CUSHMAN & WAKEFIELD

ASIA PACIFIC
DATA CENTRE
H1 2024 UPDATE

FEATURED IN THIS UPDATE

- **PRIMARY MARKET OVERVIEWS:** Tokyo, Singapore, Sydney, Hong Kong, China, Mumbai, Seoul, Jakarta, Johor

- **SECONDARY MARKET SPOTLIGHTS:** Manila, Bangkok, Auckland, and Ho Chi Minh

- **ASIA PACIFIC DATA CENTRE MARKETS MATURITY INDEX:** 30 markets covered

Better never settles

Updated 3 September 2024

CONFIDENTLY GLOBAL, EXPERTLY LOCAL

Our Asia Pacific Data Centre Advisory Team (APAC DCAT), as part of our Global Data Centre Advisory Group, has created optimal solutions and location strategies to address highly complex IT requirements for enterprise clients across the region and globally since 2004. Our multi-disciplined team, consisting of experts across a spectrum of advisory services, focus specifically on the data centre market for seamless delivery. Every client requirement is unique; we have the experience to develop long-term strategies that drive wise investment decisions for enterprise users, colocation providers, hyperscalers, sector investors and developers.

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ASIA PACIFIC DATA CENTRE MARKET OVERVIEW

The operational capacity of Asia Pacific's* data centre markets has moved closer towards the 12GW mark during H1 2024, having added about 1.3GW of new supply, recording the largest addition of scale in recent times. An equivalent quantum of absorption scale has also been observed during this period, indicating parity between demand and supply dynamics in the region, which is a very healthy indicator of continued growth. Development pipeline quantum is at 4.2GW of under construction activity throughout the region and 12.0GW in planning stages, which is an increase of 2.8GW since end of H2 2023.

Out of the 14 markets within the Asia Pacific region, the top 6 markets contribute up to 85% of the operational capacity within the region. Chinese Mainland (4.2GW), followed by Japan (1.4GW), India (1.4GW), Australia (1.2GW), Singapore (0.98GW), South Korea (0.65GW) not only have the largest operational capacity, but also have robust development pipeline and planned capacities, with both Hong Kong, China (0.58GW) and Malaysia (0.35 GW) also trying to catch up with these top 6 markets.

Malaysia (mainly due to Johor) has observed the highest increase in operational capacity at 80%, between H2 2023 and H1 2024, followed by India at 28%. Both markets have similarly observed highest growth in development pipeline indicating that both these markets are expected to witness continued growth in the next few years.

Japan, India and Australia are the countries wherein both cloud service providers and colocation players are expected to increase their investment and capacities with both Japan and India breaching 4GW size (overall stock of operational, under construction and planned capacities) and Australia at 3.5GW, with Chinese Mainland up ahead of all markets with 6.5GW. South Korea as a market is evidently observing single digit growth trends, due to impact of new regulations power usage and development norms in the short to medium term.

With growth in capacities being observed across the Asia Pacific region, several country & market specific policy initiatives, incentive offerings, emphasis on improving energy efficiency through adoption of innovative technologies, and enablers for reduction in carbon footprint are also being pursued and implemented by market stakeholders.

Our *Asia Pacific Data Centre Market Maturity Index* (through refined methodology & complimented with additional data validation efforts) forecasts the potential evolution of 30 markets across the region over the next decade. The parametric based weighted evaluation of the markets' factors existing & planned capacities, vacancy levels, operator presence & scale and individual asset level build capacities. Our current update report covers key nuances of eight prominent primary markets (cities) – Tokyo, Singapore, Sydney, Hong Kong, Mumbai, Seoul, Jakarta and Johor, whilst also providing an overview of four secondary markets (cities) of **Manila,** Bangkok, Auckland and Ho Chi Minh.

(For quarterly updates on the markets we operate in, including key indicators, view our capabilities brochure).

Asia Pacific* has briskly moved towards 11.6GW of operational capacity with 1.3GW of new capacity added in H1 2024.

~85% of operational capacity is concentrated in the region's top 6 markets – **Chinese Mainland** (4.2GW), **Japan** (1.4GW), **Australia** (1.2GW), **India** (1.4GW), **Singapore** (0.98GW) & **South Korea** (0.65GW)

At an overall stock level, **Tokyo**, with 2.7GW (existing & committed pipeline) is very close to **Beijing** (2.9GW), followed by **Sydney** (2.0GW) and **Shanghai** (2.0GW) being only four cities in the region with >2GW (existing & committed) capacities.

Sydney has scored the highest ranking in terms of market maturity, considering single digit vacancy levels, being the third largest market (along with Shanghai), after Beijing & Tokyo in terms of overall stock and scoring the highest in terms of build capacities.

Johor (1.9GW) & **Mumbai** (1.8GW) are the two cities which are rapidly playing catch up with the top four cities to breach 2GW capacity (existing & committed) sooner than later.

Malaysia remains the fastest growing market in the region. With **Johor** (231MW) contributing to the operational capacity of the market, along with 0.9GW towards planned capacities of that market.

*For all analysis, Asia Pacific region includes Australia, Chinese Mainland, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan, Thailand and Vietnam only.

ASIA PACIFIC MATURITY INDEX

Our Asia Pacific Data Centre Maturity Index tracks 30 data centre markets across Asia Pacific* to compare their current maturity status as well as their potential evolution over the next decade.

This index is a statistical comparison that evaluates markets on fifteen parameters, the ranking achieved of which is visually indicated on the graph, with inputs on overall stock (operational, planned and under construction). We have adopted a change in the methodology by segmenting the parameters into three key primary parameters (1) Overall Stock & Vacancy; (2) Presence of colocation players and hyperscalers, apart from telecom entities; and (3) Build Capacities (scale of individual data centres) within the markets (considering impending influence of AI deployment across various markets). Each of the primary parameters contain five secondary parameters adding up to a total of fifteen parameters, being used for indexing the maturity of each market. The data points for each market are stacked into a parameter matrix and weighted to derive their overall growth score, wherein, higher the growth score, the respective markets are forecasted to evolve better into the future. We believe that while the Maturity Index is an indicator of current dynamics within each market, it is also an indicator of future potential within each market. As per our practice, the markets are grouped into the below four categories to provide relevance & understanding of prevalent scale & dynamics:

POWERHOUSE markets are the largest in region in terms of their overall data centre capacity and committed pipelines. Basis the change in methodology adopted, Sydney has scored the highest ranking in terms of market maturity, considering single digit vacancy levels, being the third largest market (after Beijing & Tokyo) in terms of overall stock and also scoring the highest in terms build capacities. While Beijing, Tokyo have better vacancy levels, Sydney is scoring higher due to larger build capacity (scale of individual data centres), which can also hold that market in good stead, considering impending AI deployments in the coming years. Johor is ranking second in terms of market maturity, considering very low vacancy at 2% and with the highest build capacity amongst all markets. Beijing, Tokyo, Mumbai and Shanghai complete the six powerhouse markets in that order, wherein the total stock (operational, planned and under construction) of these markets comprise almost 48% of the overall Asia Pacific region. Similarly in terms of live
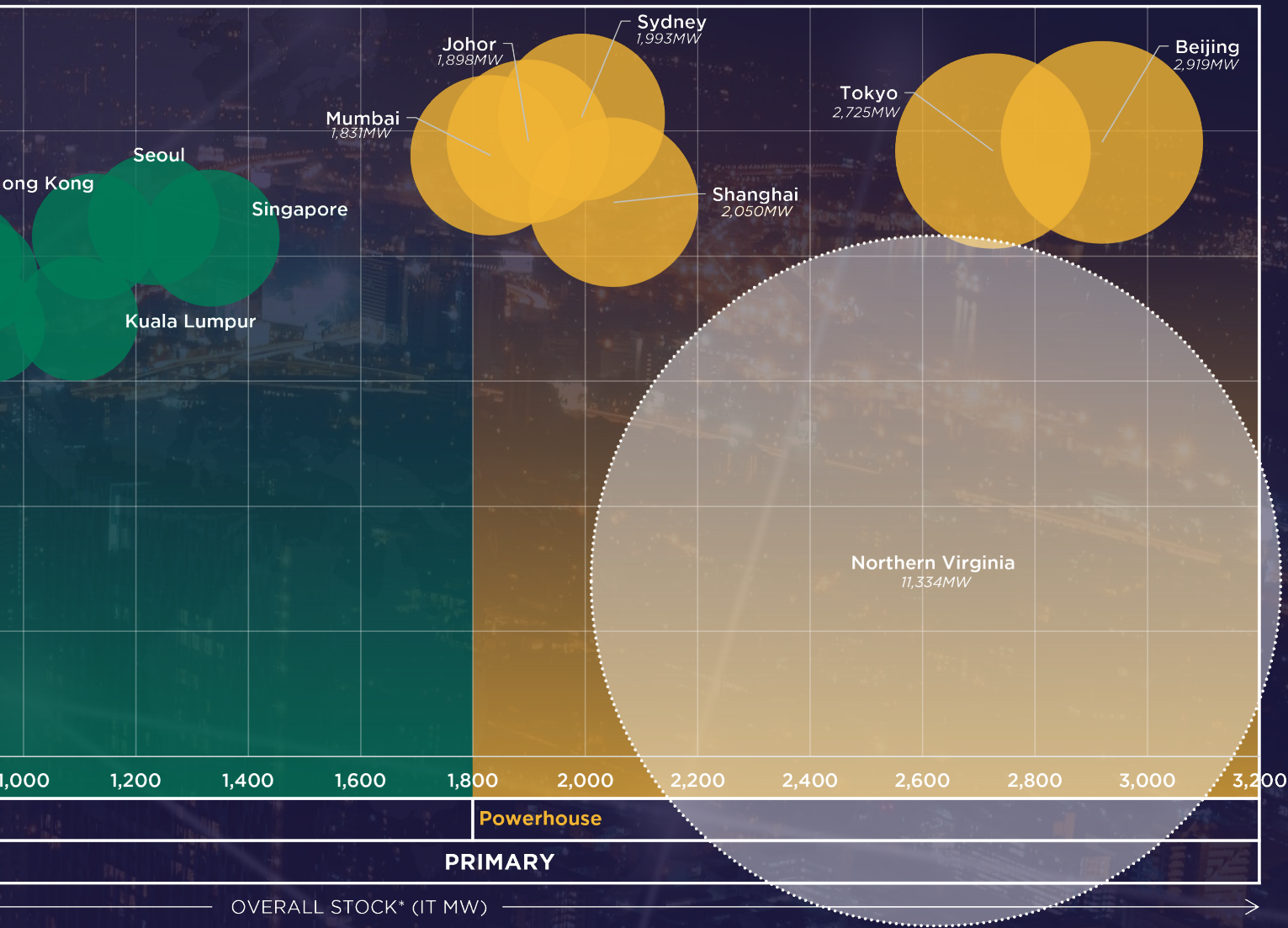
capacities, the six powerhouse markets account for 53% of the operational data centre capacity in Asia Pacific region and about 45% of the under construction and planned capacities combined. Both Beijing and Tokyo are enroute to becoming 3GW+ sized data centre markets, with Shanghai & Sydney already 2GW+ sized markets and Johor/Mumbai inching towards 2GW sized market, upon the full development of their committed pipeline.

ESTABLISHED markets, Seoul, Hong Kong, Singapore, Melbourne, Hyderabad, Chennai, Kuala Lumpur, Osaka and Jakarta are prominent markets that have either exceeded 1GW size, or show potential to become close to 1GW-sized markets for their strategic geographic locations and connectivity. All nine markets in the established category account for about 28% of the total operational capacity in the Asia Pacific region and 33% of the under construction and planned capacities combined in the region. These established markets are witnessing continued interest by the American hyperscale cloud entities, with all markets having presence or committed pipeline of at least one or two of the entities, with Singapore having presence of all three of the American hyperscale cloud entities. The build capacities (scale of individual data centres) of these markets are amongst the top fifteen markets in the Asia Pacific region, with Kuala Lumpur and Jakarta being outliers with comparatively lower build capacities amongst the nine established markets.

DEVELOPING markets, Delhi, Pune, Guangzhou, Bangkok, Bengaluru, Taipei, Manila, typically have smaller live capacities and therefore account for about 7% of the operational capacity in Asia Pacific and about 8% of the under construction and planned capacities combined in the region. About 90% of the operational data centres in this category are smaller than 10MW capacity. However, local demand is growing in these markets and operators are planning ahead to meet future requirements. As a result, these markets typically have higher vacancies because the absorption rates are slower than the new supply that is being added.
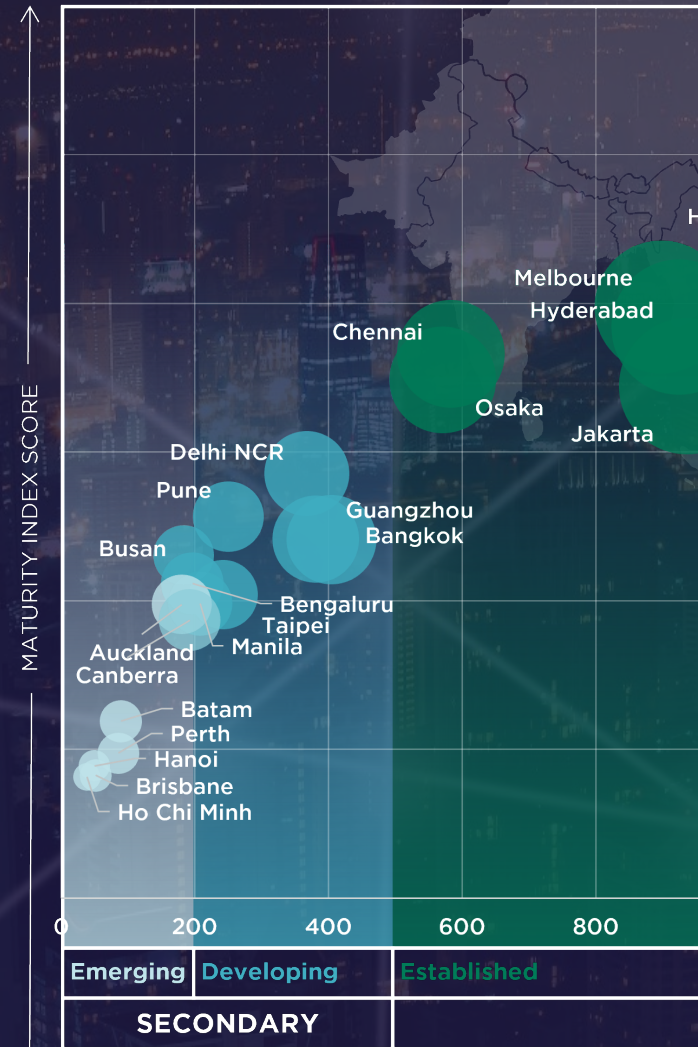
*For all analysis, Asia Pacific region includes Australia, Chinese Mainland, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan, Thailand and Vietnam only.

Sydney
1,993MW

Johor
1,898MW

Beijing
2,919MW

Mumbai
1,831MW

Tokyo
2,725MW

Seoul

Singapore

Hong Kong

Shanghai
2,050MW

Kuala Lumpur

Northern Virginia
11,334MW

1,000   1,200   1,400   1,600   1,800   2,000   2,200   2,400   2,600   2,800   3,000   3,200

Powerhouse

PRIMARY

OVERALL STOCK* (IT MW)

*Overall Stock include Operational, Under Construction & Planned (committed supply) capacities

EMERGING markets cumulatively account for about 3% of the total operational capacity across the 8 markets we track in this category. While Canberra, Busan, Auckland have combined operational and committed pipeline closer to 200MW in each of the market, these markets have limited new announcements for new supply. The under-construction pipeline in these emerging markets are in single digit MW capacity, owing to the conservative approach by operators entering these markets, until more evidence of demand can justify considerations for converting planned capacities into operational.

SUMMARY: The primary markets in Asia Pacific continue on a stable growth trajectory with powerhouse markets Beijing and Tokyo forecasted to establish themselves as 3GW+ sized market category and Shanghai/Sydney also expected to break in that category sooner than later. While many data centre markets across the region show significant capacities across all stages, including operational, under construction, and planned, we have consciously been calibrating the planned & early-stage numbers of data centre announcements within the region (for the maturity growth score), to ensure relevance & parity with realistic market occurrences. From a U.S. region to APAC region comparison perspective, besides Asia Pacific's demographic dividend, the continued increase in affordability, spending power & aspirational lifestyle of the regional demography signifies that there is ample potential, for further growth of the data centre capacities in Asia Pacific.

The data centre market influencers of technological advancements such as the implementation of cloud computing, deployment of 5G networks, government digitization initiatives and increasing mobile and internet penetration, especially in fast growing populations, have significantly accelerated the demand for data centres globally. While Asia Pacific region has been slower in experiencing the impact of artificial intelligence (AI) adoption along with generative AI, as compared to the U.S. (which has observed a bigger influence), the impending demand for increased data centre capacities continues to exist and will positively impact requirement of larger data centre campuses within the region. While the elements of cost efficiencies, sustainability measures, impact of carbon footprint reduction are being considered as major challenges for the segment, the data centre segment stakeholders are observed to be addressing them with improved technology adoption, while foraying ahead within larger build capacities, both globally and in the Asia Pacific region.

The rest of this update covers in-depth market overviews of eight primary - Tokyo, Singapore, Sydney, Hong Kong, China, Mumbai, Seoul, Jakarta, and Johor - and four secondary markets - Manila, Bangkok, Auckland, and Ho Chi Minh - in Asia Pacific in order of the size of their current operational capacities.

GREATER TOKYO

ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
30 / 115

In Operation
1,054MW

UC / Planned
261MW / 1,410MW

COLO Vacancy
8%

Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

- **Colo**
- **Hyperscale Cloud**
- **Telco**

INZAI

CENTRAL TOKYO

SAGAMIHARA

MARKET OVERVIEW

Tokyo surpassed 1GW of operational capacity in 2023 and has observed a steady increase into the first half of 2024. On a year-on-year basis the city witnessed a 14% increase in overall operational capacity since Q2 2023. Since our last update at the end of 2023, the market absorbed an additional 44MW of operational capacity across both hyperscale and colocation facilities. While the average size of data centres currently operational is 9MW, the facilities which are planned have higher capacities of 40MW (average size).

The market continues to face constraints with the lack of availability of powered sites for data centres coupled with an acute shortage of skilled labour in the construction industry, which have resulted in delays. For instance, a data centre development in Odawara which had secured power from 2025 onwards announced that they have had to push back the go-live date to 2027-28. The supply delivery challenges are also reflected in the quantum of under-construction supply in the city which has consistently declined from about ~340MW on average in H1 2023 to ~236MW in H1 2024, despite planned capacities showing a steady increase. The labour shortage is expected to marginally improve upon completion of large-scale projects such as the Osaka Expo 2025.

The peripheral region of Tokyo attracts a growing interest from operators due to slightly lower barrier to entry than Tokyo CBD. Land costs are significantly lower, and power is not as constrained in the Inzai and Sagamihara clusters, which account for over 60% of Greater Tokyo's upcoming supply capacity.

A notable partnership to mention, Keppel Ltd. signed an MoU with Mitsui Fudosan to explore data centre development and investment opportunities in Japan and Southeast Asia. In addition, Keppel Data Centre Fund II (KDCF II) has also established a framework agreement with Mitsui Fudosan for the forward purchase of a 300,000sqft (27,870 sqm) freehold purpose-built data centre in Western Tokyo (part of the Sagamihara cluster). Upon completion in 2027, it will be Keppel's first data centre project in Japan.

ECOSYSTEM DEVELOPMENTS

- **ESR Group** plans to build a 60MW data centre in Koto City, Central Tokyo, marking its fourth site in Japan. Construction is expected to begin in Q2 2025.

- **Gaw Capital Partners** has acquired a property in Fuchu Intelligent Park, which they plan to demolish and redevelop as a data centre. The property is located close to Meito Sangyo and Fuchu buildings which they also acquired in the area a few years ago and are currently developing into carrier-neutral Tier III-quality facilities. The new addition will double the scale of their current developments in the area and the IT capacity of the three data centres is projected to total 78MW. Gaw and **GDS** announced that they will jointly invest in the construction of the campus.

- **Goodman** has entered into agreements to deliver up to 1GW of data centre capacity in Japan. Their first data centre in Japan has started construction in Tsukuba City.

- **Google** has signed their first two PPAs in Japan, with two deals with Clean Energy Connect (CEC) and Shizen Company, totaling 60MW. The CEC deal involves constructing a network of 800 small-scale solar plants totaling to generation of 40MW clean energy across Japan, whilst the PPA with Shizen Energy will focus on the development of a 20MW utility-scale solar project on the same power grid as the company's data centre in Inzai, which opened last year.

RECENT PROPERTY SALES

SITE	SIZE	SALE DATE	SALE PRICE (US$)	BUYER	SELLER
1-40 Nikkocho Fuchu-shi	3 acres	May 2024	(Undisclosed)	Gaw Capital	Orix Real Estate
Sagamihara-shi Chuo-ku	27,871m² GFA	Mar 2024	(Undisclosed)	Keppel Capital	Mitsui Fudosan

SIGNIFICANT CONSTRUCTION UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFSˆ
Airtrunk	TOK1 TOK2	Inzai Ome	27.5MW (261MW) 12MW (84MW)	U/C U/C
Colt Data Centre Services	Inzai 4	Inzai	6.6MW (19.8MW)	U/C
Digital Edge DC	TY07	Chuo City	1.2MW (5MW)	U/C – 2025
Equinix	TY15	Minato City	3.6MW (11MW)	U/C – Q3 2024
Gaw Capital	Fuchu Campus	Fuchu	19.5MW (39MW)	U/C
MC Digital Realty	Tokyo NRT14	Inzai	31MW (31MW)	U/C – Dec 2025
NEC	Kanagawa data centre	Sagamihara City	9MW (36MW)	U/C
PDG	TY1	Saitama	48MW (96MW)	U/C - Q4 2024
Stack Infrastructure	TKY01	Inzai	6MW (36MW)	U/C
STTelemedia Global Data Centres	Inzai Campus	Inzai	15MW (70.2MW)	U/C

*Excludes Captive & ICT construction updates.   †Total IT Load   ˆ RFS: Ready for Service

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SINGAPORE
ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
25 / 51

In Operation
985MW

UC / Planned
54MW / 295MW

COLO Vacancy
1%

*Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

Legend:
- Colo
- Hyperscale Cloud
- Telco

Map labels: LOYANG, SUNVIEW - JURONG, PAYA LEBAR, BEDOK TAMPINES

MARKET OVERVIEW

Singapore's superior regional and global connectivity continues to attract overseas demand, keeping colocation vacancy level the lowest in the region and securing the sovereign state's position as the data centre hub of Asia Pacific. While the average size of data centres currently operational is 19MW, the facilities which are planned have higher capacities of 29MW (average size).

The Infocomm Media Development Authority (IMDA) announced plans to release 300MW of power allocation for data centres as part of a newly unveiled Green Data Centre (DC) Roadmap drawn up by the statutory board that remains committed to charting a "sustainable pathway" (through green energy deployments) for the continued growth of data centres in Singapore to support the nation's digital economy. For growing green energy capacity, the IMDA is intending to facilitate the industry, to deliver on low-carbon energy sources such as bioenergy, vertical building integrated photovoltaics/building applied photovoltaics, fuel cells with carbon capture, and low-carbon hydrogen and ammonia.

The IMDA plans to collaborate with local operators to reduce energy usage of existing data centre equipment and hardware, with an effort to achieve a PUEs of 1.3 or lower at full IT load within the next decade. Additionally, the IMDA will work with the Public Utilities Board to help new and existing data centres achieve a WUE of 2 m³/MWh or less over the same period. This announcement firmly places Singapore on track to expand and grow towards 2GW sized market, despite higher land and construction costs compared to its neighbouring South-East Asia markets. Improving energy efficiencies through adoption of innovative technologies is also on the targeted agenda for reducing carbon footprint.

Major cloud service providers (CSPs) such as Google, Microsoft, and AWS are strong players in the market. However, colocation operators such as STT Global Data Centres, Equinix, Digital Realty, Singtel, Airtrunk, Keppel Data Centres, and Global Switch still dominate the market, comprising almost 70% of operational capacity in Singapore.
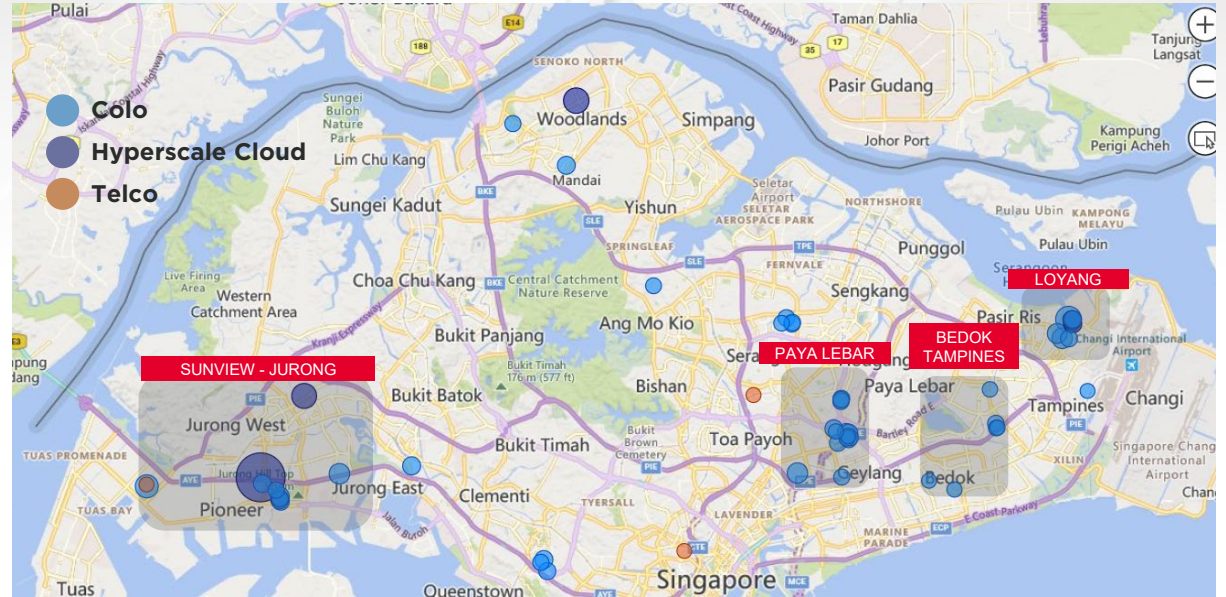
ECOSYSTEM DEVELOPMENTS

- **AWS** has committed an additional US$9B in cloud computing infrastructure in Singapore over the next four years, doubling its current investment in the Asia Pacific region. Although details of their Singapore investment plans have not been shared, the company shared that it will help meet customer demand in Singapore, as well as accelerating the adoption of artificial intelligence (AI).

- The **Cybersecurity (Amendment) Bill** was recently passed to expand its scope beyond CIIs to regulate the cybersecurity of Singapore's foundational digital infrastructure, including cloud services and data centres, and key entities in Singapore that hold sensitive data and perform important public functions.

- **Empyrion DC** secured a S$133M green loan to refinance their SG1 Dodid data centre. The loan will be used to support existing operations at the facility.

- **Singtel** announced a collaboration with **NVIDIA** to deliver AI infrastructure services to DC Tuas, the largest data centre in Singapore delivering 58MW of IT load, with the highest density levels. Once operational in 2026, it is expected to be one of the first data centres to be AI ready. The national telecommunications company also announced that they will be one of the first in the world to deploy the most powerful next-generation NVIDIA GPUs in their facilities in Singapore, Thailand and Indonesia in Q3 2024.

- **Singtel** has signed a MoU with Indonesian telco **PT Telekomunikasi Indonesia International** (Telin) to develop a submarine cable system connecting Singapore and Batam, Indonesia under the newly-formed Insica (Indonesia Singapore Cable System) Consortium. The 100km Insica cable system is set to go live in late 2026 will support surge data centre telecommunications traffic between Singapore and Batam.

RECENT SITE SALES

SITE	SIZE	SALE DATE	SALE PRICE (US$)	BUYER	SELLER
110 Paya Lebar Rd	14,447m^2	Mar 2024	$104M	BDx data centres	Hwa Hong

SIGNIFICANT CONSTRUCTION & PLANNED UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFS^
Airtrunk	SGP2	Loyang	23MW (23MW)	Planned
Equinix	SG6	Loyang	20MW (20MW)	Planned
GDS	SG1	TBC	20MW (20MW)	Planned
Keppel Data Centres	Singapore 7 Singapore 8	Kallang Way Genting Lane	20MW (40MW) 18.74MW (18.74MW)	U/C U/C
Racks Central	RC1	Tai Seng	2MW (6.80MW)	U/C
Singtel	Tuas Data Centre	Tuas Ave 3	58MW (58MW)	Planned

*__Excludes__ Captive & ICT construction updates.
†Total IT Load
^ RFS: Ready for Service

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SYDNEY

ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
19 / 47

In Operation
770MW

UC / Planned
274MW / 950MW

COLO Vacancy
8%

Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

NORTH SHORE

GREATER WESTERN SYDNEY

WESTERN SYDNEY

SYDNEY CBD & OUTSKIRTS

● **Colo**
● **Hyperscale Cloud**
● **Telco**

MARKET OVERVIEW

Sydney retains its position as Australia's dominant data centre market, encompassing over 65% of the nation's total operational IT capacity and development pipeline. Since our last update, there has been an addition of over 177MW in operational capacity, the largest growth in the region in H1 2024. Greater Western Sydney remains the largest cluster within the market, comprising almost half of Sydney's operational capacity and approximately 72% of the pipeline for projects under construction or planned. Colocation vacancy rates have decreased to single digits from 12% since the H2 2023 update owing to absorption in Canberra Data Centres (CDC) facilities in the city by the Reserve Bank of Australia as well as absorption in Equinix' facilities in Western Sydney.

As noted in our last update, the power capacity of data centres being announced in Sydney is getting larger with current operational facilities averaging 18MW and those under construction averaging 34MW. Latest announcements from operators expanding their footprint in the market are showing an even bigger increase (@ 63MW) in the size of data centres to come. CDC is planning for a 504MW data centre campus in Greater Western Sydney with six four-storey data centre buildings and a 720MW substation on a 21-hectare site. As the largest provider of data centre services to Australian government CDC has committed to accelerating the development of their data centres to meet growing demand. The Australian Federal Government identifies AI as a critical technology in the national interest and are making efforts towards developing and adopting trusted, secure and responsible AI regulations and practices.

According to Statista, Australia's AI market is expected to show an annual growth rate (CAGR 2024-2030) of 28.55%, and we anticipate that the size of data centres will continue to grow in the market as AI adoption by government and enterprise bodies increase. The Australian Federal Government is also tightening energy efficiency regulations for data centres hosting federal agency workloads. These changes will mandate all data centre service providers to the government to achieve a five-star rating from the National Australian Built Environment Rating System (NABERS). See point under 'Ecosystem Developments' for more information.
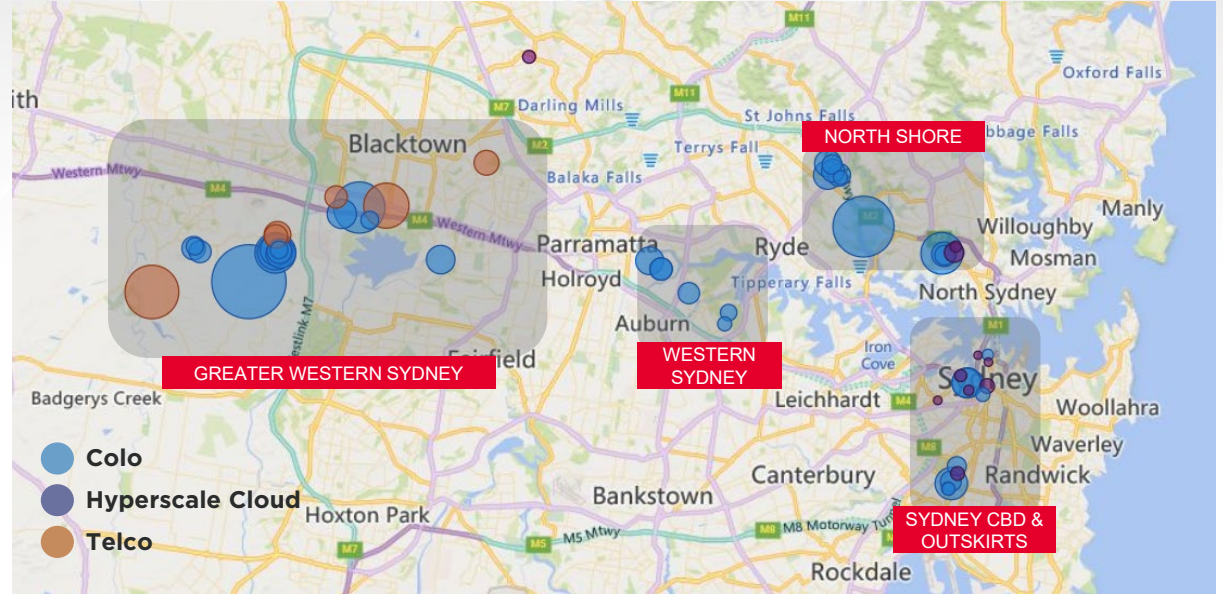
ECOSYSTEM DEVELOPMENTS

- **Alibaba Cloud** announced it would exit data centres in Sydney and Mumbai later this year as part of its infrastructure strategy update, redirecting its investment to Southeast Asia and Mexico.

- **AWS** has unveiled plans to launch two new mega-data centres in Australia in Melbourne and Sydney as part of their commitment to invest $13.2B in building its cloud computing business. They have submitted a request to build and operate a 40MW data centre in Smeaton Grange, in south-west Sydney, this facility will be located less than 2km from Amazon's existing SYD52.

- The **Digital Transformation Agency (DTA)**, an executive agency within the Australian Government's Finance portfolio, has established a new Data Centre Panel, which is designed to help promote sustainable practices across data centres and support the Federal Government's move towards net zero. The new Data Centre panel replaces a previous panel established in 2014 and includes a strengthened range of measures for data centre providers to identify, manage and reduce their greenhouse gas emissions, including using accredited Greenpower from renewable sources, having a 5-star NABERS rating or equivalent environmental rating, and targeting a PUE of less than 1.4

- **NextDC**, Australia's largest data centre company, is seeking to raise US$848.5M in new capital to finance its high demand development pipeline and expand its Sydney and Melbourne data centre networks.

- **TPG Telecom** laid high-capacity submarine cable across Australia's busiest waterway, Sydney Harbour. **Telstra**, an Australian telco, has also installed a fiber optic cable on a similar route between Dawes Point and Blues point, as part of its 14,000km Inter City Fibre project announced late last year. It will be the meeting point of their Sydney to Canberra, Sydney to Brisbane and Sydney to Perth routes.

RECENT SITE SALES

SITE / PROPERTY	SIZE	SALE DATE	SALE PRICE (US$)	BUYER	SELLER
184-200 Broadway	8,852m² GFA	Jun 2024	$45M	Tricon Group	Telstra (sale-leaseback)
Intellicentre 2 Data Centre *(Portfolio)*	8,169m²	Jun 2024	$58.6M	Macquarie Technology Group	Keppel DC REIT
Intellicentre 3 Data Centre East *(Portfolio)*	7,990m²	Jun 2024	$57.3M	Macquarie Technology Group	Keppel DC REIT
Keppel DC Sydney 1	14,000m²	Mar 2024	$119.8M	NextDC	Keppel T&T, Keppel Land, CPP Investment Board

SIGNIFICANT CONSTRUCTION & PLANNED UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFS^
Airtrunk	SYD2 SYD3	Lane Cove Huntingwood	44MW (138MW) 100MW (320MW)	U/C – 2024 U/C
CDC	Eastern Creek Campus	Eastern Creek	158MW (281MW)	Planned
DCI Data Centers	SYD02/03	Eastern Creek	36MW (36MW)	Planned
DIGITAL REALTY	Digital Erskine Park 2 - SYD11	Erskine Park	9MW (17.4MW)	Planned - 2024
Equinix	SY5 SY9X / SY10X	Alexandria Rosehill	12MW (24MW) 15MW (30MW)	U/C - 2024 / 2025 Planned
macquarie DATA CENTRES	IC3 SuperWest	Macquarie Park	45MW (45MW)	Planned
NEXT DC	Sydney S3 Sydney S4	Artarmon Horsley Park	20MW (64MW) 100MW (300MW)	U/C – 2024 Planned
Stockland	Athena	Macquarie Park	*(Undisclosed)*	U/C

Excludes Captive & ICT construction updates.
†Total IT Load
^ RFS: Ready for Service

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HONG KONG, CHINA

ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
22 / 48

In Operation
584MW

UC / Planned
235MW / 308MW

COLO Vacancy
19%

Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

- Colo
- Hyperscale Cloud
- Telco

FANLING
SHA TIN
TSUEN WAN
TSUENG KWAN O
HONG KONG ISLAND

MARKET OVERVIEW

Basis our last update, we observe movement of capacities (IT MW) between operational and planned in this primary market. This is part of our on-going effort to validate and report data points, which are reflective of market occurrences. Accordingly, this market has observed a drop in vacancy levels, with the market also witnessing absorption in operational capacity of 69MW during H1 2024. Much as observed in other primary markets, the the average size of data centres currently operational is 12MW, with under construction facilities having higher capacities of 24MW.

As part of the government announcement of the Northern Metropolis Action Agenda last year, apart from the initiative to integrate with Shenzhen and the Greater Bay Area, the formation of designated 'data clusters', such as San Tin Technopole and Sandy Ridge, has been advised to provide favorable conditions to create cyber security hubs conducive to the establishment of digital infrastructure. The government is also enabling support, by providing power and adopting new and renewable energy, including green power. The execution of such initiatives as part of the Northern Metropolis development plans in coming years, will no doubt further establish Hong Kong as a gateway to the Chinese Mainland and provide fresh appeal for Hong Kong as a prime data centre hub in Asia Pacific.

SUNeVision iAdvantage, Global Switch, NTT GDC, Equinix and Vantage Data Centres cumulatively comprise more than 64% of the operational capacity of colocation players in this market. SUNeVision iAdvantage also has the largest under construction data centre in this market, which is expected to completed later this year.

ECOSYSTEM DEVELOPMENTS

- Amidst an ongoing sales process, **Airtrunk** has struck a major renewable energy deal with CLP Power, Hong Kong's major energy utility. In a move to help support Airtrunk customer, **Microsoft**'s goal of achieving 100% renewable energy by 2025, the renewable energy certificate procurement agreement involves the installation of 17,000 solar sites in Hong Kong's New Territories region.

- Australian industrial expert **Goodman Group** is constructing their eighth data centre in Hong Kong, a 32MW facility in Tsuen Wan. The project, which includes repurposing an old Goodman Texaco Centre, spans 14 floors and a roof, with 11 floors dedicated to data halls and 3 floors serving as substations.

SIGNIFICANT CONSTRUCTION & PLANNED UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFS^
Airtrunk	HKG1 HKG2	Tsuen Wan Sha Tin	4MW (20MW) 9MW (15MW)	U/C – 2025 U/C – 2026
Chinachem Group	Tung Chung Data Centre	Tung Chung	30MW (30MW)	Planned – 2027
China Mobile	STTL 613	Sha Tin	10MW (27MW) 30MW (84MW)	U/C – 2025 Planned – 2025
China Telecom	Tseung Kwan O Data Centre	Tseung Kwan O	14MW (14MW) 70MW (70MW)	U/C – 2025 U/C – 2028
ESR	HK1	Kwai Chung	Phase 1: 21MW	Planned – Q3 2027
GDS	HK 2 HK 3 HK 4	Kwai Chung Tsuen Wan Kwai Chung	18MW (18MW) 21MW (21MW) 22MW (22MW)	U/C - 2024 Planned – 2026 Planned – 2028
Goodman	Texaco Centre	Tsuen Wan	32MW (32MW)	Planned - 2027
iTECH Data Centre Towers	Tower 3.1 Tower 3.2	Fanling Fanling	12MW (24MW) 12MW (24MW) 8MW (8MW)	U/C – 2025 Planned – 2025 Planned – 2026
Mapletree	Mapletree TM	Fanling	25MW (25MW)	U/C – 2025
sunevision	MEGA IDC	Tseung Kwan O	130MW (130MW)	U/C – 2024

*__Excludes__ Captive & ICT construction updates.
†Total IT Load
^ RFS: Ready for Service

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MUMBAI
ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
16 / 46

In Operation
672MW

UC / Planned
545MW / 615MW

COLO Vacancy
19%

Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.


- Colo
- Hyperscale Cloud
- Telco

POWAI

THANE-BELAPUR ROAD

PANVEL

MARKET OVERVIEW

Mumbai remains as the data centre capital of India, accounting for 48% of the nation's operational capacity and close to 40% of India's total development pipeline of under construction and planned supply. During H1 2024. The city's core cluster of Thane Belapur Road (constituting 65% of overall market capacity) alone added an additional 105MW of operational capacity Nxtra Airtel, that brought in 60MW was one of the largest contributors to the overall operational capacity in this cluster. CtrlS, Bridge Data Centres & Sify Technologies together accounted for another 29MW of operational capacity addition.

As the financial capital of the country, the city's banking and financial services sector continues to be the mainstay in terms of demand for data centres, with both banks as well as the stock exchanges exploring colocation facilities. Typically, such entities have shown a preference to retain their data centre operations within Mumbai and seek disaster recovery centres in alternate locations such as Pune or Hyderabad. In addition to the banking and financial services sector, the public cloud providers also continue to strengthen their presence in the city.

Since our last update at the end of 2023, the market absorbed an additional 156MW of operational capacity across both hyperscale and colocation facilities, constituting a 40% increase , whereas overall India absorption within operational capacity witnessed an increase of ~30% , during the same time period of H1 2024. Thane Belapur Road cluster constituted about 134MW absorption of operational capacity during this period. While the average size of data centres currently operational is 15MW, the data centres which are planned have higher capacities of 32MW and under construction capacities of 26MW (average size).

Underpinned by strong demand indicators coupled with government policy initiatives & incentives, the city witnessed a surge in under construction capacity with a 64% rise over H2 2023, of which 69% is concentrated within Thane Belapur Road cluster. The city is thus expected to continue to not just retain its position but also grow into as 2GW+ sized "Powerhouse" market in the APAC region.
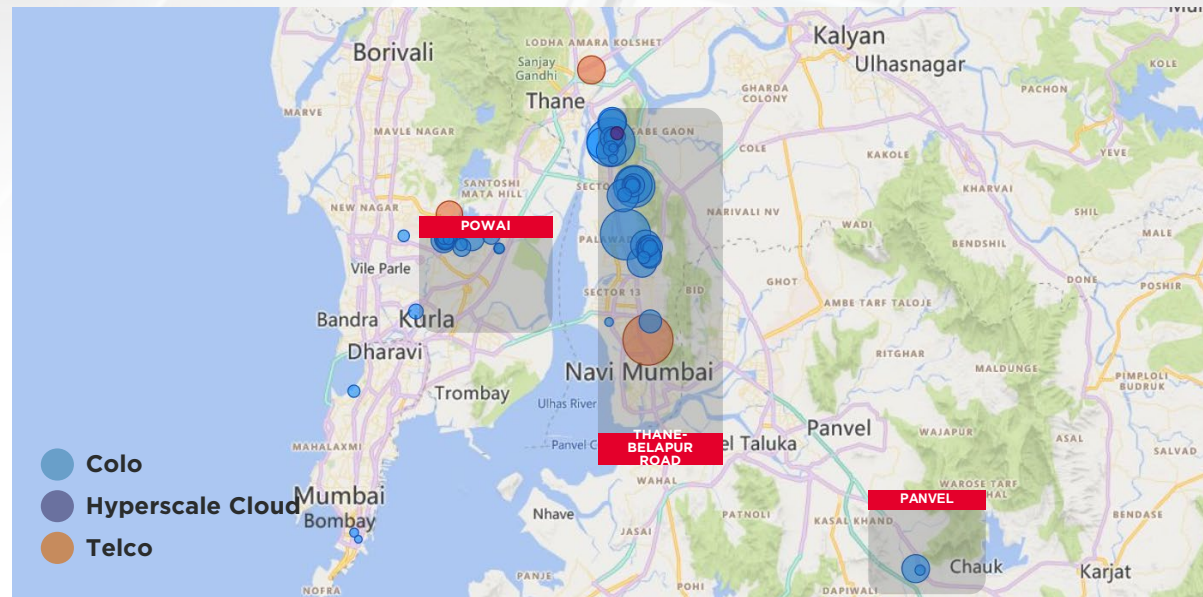
ECOSYSTEM DEVELOPMENTS

- **Adani Group** has announced a $6B plan to expand data centre infrastructure across Maharashtra, including Mumbai. With data centre development operated under the AdaniConneX brand in partnership with EdgeConneX, Adani Group has signed an MoU with the local government to build 1GW of data centre capacity over the next ten years. Adani Group will also supply renewable power to these developments through its extensive energy infrastructure.

- **CtrlS** plans to invest over US$2B in the next 3 – 4 years in Mumbai, Hyderabad, and Chennai to increase its capacity from 234MW to over a gigawatt.

- **Digital Edge DC** is planning a 300MW data centre campus in Navi Mumbai. The project will be developed over multiple phases, with phase 1 to deliver 15MW, phase II expected to expand capacity to nearly 45MW in the next 12 months and the full 300MW capacity within the next 7 – 8 years.

RECENT PROPERTY SALES

SITE	SIZE	SALE DATE	SALE PRICE (US$)	OWNER	LENDER
Yotta NM1, NM2 (Refinance)	820,000sf	Feb 2024	$81M allocated	Hiranandani Group	State Bank of India

SIGNIFICANT CONSTRUCTION UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFS^
CapitaLand	Airoli Data Centre Campus	Navi Mumbai	33MW (108MW)	U/C – 2024
CtrlS	Mumbai Hyperscale Datacenter 5	Navi Mumbai	37MW (37MW)	U/C - 2025
DIGITAL CONNEXION A Brookfield, Jio and Digital Realty Company	BOM10	Chandivali	40MW	U/C
Digital Edge DC	BOM1	Thane Belapur Road	15MW (300MW)	U/C
EverYondr	Mumbai 1	Navi Mumbai	12MW (30MW)	U/C - 2024
Lumina CloudInfra	Airoli	Navi Mumbai	30MW (60MW)	U/C - 2025
NTT Data	NTT Mumbai DC 10 NTT NAV1 AD NTT NAV2 C	Chandivali Navi Mumbai	25MW (25MW) 30MW 50MW	U/C – 2025 U/C U/C
Nxtra data	Navi Mumbai Campus	Navi Mumbai	60MW (60MW)	U/C
PDG	MU1 DC2	Navi Mumbai	24MW	U/C – 2024 Q4
Sify	Sify Airoli 2 Sify Rabale Tower 5 Sify Rabale Tower 6 Sify Rabale Tower 12	Navi Mumbai	4.8MW (10.2MW) 32.4MW (38.8MW) 10MW 19.2MW	U/C U/C U/C U/C
STTelemedia Global Data Centres	STT Mumbai DC 4 STT Mumbai DC 5	Navi Mumbai Navi Mumbai	35MW 7MW(25MW)	U/C U/C
Yotta	Navi Mumbai – Panvel DC Park	Panvel	6.3MW (12.60MW)	U/C

*Excludes Captive & ICT construction updates. †Total IT Load ^ RFS: Ready for Service

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GREATER SEOUL

ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
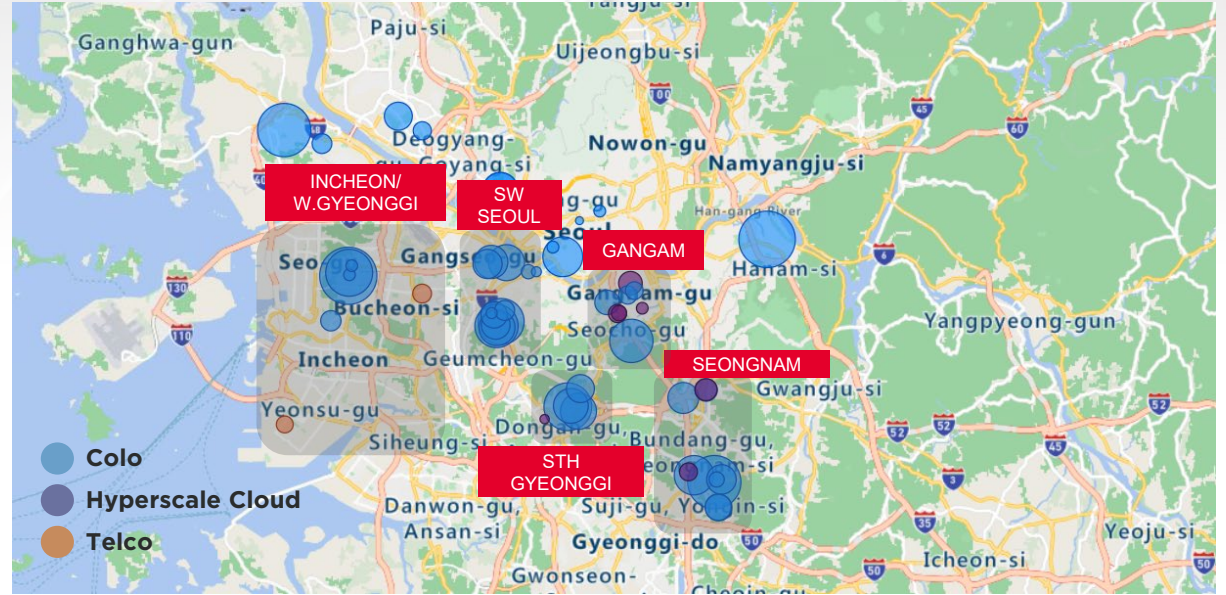**22 / 45**

In Operation
476MW

UC / Planned
218MW / 537MW

COLO Vacancy
14%

Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

Colo
Hyperscale Cloud
Telco

Map labels: INCHEON/W.GYEONGGI · SW SEOUL · GANGAM · SEONGNAM · STH GYEONGGI

MARKET OVERVIEW

Seoul continues to face data centre development challenges due to power and land constraints and increasing community objections resulting in approval delays and construction setbacks. Only 36MW of operational capacity was added in H1 2024 compared to the 100MW of supply in H2 2023, which had increased the city's colocation vacancy from 4% to 9% in our last update. However, Seoul still houses 73% of the country's operational capacity and witnessed 161MW added to the planned pipeline in the first half of 2024, showcasing it's continued prominence as a priority data centre market in the region for foreign operators. Colocation entities such as KT, LG U+, Samsung SDS, Lotte Data Communications, LG CNS, & IGIS cumulatively comprise about 63% of the operational capacity in this primary market.

Continuing its encouragement of data centre development beyond Seoul Metropolitan Area, the government has implemented incentives such as discounted power rates and infrastructure support measures aimed at data centres outside the Seoul Metropolitan Area. KEPCO and the Ministry of Trade, Industry and Energy (MOTIE) are providing a 50% discount on the electric facility levy for all data centre sites outside of non-capital areas with 22.9kV power until May 2026.

With the regulatory requirement for power impact assessments for projects of over 5MW, moving forward there is increased demand expected for edge data centres in well-positioned locations. A further adoption of creative approaches for establishing data centres is also anticipated, such as through utilizing existing buildings that are already associated with the requisite power infrastructure, permits, and zoning already satisfied.

Since 2023, Korea's regulatory environment has evolved in response to infrastructure challenges and industrial disasters. Power shortages and speculative land investment has seen three new regulations passed, including the Special Act of Distributed Energy Policy, which aims to decentralize data centres to ease pressure on the Seoul Metropolitan Area, as well as encourage use of renewal energy sources which are more prevalent in southern areas. Additionally, Korea continues to take a lead with disaster recovery policies, adopting legislation that sets stringent standards for both data centre operators and providers information and communication services, to uphold a resilient digital infrastructure.

ECOSYSTEM DEVELOPMENTS

- **Actis**, a global investor in sustainable infrastructure, has launched **Epoch Digital**, an integrated data centre platform in Asia with around 200MW planned across three projects in the region, including Seoul. This announcement is separate to Actis' two existing hyperscale assets under construction in Korea.

- **Macquarie Asset Management** has emerged as the preferred bidder for **IGIS Asset Management**'s Hanam IDC, a 40MW data centre, which is scheduled to open later this year.

- An expert committee set up by the **Energy Ministry** has proposed a strategy for South Korea to increase the share of renewables in its power mix to almost a third by 2038 and make nuclear energy the country's largest source of electricity generation. The proposal, which will need to pass, outlines the need for upgrading existing energy infrastructure and expanding the grid to meet the electricity demands in the nation, which is expected to double by the end of the decade.

RECENT SITE SALES

SITE	SIZE	SALE DATE	SALE PRICE (US$)	BUYER	SELLER
607-2 Pungsan-Dong Hanam	41,920m²	Jun 2024 – Pending	$686.8M	Macquarie Korea Infrastructure	IGIS Asia

SIGNIFICANT CONSTRUCTION UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFS^
actis	Pyeongchon Data Centre Youngdeungpo Data Centre	Anyang Youngdeungpo	26MW (26MW) Phase 1: 13MW (26MW)	U/C – 2024 U/C – 2025
DCI Data Centers	SEL01	Geumcheon-gu	6MW (15MW)	U/C – 2024
Digital Edge DC	SEL2	Incheon	18.75MW (75MW)	U/C – 2024
DIGITAL REALTY	Digital Seoul 2 (ICN11)	Gimpo	Phase 1: 10.6MW (64MW)	U/C – 2024
DreamMark1	Incheon IDC	Incheon	4MW (6MW)	U/C – 2024
empyrion digital *Previously Empyrion DC*	Gangnam IDC	Seocho	Phase 1: 12MW (29.4MW)	U/C – 2025
Equinix	SL2x SL3x	Hyangdong	Phase 1: 12MW (24MW)	U/C – 2024
Gabia	Gwacheon Data Centre	Gwacheon	7MW (14MW)	U/C – 2024
IGIS Asset Management	Hanam Data Centre	Hanam	25MW (25MW)	U/C – 2024
KT	Gasan Iwill Data Centre Bucheon Peach Data Centre	Geumcheon Bucheon	13MW (26MW) 6MW (48MW)	U/C – 2025 U/C
NAVER	Bucheon AI Data Centre	Bucheon	4.8MW (4.8MW)	U/C – 2024
PACIFIC ASSET MANAGEMENT COMPANY	Pacific Sunny Data Centre	Jukjeon	Phase 1: 32MW (64MW)	U/C – 2024

Excludes Captive & ICT construction updates.   †Total IT Load   ^ RFS: Ready for Service

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GREATER JAKARTA
ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

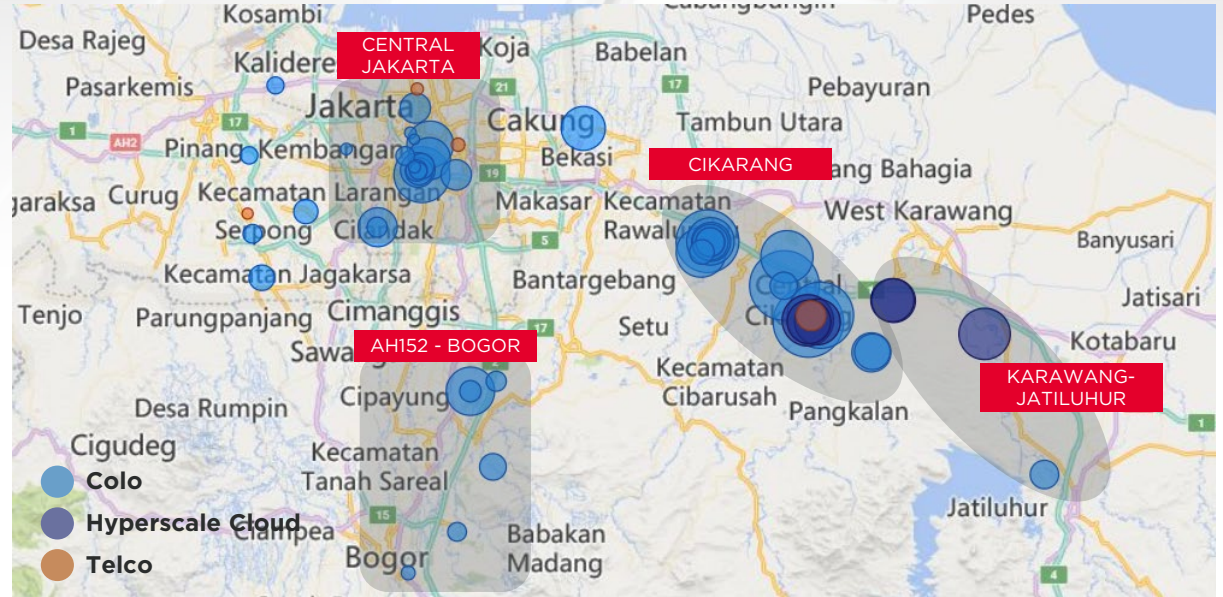**Operators / Data Centres**
24 / 47

In Operation
275MW

UC / Planned
83MW / 579MW

COLO Vacancy
39%

__Definition:__ Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

- CENTRAL JAKARTA
- CIKARANG
- AH152 - BOGOR
- KARAWANG-JATILUHUR

● Colo
● Hyperscale Cloud
● Telco

MARKET OVERVIEW

Jakarta is witnessing an aggressive growth trajectory with a 35%+ increase in operational capacity during the first half of 2024. Jakarta continues to take up the majority of Indonesia's total operational capacity with more than 90% market share and will likely continue to grow as a preferred location over Batam in Indonesia due to its more advanced infrastructure developments. It will also stand out as an attractive market in Asia Pacific for future AI deployments due to cheaper land options and access to power. The Greater Jakarta region has observed much higher scale of activity by both developers & occupiers of data centres in the last 18 months, as compared to Central Jakarta, due to lower entry cost & entry barriers, thereby impacting vacancy levels.

While American hyperscale entities continued to increase their operational capacities during H1 2024, colocation entities such as Bitera and DCI Indonesia have also gone live with their operational capacities of 20MW and 24MW respectively during H1 2024, while NTT GDC & STT GDC continue to expand their presence in the market.

As reported in our last update, changes to the country's data protecting regulations are being reviewed. However, the Indonesian government has long recognized the commercial benefits of the data centre sector on its fast-growing digital economy, rolling out a range of tax and non-tax incentives and reducing foreign ownership restrictions over the last few years.

Indonesia has more international submarine cables than Singapore and Malaysia, and energy prices have remained low. There is significant potential for renewable energy, being the second largest country with NBS (Nature Based Solutions) in the world after Brazil. However, investments in renewable energy in Indonesia have been slow, requiring policy reforms to boost investor confidence and to meet its 2030 climate target. Indonesia's ambitious digital transformation initiatives, aiming for full digitalization of government services by 2025, will drive increased demand for data services.

ECOSYSTEM DEVELOPMENTS

- **BDx Indonesia**, a joint venture of **Indosat**, **BDx Data Centers (BDx)**, and **Lintasarta**, has acquired a portfolio of carrier-neutral colocation and edge sites in Indonesia from Indosat Ooredoo Hutchison (IOH) for US$170M. The portfolio covers 10 sites in Jakarta, Surabaya, Batam, Medan, Makassar, Bandung and Semarang

- Indonesian-owned **Bitera** launched their 20MW data centre in Kuningan. The company's CEO, Tedy Harjanto, said the company has implemented energy-efficient and environmentally friendly technologies to achieve carbon neutrality and is committed to maintaining its sustainability measures in the future.

- **Digital Edge** launched their second facility in Jakarta, EDGE2 a 23MW data centre in South Jakarta just 3km from EDGE1. The two data centres will link up in what the operator refers to as a "virtual campus" allowing users of EDGE2 to connect to more than 50 network carriers and several Internet exchanges already located at EDGE1.

- **Edgnex**, a subsidiary of UAE-based DAMAC Properties, is reportedly planning to build their first data centre in Indonesia, a 15MW data centre in Jakarta.

- **Microsoft**, who had announced plans for a cloud region in Jakarta back in 2021, has announced that it will invest US$1.7B over the next four years into cloud and AI infrastructure in Indonesia, the largest investment in the company's 29-year history in Indonesia.

- A cyberattack compromised Indonesia's **national data centre**, disrupting several government services, most notably at immigration checks at airports. Reportedly organized by Lockbit cybercrime group, US$8M was requested as ransom. An audit of government data centres were ordered by Indonesia's President when it was revealed that much of the data affected by the ransomware was not backed up, exposing the country's vulnerability to such attacks.

SIGNIFICANT CONSTRUCTION & PLANNED UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFS^
BDx	CKG1 CGK3A	Jakarta Jakarta	Phase 1: 3MW(8MW) Phase 1: 5MW (15MW)	U/C U/C
DCI Data Centers	E1 Data Center Campus	East Kuningan	8MW (18MW)	U/C - 2024
DCI INDONESIA	H1-JK5 H1-JK6 E1 H2-01 H2-02	Bekasi Bekasi Jakarta Karawang Karawang	Final phase: 3MW (15MW) Phase 1: 9MW (36MW) Phase 2: 4MW (19MW) Phase 2: 5MW (15MW) Final phase: 10MW (12MW)	U/C – 2024
Digital Edge DC	Edge2	Jakarta	18.75 (23MW)	Planned
edgeconnex*	Bekasi	Bekasi	Phase 1: 10MW (57.6MW)	U/C – 2025
Equinix	JK1	Jakarta	Phase 1: 3.5MW (7MW)	U/C – 2025
K2 Data Centres	JKT1	Bekasi	Phase 1: 8.4MW (58.8MW)	U/C – 2024
MettāDC	ID01 ID02	Bekasi Bekasi	20MW (30MW) 2.4MW (24MW)	U/C Planned
NTT Data	JKT2 Jakarta 3	Jakarta Jakarta	12MW (12MW) 15.2MW (45MW)	Planned U/C

*__Excludes__ *Captive & ICT construction updates.*
†Total IT Load
^ RFS: Ready for Service

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JOHOR

ASIA PACIFIC PRIMARY MARKET

KEY INDICATORS*

Operators / Data Centres
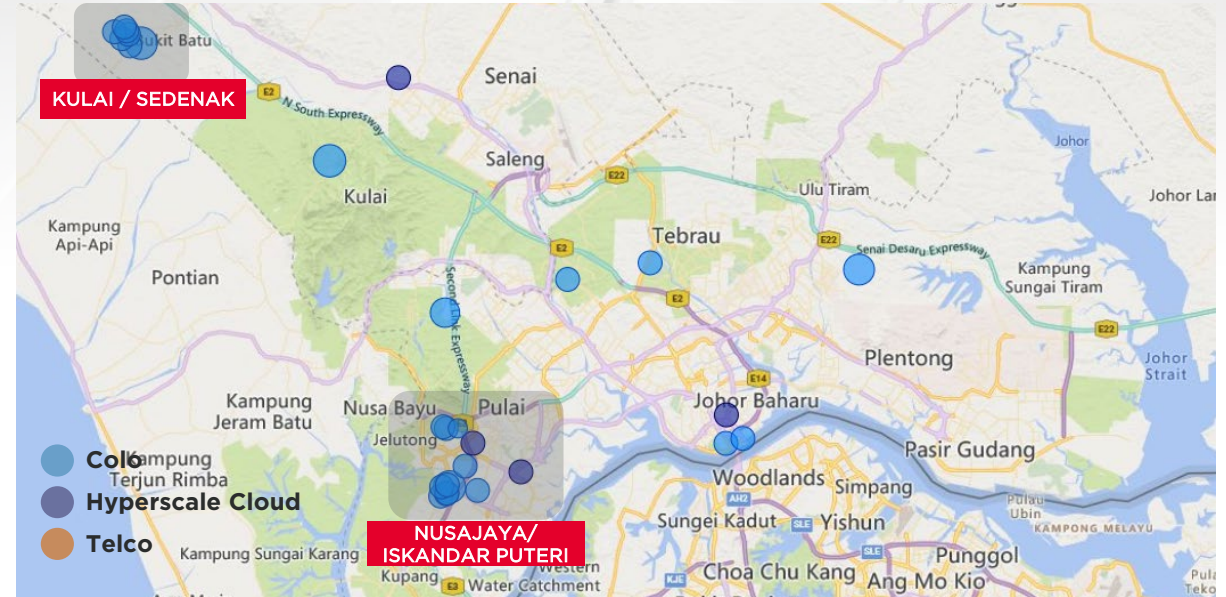**7 / 8**

In Operation
231MW

UC / Planned
434MW / 1,232MW

COLO Vacancy
2%

Definition: *Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.*

KULAI / SEDENAK

NUSAJAYA/ ISKANDAR PUTERI

- **Colo**
- **Hyperscale Cloud**
- **Telco**

MARKET OVERVIEW

Johor continues to benefit from its proximity to Singapore, as an alternative location to the sovereign state. With double the operational capacity of Kuala Lumpur, operators benefit from attractive land and power prices as well as lower construction costs compared to Singapore. The Malaysian government together with Johor state administrative has fully supported the development of strategic large- scale parks located in secure environments with appropriate infrastructure, robust connectivity and abundant power resources, bolstering Johor's data centre market over the last decade.

Most of the recent operational pipeline in Johor is concentrated in the Kulai cluster where Sedenak Tech Park (STeP) are located. On the other hand, the Nusajaya cluster has witnessed a significant development pipeline underway, i.e. concentrating mainly in NCIP, Gelang Patah as well as in Southern Industrial & Logistics Clusters (SILC). Large players like Microsoft (as per announcement) is expanding their data centre footprint in Johor, specifically within these identified data centre parks, i.e. Nusa Cemerlang Industrial Park ("NCIP") and EBP6 in Kulai. These locations are strategically positioned close to Singapore and freehold in tenure. The expansion began with a significant land acquisition of 60 - 85 acres in NCIP in less than 6 months and thereafter a massive 123 acres of land being acquired in EBP6. Other data centre players are also progressively entering these areas to acquire land for potential data centre developments.

Furthermore, the Malaysian government is putting efforts to attract DC investment by offering tax incentives, grants and regulatory support to ease the entry of this foreign investments, including the Green Lane Pathway promoted by TNB where access to power could be made available in 12 months duration. Such continued government support has sealed Malaysia's position as a key regional player for the data centre sector in this few years.

ECOSYSTEM DEVELOPMENTS

- **Bridge Data Centres** has entered into conditional Sale & Purchase Agreement to acquire 48 acres and additional 20 acres of lands in Johor in the Mukim of Plentong, District of Johor Bahru, State of Johor.
- **Global Telecom Capital Partners Fund (GTC)**, a private equity fund sponsored by China Telecom, 11 plots of freehold industrial land totaling 35 acres located within I-Techvalley in the Southern Industrial and Logistics Clusters (SILC) for data centre development.
- **Logos** and **UEM Sunrise**, a real estate firm owned by the Malaysian sovereign wealth fund, have signed an MoU to develop a 360MW campus in Nusajaya enclave. Furthermore, **UEM Sunrise** (via its subsidiaries) have sold 2 parcels of land in Nusajaya to global data centre player.
- **Microsoft** entered into a Sale & Purchase Agreement to acquire a 123 acres of land in Kulai as part of its data centre expansion plans in Asia Pacific.
- Singtel's data centre arm, **Nxera** has formed a JV with **Telekom Malaysia** (TM) have announced plans to develop a data centre campus in Iskandar Puteri in Johor. The campus will house a 65MW data centre that will support AI processing and other computing needs. The facility is scheduled to begin commercial operations in 2026.
- **Princeton Digital Group secured their first green loan of US$280M to finance the first 52MW phase of their 150MW JH1 campus in Sedenak Tech Park.**
- **Yondr** plans to build Southeast Asia's largest hyperscale data centre with 300+MW IT load on 72.5 acres of land in Sedenak Tech Park. They have secured a US$150M loan from the World Bank Group to fund the first phase of the build.

SIGNIFICANT CONSTRUCTION & PLANNED UPDATES*

COMPANY	DATA CENTRE	LOCATION	POWER (TOTAL CAPACITY†)	STAGE - EST. RFSˆ
Equinix	JH1	Nusajaya Tech Park	0.6MW (2.40MW)	U/C - 2024
GDS	Kempas TechPark (previously Starhill)	Kempas Lama	108MW (108MW)	U/C – 2024
	Site 3	Nusajaya Tech Park	45MW (45MW)	U/C – 2024
	Site 3	Nusajaya Tech Park	18MW (45MW)	Planned 2024
	Site 2	Nusajaya Tech Park	45MW (45MW)	U/C - 2024
K2 Data Centres	JHR1	Sedenak Tech Park	60MW (300MW)	UC – 2024
	JHR1	Sedenak Tech Park	200MW (300MW)	Planned
Open DC	JB1	Menara MSC Cyberport	1.1MW	U/C - 2024
PDG	JH1	Sedenak Tech Park	52MW (150MW)	U/C – July 2024
Singtel	Skandar Puteri	Iskandar Puteri	64MW (200MW)	Planned 2024
STTelemedia Global Data Centres	Nusa Cemerlang Industrial Park	Johor	16MW (120MW)	Planned 2025
VADS	Iskandar Puteri Core Data Centre	Nusajaya Tech Park	8.21MW (13.19MW)	Planned 2024
Yondr	Sedenak Tech Park	Bukit Batu	24MW (300MW)	U/C – 2024
	Sedenak Tech Park	Bukit Batu	80MW (300MW)	Planned 2024
YTL Data Centers YTL GROUP	SEA Data Center	Kulai	12MW (340MW)	U/C – 2024
	SEA Data Center	Kulai	60MW (340MW)	Planned 2024

*Excludes Captive & ICT construction updates.   †Total IT Load   ˆ RFS: Ready for Service

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ASIA PACIFIC SECONDARY MARKETS
MANILA

KEY INDICATORS*

Operators / Data Centres	In Operation	UC / Planned	COLO Vacancy
12 / 20	**60MW**	**66MW / 82MW**	**40%**

The Philippines government is actively supporting the growth of the data centre industry through establishing a clear and stable regulatory framework and investment incentives that has increased the market's appeal for global cloud service providers to consider entering into the market. Manila hosts up to 80% of the Philippines's operational capacity, which is expected to rise to 91% by 2028 upon the realization of the supply pipeline.

Operators can capitalize on the availability of land parcels to build larger facilities outside of metro Manila, which provides good access to power, water and fibre. Narra Technologies Park Development Inc. (NTPDI) signed a 50-year lease agreement with the Tarlac provincial government to build the country's first hyperscale data centre in Greater Manila. The 300MW campus will be located in New Clark City, the Philippines' first 'green' metropolis', with the US$2.7B development aiming to be 100% powered by clean renewable energy within the first five years of its operation. ST Telemedia Global Data Centres Philippines, a JV between Globe, Ayala Corporation, and Singapore-based ST Telemedia Global Data Centres (STT GDC), also announced plans for a new campus in Quezon City with a potential 124MW of IT load capacity, which will mark STT GDC's single largest data centre project development to date across its global portfolio.

Recently, PLDT, who has been working with the government to upgrade the Philippines' network infrastructure, announced plans to potentially list the telco as a REIT on the Philippine Stock Exchange (PSE) and look into possibly selling a stake of their data centre portfolio, which they are seeking to value at more than US$1B. They are reportedly in discussions with multiple parties, including NTT, which own around 25% of the telco.

BANGKOK

KEY INDICATORS*

Operators / Data Centres	In Operation	UC / Planned	COLO Vacancy
23 / 47	**57MW**	**80MW / 268MW**	**24%**

Since the Thailand Board of Investment (BOI) relaxed regulations around foreign ownership and introduced tax and non-tax incentives promoting data centre development in Thailand, the market is witnessing steady growth. This is set to continue over the next two to four years with a robust development pipeline and recent announcements by prominent data centre operators committed to propelling the data centre industry in Thailand in partnership with the government and local enterprises.

Microsoft announced plans to open their first data centre in Thailand. Whilst details of the location for the data centre have not been revealed, Microsoft has committed to their MoU with the Royal Thai Government to help execute the country's 'Ignite Thailand' vision by 2030, which aims to achieve the goal of developing the country's stature as a regional digital economy hub. The global cloud service provider have announced significant commitments to build new cloud and AI infrastructure in Thailand, provide AI skilling opportunities for over 100,000 people, and support the nation's growing developer community. Furthermore, AIMS Data Centre (Thailand), Evolution DC (Thailand), NTT Global Data Centers (Thailand) Limited, STT GDC Thailand, and Telehouse (Thailand) have signed a MoU to form the Thailand Data Centre Council (TDCC), a strategic alliance that will focus on developing the data centre industry through initiatives such as regulatory advocacy and serving as representative bodies for the data centre sector and related sectors.

Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

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AUCKLAND

KEY INDICATORS*

Operators / Data Centres
17 / 24

In operation
56MW

UC / Planned
9MW / 116MW

COLO Vacancy
17%

As mentioned in our last update, since the announcements by AWS and Google on their plans to launch cloud regions in Auckland, other operators have started to consider the market in their regional expansion plans as a cheaper alternative to neighbouring Australia, in particular, Sydney. As a result, the development pipeline for Auckland has doubled since our last update. Also to note, the market has witnessed the average size of data centre in the development pipeline grow from 13MW to 20MW in the first half of the year. Auckland takes up 70% of the data centre market in New Zealand.

Australian telco, Vocus, announced that they had signed an agreement with Google to extend the Honomoana cable that planned to connect the U.S., French Polynesia and Australia, to include New Zealand, via Auckland. Vocus will also add a domestic route between Sydney and Melbourne, and when combined with their existing cables, their network will span from Southeast Asia to the U.S. via multiple landing in Australia, New Zealand, and the Pacific.

The abundance of renewable energy generation available in the form of hydro, geothermal, wind and solar in New Zealand also adds to its appeal as an attractive market for unique sustainable data centre developments. In a world first initiative, Spark, the national telco, has announced plans to build a 40MW data centre in Auckland's North Shore which will be partially powered by an on-site seven-hectare solar farm, which will send excess heat to warm up a nearby surfing lagoon. They are partnering with global surf park creator Aventuur on the project, who first proposed the development last year. Spark also signed a 10-year PPA with Genesis Energy to purchase 100% of electricity produced in their solar farm in Lauriston Canterbury to power 60% of the data centre's power requirements.

HO CHI MINH CITY

KEY INDICATORS*

Operators / Data Centres
9 / 13

In operation
25MW

UC / Planned
6MW / 7MW

COLO Vacancy
56%

Vietnam remains as a new frontier for data centres in Asia Pacific. However, it is poised for steady expansion as its neighbouring ASEAN markets witness growth, especially around AI, and as regional enterprises look further into Southeast Asia to combat the impact of rising costs in their local markets. Ho Chi Minh currently accounts for 50% of operational capacity in Vietnam, dominated by local telecom providers who have struggled meet the demand in Vietnam's domestic market. However, the landscape is poised to change since the Vietnamese government announced the Law on Telecommunications that eases processes around data localization and cancelled foreign ownership caps for data and cloud providers to allow for foreign ownership in the country. These exemptions from the usual market entry constraints in Vietnam will entice more international operators to enter the market with Alibaba, STT Telemedia Global Data Centres, who have announced a JV with VNG Corporation, and South Korean industrial conglomerate, Hyosung Corporation, recently announcing plans or expressing interest in developing data centres in Ho Cho Minh.

Viettel have announced that they have partnered with Singtel to develop a submarine cable connecting Vietnam to Singapore and Southeast neighbours, Cambodia, Thailand and Malaysia. The national telco are also planning for at least two Vietnamese-owned cables operational by 2030, prioritizing shorter routes to other Asia digital hubs to accompany the government in building and developing digital infrastructure in Vietnam. As such advances take place, Vietnam will become a more attractive market for data centre investment.

__Definition:__ Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

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