South Korea and Japan: digital-first economies ripe for data centre growth

There is substantial discussion about the rise of AI and its impact on data centre expansion but much of it is US-focused and can underplay the nuances at hand in other key global markets. In Asia, although the increasingly important data centre market is experiencing rapid growth, AI is not necessarily the most significant component contributing to the data centre growth engine.

We believe the rapid growth the sector is seeing in Asia is being driven by several factors – continued digital transformation, technological innovation, rising cloud adoption, increasing connectivity due to the growth of 5G networks and, of course, AI. What the region has in common with other parts of the world however is that a large majority of new data centre demand is coming from hyperscalers, including not only the tech giants of the US but also Chinese hyperscalers. At a global level, hyperscalers represent about 80 percent of all new data centre demand, with Amazon, Microsoft and Google alone reportedly now accounting for 60 percent of all hyperscale data centre capacity worldwide.

Driven by hyperscaler growth, data centre capacity in Asia Pacific is expected to expand at a compound annual growth rate of 21 percent from 2024 to 2028. We think this illustrates the sector's formidable momentum.

This exciting growth is opening up a new array of investment opportunities, but it is important to underscore the importance of the assets in question. In today's world, data centres form essential infrastructure. The vast and growing levels of data generation and consumption mean that the demand for data processing and storage is relatively sticky. Data centres are therefore real estate assets with core infrastructure characteristics.

They must be able to operate continuously 365 days a year; households and businesses struggle to function without such infrastructure. This is particularly evident in two of the region's foremost digital economies – South Korea and Japan.

South Korea and Japan: Digital-first economies leading the way

Across Asia there is a shortage of data storage and computer processing capacity, which in our view makes data centres an attractive investment proposition. This is the case in South Korea and Japan, two nations with highly digitalised economies that are heavily reliant on data centre infrastructure.

South Korea boasts one of the highest global rates of fibre penetration globally at 90.5 percent, while Japan is also near the top of the pack at 79.2 percent, compared with an OECD average of 46.9 percent. Likewise, South Korea leads OECD countries for fixed broadband subscriptions, with Japan also well above the average. This excellent connectivity is reflected in the fact that their populations are more online than those of other countries, with 97 percent of people in South Korea having used the internet in the last three months.

This eagerness for digital connectivity is far from limited to households however. South Korean companies have shown outstanding performance in adopting digital technologies, ranking first among OECD nations in internet of things (IoT), big data analytics, and AI technology adoption rates – at 53 percent, 40 percent, and 28 percent respectively – and fifth in cloud computing adoption at 70 percent. Japan also demonstrates technological leadership in high-performance computing, with the highest concentration of supercomputers among the world's leading economies, outside the United States.

Both nations are at the forefront of AI. Japan's innovation-first AI Promotion Act was primarily crafted to drive economic growth and acknowledge AI as a foundational technology for Japan's development, and South Korea's AI Framework Act seeks to promote innovation and competitiveness as well. The South Korean government has also provided supplementary budget to support data centre development.

To date, the main drivers of data centre demand in South Korea and Japan have been accelerated cloud migration, continued digital transformation and increased consumption of digital content such as streaming services.

In Korea, rack rates per KW have increased by approximately 90 percent compared with four years ago. This rapid price escalation is understood to be driven initially by cloud demand and more recently by the surge in AI demand.

This is creating an exciting growth environment for investors to tap into. In Japan, for example, data centres offer higher expected NOI yield levels than most other major real estate asset types.

Perhaps the greatest challenge to capitalising on the opportunity in both South Korea and Japan is land and power scarcity, notably in major hubs such as Seoul and Tokyo. While this can create barriers to entry, it supports long-term rental growth for early movers with secured land and power access. In our view, success requires both energy and infrastructure as well as real estate expertise. Having those cross-sector capabilities is a critical differentiator in a market where power is as important as location. This scarcity could play into the hands of specialist developers.

Actis: Meeting the challenge

Developing hyperscale data centres that require a lot of power is a core focus for Actis. We specialise in sustainable infrastructure with parallel expertise in energy, real estate and sustainability. This means engineering solutions to deliver reliable power and high energy efficiency levels for

data centres. Actis brings to the table decades of experience investing globally in energy, infrastructure and real estate.

Actis first invested in the South Korean data centre market in 2020 and has become a repeat investor. We think this combination of early-mover advantage and experience has allowed us to effectively navigate development costs that can create barriers to entry in the market.

The firm has invested about US $3 billion globally in real estate and digital infrastructure to date, with an established track record in data centre development and operation, and a current IT load of 360 megawatts under management across seven data centres in Asia alone.

This portfolio includes two 26 MW data centres in Greater Seoul (Projects Epoch and Ditto) as well as a separate 65 MW data centre project also in Greater Seoul as part of our Pan-Asian data centre platform, Epoch Digital.

Project Epoch has had 100 percent of its 26 MW total capacity fully contracted since February 2024 and 90 percent of its IT load capacity has been successfully handed over to tenants as of Q2 2025. Both Projects Epoch and Ditto also obtained Green Standard for Energy and Environmental Design (G-SEED) certifications in 2024, as well as LEED Silver certifications, and are seeking annual power usage effectiveness (PUE) of 1.2X, versus a market average of 1.5X. Given the energy costs associated with data centres, this focus on PUE and energy efficiency is crucial to reducing operating costs, attracting tenants, and delivering a financially viable asset.

Epoch Digital's Seoul asset is a 65 MW greenfield project in Greater Seoul, with 100 MW of power already secured. Actis was able to acquire the land and sign the power agreement for the project and commenced development in Q2 2025.

This all points to how Actis invests in data centres, with a deliberate, established and consistent approach centred on acquiring assets and improving utilisation, developing and operating shared infrastructure platforms, and building new capacity in undersupplied markets.

Hyperscale customers often seek to collaborate with partners – whether operators, telecom companies, or investors – who have deep understanding of their specifications and designs, and who have prior experience developing and operating the data centres they lease. For hyperscalers, who must secure predictable and stable supply, relying on capital-rich but inexperienced partners may present great risks.

Actis' projects to date have established experience and a strong on-the-ground presence, especially in South Korea where we were the first non-Korean firm to invest in data centres for hyperscalers in Seoul and proceeded to efficiently secure contracts with major US hyperscalers.

We think part of this success has been due to the strategic approach we take – one that is both proactive and client-focused. The firm only commits to land and power acquisitions after a thorough examination of hyperscaler growth and demand forecasts, for example. This is because hyperscalers usually sign colocation contracts up to two years prior to needing the capacity, so there is scope for change.

The firm also seeks to source data centre sites for development that can meet the needs of numerous hyperscalers, helping to meet the capacity and location requirements of clients while diversifying the potential client base. This is key because hyperscalers need purpose-built assets, often located in specific clusters. This approach helps mitigate the risk of idle capacity.

Actis is continuing to focus on assets located in or near major urban areas, aimed at catering to the cloud market that requires low-latency and proximity to end-users. However, to serve rapidly accelerating AI demand, we are also looking to evolve our offerings to AI clusters in less constrained regions, such as Busan in South Korea and Kyushu in Japan.

Delivering opportunities from digital-first economies

South Korea and Japan have both been transitioning quickly and determinedly into digital-first, technology-driven economies. And they have been doing so faster than most other countries both in Asia and worldwide. This is creating a compelling opportunity for investors with deep market understanding and local presence, and with integrated expertise across digital and energy infrastructure and sustainability.

Data centre investments in these markets can offer several advantages, including strong mid-to-long-term demand growth, sticky demand that has historically been resilient through economic and political cycles, and typically high tenant retention rates with potential for stable long-term cashflows. Assets in South Korea and Japan can offer these benefits – it is up to investors to deliver on their promise

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COMPANY OVERVIEW

Actis is a leading growth market investor in sustainable infrastructure. Actis invests in structural themes that aim to support long-term, equitable growth in defensive, critical infrastructure across energy transition, digitalisation transition, and supply chain transformation.

Actis believes that the firm's decades of global experience, operational know-how and strong culture allow it to create global sustainability leaders at scale. Actis is a signatory to the Principles for Responsible Investment (PRI), an investor initiative supported by the United Nations.

In October 2024, Actis joined forces with General Atlantic, a leading global growth investor, creating a diversified, global investment platform. Together we have approximately $118 billion in combined assets under management. Actis operates as General Atlantic's sustainable infrastructure business. This strategic combination further enhances Actis' focus as a leader in global sustainable infrastructure.