connections,” he adds.

A handful of AI company customers are already asking Flexential for proximity to GPU as a Service companies.

This goes as far as asking to be in the same data centre, but Flexential have found offering space in a different facility within the same metro and connecting them with their inter-data centre connectivity service, with 5-10ms of latency, as an adequate compromise.

But as for why they need to be there, and how large this market will be in the long run, Malloney is unsure.

“We don’t know why,” he says. “I haven't seen a latency sensitive inference model yet.”

But someone who has is Hunter Newby, the founder of Newby Ventures.

Newby says some major commercial banks are looking to use inference for fraud detection by capturing keystrokes as they are input into a keyboard or mobile device.

This requires 3ms of roundtrip latency, which current data centre infrastructure is not equipped to support outside of major metros served by internet exchange points (IXPs).

Newby has mapped out all of the IXPs in the US and the data shows that there are 14 entire states without a single one, let alone major urban areas close to end-users.

As far as he’s concerned, proximity to these IXPs is the only way that this very low-latency real time inference can be supported.

As a result, Newby is embarking on a mission alongside non-profit Connected Nation to expand the quantity of the US’s IXPs. Connected Nation has identified 125 hub communities where IXPs are needed.

Ground was broken on Kansas’ first carrier-neutral Internet Exchange Point (IXP) in Wichita in May 2025.

“Local, carrier-neutral IXPs like the one we’re building in Wichita are essential to reducing lag time and enabling the next generation of AI-powered services to operate effectively and reliably,” Newby says.

His vision for the AI infrastructure required to support this low-latency inference is for GPU clusters to be installed as close as possible to the IXPs, unlocking the required latency enterprise or commercial end users need for optimal performance and customer experience.

In less mature markets like Wichita this isn’t necessarily an issue, but in developed markets like New York, Chicago, London or Frankfurt, power and land are at a premium, especially nearby the existing IXPs in the inner cities.

Both Roberts and Dan Bathurst, the Chief product officer of neocloud Nscale agree that proximity to end users for AI is essential.

“As AI adoption among consumers grows, the location of inference endpoints has become critical to both performance and cost,” Bathurst explains.

“Placing compute closer to users and data sources reduces latency, improves the quality of the experience, and lowers the overhead of moving data long distances,”

But, he acknowledges that most inferencing isn't highly latency sensitive and can be done from regional hubs where low-cost power resides.

“However, for certain scenarios the need for speed outweighs the need for cost savings.

“Consumer-facing services, such as speech and real-time video models often require round-trip latencies under 100 milliseconds, which puts hard limits on how far you can be from population centres.”

This is something that AWS are seeing as well.

Roberts points to Amazon’s Rufus solution, a generative AI-powered conversational shopping assistant, as an example, stating that low-latency responses were shown to have an impact on checkout conversion.

In this scenario, Roberts argues that using AWS availability zones will not suffice. Local zones, which bring workloads even closer to end users, need to be employed as well.

Are tier 1 markets ready for this?

This focus on low-latency solutions begs the question whether tier 1 markets are prepared to absorb this type of inference demand.

As we’ve heard countless times; large training data centres have moved further afield partly due to legacy data centre hubs being heavily power constrained, with a lack of suitable land.

“The value of a MW for real-time inference in London is going to be worth more than ten times the value of 1MW for training in Iowa, just based on the supply-demand imbalance,” Newby says.

Ben Balderi, founder of the GPU and a GPUaaS expert adds some additional context.

“In the US, which has abundant land and power capacity with easier regulatory frameworks for new power generation, larger out-of-town data centres will likely continue to make sense. It's the proven hyperscaler model, and if hyperscalers are comfortable with the latency, neo-clouds will likely be satisfied too.”

But Europe, including the UK, is very power-constrained. Balderi believes Europe doesn't have the land, regulatory frameworks, or political will to build data centres in the same way.

“Constrained markets face well-known challenges around power and permitting, which make scaling low-latency inference problematic,” Bathurst adds.

Ben Balderi Founder of the GPU

Hunter Newby, Founder, Newby Ventures

Jason Hoffman, Chief Strategy Officer, Switch

Jeff Denworth, Co-Founder of VAST Data

Bathurst believes the industry has anticipated this and responded by focusing on density, efficiency and smarter runtime strategies.

“In the near term, targeted pockets of metro capacity will cover many inference workloads, particularly when paired with efficient serving stacks and dedicated server endpoints for critical tasks,” he says.

“However, this won’t necessarily hold as AI becomes deeply embedded in both consumer and enterprise applications and multimodal capabilities like video and speech generation mature, leading to the demand for low-latency inference expanding in metro areas.”

If data centre density improvements and renewable investments don’t keep pace with this demand, some popular data centre hubs could face real pressure.

Bathurst advises the industry to balance the need for large-scale hubs for efficiency and economic benefit, while reserving metro capacity to meet latency-sensitive requirements.

"This dual strategy helps ensure that customers can scale in a cost-effective manner while still getting the performance needed for applications where time is of the essence,” he explains.

Balderi sees another solution, and it comes from an unexpected source.

“The commercial real estate market is currently struggling as remote work has maintained its appeal after the pandemic and many office buildings are sitting half full,” he observes.

“It's not massive by data centre standards, but you might find 500 kilowatts here, 300 kilowatts there, depending on the building size and location. If that power isn't being used due to low office occupancy, and you already have the grid connection, there's potential to monetise it.”

Balderi thinks that this currently unutilised power could be aggregated and used for a distributed AI inference platform.

With much higher rack densities than traditional workloads, space is not the issue, it's just getting the power and the hardware close to where people are going to be using it.

For an enterprise – how much closer can you get than your own basement?

Returning to on-prem

This highlights another potential trend as AI inference develops: a return to enterprises hosting their own compute, either on premises or in a colocation facility.

Not only is there the potential to establish micro inferencing clusters in the emptier real estate in major urban centres, but cost factors and control come into the equation as well.

A report from the Uptime Institute published in January 2025 showed that dedicated infrastructure regions were cheaper than the cloud if utilisation rates were above 32.5%, for an NVIDIA DGX H100 hosted in a North Virginia data centre.

This is just one example, and GPU per hour prices have dropped significantly from cloud providers this year, but for enterprises that anticipate heavy utilisation, the incentive to own and deploy their own hardware remains.

Data sovereignty is important as well. Across Europe, the Middle East and APAC, an over reliance on foreign, primarily US tech providers is

concerning AI developers and governments alike.

“I think you're going to see a lot of people that want to have their data remain, ideally, on-premises,” says Kevin Wollenweber, Senior Vice President and General Manager of Data Centre, Internet, and Cloud Infrastructure at Cisco.

Balderi agrees that there are likely to be a not insignificant number of European SMEs that will want to avoid using a cloud environment, pointing to comments from senior Microsoft executives speaking to the French Senate, who could not guarantee customer data would not be shared with US authorities if Microsoft was asked to do so under the US Cloud Act.

But in practice, Wollenweber acknowledges that this is much easier said than done.

“The challenge is a lot of our facilities and a lot of our enterprise customers facilities aren't ready for the power and cooling requirements that we see,” he says.

If these challenges can be overcome though, Wollenweber thinks a hybrid model could start to emerge.

“For enterprise applications closer to the datasets themselves, you'll see more on-premises usage, and even hybrid approaches where companies use cloud resources for fine-tuning and then run inference locally within their infrastructure,” he predicts.

This sentiment from enterprises is not lost on Roberts, and it’s something AWS are prepared to support with its outpost solution, which enables AWS hardware to be deployed in a customer's colocation or independent data centres.

“That's going to give you super low latency because then you could deploy open-source models directly to that if you wanted to,” he explains.

Once again, the use cases and end user experience are the ultimate drivers of where compute infrastructure will be deployed.

To some extent practical challenges like energy availability, land use, security and sovereignty will impact the decision as well.

“Our approach to how we're looking at our data centres and where we put them, is always working backwards from customer demand,” Roberts summarises.

For data centre developers, keeping track of the technological advancements in applications, use cases and compute infrastructure will be vital to make sure they can provide the right capacity in the right place at the right time.

In a nutshell, more remote larger AI factories are ideal for batch and compute intensive inference where latency is not an issue due to cheap power and pre-existing scaled high-density compute resources.

But as latency starts to become an issue metro colos, cloud availability zones and smaller sites closer to end users will be required – perhaps in more quantity than the industry is prepared for today.

And finally, as AI capabilities grow and adoption increases, inference may move outside of neutral and cloud data centres altogether, either to end devices or on premises facilities to enable sovereignty, control, speed and cost-reduction.

Dan Bathurst, CPO, Nscale

Paul Roberts, Director of Technology, Strategic accounts, AWS

Prem Ananthakrishnan, Managing Director Accenture

Ryan Malloney, COO, Flexential

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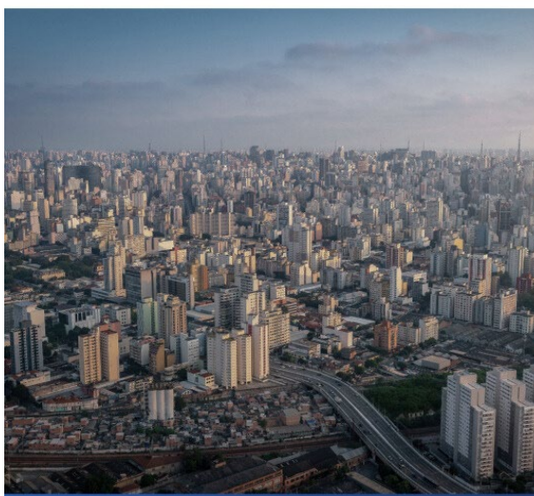

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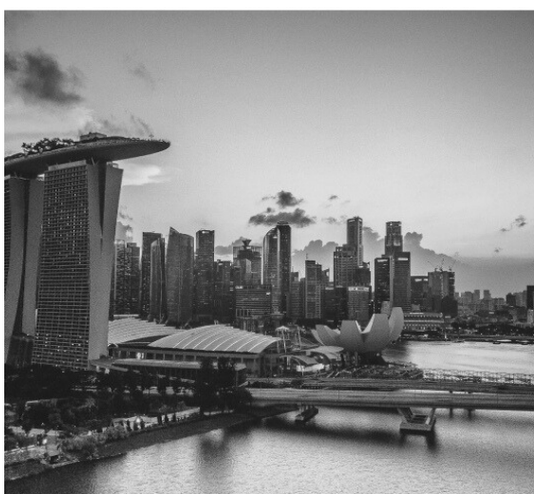

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HOLDING THE LINE: THE BATTLE FOR THE WORLD'S CHIPS

Taiwan's most powerful weapon isn't a missile or a warship — it's a microchip. The island produces nearly 90% of the world's most advanced semiconductors, a dominance that has come to be known as its "Silicon Shield." Yet with China building capacity and the US pulling fabs onto its soil, that shield is under strain like never before.

by Khamila Mulia

President Lai Ching-te has been holding the line in this global battle for technological supremacy. In different occasions, he has reaffirmed Taiwan's commitment to reform national defense, bolster ties with the US, and develop the semiconductor sector; framing chips not just as economic assets but as strategic pillar against pressure from Beijing.

Semiconductors are among the most crucial materials in today's global economy. They underpin almost every modern technology, from smartphones and computers to cars, satellites, and even military hardware.

Add AI to the mix, where semiconductors components like GPUs and TPUs handle the heavy lifting for machine learning and deep learning, and chips become not just vital components, but strategic assets fiercely contested by global powers.

At the heart of this contest is Taiwan. The small island produces more than 60% of the world's semiconductors and nearly 90% of the most advanced ones used in integrated circuits and high-performance chips.

While several Taiwanese companies are in the game, none dominates like Taiwan Semiconductor Manufacturing Company (TSMC), the world's largest contract chipmaker and a supplier to Apple, Nvidia, AMD, and Qualcomm.

Taiwanese foundries account for 67% of the global market, with TSMC alone holding a 53% share, according to Counterpoint Research.

This dominance powers everything from data centres to defence systems. This position is often described as Taiwan's "Silicon Shield", the idea that the world's reliance on its chips helps deter military escalation in the Taiwan Strait and potential Chinese aggression.

As the largest chipmaker, any disruption to Taiwan's chip supply would be a headache for major powers such as the US and China. But as TSMC expands abroad and rivals accelerate their own ambitions, the question is whether that shield is holding, weakening, or evolving into something new.

When the shield shifts

TSMC's rise has been built on decades of policy support, infrastructure, and talent. Its success feeds directly into Taiwan's economic and political weight. Yet with more than 15 fabs built or planned across the US, Japan, and Germany, the company is increasingly global.

The strategy is partly commercial; meeting demand, reducing risks, and accessing subsidies — but it also alters the Silicon Shield. If production is no longer concentrated on the island, does that dilute Taiwan's leverage? Or does it spread the shield, drawing new allies into its orbit?

"If Taiwan's chip leadership can contribute to deterring China militarily, the key lies not in China's reliance on Taiwan's chip technology, but in the fact that Taiwan is deeply embedded in the global supply chain, making its interests tightly interwoven with those of international markets," says Min-Yen Chiang, a researcher at the Research Institute for Democracy, Society and Emerging Technology (DSET), a think tank under Taiwan's National Science and Technology Council.
Taiwan's industry and government have made it clear they are no longer pursuing commercial neutrality. Instead, both the public and private sectors are openly aligning with US export control regulations. Most recently, the Taiwanese government added SMIC and Huawei to its Entity List. Taiwan has recently added Huawei and Chinese leading chipmaker firm.

President Lai Ching-te. Photo courtesy of Office of the President Republic of China (Taiwan)

“While margins will be lower, TSMC can offset with subsidies and price increases. Taiwan will continue to account for the majority of leading-edge production despite overseas investments. So it’s unlikely that Taiwan’s importance will be diminished.”

In this view, the shield is not eroding but becoming multilayered: Taiwan remains the centre of advanced chipmaking, while partners gain stakes in its survival.

Taiwan’s chip lifeline

While TSMC’s global expansion is reshaping Taiwan’s geopolitical role, it also brings the spotlight back to an underlying issue: how much of the nation’s economic and strategic strength rests on a single company.

Decades of policy support, infrastructure investment, and talent cultivation have propelled TSMC to the top of the global value chain, but at the same time, it raises concerns about resilience, diversification, and the risks of relying so heavily on one corporate champion.

TSMC was founded with the backing of Taiwan’s government and continues to thrive with its strong support. “The company’s extraordinary success feeds directly into Taiwan’s economic strength and political influence on the global stage,” says Easton.

DSET’s Chiang believes that TSMC’s position should not be seen as a vulnerability, but as a foundation for further growth. The company’s innovation and R&D leadership are attracting more international firms to invest in the island and deepen their partnerships with the chipmakers.

Its supplier network can also use these opportunities to boost R&D, increase investment, and generate greater added value. “All of this strengthens Taiwan’s position and creates more opportunities, rather than making it more vulnerable,” he adds.

President Lai Ching-te. Photo courtesy of Office of the President Republic of China (Taiwan)

Semiconductor Manufacturing International Corporation (SMIC) to its trade blacklist, a move that aligns it more closely with US policy and reflects rising tensions with Beijing.

“This signals an even stronger commitment to cooperating with international allies,” Chiang tells The Tech Capital.

In recent years, TSMC has pursued an aggressive global expansion. Beyond seizing business opportunities and meeting customer demand, the strategy reflects a push to reduce reliance on Taiwan-based facilities, mitigate supply chain risks, and address geopolitical pressures.

The company describes its global approach as customer-driven, shaped by “geographic flexibility, business opportunities, operating efficiency, government support, and cost economic considerations.” It acknowledges that overseas plants are currently more expensive to run than those in Taiwan, but says it aims to improve efficiency as capacity grows.

“We’ve spoken previously about the higher cost of overseas fabs, but we will leverage our increasing size in Arizona and work on our operations to improve the cost structure,” a TSMC spokesperson tells The Tech Capital.

While aware of its geopolitical significance, TSMC insists its focus remains on customers. “We are closely focused on meeting our customers’ needs and helping them to be successful,” the firm says when asked how it balances commercial priorities with strategic expectations.

This expansion marks more than a business strategy, it also signals a broader shift in the global semiconductor landscape.

As production spreads to more countries, it raises questions about whether this will weaken Taiwan’s dominance, strengthen it through a bigger global footprint, or alter the political leverage that comes with leading in advanced chips.

“TSMC’s globalisation has allowed Taiwan’s government to gain important new foreign stakeholders in the island’s future, while avoiding, or at least reducing, backlash against its dominance in the chip market,” says Ian Easton, associate Professor at the US Naval War College [China Maritime Studies Institute].

By expanding overseas, TSMC has created more companies and governments with a direct interest in Taiwan’s stability as they now have a stake in its chip production. This global presence could also help soften any resentment that Taiwan might face for controlling so much of the global semiconductor supply at home.

“Moreover, stronger economic ties between Taiwan and other friendly countries would improve all parties’ resilience against coercion from the People’s Republic of China,” Easton tells The Tech Capital.

Sravan Kundojjala, a semiconductor analyst at SemiAnalysis, says overseas expansion is less about eroding Taiwan’s leverage and more about adding resilience.

“It’s imperative for TSMC to expand overseas to withstand climate, talent, and security concerns. If anything, overseas fabs give TSMC a cushion against potential China invasion,” he tells The Tech Capital.

Looking ahead, Kundojjala believes geopolitics will pose the sharper test.

“We see TSMC doubling down on US investments in light of geopolitics,” he says. “Overseas fabs give TSMC a cushion against foreign exchange fluctuations and tariffs. Net-net, we see TSMC benefitting in the long term.”

Washington building its own shield

In a bid to secure their tech futures, major economies are racing to build domestic chip factories and reduce dependence on Taiwan.

The US launched the Chips and Science Act in 2022, allocating more than US$52 billion to boost semiconductor manufacturing, research, and development. That effort has drawn large-scale investments from global chipmakers, with combined commitments in the hundreds of billions.

More recently, the US has shifted toward encouraging onshore production by threatening steep tariffs on imported semiconductors. Earlier this year, President Donald Trump proposed tariffs as high as 100% on chips, offering exemptions only to companies that commit to building or expanding US facilities, a move that would likely include TSMC given its recent major investments in the country.

However, the policy’s vague definitions have left industry players uneasy. Some critics doubt that high tariffs will be as effective or sustainable as subsidies or stronger supply chains in boosting domestic production.

Washington has also moved beyond subsidies to backing domestic champions directly. Recently, the Trump administration struck a deal with Intel, taking a 10% equity stake by converting part of a government grant into shares.

The move signals Washington’s willingness to strengthen homegrown competitors to TSMC and reduce dependence on Taiwan while building long-term resilience in advanced chipmaking. Still, it has drawn criticism from those who see it as heavy-handed government meddling in private industry.

On the ground, build-outs are advancing in the US, including Intel’s expansions in Arizona, Ohio, and New Mexico, and TSMC’s three Arizona fabs under its US$165 billion expansion plan for US-based manufacturing. The result is not just supply chain security but a deliberate effort to create an American Silicon Shield.

Beijing’s counterplay

Meanwhile, the US biggest tech rival China is also moving quickly to close the gap. While it still relies heavily on Taiwan for high-end chips used in electronics, AI, and defence applications, Beijing is accelerating efforts to localise production and shift the balance of power.

Foundries such as SMIC and Huahong Semiconductor have expanded capacity at what are known as mature nodes, or older manufacturing processes of 28 nanometres (nm) and above. Between 2015 and 2023, China’s share of global capacity for these older nodes rose from 19% to 33%, supported by heavy subsidies and state-led investment.

President Lai Ching-te. Photo courtesy of Office of the President Republic of China (Taiwan)

At leading-edge nodes, the most advanced processes, currently below 14nm, China remains several generations behind Taiwan's TSMC and South Korea's Samsung.

In chip manufacturing, the smaller the nanometre figure, the more advanced the process, typically enabling faster performance and greater energy efficiency, particularly in AI and high-performance computing.

According to a report by France-based market research firm Yole Group, mainland China could account for 30% of global foundry capacity by 2030, although much of that growth will come from mature-node output.

"Supported by subsidies, China is rapidly expanding mature-node production and increasing self-sufficiency but remains largely behind in innovation and global supply chain," says MingYii Lai, senior consultant at Daxue Consulting. "China is more focused on volume, price competition, and substituting mature and legacy nodes for imports."

Taiwan's position in advanced chips remains unmatched in the short to medium term, thanks largely to TSMC and its surrounding industrial ecosystem.

TSMC leads in nodes at 7nm or smaller, which enable faster, more power-efficient chips for smartphones, high-performance computing, and defence systems.

Yet even as Taiwan dominates the leading edge, China's rise in mature nodes carries strategic implications.

Chiang notes that older chips are no less important because of their ubiquity. Once China becomes a major supplier of these foundational semiconductors, it could introduce new dependencies into global supply chains and raise questions of trust and security.

"It is difficult to imagine how much information the Chinese regime could access if our internet-connected devices at home were compromised due to cybersecurity vulnerabilities," he says, adding that China's price-dumping strategy in the foundational chip market could distort competition and deter private investment, making it harder for companies to fund R&D for specialised mature-node processes.

Last year, the Office of the United States Trade Representative (USTR) and the International Trade Commission (ITC) surveyed 58 respondents, including semiconductor producers, industry associations, and other stakeholders, on pricing, production, and competitive dynamics in 2022 and 2023.

The report cited China's microcontroller maker GigaDevice, which offered products at prices 20–30% lower than non-Chinese rivals such as France's STMicroelectronics for much of that period. Cost was the main reason respondents chose China-based foundries for 54% of listed products.

In other words, Beijing is not breaking Taiwan's shield at the cutting edge, but it is quietly blunting its power from the bottom up.

A broader, more entangled shield

Efforts to reduce reliance on Taiwan are reshaping the geography of chipmaking. The US, Europe, Japan, and other markets are building local capacity under "chip sovereignty" initiatives, while TSMC itself is adding significant overseas fabs.

Its growing foortprint in the US will increase the share of capacity there, driven in part by surging demand from AI data centres. Yet, expansion abroad has not come at the expense of Taiwan where TSMC continues to invest heavily in advanced manufacturing.

Analysts warn that the future of the global semiconductor supply chain should not be viewed purely through the lens of TSMC's overseas plants.

"True global benefit comes not only from supporting TSMC, but from valuing and working with the broader chip industry ecosystem that Taiwan has built," says Chiang. This network of suppliers, talent, and infrastructure is a critical source of efficiency, and undermining it could weaken the resilience of the supply chain.

That suggests the Silicon Shield is evolving rather than disappearing. It is no longer a simple deterrent based on Taiwan's monopoly. Instead, it is becoming a web of interdependence: Taiwan remains indispensable at the leading edge, while its global expansion draws allies deeper into its fate. For China, narrowing the technology gap with Taiwan will be challenging given TSMC's leadership and ecosystem advantage. According to Daxue's Lai, Beijing is more likely to pursue complimentary strategies than to directly overtake TSMC in advanced nodes. That means prioritising mature nodes, specialty chips, domestic substitution, and potentially alternative architectures, while working to close its talent gap.

Yet Taiwan faces challenges from both sides of the market. The island will face pressure in both leading-edge and mature nodes in the long term, says Kundojjala.

"Some leading-edge production will be shifted to the US, while Chinese mature competition could cut into Taiwan's lead in legacy nodes. So, share shifts are likely. Nevertheless, the semiconductor ecosystem will continue to depend on Taiwan's proven massive capacity and ecosystem," he adds.

The likely outcome is a more geographically distributed supply chain, with new hubs in the US, Europe, and Asia complementing Taiwan's strengths. This diversification may reduce concentrated risk but will not eliminate Taiwan's central role, especially at the leading egde. Instead, the next decade could see a semiconductor network that is broader, more politically entangled, yet still achored by the island's unmatched ecosystem.

The Silicon Shield is not vanishing, but it is changing. It is less about Taiwan's isolation and more about entanglement with allies. That evolution may make the shield harder to define, but it also makes it harder to break.

C-LEVEL VIEWS

LEADERS PREDICT AI, ENERGY RESILIENCE, AND ECOSYSTEM SHIFTS WILL RESHAPE GLOBAL TECH, DATA CENTRES AND TELECOMS IN THE NEAR FUTURE

by Abigail Opiah

From data centre resilience in Africa to telecoms transformation across Asia-Pacific, industry leaders are setting out starkly different but interconnected visions of the future. Some warn that power stability will define the pace of growth in Africa and India, while others highlight AI at the edge as the next efficiency driver for 5G-powered networks. The parallels between today's AI wave and the cloud boom of the mid-2010s is amplified, calling for self-sufficient energy strategies in data centres, while, on a separate note, experts note that APAC telecoms, in particular, must evolve into ecosystem orchestrators, leveraging cloud-native platforms and LEO satellites to unlock new revenue. Together, their predictions suggest a decade where power, AI, and ecosystem agility will determine who leads in the next wave of digital infrastructure.

Michael Tobin OBE, technology entrepreneur, author and philanthropist

Michael Tobin

At some point, and maybe not over the next two to three years, you will see huge growth in Africa. Asia at the moment is on fire everywhere. India is on fire. The amount of gigawatts they are asking for is just a demonstration of their ability to catch up rapidly on a technology basis. In those markets, when you look for gigawatts, that sort of scale of development, is it achievable or is it a dream? Because grid stability in those countries is not there.

You do have to build the power. Africa is really tricky, but in India, you need to partner with locals, and you need that commitment of building the substation next door. You also need resilience. I remember Rack Centre in Nigeria, their first data centre there, was running 24-7 on diesels because they could not rely on the grid, and the cost was expensive. It is not quite as bad now, but in India, for example, the network is relatively stable now.
If you are building a 100 MW substation next to your 100 MW data centre, the cost is about the same.

Sam Barker, Vice President, Telecoms at Juniper Research

Sam Barker

There is a rapid transformation underway in the telecoms market in APAC, primarily driven by extensive 5G expansion, substantial investment in infrastructure, and efficiency gains through strategic consolidation, most notably, shared infrastructure. Whilst cost savings are a key motivator, the focus on energy saving is also accelerating, with renewable energy being implemented at various cell sites in countries such as Malaysia.

Moving forward, Juniper Research expects intense focus on deploying AI at the edge of networks, providing further efficiency gains as demand for cellular data increases in APAC. By deploying AI at this level of the network, operators can achieve new levels of cost savings by automating network functionality, such as throughput management and energy usage.

Harro Beusker

Harro Beusker, founder and CEO, nLighten

There is a new wave of AI, but the ongoing waves with digitalisation and the cloud, is still going on as well. We are not banking on AI, but we are definitely wanting to engage and invest. The development will be similar to what happened in the cloud back in 2014-15. Cloud took three years to really get going, and it took five to eight years to really become a mainstream thing. So by 2030, it will be very strong.

I also believe that the data centre industry will need to look after themselves more, at least more than they do today. We will need to invest in private wire renewables coming into the data centre. We will also need to invest in generating power ourselves. We need to spread out and we need to look at how we can improve our supply ourselves. When I started in this industry 25 years ago, it was a niche industry. Now, it is a mainstream industry, and everything you do on this phone nowadays gets into a data centre.

Prianca Ravichander

Prianca Ravichander, Chief Commercial Office and CMO, Tecnotree

Communications service providers (CSPs) in APAC are at a turning point: connectivity alone is no longer enough. To thrive, operators must evolve into ecosystem orchestrators, unlocking new revenue streams through hyper-personalised, edge-enabled services. Satellite LEO (Low Earth Orbit) network providers now support last-mile connectivity while sustaining economies of scale across the globe. APAC's diverse markets are uniquely positioned to leapfrog legacy models. By adopting cloud-native, API-first architectures, CSPs can scale partnerships quickly, bundle services across verticals, and orchestrate entire ecosystems.

Those who embrace this shift will capture value far beyond connectivity, becoming enablers of digital lifestyles, Industry 4.0, and the region's innovation economy. The APAC market operates with responsive margins across diverse sectors, which means the agility of cloud-native platforms to scale rapidly and seize niche business opportunities is critical. Combined with the standards mentioned above, this enables CSPs to drive brand monetisation across multi-tenancy platforms, supporting both enterprise and consumer wholesale growth.

Dean Nelson

Dean Nelson CEO, Cato Digital and founder & chairman, Infrastructure Masons

We can either be a grid stabiliser or a grid destabiliser. And because gigawatt factories are a very different load on the grid than our traditional stuff where data centres were flat. This is spiking to 140%, dropping to 20, going to 120. It is like starting an engine a hundred times a minute. It is significant. So the ability for us to go back and actually play, first off, we have to be a grid participant. It is no longer just about rates, it is access to power, but we have to make sure we can actually stabilise the grid. This means that the data centre providers are not just turning on generators, but being an active participant in ingesting power back, stabilising voltages. Just like other large, intense industries, now data centres have to play that role.

We want another five to ten years of freedom to do what we need to, and that is to build AI. In the power market right now, there is participating with a grid when it comes down to that, and we have already been playing in that space for 10 to 20 years.

CRITICAL CAPACITY

THE UK'S PUSH FOR AI LEADERSHIP EXPOSES BOTTLENECKS IN DATA CENTRE POWER, POLICY, AND TALENT

For years, data centres operated out of public view, humming in anonymity while underpinning nearly every aspect of the digital economy. That changed in 2025. The UK government's ambition to become a leader in artificial intelligence has pulled the sector into the centre of political, economic and national security debates, transforming it from a peripheral enabler into a pillar of national digital strategy.

At a House of Lords roundtable in June, hosted by The Tech Capital and Parisi Consulting, operators, investors and policymakers gathered to assess how far the country has come—and how far it has to go. What emerged was a portrait of an industry now recognised as Critical National Infrastructure (CNI), but still hampered by planning delays, energy constraints, and skills shortages that could slow the country's AI ambitions.

Data centres move into the national spotlight

The designation of data centres as CNI in September 2024 was a watershed moment. It placed them alongside water, energy, and emergency response systems in the hierarchy of essential services. For industry leaders, this formal recognition promised not only greater resilience in the face of operational risks, but also a stronger hand in planning battles where projects often face local opposition.

Lord Holmes of Richmond, who has been vocal on digital policy, argued that the CNI tag was long overdue, noting that the industry's quiet role in sustaining everything from remote work during the pandemic to national security operations had gone largely unacknowledged. Yet this recognition comes with heightened scrutiny. As Parisi Consulting's Shivani Lodhia warned, visibility brings regulatory complexity, requiring operators to adapt to more rigorous standards without losing agility.

The energy equation

The sector's most pressing challenge remains power. As AI and high-performance computing workloads multiply, demand is soaring. According to Ofgem, London alone had 400GW of pending grid connection requests earlier this year, with delays stretching a decade or more. Cushman & Wakefield research cited at the roundtable underscored the scale of the backlog.

To address the bottleneck, the Labour government has advanced the Clean Power 2030 Action Plan, backed by £24 billion in grid upgrades, including £8.9 billion for high-voltage networks. Energy Secretary Claire Coutinho has stressed that reforms, including a "first-ready, first-connected" approach, will clear out so-called zombie projects and allow data centres to secure connections faster.

But industry voices questioned whether this will be enough. Ben Pritchard, CEO of AVK, urged that data centres must become "active partners in delivering a cleaner, steadier grid" rather than passive consumers, a view echoed by members of the newly formed AI Energy Council, which brings together government, utilities, cloud giants and chipmakers.

Sovereignty, AI and regional growth

Prime Minister Keir Starmer's AI Action Plan—unveiled in January—sets an ambitious course: expanding sovereign compute capacity twentyfold by 2030 and designating AI Growth Zones to decentralise development. The first site at Culham, home to the UK Atomic Energy Authority, signals the government's intent to anchor new digital hubs in regions beyond London.

Yet as the roundtable discussion made clear, much of the UK's AI compute demand remains clustered in the southeast, straining local grids and limiting regional spillovers. Lord Vallance of Balham warned that without a more distributed approach, Britain risks both geographic imbalance and technological dependency on US and Chinese hyperscalers.

There is also the question of sovereignty. While the UK boasts strengths in high-performance computing and fintech, its domestic AI training infrastructure remains underdeveloped. Participants agreed that without a cohesive national digital infrastructure strategy—linking energy, compute, and skills—the country's ambition of AI leadership could falter.

The people problem

Beyond power and planning, talent looms as another bottleneck. Construction of hyperscale facilities generates thousands of jobs, but permanent staffing is modest and often highly specialised. Prime Minister Starmer's pledge of £187 million for a "Tech First" programme, training one million students in AI skills, was welcomed. Yet roundtable participants cautioned that AI engineers are not interchangeable with the mechanical and electrical specialists data centres urgently need.

Industry representatives stressed the need for clearer career pathways and better public awareness of the sector's role. Without this, operators will struggle to attract the next generation of skilled workers to remote or industrial areas where large-scale facilities are built.

A decisive moment

The Tech Capital's roundtable underscored both momentum and fragility. On one hand, data centres are finally recognised as strategic assets, backed by policies that link them to AI, clean energy, and national resilience. On the other, the sector faces structural barriers—grid capacity, regulatory uncertainty, and workforce shortages—that could slow growth at precisely the moment government expectations are highest.

As Lodhia concluded, the challenge is no longer awareness but coordination. Decisions taken now on planning, energy and talent will determine whether the UK can transform its digital infrastructure into a foundation for AI sovereignty and long-term economic resilience. For investors and operators alike, the stakes could hardly be higher.

Australia's data centre market is experiencing robust growth, with projections indicating a capacity increase from 2.18 GW in 2025 to 4.07 GW by 2030, reflecting a compound annual growth rate (CAGR) of over 13%. This expansion is driven by escalating demand for cloud services, AI, and edge computing. Notably, Amazon has committed to investing AU$20 billion (approximately US$13 billion) in local data centre infrastructure by 2029.

AUSTRALIA

AI DOWN UNDER

BILLIONS FLOW INTO AUSTRALIA'S DATA CENTRES, BUT POWER, PLANNING AND SOVEREIGNTY GAPS COULD STALL ITS AI AMBITIONS. CAN IT KEEP PACE?

by Khamila Mulia

Australia is racing to cement its place on the global data centre map. Hyperscale demand is accelerating, investment is flowing, and government backing is growing. Yet behind the momentum, the country faces a harder test: overcoming power shortages, planning hurdles, and community resistance to turn its pipeline into real capacity.

The country now has more than 1.2GW of installed IT capacity, with projections pointing to over 3GW by 2030, according to Alvarez & Marsal. This trajectory places Australia among the leading global markets for large-scale digital infrastructure.

Both international and domestic operators have been scaling up their presence.

Amazon Web Services (AWS) plans to invest AU$20 billion (US$13.2 billion) between 2025 and 2029 to expand and operate its facilities nationwide.

Macquarie Data Centres is building a 150MW hyperscale campus in Sydney's Macquarie Park, while Goodman Group has lodged plans for a 90MW facility in New South Wales with an estimated development cost of AU$1.2 billion (US$757 million).

Government policy is also adding momentum. New South Wales has allocated tens of millions in its 2025 budget to accelerate digital infrastructure upgrades. In South Australia, officials have launched a four-year initiative to attract renewable-powered hyperscale facilities, positioning the state as a potential hub for compute infrastructure.

Australia brings together many of the conditions needed to compete for AI-driven infrastructure investment in Asia Pacific.

Sydney and Melbourne are already ranked among the top global data centre hubs, and the country benefits from relative policy stability, a growing land pipeline, and improving access to renewables.

But sustaining this trajectory will require overcoming structural bottlenecks, from limited power availability in key metros to underdeveloped sovereign AI compute. With community pushback also mounting, the next phase of growth will depend less on attracting capital and more on how quickly Australia can translate commitments into capacity on the ground.

Filling the power gaps

Planning approvals, supply chains, and skilled labour are ongoing challenges for the market, but power remains the biggest bottleneck in Australia.

"Whether it's Sydney or Melbourne, it can take years to get power ready for a site," says Donny Gunadi, senior analyst at DataCentreHawk. "Unless there's already a supply agreement in place, a new site may have to wait several years before it can be powered on."

This constraint is compounded by rising energy costs and mounting expectations to source renewable power. "In practice, while securing land and lodging development applications is relatively straightforward, delays in approvals and power provisioning make it more viable for operators to lock in lease commitments before building," Gunadi tells The Tech Capital.

Established providers with powered shell space may expand capacity speculatively to serve enterprise demand, he adds, "but that approach is far less feasible for hyperscale or AI-driven data centre projects."

Data centres already account for about 5% of Australia's electricity use, a share projected to reach 8% by 2030. Regulators are tightening requirements in response: since July 2025, all facilities must achieve at least a 5-star rating under the National Australian Built Environment Rating System (NABERS).

Introduced through the Net Zero in Government Operations Strategy, the rule extends previous obligations that applied only to members of the Digital Transformation Agency's Data Centre Panel.

It now sets the baseline for any data centre hosting federal workloads and signals a broader push to standardise energy efficiency across public infrastructure.

Operators are adjusting by sourcing renewable power through purchase agreements, on-site generation, and renewable energy certificates.

Equinix has signed a 151MW PPA with TagEnergy, expected to power its 17 International Business Exchange data centres nationwide once operational in 2029. Microsoft has a 15-year PPA with the Walla Walla Solar Farm in New South Wales, while Amazon Web Services has committed to more than 170MW from three new solar farms in Victoria

Tasmania enters the 'AI race' with Firmus Technologies factory. Photo courtesy of Firmus

and Queensland developed by European Energy.

Oliver Curtis, co-founder and co-CEO of Firmus, shares the concern that regulatory ambition alone is not enough. He argues that while Australia has significant renewable energy potential, it will remain underutilised without stronger government action.

“Unless we unlock transmission, streamline approvals, and support large-scale baseload for digital infrastructure, it will stay as just potential,” he says.

In Firmus’ case, tier-two locations like Tasmania offer a more efficient development process, with clearer support from state governments.

Sovereign AI: the missing piece

While regulators and operators are working to ease power constraints, the absence of sovereign AI infrastructure remains a strategic gap.

“If you want to be in the AI race, you can’t rent all your GPUs from someone else’s cloud,” says Curtis. “Sovereign capacity matters for national security, for research, and for simply keeping pace. Australia’s got a rare shot to be the AI engine of Asia, but only if we build that capacity ourselves.”

Historically a global exporter of energy and raw commodities, Curtis argues that the next frontier is exporting “AI tokens”, or the digital output of intelligence infrastructure.

“That’s what our investment in Tasmania is about: a 100% renewable-powered AI factory, backed by strong partners and supportive state policy,” he says. “It’s designed to handle global-scale training and Asia-Pacific inference, which means we can start exporting intelligence, not just energy.”

The Asia Pacific Data Centre Association (APDCA) echoes this concern, stressing that access to high-performance compute is critical to Australia’s goal of using AI to raise productivity and living standards.

“Seizing Australia’s AI opportunity will require decisive, coordinated action to ensure businesses, researchers, and the public sector have access to advanced compute,” an APDCA spokesperson tells The Tech Capital.

According to the association, the government is making progress, citing initiatives such as the 2026 National Infrastructure Roadmap and the National Computational Infrastructure (NCI), which enhance national research and compute capabilities.

The new authority created by the New South Wales government to fast-track approvals for major infrastructure projects is also described as a timely and important step.

Community pushback and shifting geographies

Community resistance has also become a flashpoint in Sydney and other metro areas, where residents are raising concerns over emissions, water use, noise, and the bulk of new builds close to homes and schools.

In Sydney’s Lane Cove for example, the local council has pushed back, warning that repeated data centre approvals are taking a toll on already constrained water and energy systems, and calling for regulators to account for cumulative impact when assessing new projects.

A report by University of Technology Sydney (UTS) highlights that some Australian communities have filed lawsuits to halt proposed data-centre projects, citing fears over water security, environmental harm, and heavy reliance on fossil fuels.

“In New South Wales, residents now demand data centres be zoned in industrial areas rather than near residential or education sites,” says Gunadi of DataCentreHawk. “This adds complexity, but in the long run it’s a positive step towards a more regulated and sustainable market.”

Operators are responding with efforts to strengthen their social licence. “You can’t just drop a 45MW site into a town and hope no one notices,” says Curtis.

“In Tasmania we started by engaging the council, sharing environmental modelling, and showing how we’d keep noise, water use, and visual impact low. When people see renewables in the mix and local benefits, the conversation changes.” For northern Tasmania, he says, this includes new jobs, re-skilling, and the repurposing of century-old industrial infrastructure for a globally relevant AI industry.

The Asia Pacific Data Centre Association (APDCA) notes that early and transparent engagement is essential. “Our industry must take active steps to ensure local communities benefit meaningfully from digital infrastructure,” an APDCA spokesperson tells The Tech Capital.

Members, they add, are investing in energy and water systems that also serve homes, schools, and hospitals, alongside job creation and training programmes. “Without these investments, costs for local communities would be significantly higher.”

This push to build trust is also shaping location choices. As pressure mounts in metro areas, data centre supply will diversify with edge facilities and expansion into secondary cities such as Adelaide, Perth, and Brisbane, according to Alvarez & Marshall’s report.

Signs of this shift are becoming more frequent.

In August, CDC announced plans for a new campus outside Perth, Western Australia, expected to be the state’s largest AI-capable facility. The site is designed to provide up to 200MW of high-density capacity, targeting demand for sovereign AI-ready infrastructure across government, research, defence, technology, and critical industries.

Other major players like NEXTDC and DCI Data Centres have also been expanding their presence into the secondary cities outside of Sydney, Melbourne, and Canberra.

Curtis argues the shift is not only about zoning limits but also about efficiency: “AI doesn’t care where it goes to school. The most sustainable way to build AI Factories is to site them where land and electricity are most accessible, then export the output globally via high-capacity fibre.”

Promising future

Looking ahead to 2030, the challenge for Australia is no longer attracting capital but building at speed and scale. The country must streamline approvals, modernise the grid, expand renewables, and invest in skills if it wants to deliver a more dynamic, productive, and resilient economy.

“Other countries are moving swiftly to secure their position as AI and digital hubs. Australia must act decisively to retain its competitive edge.” says an APDCA spokesperson.

Investors remain optimistic. According to Knight Frank’s Global Data Centres Report, Australia is second only to the US as a top data centre investment location. In 2024 Australia deployed US$6.7 billion in capital according to the report. The market is projected to grow at a compound annual growth rate of 18% over the next five years to 2030.

“Australia is still an attractive destination from both a resource and political stability point of view,” says Gunadi. Abundant renewables and the country’s status as part of the Five Eyes alliance strengthen its appeal, evidenced by Amazon’s AU$20 billion commitment between 2025 and 2029.

Yet much of the country’s infrastructure remains in the hands of US hyperscalers, with sovereignty largely confined to sensitive sectors such as defence and health.

Gunadi argues that the next 12 months will be crucial: “Land, power, and water must be managed wisely, and connectivity expanded to ensure Australia has the resilient global links needed to become a true AI infrastructure hub.”

For operators, the design of future facilities will also define competitiveness. Curtis of Firmus believes the era of retrofitting legacy sites is over.

“They were never engineered for the heat loads, power density, and cooling performance modern GPUs require,” he says. The next wave will be purpose-built AI factories, sited away from CBDs in regions with power, land, and fibre. Capacity growth, he predicts, will be driven by neocloud and GPU-as-a-Service providers capable of rapid, repeatable deployments.

By 2030, Curtis argues, success will depend on execution. “We’ve got to have the transmission built, the renewable projects connected, and sovereign AI factories running at scale,” he says. “If we stall on policy or connections, the investment will just go to faster-moving countries, and we’ll be back to importing the same AI we could have been exporting.”

THE WEEK AHEAD

A THE TECH CAPITAL LINKEDIN EXCLUSIVE

BLUEPRINT FOR GROWTH

ANI SATCHCROFT, CO-HEAD OF ASIA PACIFIC INFRASTRUCTURE, EXPLAINS THE PHILOSOPHY BEHIND MACQUARIE'S LATEST AUSTRALIAN FIBRE POWERPLAY.

by Jack Haddon

Speak to most investors that are exploring or already involved in digital infrastructure transactions, and the first thing you'll hear is about the appeal that lies in scale, demand certainty, and the rise of data-intensive technologies like AI.

But not Ani Satchcroft, co-head of Asia Pacific Infrastructure at Macquarie Asset Management.

"Our origination style is quite different," she tells The Tech Capital. "We're really focused on thinking about where the unmet community need is and then matching private capital in a way which makes sense."

Of course, the fundamentals that make digital infrastructure appealing come into the equation for Macquarie too, but Satchcroft believes that taking this step back and looking at the real-world impact of infrastructure before looking at the economics is part of Macquarie's DNA.

It's also what has helped the firm avoid "just investing where everyone else is investing," she says.

So where is this philosophy leading Macquarie to deploy its capital now?

Digital infrastructure is certainly taking more of a front-row seat, spurred on by strong tailwinds from digitisation, cloud migration, AI and the emergence of a tech-native generation.

And within digital infrastructure, fibre assets present a significant opportunity in Satchcroft's mind.

"The other thing that's interesting about digital infrastructure is it's not just that there's been these tailwinds, but also the way we're using digital infrastructure has changed," she says.

Using the example of fibre, what was previously a telco-focused asset is seeing increasingly more technology-enabling use cases.

That presents a compelling opportunity for Macquarie, particularly in its home market of Australia.

"More data is constantly being created, partly by people, but a lot of it also by applications or automated pieces of machinery and tools," Satchcroft explains.

Regardless of why it was created or what it's being used for, this data increasingly needs to move around between generation sources, data centres and edge devices.

And this trend is accelerating as remote work and education become far more commonplace in digitally enabled societies.

Interestingly, education is playing a huge role in AI-generated data. Statistics from AI Platform OpenRouter have shown that as schools finished for the summer, the tokens generated by ChatGPT users fell from an average of 79.6 billion tokens a day in May to just 36.7 billion in June.

Ani Satchroft

This stark contrast shows how reliant on data-generating technology the younger generation is, and is a strong signal for increased adoption as they move from education to the workplace.

“One of the essential components to that is the infrastructure to be to enable that data to move in a safe, secure, low latency, reliable way,” Satchcroft says.

“That was really what drove our interest in fibre networks as the backbone of that digital infrastructure ecosystem.”

Vocus and TPG acquisitions

In Australia, Macquarie identified this community need back in 2021, when it acquired a 50% stake in Vocus alongside pension fund Aware Super in an A$3.5 billion deal.

At the time, Macquarie were attracted to Vocus’s strong inter-city fibre links that span the length of Australia.

Over the next three years, Macquarie and Aware Super grew Vocus organically, and then, in October 2024, it reached a deal to acquire fellow Australian telco TPG’s Enterprise, Government and Wholesale fixed business for $A5.25 billion.

“We sat back and thought about the shape of the industry,” she says. “We could have continued to grow it organically. But we thought one of the things that would really turbocharge it was investing in these assets because it put two pretty much equally sized companies together and enabled them to serve the consumer end to end.”

Ticket to play

While a quicker route to increased scale was undoubtedly the primary driver of the TPG acquisition against the backdrop already outlined by Satchcroft, having duct in the ground is really just the starting point in deriving value from fibre assets.

“The other thing that's really important is the culture and the customer service of the organisation,” she explains.

Thinking about what communities need doesn’t end at consumers; it also extends to understanding business customer requirements and how a company can meet that demand.

“If you think about how quickly some of the hyperscalers are growing, so building data centres, but also on the application side, they really want a partner that is going to be able to move at their speed,” Satchcroft adds.

For Macquarie, moving at the right pace in fibre means ensuring reliability and where specifications change or where challenges arise, being able to work with sophisticated customers to address them.

“People are getting more demanding about how quickly they expect and how reliably they expect their communications to happen,” she offers.

Being able to live up to these expectations is crucial to ensuring the long-term viability of fibre investments, keeping hyperscalers as customers rather than competitors.

In the subsea connectivity industry, hyperscalers are increasingly choosing to build, fund and own their own infrastructure, with telcos’ roles diminishing over time.

Once again, Macquarie’s core philosophy comes into play.

“We constantly challenge our management teams and challenge ourselves to make sure that we are providing the best service, but also that we're continuing to think about and anticipate where the future needs of that asset are,” she explains.

With regards to Vocus, Satchcroft points to its integration of satellite services into its product mix.

A recent deal with Starlink highlights this thesis: by integrating Starlink's low Earth orbit satellite network directly into its private IP WAN, Vocus is shielding itself from being disrupted by the rise of direct-to-customer satellite services and instead turning that technology into a competitive weapon.

The private Layer 2 interconnects in Sydney and Perth allow Vocus to offer secure, enterprise-grade connectivity to remote locations without touching the public internet.

This is precisely the kind of forward-looking service Macquarie sees as essential to anticipating future customer needs.

Another example is Vocus's focus on building in more remote areas. "The vastness of Australia does provide some opportunities," Satchcroft explains.

"We're very keen to ensure that we are providing for regional and remote communities. One of the things that Vocus does really well is build out fibre networks and build out in areas where it's potentially a little bit more difficult."

Serving these remote communities and meeting their connectivity needs is a part of Macquarie's capital expenditure planning for Vocus, boosting the value that hyperscalers see in partnering with it. Here, meeting the needs of the community perfectly aligns with meeting the needs of a sophisticated enterprise client.

The wider APAC view

Satchcroft says Vocus's deal with TPG is "piquing people's interest across some of the rest of the region."
"It's a very difficult thing to do to extract a fibre network from a telecommunications company," she adds.

But she's also aware that Macquarie can't fall into the trap of seeing APAC as a homogenous place. Every country has its own nuances, and this will dictate the way an investment is evaluated and executed.

For example, fibre penetration in certain Southeast Asian markets is far lower than in markets like Australia, even considering its vast geography.

Other technologies that are available in those countries that fibre needs to interact with, and the demographics of the population, and what their communities need, will also be different depending on where you are.

Understanding these nuances is key to Macquarie's investment strategy across the region.

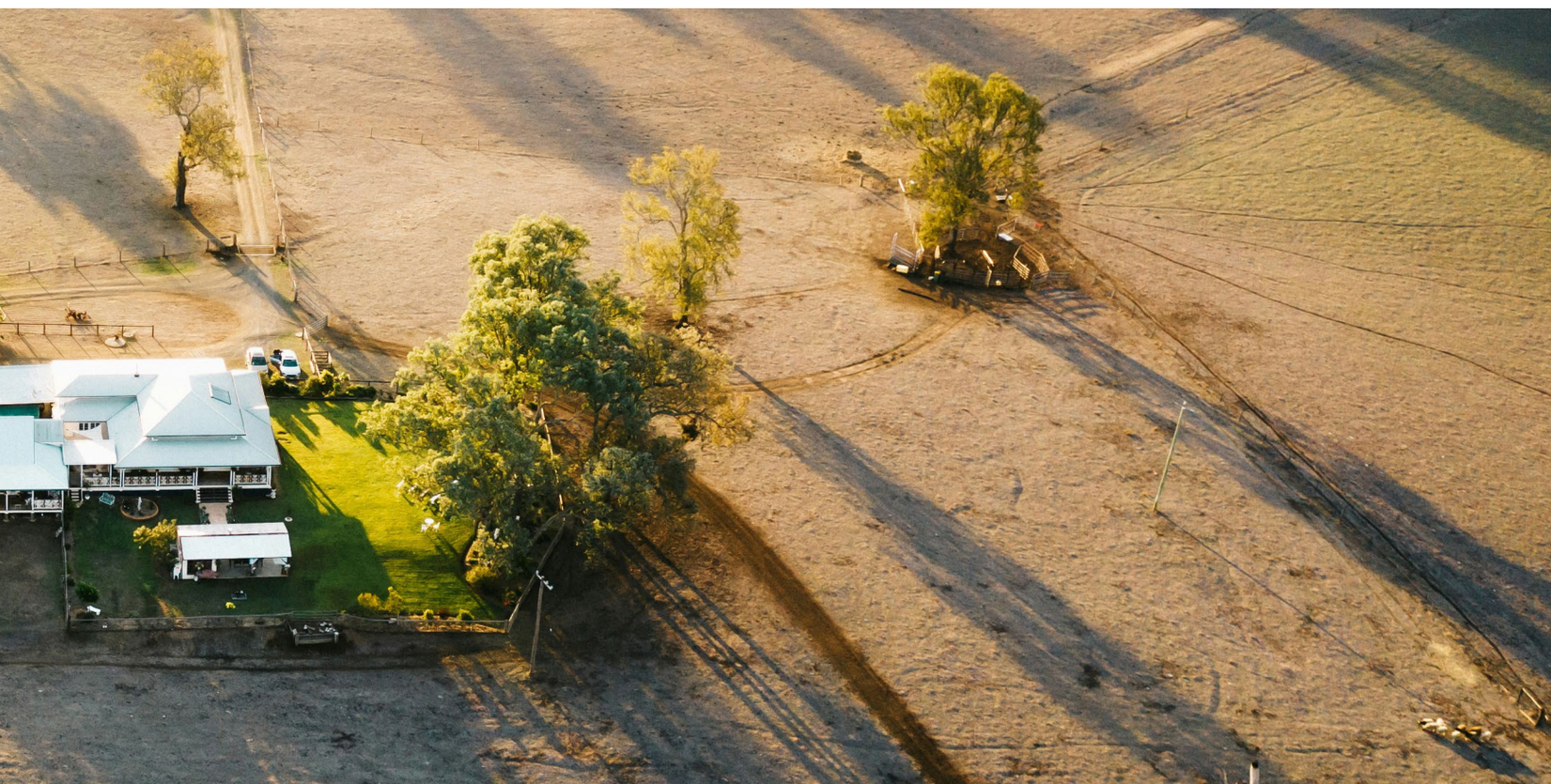
In addition to what Satchcroft believes is the firm's unique origination philosophy, Macquarie's differentiated pools of capital, ranging from global core funds all the way through to the regional flagship funds, mean it can evaluate a specific investment and decide which fund or which pool of capital is most appropriate based on its risk profile.

"What we do is tend to originate and find investments, and then, based on its characteristics, the investment team will attribute a risk profile to it. Then, based on that risk profile, we work out the most appropriate pool of capital," she says.

"It's not like we're investing out of a single fund, where you find an investment, but if it doesn't fit that fund, you don't make it."

Understanding these nuances also impacts how Macquarie grows its businesses rather than just keeping them ticking over.

The organic and inorganic growth investments in Vocus show how pairing scale with adaptability while remaining focused on the specific needs of consumer and business communities can turn infrastructure into both a defensive moat and a growth engine.



LEADERSHIP

THE INVESTOR 50

RECOGNISING LEADERS IN DIGITAL INFRASTRUCTURE FINANCE & INVESTMENT

Andrew Thomas
Senior Managing Director – Head of Digital Infrastructure, Stonepeak

Andrew Thomas is a Senior Managing Director at Stonepeak, heading Digital Infrastructure, Global ex-Europe. Prior to Stonepeak, he worked at Pacific Equity Partners and McKinsey & Company—bringing strategic and operational expertise to digital infrastructure investments.

Ani Satchcroft
Co-head of Infrastructure, APAC, Macquarie Asset Management

Ani Satchcroft brings nearly two decades of global infrastructure investment experience. After rejoining Macquarie in 2016 to build its digital infrastructure capabilities, she rose to head infrastructure investment for Real Assets in Australia. She has led landmark deals and shaped Macquarie's digital infrastructure growth across APAC.

Avi Banyasz
co-head of TPG Real Estate

Avi Banyasz has served as our chairman of the board of TPG Real Estate Finance Trust since December 2014. TPG has invested in numerous data centre assets across the US and has acquired PepperTree Capital, a towerco focused asset management. It has also taken over full management of the Quantum Frederick Campus in Maryland, a 2GW site.

Daniel Katz
Partner and Head of Portfolio Management, Infrastructure Debt, Ares Management

Daniel is a Partner and Head of Portfolio Management at alternative credit investor Ares Management. Ares is an investor in Ada Infrastructure, a global data centre firm. It recently closed a US$2.4 billion data centre fund focusing on Japan.

David Bloom
CEO, Goldacre

David Bloom is a serial founder and the CEO of Goldacre, launching the firm in 2012. He previously founded IPVision in 2007, Kao Data in 2014, and NED Data Centres in 2022. With over 17 years in tech, media, and telecom investment, he has deployed more than £500 million in equity and now serves as Chairman of Kao Data.

Brian Chinappi
Head of Real Estate & Data Centre, Actis

Brian Chinappi joined Actis in 2018 through the sale of Standard Chartered Bank's Principal Finance Real Estate group, a business he founded in 2010. He heads up Actis' Real Estate business, leading a team of investment professionals focused on delivering returns through understanding micro market dynamics and emphasising strategic, hands-on operations and management. Before joining Standard Chartered Bank, Brian spent sixteen years at RREEF.

Bunmi Adeoye
Principal, Africa Capital Alliance

Olubunmi ("Bunmi") Adeoye is a Principal with Africa Capital Alliance's Investment Team, focusing on sourcing, evaluating, and managing investments in technology, media, and telecoms. He previously worked in Credit Suisse's Global Energy Group in New York, advising power and renewable energy firms, and as a management consultant at Accenture.

Christina Tan
CEO, Fund Management and Chief Investment Officer, Keppel

She is also Chairman of Keppel DC REIT Management and Deputy Chairman of Alpha Investment Partners. With over 20 years' experience in investing and fund management across the US, Europe, and Asia, she previously held senior roles at GRA (Singapore), Chartered Industries of Singapore, Ernst & Young, and GIC. She holds directorships across Keppel Capital entities and sits on multiple investment committees.

David Grain
CEO and Founder, Grain Management

Prior to founding Grain in 2007, David led Pinnacle Towers (later renamed Global Signal) from bankruptcy to a successful IPO, transforming it into one of the largest independent wireless communication tower companies in the world. Grain Management specialises in investing in broadband technology's across data centres, towers, terrestrial fibre, and subsea.

Ellen Hall
Head of Direct Real Estate, Fidelity Investments

Ellen Hall joined Fidelity Investments in 2020 as Head of Direct Real Estate. With over 25 years of global real estate investment experience, she oversees strategies across industrial, logistics, data centre, and multi-family sectors, and manages the Japan Data Center Fund.

Emmanuel Jaclot
Executive Vice-President & Head of Infrastructure and Sustainability, La Caisse

Emmanuel Jaclot joined La Caisse in June 2018 as Executive Vice-President and Head of Infrastructure and Sustainability. He directs the organization's global infrastructure strategy and investments—overseeing more than CAD 60 billion—and chairs the Board of CDPQ Infra. Previously he held senior roles at Schneider Electric and EDF Énergies Nouvelles, and holds degrees from INSEAD and École des Mines de Paris.

Fabio F. Carvalho
Managing Partner, Alianza

Fabio F. Carvalho has 28 years of experience in the financial and investment markets. He participated in some of the first independent Brazilian asset managers in the mid-90s. He was the founder of the first initiatives of real estate investment companies for income in Brazil. At Alianza since 2015, he is responsible for the financial, funding, investor relations and Credit platform of Alianza.

Gonzague Boutry
Managing Director – Digital Infrastructure, Ardian

Gonzague joined Ardian in January 2012 as an Analyst within the Infrastructure team in Paris and now leads the digital infrastructure team. Ardian made its first investment in the data centre sector in 2024, acquiring UK-based Nordics focused operator Verne Global. Other investments include Spanish FTTH platform Adamo and INWIT, an active telecom infrastructure business.

Jaime Rodriguez Ramos
Operating Director, I Squared Capital

Jaime Rodriguez-Ramos is an Operating Director at I Squared Capital. A Spanish national residing in England, he took on this role in June 2022, and plays a pivotal part in operational leadership and strategic execution within the firm.

Joseph Jackson
Partner, Apollo

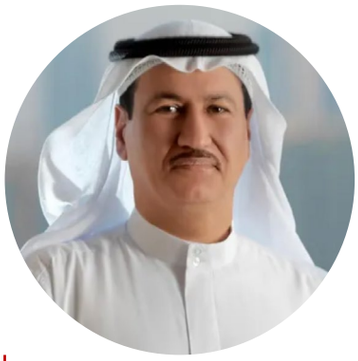
Joseph Jackson is Partner, Credit at Apollo. Prior to joining in 2021, Joseph was a portfolio manager at Elliott Management. Previously, he was Vice President at HPS in its Opportunistic Credit Group and an Investment Banking Associate at Morgan Stanley. He graduated cum laude from Harvard College with a BA in Government and Economics.

Guy Willner
Managing Director – Digital Infrastructure, Helios

A British national with 30 years of industry experience, Guy Willner joined Helios in 2022 as Managing Director, Digital Infrastructure. He founded IXAfrica in 2018 and IXEurope in 1998, which was listed on London's AIM before being acquired by Equinix, where he served as President of Europe until 2008. He was also an early investor and board member at Teraco Data Environments.

Gwen Colin
Head of ESG and Research, Vauban Infrastructure Partners

Gwen Colin was previously a consultant for PE/Infra funds looking to develop their sustainable projects in Europe and Asia. She has spent most of her career with some major financial corporations. She started her career as a legal advisor, then project manager, at Credit Agricole Asset Management (now Amundi) in Paris and Luxembourg. Her involvement in sustainable finance started in 2008.



Hussain Sajwani
CEO & Founder, DAMAC Group

Hussain Sajwani, a UAE National, is the founder and Chairman of global property development company, DAMAC Properties and founder and Chairman of the DAMAC Group. According to Forbe's he is 283rd wealthiest person in the world, with a net worth of US$10.2 billion. DAMAC'S data centre business, Edgenex, is developing sites in UAE, Saudi Arabia, Turkey, Thailand, Malaysia, Indonesia, Greece, Spain, Finland, and Italy. In January, DAMAC committed US$20 billion to expanding into the US.

vikas Bathla
Director at Public Investment Fund and a Board Member at LATIS

Vikas is a director at Public Investment Fund and a Board Member at LATIS. His role encompasses shaping investment strategies, sourcing and executing deals and managing portfolio investments in the Telecom and Digital Infrastructure sector.

Khadem AlRemeithi
Executive Director of the Infrastructure Department, ADIA

Khadem is an 18 year veteran of the Abu Dhabi Investment Authority (ADIA). He began his career as a fund manager in emerging markets, and now leads the infrastructure department. Within Digital Infrastructure, ADIA has invested alongside DigitalBridge in US real-estate and infrastructure developer Landmark Dividend and EdgePoint Infrastructure, an APAC tower company. It has also partnered alongside Khazna in its home market.

Lee Chee Koon
Group Chief Executive Officer, CapitaLand Investment

Lee Chee Koon has been Group CEO of CapitaLand Investment (CLI) since its 2021 listing, following his leadership of CapitaLand's restructuring. He previously served as President and Group CEO of CapitaLand, where he led the 2019 merger with Ascendas-Singbridge, strengthening the group's business parks, industrial, logistics, fund management and lodging platforms. Since joining in 2007, he has held senior roles including CEO of The Ascott Limited and Group Chief Investment Officer.

Lee Wittlinger
Managing Director, SilverLake

Lee Wittlinger is a Managing Director of Silver Lake, which he joined in 2007. He currently sits on the board of Khazna Data Centers and Vantage Data Centers North American and EMEA businesses. Lee was recently involved in the creation of a new powered land portfolio targeting 6GW for data centre development alongside Commonwealth Asset Management.

Marc Ganzi
CEO, DigitalBridge

Marc C. Ganzi is a digital infrastructure pioneer with over 30 years of experience. He is the President and CEO of DigitalBridge Group, Inc. He founded Digital Bridge Holdings in 2013, which merged with Colony Capital in 2019. Previously, he founded Global Tower Partners, sold for $4.8 billion in 2013. Ganzi's expertise spans telecommunications, digital assets, and infrastructure management. He holds a B.S. from Wharton (1993).

Maximilian Biagosch
Global Head of Real Assets & Head of Europe, CPP Investments

Max Biagosch joined CPP Investments in 2015 and now serves as Senior Managing Director, Global Head of Real Assets & Head of Europe. Previously, he held senior roles at Permira Advisers LLP and worked in investment banking across London. He oversees a broad real assets portfolio spanning real estate and infrastructure.

Morgan Laughlin
Managing Director and Global Head of Data Center Investments, PGIM

In addition to his current role at PGIM, Morgan serves on the Asia Pacific Investment and Executive Committees. He previously led PGIM Real Estate in Japan and Korea, and held senior roles at Grosvenor, Royal Bank of Scotland, and DB Real Estate. Morgan began his career at PaineWebber in New York and has been based in Asia Pacific since 1989.

Maria Nazarova-Doyle
Global Head of Sustainable Investment, IFM Investors

Maria Nazarova-Doyle heads IFM Investors' Sustainable Investment Team, supporting the business by incorporating IFM's responsible approach to investing and operating. She joined IFM in September 2023 from Scottish Widows, where she was Head of Responsible Investment and Stewardship. Previously, Maria worked for Mercer, where she was Principal and Market Engagement Leader. Maria is a board member and policy committee member of the UK Sustainable Investment and Finance Association.

Masayoshi Son
CEO, Chairman, Softbank

Masayoshi Son, key figure of Japanese multinational investment firm SoftBank Group, founded the company in 1981 and has led it ever since as Chairman and CEO. He previously served as President & CEO of Yahoo! Japan and Chairman & CEO of Vodafone K.K., and continues to shape SoftBank's global investment strategy, which includes Uber, ByteDance, Alibaba, and more.

Matt A'Hearn
Head of Digital Infrastructure, Blue Owl Capital

Matt A'Hearn is Senior Managing Director and Head of Digital Infrastructure at Blue Owl Capital. He leads digital infrastructure strategy, investments, and portfolio management, and chairs the Digital Infrastructure Investment Committee. Before Blue Owl, he co-founded IPI Partners and led communications infrastructure investment banking at Moelis & Company.

Omar Alismail
Chief Investment Officer, Semiconductors & Infrastructure, MGX

Omar is a member of the MGX Investment Committee and member of MGX Management Committee. MGX, a subsidiary of Abu Dhabi sovereign wealth fund Mubadala, is a leading AI and advanced technology investor. It is part of the US's US$500 billion Stage initiative. Omar's previous and current Board observer positions include GlobalFoundries, TM Mining Ventures and Sociedad Minera de Santander.

Patricia Rodrigues Jenner
Independent Member (Non-Exec) Investment Committee (AIIF4), African Infrastructure Investment Managers

Patricia Rodrigues Jenner is a Non-Executive Director, board committee chair with background in institutional investment, corporate finance, and ESG core competencies. She has been a Board Director for 16 years. Her current portfolio includes: NED Legal & General Assurance Society Ltd; NED and Chair of Nom/RemCo for AER plc, European renewable energy investment company; Independent Investment Committee member of UK GLIL Infrastructure and Old Mutual's African Infrastructure Investment Fund 4.

Philippe Busslinger
CEO, WrenHouse

With a background in investment banking and consulting, Philippe is responsible for leading WrenHouse's infrastructure portfolio, team and investment strategy globally. Phillipe is a Board Director of Phoenix Tower International. Prior to joining Wren House in January 2022, Philippe spent twelve years at OMERS Infrastructure, the last six as Head of Europe.

Pooja Goyal
Partner and Chief Investment Officer Infrastructure Group, Carlyle Group

Pooja Goyal is a Partner and Chief Investment Officer of the Infrastructure Group. She is Co-Head of the Carlyle Global Infrastructure Opportunity Fund (CGI), and Head of Renewable and Sustainable Energy Fund. She overseas all investment activities across renewables and energy transition, digital, transport and utilities globally. Prior to joining Carlyle in 2019, she was the Head of the Alternative Energy Investing Group at Goldman Sachs.

Richard Carona
Partner, The Baupost Group

Richard Carona has been a Partner at The Baupost Group since 2007, contributing to the firm's long-term, value-oriented investment strategy across public and private markets, real estate, and private equity. Previously, he was an Associate at Parthenon Capital, investing in middle-market companies in business, financial services, and healthcare, and began his career as an Analyst in Goldman Sachs' Investment Banking Division, focusing on technology, media, and telecom.

Sean Klimczak
Global Head of Infrastructure, Blackstone

Sean Klimczak is Global Head of Infrastructure and Senior Managing Director at Blackstone, having joined the firm in 2005. He oversees global infrastructure investments and serves on several boards, including Cheniere Energy. He was named a World Economic Forum Young Global Leader in 2015.

Svetlana Barthelemy
Managing Director, GIC

Svetlana Barthelemy is a Managing Director in the Infrastructure team based in the London Office at GIC. She has spent the last 13 years at the company and her leadership responsibilities include supervising the coverage of the European digital infrastructure sector, overseeing deal origination and execution, and representing GIC on the Board of some of GIC's portfolio companies.

Rodrigo Abreu
Digital Infrastructure Operating Partner, Patria Investments

Rodrigo Abreu is the Digital Infrastructure Operating Partner at Patria Investments in Brazil, overseeing the investments in the data centre and telecommunications segments. Previously, he was the CEO/President of Oi Telecom SA, Quod, TIM Brasil, Cisco Brasil, Cisco CANSAC, Nortel Brasil, Promon Tecnologia and Promon IP. He started his career at the Promon Group, and held a position at the Silicon Valley office of McKinsey and Co.

Sami Nefati
Managing Partner, Investcorp and Aberdeen Standard Investments

Sami Nefati is Managing Partner of the joint venture between Investcorp and Aberdeen Standard Investments, which invests in social and core infrastructure across the GCC and wider MENAT region. He has nearly two decades of banking and investment experience, including senior roles at Sumitomo Mitsui Banking Corporation, WestLB, and Arab Banking Corporation. Based in Bahrain, Sami focuses on building diversified portfolios in sectors such as education, healthcare, utilities, telecom, and digital infrastructure.

Sara Wayson
Director of Data Centre, Mapletree

Sara Wayson assumed her role as Director of Data Centre at Mapletree in June 2023. She previously held senior positions at Sila Realty Trust, including Vice President of Data Centre and Vice President of Data Centre Investment Management, where she oversaw a nationwide portfolio and third-party assets totalling 2.2 million square feet. Earlier in her career, she worked at Cushman & Wakefield as Associate Vice President, supporting market analysis, business development, and client engagement.

Ted Mocarski
Senior Partner, Head of Digital Infrastructure, Novacap

Thadeus (Ted) has over 25 years of private equity experience, previously serving as General Partner at Nautic Partners and co-founder of Key Venture Partners, both focused on communications infrastructure. At Novacap, he chairs Syntax, has chaired Horizon Telecom and Stratus Networks, serves on the boards of CTG and All West Holdings, and frequently speaks on digital infrastructure.

Tugay Yilmaz
Senior Investment Officer, IFC

Tugay Yilmaz is a Senior Investment Officer at IFC where she is part of the Infrastructure & Natural Resources team. Tugay is based in Singapore and is covering IFC's Telecom and Digital Infrastructure investments in Malaysia, Philippines, Maldives, Indonesia, Sri Lanka and Bangladesh. She has 15 years of experience in corporate finance and equity investments in emerging markets, including over 10 years in the Telecom & Digital Infra space in Asia.

Udhay Mathialagan
Managing Partner, Infrastructure, Brookfield

Udhay Mathialagan joined Brookfield in 2018 and now serves as Managing Partner, Infrastructure and CEO of its Global Data Center Group. Based in Asia Pacific, he oversees asset management across the region. He previously led a telecom portfolio software firm in Singapore and holds an MBA from Rotterdam School of Management, Erasmus University. He also chairs the Board of DCI.

Venkat Bussa
CEO, Aurum Equity Partners

Venkat is the founder and CEO of Aurum Equity Partners, a private equity firm of $2B global fund, invest in real estate asset class (Data Centers) and Growth Equity. The firm has created a joint venture with AuNex to invest in US AI data centres, is supporting a 100MW Hyperscale data centre in India and has signed an MoU with InfraX to boost edge infrastructure in the UAE and MENA region.

Vincente Vento
Founder & CEO, Managing Partner, DTCP

As the Founder and CEO of DTCP, Vicente leads the firm and serves as a Managing Partner. He is a member of the DTCP Infra and DTCP Growth investment committees. Vicente currently serves on the boards of Cellnex Netherlands, Open Dutch Fiber, Community Fibre Ltd., and maincubes. Prior to founding DTCP, Vicente was the Global Head of Mergers & Acquisitions and a Senior Vice President at Deutsche Telekom from 2010 to 2015.

Zoe Haseman
Infrastructure Head of Sustainability, EQT Group

Zoe Haseman has been serving as the Infrastructure Head of Sustainability at EQT Group since October 2022. She has held various leadership positions including Global Head & VP of Sustainability at Jacobs, Head of Sustainability at LeighFisher Management Consultants, and Sustainability Manager at Mitie. Additional roles include Board Member at the World Environment Centre and Member of the Board of Trustees for Engineers Without Borders UK.

Malachi Price
General Partner, Coatue

Malachi Price is a Partner at Coatue Management, an American investment firm focused on technology, media, telecommunications, consumer, and healthcare sectors across public and private markets. He previously served as Vice-President at Coatue and as Senior Associate at New Mountain Capital. Malachi began his career in consulting at Boston Consulting Group and holds a BA in Russian Studies and Economics from Dartmouth College.

Waldemar Szlezak
Partner & Global Head of Digital Infrastructure, KKR

Waldemar Szlezak joined KKR in 2019 and leads digital infrastructure investments worldwide. He previously held senior roles at Soros Fund Management and Soros Private Equity/TowerBrook, and began his career in M&A at Credit Suisse First Boston. He holds a B.S. in Operations Research from Columbia University and a B.A. in Mathematics from Knox College.

Will Brilliant
Global Head of Digital Infrastructure, Global Infrastructure Partners

Will Brilliant—based in New York—is a Partner and Global Head of Digital Infrastructure at GIP. He oversees global digital infrastructure investments, including data centers and telecoms, and plays a central role on the Investment and Operating Committees.

Yousra Khayati
Investment Director, Africa 50

Yousra is an investment director for Africa50, based in Morocco. Previously she worked for Bridge Capital and InfraMed Management. is a pan-African infrastructure investor and asset manager that contributes to Africa's growth by developing and investing in mid-large scale infrastructure. It is an investor in PAIX Data Centres and is working on an East-to-West fibre project with MTN's Bayobab.

Paul Newfield
Partner and CEO, Morrison

Paul Newfield joined Morrison Global in 2008 and became CEO in 2022. He previously served as Chief Investment Officer and Head of Australia & New Zealand and today chairs the firm's investment committee while leading its management team. His investment experience spans renewable energy, digital infrastructure, transport, and healthcare sectors. Paul began his career at The Boston Consulting Group.

Ashvin Malkani
Software and Technology Private Equity Investor / Software and Technology Private Equity Investor

Ashvin Malkani led the global Technology private equity group at Ontario Teachers' Pension Plan (OTPP) for over 23 years. He has over 20 years of private equity investing experience. He currently serves on the board of directors of 24-7 Intouch, Compass Datacenters, Mitratech and Sovos Compliance. He has an MBA in Strategy and Finance from York University.

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AI-powered digital infrastructure is the backbone of tomorrow's economy. Investors who strategically engage in this market are shaping how data, networks, and computing converge—unlocking unprecedented growth and redefining the rules of the data economy.

INSIDE SINGAPORE'S RISE AS ASIA'S DATA CENTRE REIT LEADER

Strong demand, a growing pipeline and global sponsors are putting Singapore in the lead for data centre REITs in Asia.

by Khamila Mulia

Once a niche within the broader REIT market, data centre real estate investment trusts are now drawing intense investor interest. Rising demand for cloud computing, data storage and other digital services has turned these assets into one of the sector's fastest-growing segments.

Singapore hosts the second largest REIT market in Asia after Japan, with 41 listed REITs and property trusts worth about S$96 billion as of July 2025, according to the SGX. They account for roughly 10% of the Singapore Exchange's market capitalisation.

But SGX has taken the lead in data centre REITs, listing three pure-play vehicles: Keppel DC REIT, Digital Core REIT and NTT DC REIT.

The latter debuted in July, raising about US$773 million (S$988 million) in its IPO, the largest data centre REIT listing in Asia and Singapore's biggest REIT IPO in nearly a decade. It was 4.6 times oversubscribed, generating an order book of more than S$4 billion, with GIC taking a cornerstone stake in a data centre REIT IPO for the first time. This strong reception reinforced Singapore's standing as a hub for specialised real estate listings.

Tokyo and Hong Kong have bigger capital markets overall, but their REIT sectors still focus mainly on retail, office and logistics properties. Australia, meanwhile, has long been active in data centre transactions, and last year HMC Capital launched DigiCo REIT through an oversubscribed AU$4.2 billion IPO on the ASX. Even so, the market does not yet have the same breadth of listed data centre REIT platforms seen in Singapore.

Singapore continues to stand out as the only market in the region with several data centre REITs, strong investor interest and a track record of adding new assets over time.

Portfolio shifts and new entrants

Despite global volatility, higher interest rates and trade tensions, data centre REITs in Singapore have continued to expand, says Ronald Tan, senior vice president of equity capital markets at SGX

"When we first listed Keppel DC REIT in 2014, it was the first data centre REIT in Asia, composed entirely of Singapore assets. Today, it has expanded into markets such as Japan and Europe. This was followed by Digital Core, which focuses on assets in the US and Canada," he tells The Tech Capital.

Other REITs have also increased their exposure to the sector. Mapletree Industrial Trust has shifted its portfolio so that more than half now consists of US data centres, moving away from traditional industrial logistics assets. Meanwhile, CapitaLand Ascendas REIT carried out a private placement earlier this year, with proceeds that likely supported the data centre acquisition announced soon after.

More recently, Stoneweg Europe Stapled Trust invested €50 million in the Stoneweg Icona data-centre fund, which focuses on development opportunities across Europe. Elite UK REIT, which is listed in SGX, has applied for planning permission to build an 80 MW data centre campus in Blackpool.

"All these acquisitions and pivots toward data centres have taken place in the past two to three years, during a period of rising interest rates," says Tan. "This underlines the resilience of data centres as a real estate sector for Singapore REITs. Limited supply makes them a highly sought-after asset class in most jurisdictions, including Singapore."

Rising global interest

Interest in SGX data centre listings has risen since the debut of NTT DC REIT. Post-IPO, enquiries have come not only from the Asia-Pacific region but also from the US, with major sponsors and prominent industry players showing strong interest, according to the SGX.
At the listing ceremony, the CEO of NTT's Global Data Center division outlined why the company chose Singapore over markets such as Japan or the US. Data centres are highly capital intensive, and even well-backed sponsors need to monetise assets to free up capital for growth. The Singapore REIT structure suits this need, enabling sponsors to sell stabilised assets while retaining management control under the externally managed model common in Asia.

Take NTT for an instance. As one of the world's largest data centre operators, it has a significant global portfolio that could be injected into the REIT over time, beyond its initial six facilities in the US, Austria and Singapore.

The company also cited Singapore's track record in supporting portfolio growth after listing, which makes it an attractive market for other data centre sponsors as well, Tan says. For investors, this offers both immediate exposure to income-generating assets and a visible pipeline for future growth.

Beyond equity: a multi-asset funding platform

SGX's multi-asset, multi-currency platform supports both equity and bond issuances, underpinning Singapore's leadership in Asia's G3 (USD, EUR, JPY) bond market.
In March, Digital Core REIT launched its first Medium-Term Note programme, issuing Eurobonds on SGX to diversify funding sources and reduce reliance on bank borrowings. NTT has also issued 11 bonds on the exchange. This bond market depth is particularly relevant for data centre REITs, which require substantial capital for acquisitions and upgrades.

"This flexibility allows data centre sponsors to raise capital through a REIT IPO and also tap the bond market in multiple currencies," says Koh Jin Hoe, executive director and head of capital markets, global sales and origination at SGX.

Yet, Singapore's equity market continues to face challenges: the SGX is home to just around 600 listed companies, with trading volumes and IPO activity notably sluggish compared to other Asian exchanges like Hong Kong. This limited liquidity makes price discovery more difficult and can weigh on valuations, especially for smaller listing candidates.

For data centre REITs, the picture is more nuanced. Their large scale, global sponsors, and strong institutional backing mean they are less exposed to the illiquidity discount that weighs on smaller stocks. Still,

Koh Jin Hoe, executive director and head of capital markets, global sales and origination at SGX

Ronald Tan, senior vice president of equity capital markets at SGX

thinner market liquidity can limit valuation premium, making global investors an essential source of capital for future growth.

With demand for digital infrastructure assets rising, SGX continues to review its regulations. Past changes have included increasing the gearing limit to 50% during periods of high interest rates to sponsors more flexibility to expand. In practice, this means increasing the maximum allowable debt-to-asset ratio to 50%, enabling REITs to finance growth with borrowings of up to half of their total asset base.

A major regulatory shift is now under way following the Monetary Authority of Singapore's formation of a taskforce or review group to strengthen the country's capital markets. One of its main initiatives is a move to a disclosure-based regime, where companies and REITs must provide clear, timely information for investors, rather than seek extensive pre-approval. The move aims to speed up listings and acquisitions, giving Singapore an edge as it competes for next-generation digital infrastructure.

"This will have a broad impact, including on REITs, by placing greater emphasis on disclosure for IPOs and acquisitions," Tan says. Singapore is among the first in Asia, especially Southeast Asia that adopt this approach, which gives REITs more flexibility by letting them move faster on acquisitions as long as they provide clear and timely information to investors.

These developments are also shaping SGX's role beyond its domestic market. With neighbouring economies such as Indonesia, Malaysia and Vietnam seeing rapid growth in data centre construction, SGX is positioning itself to channel capital flows and facilitate cross-border listings to support regional infrastructure expansion.

"Singapore REITs face a 10% limit on development activities, as they are designed to be stabilised investment products rather than development vehicles," says Tan. "However, some, like Stoneweg Europe Stapled Trust, have invested in a European fund to develop data centres, while Elite UK has applied for planning permission to build such facilities in the UK."

Such strategies enable REITs to participate in development indirectly, while maintaining the stability profile valued by investors.

The ability to monetise completed assets and recycle capital is central to the REIT model. In Asia Pacific, where REITs are often backed by large developers with deep pipelines, this allows sponsors to free up resources for further projects. Without it, assets would remain on balance sheets, limiting growth.

As SGX works to strengthen its role in regional capital flows, it remains selective about listings. "The quality of the sponsor is a key priority for us," says Jin Hoe. "The last three REIT IPOs on SGX were all backed by global, reputable sponsors. Our focus is on attracting strong, experienced sponsors with large portfolios that need to be monetised."

This approach aims to maintain high-quality listings that build investor confidence and provide access to attractive opportunities, with a continued emphasis on reputable, global sponsors.

BUILDING NETWORK INFRASTRUCTURE FOR NEXT-GENERATION CONNECTIVITY

STACIE PASCALE EXPLAINS HOW TELSTRA INTERNATIONAL IS DEPLOYING CAPITAL TO MEET THE NEEDS OF NETWORKS NOW AND IN THE FUTURE

by Jack Haddon

In the world of telecoms, a new way to offer network connectivity to enterprises is gaining ground, and it's known as network as a service (NaaS).

The premise of NaaS is quite simple: instead of a company building and running its own networking infrastructure, it simply subscribes to it.

Hardware, software, security, monitoring, and upgrades are bundled into a single, on-demand service that scales with its needs.

As enterprises accelerate digital transformation, embrace hybrid and multi-cloud strategies, and adapt to dispersed workforces, NaaS streamlines connectivity, reduces costs, and frees up IT teams to focus on innovation instead of infrastructure.

It's not a new idea. But Telstra International's head of infrastructure development, Stacie Pascale, says that telcos are only just now working out how they can offer this approach to consuming connectivity.

Leaps in technology, coupled with more economic models for infrastructure deployment, mean the market could be worth as much as US$150 billion by 2030, if research commissioned by Liberty Global is to be believed.

The key inhibitor to NaaS adoption has not been enterprise demand for the concept – reducing complexity while only paying for bandwidth you consume is a no-brainer.

An often-used analogy is to ask whether a modern-day company would lay its own pipes to have flushing toilets in its office? Then why should it build its network infrastructure?

The main problem has been telcos having the software and physical infrastructure in place to offer this scalability up or down, depending on requirements in real-time, and bill for it accordingly.

Telstra International's brand of NaaS is called Network as a Product, and it's a revenue driver the group is firmly behind.

For Pascale, that means she and her newly formed team need to invest in the right assets to turn this opportunity into revenue.

Primarily, this incorporates subsea cables, cable landing stations, and the required terrestrial backhaul to enable those assets.

Building a NaaS platform

"There's a handful of ways that a business could set up a NaaS platform," Pascale explains.

For example, some operators are leasing large bandwidth services from infrastructure owners to create an overlaying NaaS portfolio.
But Telstra's approach is to invest in the fixed infrastructure itself.

Owning infrastructure gives it the ability to scale bandwidth and ensure the flexibility and speed to market that is required, not just for NaaS, but for a number of other use cases, such as connecting AI data centres, enabling global cloud migration and meeting evolving connectivity demands.

"When you start with the infrastructure, you're giving yourself a really large bandwidth platform to build whatever you want," she says. "If you're an infrastructure owner, you're working on a different set of economics and you're working on a different set of bandwidth capability. So you can really afford to be quite flexible in a way that folks that don't own the assets can't necessarily afford to do."

Strategic Capital Deployment

With this realisation, Telstra has developed a three-tier investment strategy that balances risk and return across different time horizons.

The immediate tier focuses on acquiring fibre pairs on cables that are ready for service (RFS) or near completion.

"It's also better from a risk perspective - less capital intensive and less risky than investing in a submarine system as a consortium member or owner," Pascale explains.

This is because when you acquire fibre on a near system that is near to RFS you can commit to less inventory, whereas on a new build, you have to commit to a full fibre or more.

"Volume is driving the lower capital intensity, not price," Pascale clarifies.

While carriers pay a premium for this reduced risk, they gain immediate revenue potential.

The medium-term approach involves investing at the fibre pair level on cable systems with 3-5 year delivery timelines that are under construction but not yet operational.

This offers better economics than ready-for-service capacity while maintaining manageable risk profiles.

The long-term strategy involves participating in early-stage cable consortia for systems still in conceptual development.

"Engaging in a cable build before it's contracted is as risky as it gets," Pascale acknowledges, "but when you build it yourself, you get fibres at a lower price and better returns."

This tiered approach allows Telstra to maintain network expansion while managing the inherent volatility of billion-dollar infrastructure investments.

"These are billion-dollar assets, so we're trying to figure out where we can put our capital that reaches enough market and has enough depth," she says.

Hyperscale investments

Over the next few years, approximately US$13 billion will flow into subsea cable infrastructure globally, according to data from TeleGeography, with Pascale estimating that over 75% of that figure is coming from hyperscalers.

Companies like Meta and Google preferring to build their own infrastructure rather than buy from or partner with telecom companies, have led to fears that traditional telcos are being squeezed out by tech giants' infrastructure spending spree.

But Telstra International has discovered something unexpected: hyperscaler investment is making their own infrastructure investments more profitable than ever – and it's coming at just the right time.

Rather than displacing traditional carriers, Pascale says this massive capital deployment is creating a counterintuitive opportunity.

Hyperscalers are looking to build and fund their own capacity because they require so much more bandwidth.

This is leading to cables being deployed that have significantly more fibre pairs installed than on telco consortium-owned cables, the blueprint for deployment in the pre-hyperscaler world.

"If you're building a cable with eight fibre pairs versus 24 fibre pairs between the same points, you're not tripling the cost of the cable by adding more fibres," Pascale explains.

"The cost primarily comes from laying the cable, building everything that protects it, and the infrastructure required to put it in place."

This creates a profound shift in per-megabyte economics.

The result is that hyperscaler investment "enables carriers to have a better underlying cost base on fixed assets," fundamentally improving the economics for companies building integrated infrastructure-to-service platforms.

New Capital Sources

The scale of required investment has also attracted new players to subsea cable financing.

Private equity funds are increasingly joining consortia at early stages, viewing subsea cables as attractive risk-adjusted investments.

"Some private equity funds have recognised they can make a clean margin by joining early consortia and taking on risk," Pascale observes.

"They have the capital, and they've found this role works well. It's quite complementary for carriers, who are happy to pay that margin on the back end to avoid taking the risk."

This trend, which has proven successful in other regions, is now

Stacie Pascale, head of infrastructure, Telstra International

expanding throughout Asia. The PE involvement provides risk distribution that enables more carriers to participate in large-scale builds without taking full consortium exposure.

Government funding is also increasing, particularly for cables with strategic importance, adding another layer to the evolving capital stack.

Enabling NaaS

This hyper-fixation from Pascale and her team on investing in the right infrastructure in the right place at the right time for the right cost is essential to enabling Telstra's NaaS ambitions.

"Part of what the carrier side of the world has struggled with in enabling this for so long is they're buying in a wholesale model that doesn't allow flexibility," she explains.

Providers that are buying fixed amounts of bandwidth from carriers under a typical wholesale model are struggling to match this cost into a flexible economic model to offer a service that can be scaled up and down in real time.

Due to the usage-based pricing, revenue is unpredictable.

Pascale says this has led to NaaS providers implementing a fixed payment model, which requires a customer to pay a guaranteed amount each month that ensures the provider can cover their wholesale leases. "Where you really start to see a flexible price model is to be the infrastructure owner," she explains.

"If you're buying the asset and lighting it yourself, hands down, that's the best economics you're going to get per megabyte. You just have to be ready to put the capital down for it."

This gives Telstra the ability to offer the flexibility to scale bandwidth up and down in the truest sense of the NaaS concept, "without the pressure of wholesale leases bogging down your P&L."

Telstra International's infrastructure-first strategy shows that the future of NaaS will not be defined solely by software overlays or short-term bandwidth leasing, but by the ability to own and control the physical assets that underpin connectivity.

By balancing immediate revenue opportunities with long-term capital bets, Telstra is positioning itself to deliver scalable, flexible services that enterprises increasingly demand.

And with hyperscalers and new investors reshaping subsea cable economics, the timing may prove advantageous.

If Telstra can continue to align its capital deployment with the evolving needs of global enterprises, it stands to not only participate in but help shape the next generation of network connectivity.

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STATE WEALTH, DIGITAL MIGHT

INSIDE THE SOVEREIGN PUSH TO DOMINATE DATA INFRASTRUCTURE

by João Marques Lima

IN AN ERA WHERE DATA IS THE NEW OIL, WHO CONTROLS THE REFINERIES? WITH OVER US$13.2 TRILLION IN ASSETS UNDER MANAGEMENT, SOVEREIGN WEALTH FUNDS (SWFS) ARE SILENTLY RESHAPING ASIA-PACIFIC'S DIGITAL LANDSCAPE, ONE DATA CENTRE AT A TIME. BUT WHAT DRIVES THIS SEISMIC SHIFT IN INVESTMENT STRATEGY, AND HOW WILL IT REDEFINE THE REGION'S FUTURE? JOÃO MARQUES LIMA INVESTIGATES.

Managing more than US$13.2 trillion in assets, sovereign wealth funds (SWFs) are among the most powerful investors in the world. Traditionally viewed as passive custodians of national wealth, these state-backed giants are undergoing a profound transformation. Once content with low-risk portfolios, SWFs are now emerging as active, strategic financiers—particularly in digital infrastructure.

Nowhere is this shift more pronounced than in Asia-Pacific's booming data centre sector. By financing the backbone of the region's digital economy, SWFs are not just chasing returns—they are shaping the foundations of economic competitiveness, digital sovereignty, and climate resilience for decades to come.

For much of their history, SWFs were conservative investors, holding diversified portfolios in bonds, equities, and real estate. The 21st century, however, has seen a reorientation of their strategies toward assets that blend financial returns with long-term national priorities.

Data centres epitomise this strategic realignment. No longer regarded merely as real estate, they are increasingly seen as essential infrastructure, akin to ports, airports, or power grids. As national economies digitalise and AI workloads accelerate, the ability to store, process, and secure data within sovereign borders has become a matter of strategic importance.
The timing of this pivot could not be more critical. According to CBRE, Asia-Pacific ended 2024 with 12.2 gigawatts (GW) of operational IT load and a pipeline of 14.4 GW. Yet, demand is outpacing supply, with CBRE projecting a shortfall of 15–25 GW by 2028. Painting and even starker picture, Cushman & Wakefield notes that while Asia is home to 60% of the world's population, it accounts for only 26% of hyperscale capacity.

For SWFs, this imbalance is a once-in-a-generation structural opportunity: bridging a yawning infrastructure gap with patient, large-scale capital.

Strategic capital meets structural demand

Unlike private investors who must contend with short-term volatility, SWFs enjoy multi-decade horizons and unparalleled capital reserves. This makes them ideally positioned to fund the colossal buildout of data centres across the region.

Their confidence is reinforced by regulatory tailwinds. Data localisation laws—such as Vietnam's Cybersecurity Law and Thailand's Cybersecurity Act—require companies to store certain data within national borders, creating guaranteed domestic demand for facilities. Coupled with decades-long contracts from hyperscalers, this makes data centres unusually stable assets, offering predictable, utility-like returns.
Unsurprisingly, sovereign allocations to digital infrastructure have surged. Invesco's Global Sovereign Asset Management Study found that more than 60% of SWFs now rank digital infrastructure among their top three target sectors, with allocations to data centres rising 150% year-on-year.

Setting the global standard

Asia-Pacific's sovereign wealth capital is already reshaping the landscape and Singapore's twin investment arms—GIC and Temasek Holdings—are at the forefront.

GIC has partnered with Equinix in multiple ventures, including a US$525 million xScale initiative in South Korea and Japan, part of a larger US$15 billion global package. By combining sovereign funding with private operating expertise, the partnership accelerates the development of hyperscale facilities across critical markets.

Temasek, meanwhile, has pursued a more direct approach through its majority ownership of ST Telemedia Global Data Centres (STT GDC). This has led to, for example, in 2024, STT GDC announcing a US$3.2 billion commitment to India, adding 550 MW of new capacity, followed by a US$400 million hyperscale campus in Hyderabad in early 2025. In the Philippines, it joined forces with Globe Telecom and Ayala Corporation on a US$350 million platform.

These bets not only cement Singapore's role as a regional leader but also position it as a global standard-setter in digital infrastructure investment.

Over in China, sovereign wealth funds add another layer of strategic influence. The China Investment Corporation (CIC), with close to US$1 trillion in assets under management, and the State Administration of Foreign Exchange (SAFE), overseeing roughly US$860 billion, are actively funnelling resources into digital infrastructure and AI-related platforms.

These moves are tightly aligned with Beijing's ambition to dominate generative AI, a sector projected by IDC to expand 32-fold by 2033. Building out domestic cloud and compute capacity is therefore both an economic necessity and a national priority.

Hong Kong's Monetary Authority Investment Portfolio, with more than US$400 billion under management, has also broadened its allocation into data infrastructure as part of its diversification strategy.

Foreign sovereign investors are joining the fray as well. The Abu Dhabi Investment Authority (ADIA), for instance, partnered with Singapore's SC Capital Partners in 2022 to launch a US$2 billion APAC-focused data centre platform – known as SC Zeus Data Centers - spanning Japan, South Korea, Singapore, and Australia. That a Middle Eastern sovereign investor is funnelling billions into Asia underscores the region's primacy in the global digital infrastructure race.

The geopolitical chessboard

Sovereign-backed data centre investments extend far beyond financial calculus. They are also geopolitical plays in the contest for digital sovereignty.

Governments increasingly insist on in-country storage of sensitive data, citing national security and economic independence. This ensures sustained demand for domestic facilities but also transforms data centres into strategic assets—critical nodes in the global flow of information and power.

In this light, SWFs are not simply investors but instruments of statecraft. Their capital deployment ensures that national and regional competitiveness is not left vulnerable to foreign dependency.

Yet the growth of data centres brings enormous challenges—chief among them sustainability. AI workloads are expected to push rack power densities to 80–100 kW by 2027, according to Uptime Institute, requiring liquid cooling and unprecedented electricity supply.

Meanwhile, the International Energy Agency projects that Asia-Pacific's electricity demand will grow 16% annually through 2030, outpacing renewable generation growth of 13%.

The tension between digital expansion and climate imperatives is forcing SWFs to think holistically. Some, like Temasek with its net-zero 2050 pledge, are investing not just in data centres but also in renewable energy grids to power them sustainably. By financing clean energy alongside digital infrastructure, sovereign funds are attempting to square the circle of technology growth and environmental responsibility.

While the current focus is hyperscale capacity, sovereign investors are also already preparing for the next wave of technological disruption.

The rise of 5G and 6G, and the Internet of Things (IoT) is driving demand for edge computing—smaller facilities located closer to end-users, enabling faster, localised data processing. This decentralisation offers SWFs new opportunities to diversify their digital portfolios.

Quantum computing and advanced AI will add further layers of demand and complexity. SWFs, with their patient capital and appetite for strategic bets, are well positioned to fund not just physical infrastructure but also R&D ecosystems around these frontier technologies.

As Asia-Pacific enters a new era defined by artificial intelligence, cloud proliferation, and digital sovereignty, sovereign wealth funds have emerged as hidden architects of the region's future. Their capital is building the infrastructure on which the next generation of economic and technology growth will rest.

For the region's economies, the stakes could not be higher. Without sovereign-backed data infrastructure, the promise of AI and digitalisation risks being constrained by inadequate capacity. With it, Asia-Pacific is poised to cement its position as one the world's digital infrastructure powerhouses.

Dilhan Pillay Sandrasegara, CEO, Temasek Holdings

Lim Chow Kiat, CEO, GIC

Global top 10 largest sovereign wealth fund by total assets

Rank	Profile	Total Assets	Region
1	Norway Government Pension Fund Global	$1,738,806,263,000	Europe
2	China Investment Corporation	$1,332,071,000,000	Asia
3	SAFE Investment Company	$1,090,000,000,000	Asia
4	Abu Dhabi Investment Authority	$1,075,000,000,000	Middle East
5	Kuwait Investment Authority	$1,029,000,000,000	Middle East
6	Public Investment Fund	$941,000,000,000	Middle East
7	Badan Pengelola Investasi Daya Anagata Nusantara	$900,000,000,000	Asia
8	GIC Private Limited	$800,800,000,000	Asia
9	Qatar Investment Authority	$557,000,000,000	Middle East
10	Temasek Holdings	$521,043,499,900	Asia

Source: Sovereign Wealth Fund Institute

INSIDE CHINA

WHO WINS, WHO RISKS, AND WHERE CAPITAL FLOWS NEXT

Xi Jinping, President of the People's Republic of China. Source: President's Office

FOREIGN OWNERSHIP PILOTS, AI-DRIVEN DEMAND, AND STRICTER EFFICIENCY RULES ARE RE-WRITING CHINA'S DATA CENTRE MARKET. FOR INVESTORS, THIS IS CREATING CLEARER ENTRY POINTS— BUT THEY MUST PRICE POWER, PERMITTING AND PARTNER RISK WITH CARE. JOÃO MARQUES LIMA EXPLORES ONE OF THE WORLD'S FASTEST-GROWING DIGITAL INFRASTRUCTURE MARKETS, WHICH REMAINS LARGELY UNFAMILIAR TO INTERNATIONAL INVESTORS.

China's data centre industry is entering a new phase. Artificial intelligence (AI) is redrawing the economics of storage and compute, foreign ownership rules are shifting, and government targets for efficiency and localisation are tightening.

For investors, the picture is both clearer and more complex: scale players are pre-booking demand years in advance, while new regulatory pilots finally allow foreign firms direct entry into a market once sealed off.

Yet power access, chip restrictions and policy uncertainty remain the variables that determine whether investments generate predictable cash flow or stall on the drawing board.

The government's decision in late 2024 to launch a pilot programme for full foreign ownership of internet data centres (IDCs) in designated zones marked a turning point. According to the State Council, the scheme permits wholly foreign-owned enterprises to apply for licences in Beijing, Shanghai's Lingang free trade zone, Hainan, and Shenzhen.

For the first time, overseas investors no longer need to rely on complex joint ventures or contractual arrangements to operate in the sector. Jin Zhuanglong, China's minister of industry and information technology, described the pilot as "a new phase of China's opening-up in the telecommunications sector," urging officials "to improve the business environment for foreign investors and explore more business models and growth drivers."

Law firm White & Case noted in a May 2025 briefing that this change "provides foreign investors with more effective control and reduces unnecessary administrative costs and regulatory uncertainties." The firm added that local MIIT offices have been "willing to provide close guidance" on applications, aware of how significant a structural shift the pilot represents.

For investors, the pilot finally provides an onshore chassis for ownership of income-producing assets in China. The opportunity, however, remains bounded by location and by licence scope.

Even with the pilot in place, policy risk is ever-present. King & Wood Mallesons, in its 2025 Asia-Pacific Data Centre Regulatory Guide, reminded investors that data localisation rules under the Personal Information Protection Law, Cybersecurity Law and Data Security Law remain some of the strictest in the world.

These laws require companies handling sensitive or "important" data to keep it within China unless specifically authorised to transfer it overseas. Apple, for example, hosts Chinese user data in onshore facilities to comply with the framework. For investors, localisation requirements guarantee demand for compliant capacity but also mean that operators must constantly align with evolving regulation.

Susan Ning, a partner at King & Wood Mallesons, said: "China's initiative to rapidly expand its data centre infrastructure driven by digitalisation and AI demand, with a strong focus on green energy integration, presents companies with substantial opportunities in energy-efficient solutions." That balance—policy hurdles on one side, policy-driven demand and incentives on the other—is central to how global capital views the sector.

Who investors are backing

Demand for compute is surging. S&P Global Ratings said in a May 2025 report that China's internet data centres "will be a top beneficiary of the country's hefty investments in AI development." The agency forecast that Alibaba Group and Tencent Holdings, China's two largest digital platforms, will raise annual spending on data infrastructure to above RMB200 billion (US$28 billion) in 2025–2026, up from around RMB50 billion (US$7 billion) in 2023. That capex is flowing directly into wholesale data centre bookings.

GDS Holdings, listed in both New York and Hong Kong, reported a pre-commitment rate of more than 70% on its in-construction capacity at the end of the first quarter of 2025. VNET Group, another Nasdaq-listed operator, told investors it would deliver 400–450 megawatts of wholesale capacity in 2025, with 83% of it already contracted. Chindata, known formally as WinTriX DC Group, has also reported utilisation rates well above market averages.

These figures point to a clear concentration of opportunity. As S&P Global explained, "for smaller and less competitive players, however, we see a potential asset bubble."

The divergence in utilisation is stark: large operators typically run at 70–75% utilisation, with much of their unoccupied space already pre-booked, while smaller providers average 40–50%. For investors, this means the investable set of onshore operators is limited to a handful of platforms with the scale, financing, and customer relationships to keep racks filled and contracts enforced.
Stock performance has reflected both the opportunity and the risk. Shares in GDS have been volatile, trading at a discount to US peers such as Equinix and Digital Realty. Market analysts attribute the gap to macro risk in China, currency exposure, and the policy premium investors demand for operating in a highly regulated sector.

Yet GDS's steady EBITDA growth and its clean separation of offshore operations through its DayOne spin-off have been received positively by investors looking for clearer exposure to the domestic market. Private equity and infrastructure funds are also circling. In recent years, players such as Blackstone, Warburg Pincus and Bain Capital have backed Asian data centre platforms, though many of those bets were focused on Singapore, India or Hong Kong due to restrictions on mainland ownership.

The new pilot zones change that calculus, allowing funds to structure wholly owned entities in China for the first time. According to White & Case, this could "reduce unnecessary regulatory uncertainty and transaction complexity," especially for investors frustrated by the opacity of variable interest entity structures.

The economics: power, chips and efficiency

Capital flows alone do not guarantee returns. The economics of Chinese data centres increasingly hinge on three interlocking factors: power access, chip supply and efficiency requirements.

On power, demand is enormous. According to King & Wood Mallesons' regulatory guide, electricity accounts for 40–50% of total operating costs in China's data centres, with AI-driven facilities consuming several times more than traditional ones.

The government's "East Data, West Computing" initiative reflects these realities, funnelling new construction into inland provinces such as Inner Mongolia and Guizhou, where land is cheaper and renewable energy is abundant. Coastal hubs such as Beijing and Shanghai remain in demand but face grid congestion and permitting bottlenecks.

Efficiency is another critical driver. China's Special Action Plan for Green and Low-Carbon Development of Data Centres, introduced in 2024, requires new large-scale facilities in national hubs to use at least 80% green electricity by the end of 2025 and achieve a power usage effectiveness (PUE) below 1.25. Major operators such as GDS, VNET and Chindata already report energy efficiency around 16% higher than the national average, giving them an edge with both regulators and hyperscale clients.

Chip availability remains a geopolitical risk. The United States has restricted exports of advanced AI semiconductors, including Nvidia's flagship chips. S&P Global warned that "a lack of advanced chip supply could stifle internet companies' ability to build out their AI infrastructure and hence reduce their demand for datacentres." While Chinese firms have stockpiled chips and Huawei Technologies is producing domestic alternatives, it remains to be seen if whether domestic supply can meet AI demand in the medium term.

Joe Tsai, chairman of Alibaba, was sanguine in April 2025. "Whether there's a bubble or not … I don't think so. I think we're early innings in the development of AI," he told investors in Hong Kong, adding that "China will have its own Citizen AI." His remarks echoed the optimism expressed by local suppliers to the Financial Times, who argued that the rise of large language models such as DeepSeek would not dampen demand for new capacity but intensify it.

What investors need to price

For institutional investors, underwriting Chinese data centres now requires close scrutiny of fundamentals that extend well beyond headline megawatts.

The first is contracted demand. Pre-commitment rates and the pace at which capacity is booked after delivery remain the most reliable guides to revenue visibility. GDS's 71% pre-commitment ratio for its in-construction space sets a benchmark for mature operators.

The second is cost pass-through. Electricity price volatility, particularly with mandated renewable quotas, makes it essential to understand how contracts index power costs and whether they allow operators to recover increases.

The third is compliance. King & Wood Mallesons highlighted that water usage, waste heat, and renewable sourcing are increasingly embedded into planning approvals. Municipal rules, such as caps on water consumption per kilowatt hour, are becoming decisive for project viability.

The fourth is structure. Even with the pilot, foreign investors need to ensure that B11 licences are valid and renewed, and that cyber security obligations are met. White & Case recommended early engagement with local MIIT offices to interpret licence scope and prevent surprises during later stages of development.

Finally, there is exit. Liquidity in listed equities remains limited, and valuations are volatile. Trade sales to state-owned telecom operators, or consolidation into larger regional platforms, may prove the more likely route for private investors. Green bond issuance tied to efficiency targets is also emerging as a financing and exit channel, given the government's increasingly strict sustainability metrics.

Outlook

The Chinese data centre market sits at the intersection of policy, power and technology. For investors, the conditions are unusually clear in some respects—pre-booked demand from Alibaba, Tencent and Baidu provides revenue visibility for the largest operators—yet unusually complex in others, as chip controls, grid bottlenecks and regulatory compliance all carry execution risk.

King & Wood Mallesons describes the market as "highly active and fast-evolving." White & Case argues that the new pilot regime for foreign ownership is "a significant step forward." S&P Global believes that scale players "will be a top beneficiary" of China's AI investment cycle.

The investor calculation, then, is no longer whether China's data centre market is growing—it plainly is—but whether the available entry routes align with risk appetite, return expectations and the capacity to navigate regulation.

For those able to structure around the policy framework and secure reliable power and permits, the returns may be more stable than they first appear. As Joe Tsai of Alibaba said, "we're early innings in the development of AI." For investors, those innings will be defined not just by the demand curve, but by the ability to price power, chips and compliance into every investment decision.

CELL TOWERS

QUICK FACTS

As of mid-2025, telecommunications REITs hold the largest share in actively managed real estate funds, with a 17% allocation, surpassing residential REITs for the first time since 2017.

The global telecom tower market is valued at approximately $67.87 billion in 2025 and is projected to reach around $165.61 billion by 2034, growing at a compound annual growth rate (CAGR) of 10.42%

As of July 2025, the average dividend yield for telecommunications REITs is 3.35%, with a year-to-date total return of 15.59%

*SOURCE: NAREIT

STANDING TALL WHAT'S BEHIND US TOWER STOCKS' 2025 RECOVERY?

by Jack Haddon

AS INTEREST RATES FALL AND CAPACITY INVESTMENTS RISE, INVESTORS ARE TAKING NOTE OF SHIFTING DYNAMICS WITHIN THE US TOWER SECTOR

US tower stocks have endured a turbulent ride over the past several years, swinging between periods of strong growth and sharp corrections.

Once considered among the most reliable beneficiaries of the 5G rollout, tower REITs have increasingly been at the mercy of interest rate shifts and broader macroeconomic uncertainty.

Rising financing costs and cautious carrier spending have weighed heavily on valuations since 2022, even as demand for wireless capacity continues to climb.

Yet, with rate cuts resuming in late 2024 and early signs of renewed carrier investment, the tide may finally be turning for the sector.

Stock Performance

Despite a brief dip in early 2020, public tower REITs generally outperformed in the US's initial 5G rollout period from 2019 to 2021, as expanding 5G services led to higher co-location and new-build (build to suit or BTS) revenue.

But as interest rates climbed in response to the war in Ukraine and post-COVID inflation, tower stock prices fell roughly 20% in 2023 and another 21% in 2024.

By contrast, 2024 North American telecom stocks rose 20% and the S&P gained 25%.

According to Moffet Nathanson analyst Nick Del Deo, digital infrastructure stocks "are more sensitive to interest rate changes than most, as companies that are building or acquiring assets tend to be sensitive to financing costs".

Furthermore, as companies that generally trade at relatively high absolute multiples with long-duration cash flow, changes in interest rates affect the present value of those cash flows.

Tower stocks are one of the digital infrastructure sub-sectors that are particularly rate sensitive.

"When I speak to clients, interest rate uncertainty has been top of mind and led some clients to be hesitant to buy tower stocks," Del Deo explains.

From lows of 0-0.25% at the onset of COVID-induced lockdowns in March 2020, the FED hiked rates several times up to highs of 5.25–5.50% to combat rising inflation.

"The cost of capital is a critical input as to the multiples at which a stock should trade," Del Deo explains. "If all else is equal and you have lower benchmark rates, that points to higher warranted multiples."

Ben Forster, a portfolio manager at Schroders who invests in US towercos through the listed real assets strategy that he oversees, adds his view.

"When we hit the interest rate hiking cycle in 2022, it disrupted the growth drivers because not only did the towers themselves need to refinance their own debt, but also the carriers which lease space on them have had to be more prudent with their free cash flow generation, which has meant they've slightly slowed down the pace of their rollouts for 5G."

But in September and December 2024, rates were cut by 50 and 25 basis points respectively.

Shortly after, tower equities rebounded: American Tower (AMT), Crown Castle (CCI) and SBA Communications (SBAC), averaging a ~13% gain in 2025 so far (at time of writing).

A further rate cut in September 2025 seems very likely, which could cause a further shot in the arm of the US tower sector.

The shifting geopolitical climate

From the fallout of COVID-19 and the immediate impact of the war in Ukraine to a global trade war sparked by US President Donald Trump's unpredictable tariff policy, the macro-environment is very different in 2025.

This, Forster believes, is also driving up the price of tower stocks.

"In these times of uncertainty, the steady, predictable cash flows from high-quality tenants (the US wireless carriers) are very attractive compared to the rest of the investable universe," he says.

Marc Ganzi, the CEO of DigitalBridge, which owns stakes in nine towers across the globe, echoes these thoughts.

"[Digital Infrastructure] remains a very resilient asset class, we really saw this on display in the first half of 2025," he told the audience at The Tech Capital's International Finance Forum in London.

"As you saw global markets collapse in the Trump tariff trade war digital infrastructure held up well."

While data centre stocks largely remained flat and fibre names trended up 2-3%, towers were up 20%.

"The reason is low volatility, high returns anchored by long-term contracts, built-in protection with escalators and a lack of correlation, which allows you to be defensible," Ganzi added.

Sprint churn is coming to an end

But it's not just the macro environment that is leading to a reversal of fortunes in the tower space.

Within the wireless industry, things are changing too.

The same fundamentals that make the tower business so attractive: additional co-locations on existing sites require very little additional opex, also harm the industry when there is consolidation in the wireless space.

In April 2020, a merger between T-Mobile and Sprint, the fourth-largest wireless provider in the US at the time, closed. What followed was a period of network consolidation, where overlapping assets were decommissioned.

Where these assets were located on towerco-owned towers, this amounted to lost revenue.

"That's been one of the main reasons why the organic tenant net billings growth has slowed over the last couple of years," Forster explains.

But now, the industry is starting to come out of that cycle.

Crown Castle and SBA's expected churn over the next couple of years are both expected at below 1% of revenues, resulting in a significantly lower drag on their earnings growth, and it's virtually non-existent for American Tower, which "took their medicine early," Forster says.

In addition, all three wireless carriers projected capital expenditure for 2025 to be higher than their levels of investment in 2024, signalling increased investment in their networks.

From amendments to colocations

For some towercos, the type of demand is also shifting in their favour.

Speaking with analysts on its Q2 earnings call, SBA CEO Brendan Cavanagh said that the towerco was seeing a trend of more co-locations compared to amendments - carriers are leasing space on new towers rather than swapping out equipment where they already have equipment.

This leads to higher revenue in the long run, but the time to that revenue is slightly longer.

"We've left our full year outlook for contributions from new leases and amendments the same. And as we see this activity, if you look at what's been contributed in the first half of the year, it clearly indicates that the second half of the year will have to have greater contributions in order to meet that target that we put out there," Cavanagh said on the call.

Crown Castle has an outlier with respect to its observed leasing trends. The company has maintained that it was seeing consistent demand from the carriers, while American Tower, SBA and private players have pointed to a noticeable uptick

Interim CEO and President, Daniel Schlanger also noted that Crown Castle hadn't seen a significant change in the mix of co-location and amendment activity.

"We're seeing both augmentation and some densification, but not at a pace that's any different than what we've seen historically," he said. Still, Crown Castle did raise its full-year outlook in June, driven by an increase in site rental revenues and organic new leases, when excluding Sprint churn, pointing to healthy fundamentals in the US tower market.

Industry tailwinds

As the impact of Sprint churn diminishes, there are also several tailwinds the industry is experiencing this year, as Cavanagh pointed out:
"The growth in fixed wireless access (FWA) subscribers for all of our MNO customers, the expanding number of AI-intensive applications, 5G advanced-enabled new use cases, and the opportunity for incremental spectrum auctions are all supportive of sustained long-term growth."

FWA is a commercial broadband model that relies on a nearby cell tower to provide high-speed internet to consumers wirelessly, rather than using cable or fibre.

While AT&T and T-Mobile are pursuing a "fallow capacity" model, where only excess capacity not being used for mobile networks is repurposed to serve FWA, Verizon is considering deploying networking equipment specifically for it.

FWA has been a major driver for carriers increasing subscriber numbers and revenue growth, but the scale of this growth is starting to fall off.

If this trend continues, investments in incremental capacity specifically to win FWA broadband market share would be a boost to tower leasing potential.

Part of the reason for the pivot to FWA was carriers failing to monetise their investment in 5G networks through the advanced use cases that the technology promised, such as IoT, private networks for enterprises, autonomous vehicle connectivity and remote surgery.

The initial launch of 5G saw AT&T, Verizon and T-Mobile focusing on the initial coverage layer, expanding their network across the US to be able to offer the service.

But with these use cases not emerging, "carriers are awash with capacity, but with no way to monetise it," Del Deo says.

After completing the coverage layer, carriers decided to scale back their pace of investment, slowing towerco lease-up rates and diminishing incremental revenues from adding new sites and tenancies.
But Del Deo sees another scenario that could turn around the fortunes of towercos while they wait for 5G's promised use cases to emerge (if they do at all).

"As time goes by and mobile data traffic increases, at some point, the delta between network burden and network capacity starts to tighten, and this will lead the carriers to re-engage in a more meaningful way," he says.

Another of Cavanagh's identified tailwinds may soon be contributing to this increase in mobile data traffic: the expanding number of AI-intensive applications.

"Perhaps why towers have done quite well in the first quarter is ultimately where does AI go? We call this notion data gravity," Ganzi explains, drawing comparisons to the cloud boom of the mid-2010s.

"90% of cloud traffic sits on mobile devices," he says. "2013-16 saw a surge in capex in mobile infrastructure as mobile data increased by a factor of 10 over the three years. Over the next five years, we think it will grow by another three times."

While rate sensitivity remains an unavoidable headwind, the combination of stabilising interest rates, lower churn, and fresh demand drivers from fixed wireless access and a potential explosion of AI-driven data traffic appears to have reignited optimism among investors.

After years of navigating uncertainty, tower stocks are once again positioned to benefit from the long-term, non-cyclical trend of ever-increasing connectivity. If the macro backdrop continues to ease and carriers step up network spending, 2025 could mark the start of a sustained recovery for America's tower sector.

THE HOLY GRAIL

TOWER DIGITISATION IS MORE IMPORTANT THAN EVER IN TODAY'S RAPIDLY EVOLVING INDUSTRY

by Abigail Opiah

When it comes to telecoms infrastructure, towers are often seen as static assets – tall metal structures that simply hold up antennas. But according to vHive, that perception is outdated.

Founded nearly a decade ago, vHive was born from "a lift idea" between the company's chief executive and CTO. They spotted a gap in the market: tower owners and operators often lacked visibility over the equipment installed on their assets and the tower's overall health, missing opportunities for efficiency and growth.

For mobile network operators (MNOs) and towercos in the mix, efficiency and precision equals money.

The height of an antenna on a mast, the cables it uses, or even an unregistered piece of equipment can all affect both cost and performance.

"MNOs will get charged by what height they are situated on the tower," explains Kieran Crawford, sales director EMEA at vHive.

"If they are higher than they should be or lower than they should be, it affects the RF signal distribution, but secondly, it also impacts the cost that they are having to pay for those sites."

In some parts of the world, the challenges are even starker. "When a TowerCo in Africa told us one of their biggest problems is people putting equipment on their site without actually being a paying tenant, it is not unusual," Crawford says. "They will have tenants, but they struggle to identify what they have put on there. Sometimes, other MNOs just install equipment without authorisation."

That is where vHive's autonomous drone surveying and AI-powered digital twin technology comes in. By capturing towers in detail and automatically identifying equipment, the platform gives operators a single, accurate version of reality to work with.

Accuracy at scale

For operators, the holy grail lies in reconciling the "as-designed" plan with the "as-built" reality.

"We provide millimetre-level accuracy on antenna size and placement, and can identify discrepancies as small as one percent in azimuth (the direction an antenna is facing)," he says. "That accuracy is critical as it ensures operators know exactly what is on the tower, reduces disputes, and cuts down costly site visits."

Automated inventory detection means no more guesswork about what is on a tower. The system integrates with BIM (Building Information Modelling) software such as AutoCAD and Revit, so planning and operations teams get data they can trust.

As Crawford put it: "In a single survey, you get all of this information, and more. vHive's AI-powered Digital Twin platform automatically identifies installed equipment by make and model, shows its exact positioning, compares it to the "as-planned" design, as well as automatically identifying faults and categorizing it by severity levels."

The power of digitisation

Its not just in Africa that this technology is important.
In Europe, against the backdrop of MNO mergers that will require network consolidation and an intent from MNOs to monetise expensive spectrum purchases, digitisation is becoming essential.

"If companies do not have a digitisation programme in place, they will fall short," says Crawford. "Not just in delivering promised network upgrades, but also in achieving the returns on investment they expect. Digitisation creates that single source of truth, eliminates silos, and speeds up time to revenue."

"It is about connecting the physical with the digital. Many companies own assets worth millions, scattered across the world, and yet they do not know what is really happening on them," says Crawford.

"Data is often years out of date. You cannot make informed decisions about revenue or costs if you do not even know where your towers are, let alone what equipment sits on them."

Digital twins and AI

The wider digital twin market, across all industries, was valued at US$17.73 billion in 2024 and is projected to jump to US$24.48 billion in 2025, reaching US$259 billion by 2032.

More specifically, the digital twin in telecom sector was already valued

at US$335.8 billion in 2023, with expectations to soar to US$1.6 trillion by 2031, representing a CAGR of around 22%.

vHive differentiates itself by offering an end-to-end digitisation solution: autonomous data capture, AI analytics, and 3D modelling on one Digital Twin platform.

“A field operator can go to site, launch a drone, and within 30 minutes capture everything we need,” Crawford explains. “Within hours we can generate a 3D model. From there, customers can simulate changes, plan upgrades, and share accurate data across contractors, operators, TowerCos, and regulators – all in one environment.”

According to the ABJ Drone Academy, drones can slash cell tower inspection costs by up to 50% and deliver results up to five times faster than traditional methods, sometimes cutting costs as much as 70% and minimising revenue losses from downtime by up to 90%.

Crawford highlights the tangible financial gains: “If you do not have accurate data, you are leaving money on the table. TowerCos may under-lease space and miss revenue. Mobile operators may be overcharged. In some markets, equipment is even installed without authorisation, and without digitisation it is almost impossible to catch. Just presenting the real-world, up-to-date data allows players to optimise costs and revenue immediately.”

A global trend, local challenges

While the adoption of digital twin technology is global, the drivers differ across regions.

“In Europe and Australia, it is about speeding up co-location processes and optimising OPEX,” says Crawford.

“In Asia, the emphasis is on site health and integrity; corrosion, rust, environmental exposure. In Latin America and Africa, it is inventory tracking and revenue assurance. And in North America, there is a big shift away from spreadsheets and PDFs towards portfolio-level analytics powered by AI.”

The message from vHive is clear: towers are no longer just static steel frames, but dynamic assets whose value depends on accurate, accessible data.

Kieran Crawford, sales director EMEA at vHive

THAI TELECOMS: CONSOLIDATION, SPECTRUM, DIGITAL INFRASTRUCTURE

by Khamila Mulia

THAILAND'S TELECOM MARKET IS NOW A DUOPOLY. CAPITAL IS SHIFTING AND NEW PRIORITIES ARE TAKING SHAPE. KHAMILA MULIA REPORTS.

In scale, Thailand's market is smaller than Indonesia's 270 million connections but larger than those of Singapore or Malaysia. Its 5G rollout has been among the fastest in the region, positioning Thailand as a mid-sized yet technologically advanced market.

The structure of Thailand's telecoms sector is also distinctive. Unlike most of its neighbours, the market has effectively become a duopoly since the 2023 merger of True and DTAC, leaving Advanced Info Service (AIS) as the only other major competitor.

This consolidation has been followed by a wave of asset sales, making Thailand a test case for how Southeast Asian operators may look to reshape their balance sheets.

On 4 August 2025, True Corporation's subsidiary BFKT (Thailand) Co., Ltd. and its related entity Asia Wireless Communication Company Limited (AWC) transferred infrastructure assets to the Digital Telecommunications Infrastructure Fund (DIF).

Under the BFKT ARSTA Agreement, DIF acquired 1,435 telecommunication towers, 47,250 kilometres of fibre optic cables, and 9,169 transmission system links. Meanwhile, under the AWC ARSTA Agreements, DIF took ownership of a further 4,455 telecommunication towers.

These moves highlight how Thailand's telecoms sector is reshaping itself following consolidation, with operators turning to infrastructure divestments to free up capital and concentrate on higher-margin services.

These moves highlight how Thailand's telecoms sector is reshaping itself following consolidation, with operators turning to infrastructure divestments to free up capital and concentrate on higher-margin services.

In doing so, the market is emerging as a regional bellwether for how Southeast Asian operators manage capital-intensive networks, monetise passive assets, and prepare for the next phase of digital growth.

Spectrum and regulatory reset

Asset monetisation is only part of the picture. Regulators have also reshaped the playing fields this year, through spectrum auctions and policy mandates that will influence how operators allocate fresh capital. In June, Thailand raised THB 41.27 billion (~USD 1.12 billion) from the sale of spectrum in the 1500 MHz, 2100 MHz, and 2300 MHz bands to True Corporation and AIS, the only participants in the auction.

True Corporation, via its subsidiary True Move H Universal Communication, won 70 MHz of 2300 MHz spectrum for THB 21.77 billion and four 5-MHz blocks in the 1500 MHz band (20 MHz total) for THB 4.65 billion.

AIS, through its subsidiary Advanced Wireless Network, secured 30 MHz (2×15 MHz) in the 2100 MHz band for THB 14.85 billion. For both operators, the auction means more capacity to handle growing data traffic, while for their customers, it should translate into faster internet, fewer slowdowns during peak hours, and more reliable service as 5G adoption grows.

In line with efforts in moving towards more advanced connection, Thailand's telecoms regulator has reportedly instructed Advanced Info Service (AIS) and True Corp to submit detailed plans to shut down their 2G and 3G networks by the third quarter of 2026.

The phase-out will free up valuable spectrum for faster 4G and 5G services, but it also means millions of users still on older devices will need to upgrade within the next year and a half.

The consolidation trend is deepening amid reports that Thailand's state-owned operator, National Telecom (NT), is in discussions with at least four companies, including AIS and True Corp, to form partnerships aimed at reviving its struggling telecoms services.

Talks with AIS and True are understood to cover potential collaborations in NT's mobile and fixed broadband businesses, including infrastructure sharing, joint marketing, and customer acquisition initiatives under a profit-sharing model.

Media reports suggest that discussions are still ongoing but there are no confirmed deals. If NT enters into partnerships with either company, it would likely reinforce the dominance of Thailand's two private operators rather than introduce fresh competition.

At the same time, infrastructure sharing would allow NT to reduce duplicated investment, lower operating costs, and accelerate service upgrades, particularly in underserved areas. Its state-owned assets such as spectrum, towers, and fibre could be more effectively leveraged if integrated into AIS or True's networks, improving overall service quality.

Photo by Rayyan on Unsplash

Infrastructure investments

Beyond restructuring and spectrum expansion, telco operators are redeploying capital into new forms of digital infrastructure, moving beyond mobile services to invest in areas that will underpin Thailand's next phase of digital demand.

GSA Data Centre, a joint venture between energy company GULF, Singapore's Singtel, and AIS scheduled begin commercial operations by 2025. It recently secured a loan of THB900 million (about $27.8 million) to fund the development, construction, and operation of a 25.6MW colocation data center in the country.

AIS also launched "AIS Cloud powered by Oracle Cloud Infrastructure", marketed as Thailand's first locally owned hyperscale cloud service represents a 4 billion baht initial investment.

In early 2025, True partnered with China's GalaxySpace to explore low Earth orbit (LEO) satellite internet. The two companies agreed to share expertise and jointly develop technologies for integrated space-to-ground networks, direct-to-cell (D2C) services, and related hardware.

Together, these moves highlight how Thailand's leading operators are diversifying into critical digital infrastructure alongside their core network assets, positioning the country as a regional testbed for next-generation services.

The transformation in Thailand's telecoms sector is profound. The duopoly of AIS and True has created a market where competition is concentrated at the retail level, while infrastructure assets are being steadily spun out to funds and partnerships.
This shift is freeing up capital for operators to reinvest in cloud, data centres, and next-generation connectivity, marking a broader move from traditional telco models to digital infrastructure platforms.

For regional investors, Thailand offers a glimpse of what may follow across Southeast Asia: fewer operators, greater monetisation of passive assets, and a sharper focus on the infrastructure that underpins the digital economy.

2015 - 2025

TOWER DEAL TRACKER

2015

_ITALY

7377 towers
Cellnex acquires 90% stake in portfolio from Wind (VEON) for US$755mn

•

_AUSTRALIA

1700 towers
Macquarie Infrastructure & Real Assets acquires Crown Castle Australia for US$1.6bn, forms Axicom

•

_SPAIN

15 091 towers
Cellnex lists 66% of business on Bolsa da Madrid, raising US$2.14bn

•

_ITALY

11 200 towers
Telecom Italia carves out INWIT, lists 40% on Milano Italia Borsa, raising US$875mn

•

_US

11 448 towers
American Tower acquires 11,448 towers from Verizon for US$5bn

•

2016

_SPAIN

11 000 towers
Telefonica carves out tower portfolio, forms Telxius

•

_GERMANY

2 350 towers
Telefónica sells 2,350 towers to Telxius for €587m

•

_FRANCE

2 482 towers
American Tower acquires FPS Towers for US$760mn

•

_INDONESIA

2 500 towers
XL Axiata sells 2,500 towers to Protelindo for US$250mn

•

_INDIA

42 200 towers
American Tower buys 42,000 towers from VIOM Networks for US$1.18bn

•

2017

_SWITZERLAND

2 339 towers
Sunrise sells 2,339 towers to Cellnex, DTCP and Swisslife for US$469mn

•

_FRANCE

2 400 towers
Bouygues Telecom sells 2,400 towers to Cellnex for US$730mn over two transactions

•

_BRAZIL 

1 200 towers
SBA Communications acquries Highline from Patria Investments

•

_COLOMBIA, PARAGUAY 

2 600 towers
American Tower acquires 2,600 towers from Milicom across two separate deals, each worth US$125mn

•

_BRAZIL 

5 873 towers
American Tower acquires 5,873 towers from TIM for US$850mn

•

2018

_CHINA 

1 900 000 towers
China Tower lists 25% on Hong Kong Stock Exchange

•

_FRANCE 

10 198 towers
KKR acquires 40% of Altice France's tower portfolio for US$1.9bn

•

_INDIA 

20 100 towers
American Tower acquires 20,100 towers from Idea Cellular and Vodafone for for US$1.18bn

•

_THAILAND 

2 589 towers
Digital Telecommunications Infrastructure Fund acquires 2,598 towers from TRUE

•

_INDONESIA 

1 400 towers
Protelindo acquires KIN

•

2019

_ITALY 

11 000 towers
INWIT acquires 11,000 towers from Vodafone Italy

•

_FRANCE, ITALY 

7 900 towers
Cellnex acquires 7,900 towers from Iliad for US$2.18bn across two transactions

•

_SWITZERLAND 

2 800 towers
Cellnex acquires 2,800 towers from Salt for US$763mn

•

_INDONESIA

3 100 towers
Indosat Ooredoo sells 3,100 towers to Mitratel and Protelindo for US$450mn across two deals

•

_CHILE & PERU 

3 243 towers
American Tower acquires 3,234 towers from Entel for US$772mn

•

2020

_AUSTRIA, DENMARK, IRELAND, ITALY, SWEDEN, UK 

24 600 towers
Hutchinson sells 24,600 towers to Cellnex for US$10.9bn across 6 markets

•

_GERMANY 

10 100 towers
Telxius buys 10,100 towers from Telefonica Germany for US$1.6bn

•

_POLAND 

7 000 towers
Cellnex buys 7,000 towers from Iliad Poland for US$872mn

•

_BURKINA FASO, GHANA, KENYA, NIGER, UGANDA 

5 070 towers
American Tower acquires Eaton Towers for US$1.85bn in pan-African deal

•

_INDONESIA

6 050 towers
Mitratel acquires 6,050 towers from parent company Telkomsel for US$700mn

•

2021

_GERMANY, SPAIN, BRAZIL, PERU, CHILE, AND ARGENTINA 

30 722 towers
American Tower acquires Telxius for US$84billion

•

_RUSSIA 

15 400 towers
Service Telecom acquires 15,400 sites from VEON for US$924mn

•

_FRANCE 

10 500 towers
Cellnex acquires 10,500 towers from Hivory for US$566million

•

_INDONESIA

8 047 towers

EdgePoint Infrastructure forms by acquiring Centratama and conducting a sale and leaseback with Indosat Ooredoo

- **_SOUTH AFRICA** 

5701 towers
HIS Towers acquires 5,701 towers from MTN for US$413mn

-

2022

- **_GERMANY AND AUSTRIA** 

40 500 towers
Brookfield & DigitalBridge acquire 51% stake in GD Towers for US$9.7bn

- **_SAUDI ARABIA** 

8 069 towers
Latis acquires 8,069 towers from Zain for US$805mn

- **_JAPAN** 

6 002 towers
JTOWER agrees to acquire 6,002 towers from NTT for US$870mn

- **_CHILE** 

3 800 towers
Phoenix Tower International acquires 3,800 towers from WOM for US$930mn

- **_PHILLIPINES** 

5 907 towers
PLDT sells 5,907 towers to EdgePoint and EDOTCO across two deals worth a combined US$1.47bn

-

2023

- **_INDIA** 

10 000 towers
Ascend Telecom Infrastructure acquires TowerVision

- **_BULGARIA, CROATIA, SLOVENIA**   

4 800 towers
TAWAL acquires 4,800 towers from United Group for US$1.32bn

- **_PANAMA, JAMAICA, THE BAHAMAS, PUERTO RICO, BARBADOS AND THE BRITISH VIRGIN ISLANDS**

1 300 towers      
Phoenix Tower acquires 1,300 towers from Liberty Latin American in US$407mn pan-Carribean deal

- **_ALGERIA, IRAQ, KUWAIT, QATAR, TUNISIA**

30 000 towers     
Zain, Ooredoo and TASC towers merge tower assets across MENA to form new towerco

-
- **_PHILLIPINES** 

1 012 towers
Frontier Tower Associates acquires 1,012 towers from Smart for US$220mn

-

2024

- **_PHILLIPINES** 

3 300 towers
PhilTower merges with MIDC to create new towerco in the Phillipines

- **_IRELAND** 

1900 towers
Cellnex sells Irish business to Phoenix Tower for US$1.06bn

- **_INDIA** 

78 300 towers
Brookfield acquires American Tower's India business for US$2.5bn and merges with Summit Digitel to cretate Altius

- **_SERBIA** 

1 900 towers
Actis acquires 1,800 sites from Telekom Srbija

- **_US** 

6 300 towers
Vertical Bridge acquires 6,300 towers from Verizon for US$3.3bn

-

2025

- **_SAUDI ARABIA** 

7 000 towers
PIF acquires 51% of TAWAL, merges with Latice to create Saudi towerco giant

- **_SOUTH AFRICA** 

4 000 towers
Actis-led consortium acquires Swiftnet for US$370 million

- **_THAILAND** 

5 890 towers
True subsidarys transfer assets to DIF across two transactions

- **_CANADA** 

3 000 towers
Telus carves out tower portfolio, sells 49% to La Caisse for US$920mn

- **_PHILLIPINES** 

400 towers
Frontier Tower Associates acquires CREI

FOCUS

People.
Places.
Perspectives.

THE KICKBOXING CEO

HOW ERIC BOONSTRA BALANCES THE RING AND THE DATA CENTRE

by Abigail Opiah

When most people picture a data centre CEO, the image that springs to mind is someone sitting behind a screen, surrounded by servers and blinking lights. Rarely do they imagine someone lacing up gloves, stepping into a ring, and bracing for a kick.

For Eric Boonstra, CEO of Kevlinx Data Centers, that contrast is central to who he is. While his name is well known in the European digital infrastructure industry, having built businesses for companies like Iron Mountain and EvoSwitch, Boonstra's story extends well beyond the walls of climate-controlled facilities. His real grounding comes from martial arts: kickboxing, Taekwondo, and even Kung Fu.

"It is easy to be seen as a flat character in business," he says. "People know what you do, maybe what you post on LinkedIn. But what you do in your spare time, your interests, your way of thinking, that rarely comes through. I have always found people much more interesting when you get beyond the job title."

Discipline beyond the server room

For Boonstra, martial arts are far more than a pastime. They are a philosophy, shaping the way he approaches leadership, decision-making, and resilience.

"In boxing, you cannot be 99% focused. You need to be 100%, or you get kicked," he says. "That is true in business too. You need tactics, you need strategy, but you also need the ability to react in the moment."

It is a lesson echoed in his university years as a rower. Exhausted in a boat with teammates, he learned that you do not stop when you are tired, you keep going because others depend on you. That drive, fused with martial arts discipline, informs how he leads in a high-pressure industry where a single mistake can have global consequences.

And then there's the Mike Tyson quote he is fond of repeating: "Everybody has a plan until they get punched in the face." For Boonstra, that line applies just as much to a round of kickboxing as it does to running a data centre business in a world of shifting markets, energy debates, and AI-driven demand.

The blurred lines of work and life

Unlike many executives who carve out a sharp boundary between their personal and professional lives, Boonstra embraces the blend. "I never believed in work-life balance, in the sense of stopping work at six o'clock and switching into family mode. For me, it has always been mixed," he says.

Even on holidays, his family expects him to check in. It is how he feels most comfortable: always on, always responsive. That constant rhythm is balanced by the clarity and energy he draws from sport. "If I am fit, I am better at my job. I can think clearer, I am more energised. I want to start every day like that, ready."

His martial arts training is not a solitary pursuit either. His coach, a close friend, IT entrepreneur and former Dutch kickboxing and Taekwondo champion Erkan Demir, works with him weekly alongside a small circle of friends. "It is a tight-knit group. We train together every week, and anyone who is interested can join," he says.

A love of water, wheels, and Italian style

Outside the ring, Boonstra has other passions: cars and boating. For him, being on the water is a kind of meditation, though one rooted in family tradition. His father spent the early years of his career as an officer on commercial ships, travelling the world. "I think I got it from him. I like boating because it is relaxing, social, and connected to friends and family. In Amsterdam, where I live, many people have small boats. It is part of the culture. Just like Ajax, the football club I support with great passion."

Italy is another anchor in his life. He calls it his "second home" and finds its cultural rhythms, family meals, style, craftsmanship - inspiring. "If you run a pizzeria in Italy and use bad tomatoes, you are out of business. Standards matter there. I love that," he says.

A career built on coincidence

Curiously, Boonstra did not set out to lead in the data centre industry at all. A law graduate, he worked at Siemens, ABN Amro Bank, and in consultancy before friends invited him to co-found a data centre business nearly 17 years ago. "It was pure coincidence," he admits. "I had no technical background, but I liked learning something new and challenging myself."

Since then, he has become one of the most recognisable figures in the European data centre market, leading growth at EvoSwitch, Iron Mountain, and now Kevlinx. For Boonstra, it is not just about infrastructure, but about being part of the wider digital economy, from AI to cloud computing.

"I love the market, I love the people, and I do not want to do anything else," he says simply.

Life as a kickboxing match

Ask him where he stands in life today, and his answer circles back to the ring. "It always feels like I'm in the first round," he says with a grin. "No matter your age or what you have done, it feels like just the beginning. You stay focused, you plan, you react, and you aim to win. I do not like losing."

It is a revealing metaphor. For Boonstra, the fight is never over, and perhaps never meant to be. Whether it is on the mat in Amsterdam with friends, on a canal with friends, or in the boardroom of a data centre company, he is always stepping forward, always preparing for the next round.

Eric Boonstra kickboxing

TOP 10 PEOPLE ON THE MOVE

Key job market stats

In 2023, the data centre industry supported 4.7 million jobs in the US, marking a 60% rise since 2017, according to a 2025 PwC report.

Kathrin Renz
Amazon Web Services

Kathrin Renz is the first managing director of AWS' new EU-based parent company, overseeing three German subsidiaries as part of its European Sovereign Cloud initiative.

Shane Paladin
Equinix

Shane Paladin is Equinix's new executive VP and chief customer and revenue officer, steering customer experience, sales, marketing, key accounts, partnerships, and data-driven growth strategies.

Christian Hillabrant
Crown Castle

Christian Hillabrant became President and CEO of US tower and fibre giant Crown Castle (NYSE: CCI) in September, joining the board simultaneously.

Naim Yazbeck
Microsoft

Microsoft named Naim Yazbeck president for the Middle East and Africa, overseeing operations across 70+ countries after three years as Microsoft UAE's general manager.

Nicolas Mahler
Vantage Towers

Nicolas Mahler stepped in as interim CEO of European telecoms infrastructure provider Vantage Towers in September. The CFO succeeds Christian Hillabrant, who moves to a new US role.

Nicholas Toh
Gaw Capital Partners

Nicholas Toh is now Managing Director – Head of Data Centre Platform, Asia (ex-China) at Gaw Capital Partners. Based in Singapore, he leads Pan-Asia investments, asset management, and regional strategy with 20+ years' experience.

Clinton Hasell
Kao Data

Kao Data appointed Clinton Hasell as chief business officer to drive expansion across the UK and Europe.

Steve Conner
EdgeCore Digital Infrastructure

Steve Conner took on the newly created role of president at EdgeCore Digital Infrastructure, managing day-to-day operations and guiding the company's development initiatives.

Wei Shen
Vertiv

Wei Shen now leads Vertiv's Greater China operations. He brings nine years of experience as VP and GM at Gates Corporation.

Krupal Raval
CyrusOne

Krupal Raval joined KKR-backed CyrusOne as chief strategy officer, leading US development programs and strategic engagement with hyperscale customers.

The Tech Capital hosted its inaugural LATAM Finance Forum on July 3, 2025, at São Paulo's Palacio Tangará. The high-level event brought together leading voices from digital infrastructure, banking, investment, fintech, policy, and sustainable finance to examine the shifting intersections of global capital flows, technological innovation, and environmental responsibility.


PALÁCIO TANGARÁ, SÃO PAULO
Davis Polk


IFF
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THE TECH CAPITAL
BRIDGING LEADING PROVIDER AND HYPERSCALER INSIGHTS:
PERSPECTIVES ON LATAM'S INFRASTRUCTURE & OPPORTUNITIES
JOÃO MARQUES LIMA
MARCOS PEIXOTO
DANIEL SEMBRANA


IFF
LATAM FINANCE FORUM 2025
THE TECH CAPITAL
OPENING REMARKS FROM THE TECH CAPITAL
JACK HADDON


THE TEC


THE TECH CAPITAL
REGISTRATION
LATAM FINANCE FORUM 2025
With the Support of
MMC


THE TECH CAPITAL
IFF
LATAM
FINANCE FORUM
2025


CAMILA
RAMOS

48 HOURS IN SINGAPORE

1. Marina Bay Sands
This iconic integrated resort dominates Singapore's skyline with its three towering hotel blocks connected by a stunning rooftop SkyPark. The complex houses a world-class casino, luxury shopping mall, and an array of fine dining establishments. Visitors can ascend to the observation deck for panoramic views of the city or take a dip in the world's largest rooftop infinity pool, creating an unforgettable experience that epitomizes Singapore's modernity and architectural prowess.

2. Gardens by the bay
This horticultural marvel spans 101 hectares of reclaimed land, showcasing Singapore's commitment to becoming a "City in a Garden." The gardens feature futuristic Supertrees - vertical gardens up to 50 meters tall - and two cooled conservatories: the Flower Dome and the Cloud Forest. The Flower Dome replicates a mild, dry climate, while the Cloud Forest houses a 35-meter indoor waterfall and a mountain of plant life. This attraction beautifully merges nature with cutting-edge sustainable technology.

3. Sentosa island
Known as the "State of Fun," Sentosa is Singapore's premier island resort getaway. This man-made island boasts pristine beaches, luxurious resorts, and a plethora of attractions. Visitors can experience the thrills of Universal Studios Singapore, observe marine life at S.E.A. Aquarium, or zipline through the jungle at Mega Adventure Park. The island's Fort Siloso offers a glimpse into Singapore's wartime history, while the Merlion statue stands as an iconic symbol of the nation.

4. National Gallery Singapore
Housed in the former Supreme Court and City Hall buildings, this visual arts institution is the largest of its kind in Singapore. The gallery showcases an extensive collection of Southeast Asian art, including works from Singapore's National Collection. Its grand architecture, a blend of neo-classical and modern design, is an artwork in itself. Visitors can explore exhibitions that narrate the region's artistic journey and participate in various programs that promote art appreciation and cultural understanding.

5. Odette (Michelin 3-star)
Housed in the iconic National Gallery Singapore, Odette offers a refined French dining experience. Chef Julien Royer's artful creations showcase the finest seasonal ingredients, presented with meticulous attention to detail. The restaurant's elegant, pastel-hued interior complements its sophisticated cuisine, embodying Singapore's ascent in the global fine dining scene.

6. Chinatown
This vibrant district is a testament to Singapore's rich Chinese heritage. Narrow streets are lined with restored shophouses, now home to traditional businesses and hip new establishments. The Buddha Tooth Relic Temple, with its stunning Tang dynasty-inspired architecture, houses what is believed to be the left canine tooth of Buddha. Visitors can explore the bustling street markets, sample authentic Chinese cuisine, and immerse themselves in the area's cultural tapestry.

7. Fort Canning Park
This hilltop landmark has played a pivotal role in Singapore's history, from its time as a Malay palace in the 14th century to its use as a British military base. Today, the park is a green oasis in the heart of the city, featuring historical relics, lush lawns, and diverse flora. Visitors can explore the Battlebox - a former WWII command center, stroll through the Spice Garden, or attend outdoor concerts and theater performances, experiencing the harmonious blend of nature, history, and culture.

8. Singapore Flyer
This giant observation wheel offers breathtaking panoramic views of Marina Bay and the city skyline. Standing at 165 meters, it was once the world's tallest Ferris wheel. Each rotation takes about 30 minutes, allowing visitors to appreciate Singapore's urban planning and architectural marvels from a unique perspective. The Flyer's design and engineering showcase Singapore's ambition and technological prowess in creating iconic attractions.

9. Haji Lane

Nestled in the heart of Kampong Glam, Singapore's Muslim Quarter, Haji Lane is a narrow street that has transformed into a hip and eclectic neighborhood. The lane is lined with colorful shophouses housing independent boutiques, quirky cafes, and vibrant street art. It stands in stark contrast to Singapore's polished shopping malls, offering a more bohemian and artistic atmosphere. Visitors can browse unique fashion pieces, enjoy specialty coffee, and capture Instagram-worthy moments against the backdrop of murals and historic architecture.

10. Blu Jaz Cafe
This three-story shophouse in the Kampong Glam district is a hub for live music enthusiasts. The ground floor features jazz and blues performances, while the upper levels host everything from comedy nights to electronic music events. Blu Jaz Cafe's eclectic programming and intimate setting have made it a cornerstone of Singapore's alternative nightlife scene, reflecting the city's efforts to nurture diverse cultural expressions.

1

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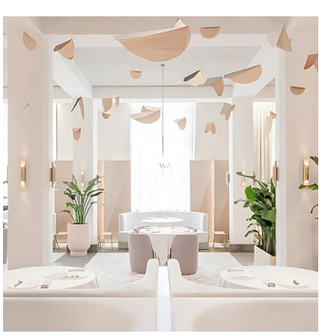

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8 UNUSUAL MUST-HAVE TECH GADGETS

by Abigail Opiah

1. Dygma Raise 2 Split Keyboard
Price: Starts at US$369

Description: A hot-swappable, wireless, split mechanical keyboard loved by gamers, typists, and coders for its ergonomic build and high customisability.

3. MrAir.0 (oriMouse) by Nexus
Price: US$69 (standard colors); US$75 for premium variants like Pink Shine or Titanium

Description: A remarkably thin (4.5 mm), ultra-light (approx. 40 g) foldable Bluetooth mouse ideal for mobile productivity setups.

2. WELT Smart Belt
Price: Around US$149–$249

Description: A fashionable leather belt that doubles as an activity tracker, monitoring waist size, steps, sitting time, and more.

4. JBL Soundgear Frames (Audio Glasses)
Price: US$199 for both square and round models

Description: Lightweight sunglasses embedding JBL's OpenSound technology, offering hands-free calls, music, and up to 8 hours playback.

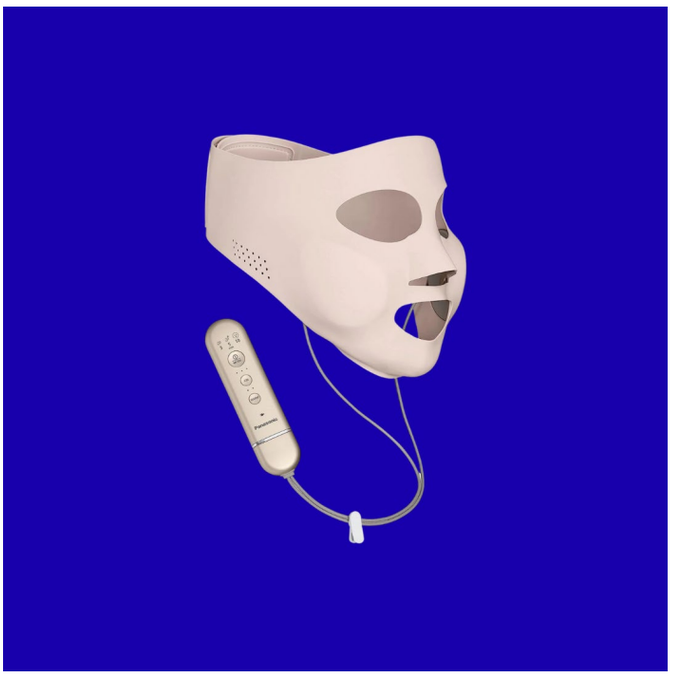
We are in an era where there are a lot of tech gadgets you can get your hands on. So for this list, I decided to go with the not so conventional items that are currently on the market. Here is a curated list of those delightfully quirky tech gadgets - think foldable mice, wearable air purifiers, and smart belts.

5. Aviator Obsidian Black Aluminum Slim Wallet
Price: £119 (US$52)

Description: A wallet with a built-in compartment tailored to hold an Apple AirTag for seamless tracking. Protection against unauthorised scanning. Holds up to 20 cards, and coin holder included for coins, keys, or SD cards.

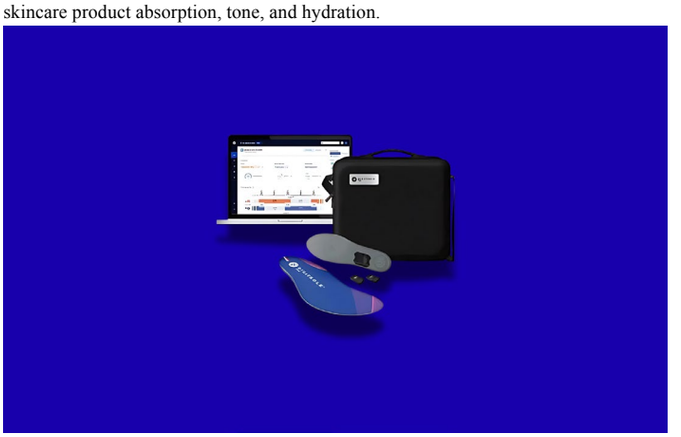
6. Dyson Wearable Air Purifier (Dyson Zone)
Price: Around US$949 (or £750–£820)

Description: A sci-fi-esque hybrid: noise-canceling headphones with a magnetic visor that blows purified air into your breathing zone. Notably complex and polarising in both design and reception.



7. Panasonic Mask-Type Ion Facial Device (Ion Boost Gold EH-SM50-N)
Price: Used units around $178.50; new devices on Amazon Australia roughly $445 AUD (US$300)

Description: A hands-free facial mask that emits warmth and ions to enhance skincare product absorption, tone, and hydration.

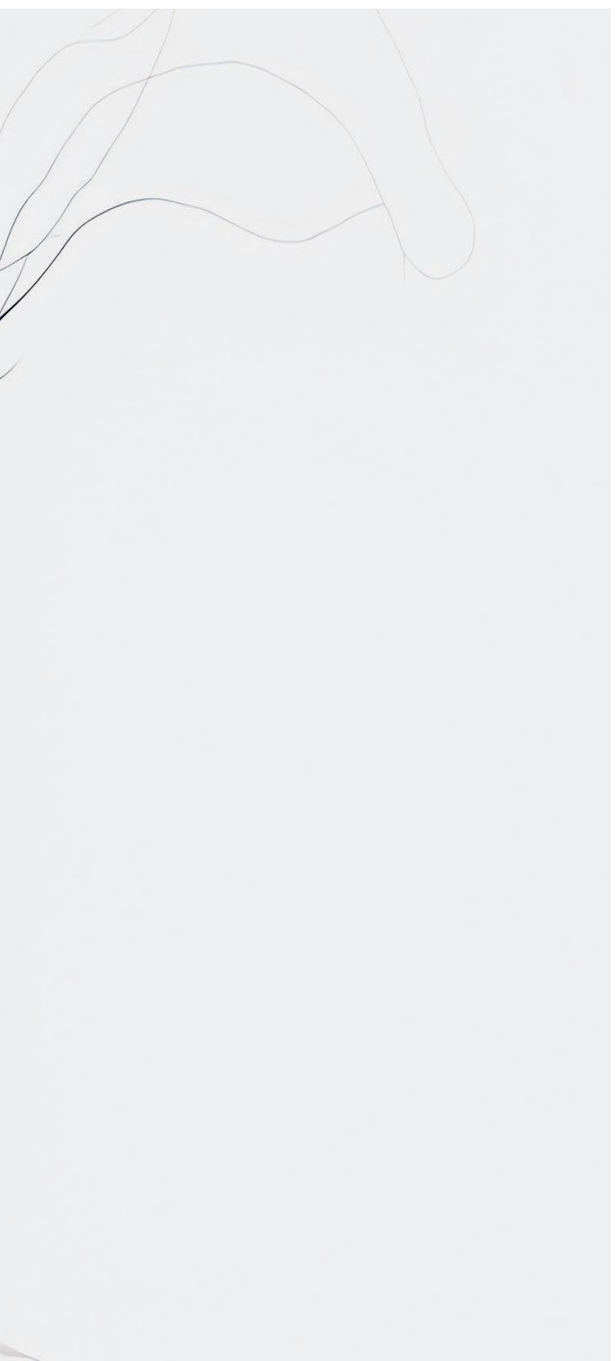


8. DIGITSOLE PRO – Smart Gait Analysis Kit
Price: €1,200 for base system (US$1,300); additional modules range €550–€930 (US$600–1,000)

Description: A clinical-grade, portable gait-analysis kit including six pairs of smart insoles and sensor chips, a tool for gait tracking and rehabilitation assessments.

CAN BRAIN-LIKE PROCESSORS SAVE AI FROM ITS OWN POWER DEMANDS?

JOÃO MARQUES LIMA EXPLORES HOW NEUROMORPHIC COMPUTING—PROCESSORS MODELLED ON THE HUMAN BRAIN—COULD RESOLVE AI'S MOUNTING ENERGY CRISIS AND REDEFINE THE FUTURE OF SUSTAINABLE COMPUTING.



The human brain runs on roughly 20 watts of power—about the same as a dim light bulb—while conventional silicon processors can require up to a million times more energy to complete similar tasks. This staggering difference reveals the fundamental inefficiency of current computing architectures and raises serious questions about the sustainability of artificial intelligence (AI). Consequently, data centres now face an unprecedented energy crisis. By the end of 2025 they are projected to consume a fifth of the world's electricity. If left unchecked, this trajectory threatens not only the growth of AI but also the stability of global energy systems.

Neuromorphic computing, inspired by decades of neuroscience research, offers a fundamentally different way forward. Unlike conventional chips, these processors replicate the brain's event-driven style of information processing. The results are extraordinary: up to 100,000 times less energy use compared to traditional silicon, while maintaining performance levels needed for advanced AI tasks. Deploying neuromorphic systems at the network edge could reduce data centre loads by as much as 90%. That efficiency is essential as electricity use in data centres, which was about 300 terawatt-hours in 2020, is expected to nearly triple by 2030.

Intel's Loihi processor exemplifies the potential as it demonstrates thousand-fold energy reductions while enabling real-time adaptive learning—something conventional hardware struggles with. Tests show on-chip neuromorphic emulation is not only far more efficient but also faster than software simulations running on standard processors. Together, these advances suggest that neuromorphic computing may become the foundation of sustainable AI infrastructure, reconciling the computational hunger of machine learning with the environmental imperatives of our time.

The Energy Crisis of AI

The International Energy Agency projects global data centre electricity demand will exceed 945 terawatt-hours by 2030—greater than Japan's total consumption. AI is the main driver of this surge. In the US, data centres will account for nearly half of the growth, and by 2027 AI could represent more than a quarter of all data centre electricity use, up from 14% today. Goldman Sachs estimates power demand may climb 165% above 2023 levels by decade's end. The difference is stark when viewed at the operational level: one ChatGPT query consumes ten times the energy of a Google search.

The challenge lies not only in the scale of consumption but in the architecture itself. For 75 years computing has been dominated by the von Neumann design, which rigidly separates memory and processing. In AI workloads, most of the energy goes not into computation but into moving data back and forth between memory banks and processors. As models grow in size, data must travel further, amplifying costs in both energy and latency. IBM researchers note that energy use scales with wire length, a physical constraint that becomes a bottleneck for training large-scale models. Indeed, training a single large language model can consume as much electricity as a household uses in an entire year.

The consequences of this inefficiency are visible in global forecasts. Base-case scenarios put annual data centre electricity demand at about 3% of global generation. More aggressive growth could push demand past 1,700 or even 2,000 TWh by 2035, nearly 5% of the world's supply. In Europe, demand is expected to more than double by 2035, with Nordic countries tripling usage by 2030. Already, grid infrastructure is straining to keep pace. Goldman Sachs calculates that more than half a trillion pounds may need to be invested just to expand grid capacity. Without new architectures, AI's expansion could prove environmentally and economically unsustainable.

Neuromorphic Computing as a Brain-Inspired Solution

Neuromorphic computing takes its cues from biology. Instead of running on fixed clock cycles, these chips process information asynchronously, firing only when new data arrives—like neurons transmitting electrical impulses. At their core are spiking neural networks, which propagate information as discrete spikes rather than continuous signals. Models such as the leaky integrate-and-fire neuron accumulate inputs until reaching a threshold, then emit a spike. This mimics both the timing and adaptability of biological systems, including mechanisms like synaptic plasticity, which allows connections to strengthen or weaken depending on experience.

This architecture eliminates the von Neumann bottleneck by collocating memory and computation, preventing the energy-intensive shuttling of data. Intel's Loihi processor, for instance, combines real-time adaptive learning with thousand-fold reductions in power use. Other efforts include IBM's TrueNorth and Qualcomm's Zeroth, each tailored for edge applications such as robotics, real-time sensing, and autonomous navigation. A further breakthrough comes from memristors—devices that act as both memory and processor. In crossbar arrays they directly perform matrix multiplications, exploiting the laws of physics to compute efficiently while storing data in the same place. This dual role mirrors the function of biological synapses.

The efficiency gains of such systems are dramatic, as demonstrated by IBM's TrueNorth which uses just 26 picojoules per synaptic event. Memristor-based designs have shown 460-fold reductions in power compared to conventional electronics. Event-driven architectures remain dormant until triggered, saving energy when idle. Automotive research suggests neuromorphic chips could cut in-vehicle data processing power by 90%. Collocated memory and processing also reduce latency. Wearables that once required milliwatts of power now function in the microwatt range, enabling continuous health monitoring directly on the body without cloud connections.
Practical applications are emerging across multiple domains. In healthcare, neuromorphic prosthetics interpret neural signals instantly, allowing users to control artificial limbs as though they were natural. Diagnostic devices equipped with neuromorphic processors operate at microwatt levels, capable of analysing cardiac rhythms, muscle signals, and skin conditions in real time. Some systems have even demonstrated sepsis detection by monitoring multiple physiological signals simultaneously. In automotive safety, event-based vision sensors detect pedestrians 20 milliseconds faster than conventional cameras—a margin that can prevent accidents in dense traffic. These sensors also excel in dynamic lighting, where traditional cameras falter.

Industries are finding other uses too. Manufacturers use neuromorphic platforms for predictive maintenance, detecting failures weeks before they occur by analysing vibration, heat, and acoustic patterns. Real-time quality control benefits as well, with chips spotting microscopic flaws on production lines and adjusting processes instantly. Defence programmes, such as DARPA's SyNAPSE, deploy neuromorphic processors in autonomous drones. These systems consume minimal power yet navigate complex environments and operate in coordinated swarms. Civilian versions may soon monitor crops or manage warehouse inventories.

Still, challenges remain. The software ecosystem is fragmented, with each hardware platform tied to its own tools. Frameworks like BindsNET, NengoDL, and SpikingJelly offer partial solutions but lack standardisation, making it difficult to build cross-platform applications. Training spiking neural networks is another obstacle. Unlike conventional artificial networks, spikes are discontinuous, making backpropagation incompatible. Alternatives such as spike-timing-dependent plasticity are biologically realistic but less accurate, often requiring much larger networks. Developing new supervised algorithms that can learn efficiently on neuromorphic hardware is an urgent research priority. Hardware incompatibility further complicates matters, with different protocols preventing easy interoperability. Neuromorphic devices also rely heavily on conventional host computers for deployment, which can negate their energy advantages unless host-device communication is improved.

Despite these hurdles, the evidence points to neuromorphic computing as the most promising response to AI's energy crisis. It is not just an incremental optimisation of existing systems but a paradigm shift. Where von Neumann architectures struggle with the scale and energy demands of AI, neuromorphic systems integrate memory and computation, operate asynchronously, and consume power only when processing. Thousand-fold efficiency improvements are already demonstrated, not hypothetical. Prosthetics, diagnostic devices, safety systems, and predictive maintenance all show how these chips can move from lab experiments to practical deployments.

Ultimately, the stakes are high. Global data centres are on track to consume unsustainable levels of electricity, threatening both AI progress and energy security. Neuromorphic computing offers a way to expand our digital civilisation without exhausting planetary resources. Just as the transistor once replaced the vacuum tube, brain-inspired processors may define the next leap in computing. By rethinking architecture at its foundations, neuromorphic technology could ensure that artificial intelligence enhances human capability rather than undermining it through resource depletion.

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