

Data Centre Research Report MALAYSIA



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Benchmarking Opportunity Spotlight on Malaysia:



Part One of the Inaugural Knight Frank Data Centre Opportunity Index

Asia Pacific Data Centre Overview

The Asia Pacific (APAC) region's data centre landscape is currently experiencing robust growth, fuelled by a rising demand for cloud computing, big data, and e-commerce. However, the last few years have seen the emergence of the tier 2 markets in APAC as highly desirable locations for data centre development as Cloud service providers look to open dedicated Cloud regions in these markets, rather than servicing them from key hubs such as Singapore and Tokyo.

Within these markets, the Southeast Asia 5 (SEA-5) of Malaysia, Indonesia, Thailand, Philippines and Vietnam have attracted particular amounts of interest, given the large population sizes and lack of development so far. The Knight Frank SEA-5 Data Centre Opportunity Index (SEA-5 Index) examines the key markets within the SEA-5 to understand each respective country's current data centre ranking against its peers. The index takes key data centre elements such as recent take up & supply figures, existing & future Cloud availability zones (AZs), sub sea fibre connectivity, alongside other important data centre investment factors such as population sizes, GDP growth and ease of doing business as a foreign investor in these markets.

Knight Frank SEA-5 Data Centre Opportunity Index

Rank	Market	Take Up (MW)	GDP growth (%)
1	Malaysia	113	8.7%
2	Indonesia	22	5.3%
3	Vietnam	2	8%
4	Philippines	2	7.6%
5	Thailand	25	2.6%

In the inaugural SEA-5 Index, Malaysia has come out on top as the most attractive destination for data centre investment. With 113 MW of take-up in 2022, this was a four-fold increase over the next highest market of Thailand, which saw a respectable 25 MW of take-up, and represents domination over the rest of the market. Much of this take-up accounts for the growth in Johor, although Kuala Lumpur (KL), which has also reported double digit take-up figures for the past 3 years, has also contributed to this. Strong GDP growth figures (8.7%) against its peers, alongside newly-announced Cloud regions for Amazon Web Services (AWS) and Google, resulted in their position as the leading SEA-5 market. Whilst markets such as Vietnam, Philippines and Thailand will no doubt rise in this index as their markets becomes more hospitable to data centre investment, currently, ailing take up figures alongside lesser Cloud appetite has resulted in their position at the rear of the index. However, we expect this position to change as global data centre operators and Cloud service providers start to establish a foothold in these markets in the coming years.

1st
in EIU Business
Environment
Rankings

Cloud AZ's
5
Live and
Announced

GDP
8.7%
GROWTH

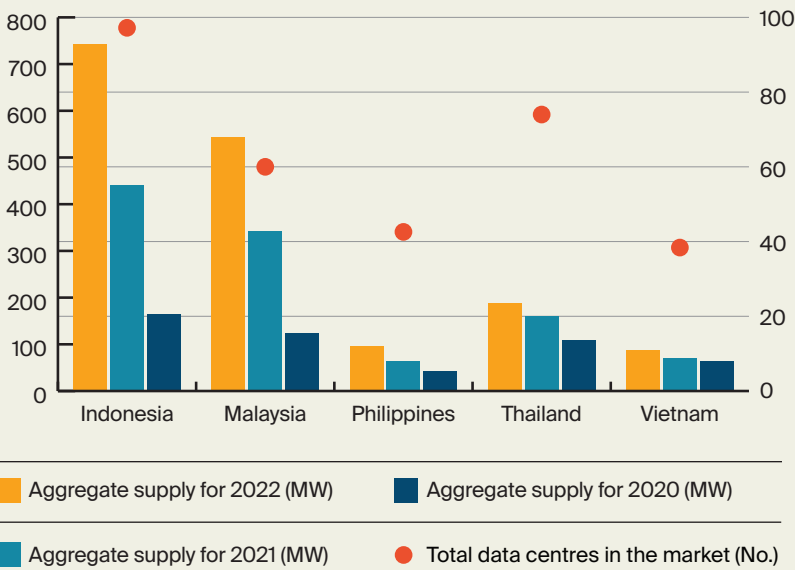
Spotlight on Malaysia

Kuala Lumpur market in detail

Navigating the complexities of this rapidly evolving market

The remarkable development of Malaysia's data centre industry has primarily taken place in two main regions of Malaysia - Greater Kuala Lumpur (comprising of Central Kuala Lumpur and Cyberjaya) and Johor. As with most data centre markets globally, the original data centres were located within the CBD of Kuala Lumpur and were relatively small in nature. However, over the last decade, a surge in Cloud interest, government backed initiatives and the Singapore data centre moratorium has contributed to Malaysia becoming one of the most dynamic data centre markets in the APAC region. As outlined in the chart below, which portrays Malaysia's growth against other tier 2 markets in Asia, it is evident that Indonesia and Malaysia are surging ahead as the largest providers of space and supply for data centre investment. In contrast, other rival nations are grappling with land ownership laws and telecoms deregulation, that have hindered their growth potential.

Supply of data centres in South East Asia's Tier 2 cities



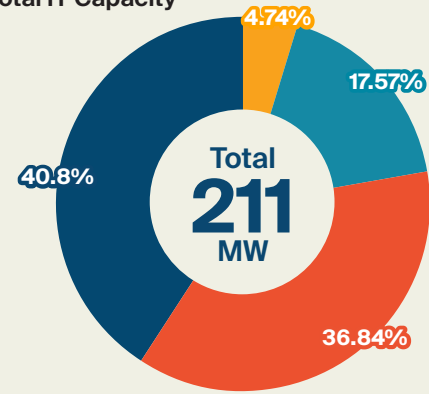
Aggregate supply: Live, under construction and committed capacity.

The Malaysian data center market



Kuala Lumpur thriving due to Cloud activity

Total IT Capacity



- **Live**
86 MW
- **Committed**
78 MW
- **Under Construction**
37 MW
- **Early Stage**
10 MW

In Kuala Lumpur, the early colocation operators such as CSF Group, Basis Bay and VADS were the early movers in the market until NTT GDC, as one of the earliest foreign entrants, established a data centre campus in Cyberjaya in 2010. From 2010 onwards, most international operators entered Kuala Lumpur's market via acquisitions. In 2012, Keppel Data Centres acquired an 80% stake in a Basis Bay facility located in Cyber Point 5 through its Securix Data Property Funds. In 2018, Bridge Data Centres, a subsidiary of ChinData, acquired the CX2 facility from CSF Group.

However, what has instigated this aggressive expansion by data centre operators is the advent of Cloud Service Providers opening dedicated Cloud regions to serve the population of Malaysia and thereby committing to deploy significant amounts of capacity across a variety of data centre facilities.

Earlier in 2022, Amazon Web Services (AWS), Microsoft, Google, and Telekom Malaysia received conditional approval to establish and operate hyperscale data centres and offer cloud services in Malaysia, with Chinese Cloud provider Alibaba already present in the market. The latest announcement by Amazon Web Services that it will invest USD\$6Bn in the Malaysian Cloud infrastructure market by 2037 reinforces its commitment to hosting Malaysian data in the country rather than in other key data centre hubs across the region such as Tokyo and Singapore. Whilst key Malaysian institutions such as Petronas and Bank of Islam Malaysia already use AWS in some capacity, the creation of a dedicated Cloud region in Malaysia will enable AWS to offer a full spectrum of Cloud services to its customers. Whilst it was originally thought that AWS were going to enter the market via a combination of self-built data centres and colocation deployments, it is now understood that they are solely reliant on colocation for this initial wave of capacity.

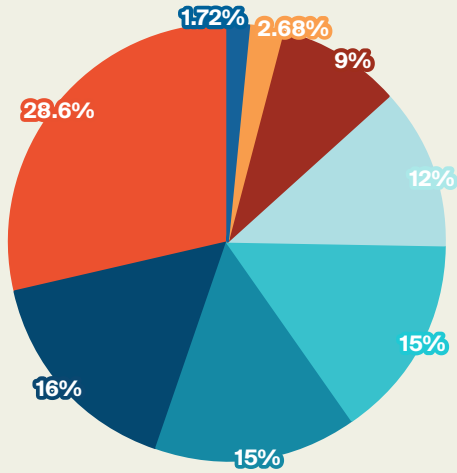


AWS announced a US\$6 billion investment in Malaysia at its recent AWS Cloud Day held in KL in March 2023. Source: The Sun newspaper

Market share in Kuala Lumpur

As depicted by the chart below, market share of built or planned capacity remains evenly distributed between the various colocation operators. However, Microsoft's self-build data centre in Cyberjaya, which was announced in April 2021, is expected to significantly dominate the future capacity, eventually becoming the largest data centre in the greater KL region. This development forms part of their 'Bersama Malaysia' initiative to support economic growth within Malaysia and is currently under construction of phase 1.

Market share in KL



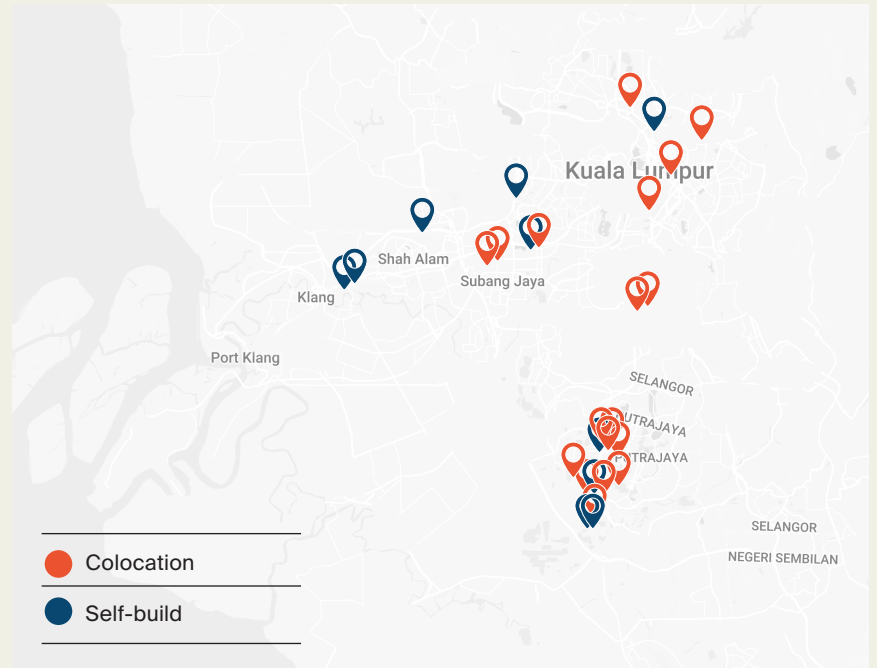
Microsoft	VADS
NTT Global Data Centers	Vantage Data Centers
AIMS	Keppel Data Centres
Bridge Data Centres	Others

* Self Build and Colocation - Live, under construction and committed capacity

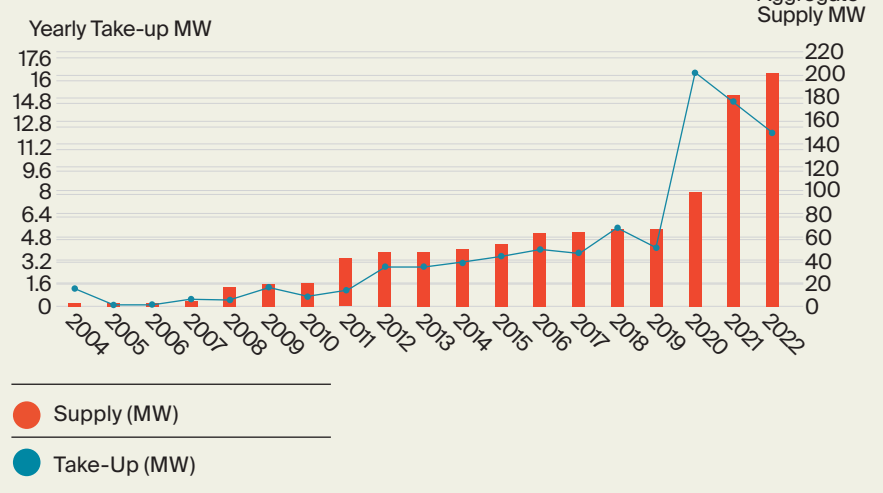
Within greater Kuala Lumpur, Cyberjaya emerged as the key data centre hub serving the rest of Malaysia. Affordable land prices, reliable power infrastructure and proximity to the capital city originally drew data centre operators to this location, along with the government's plans to attract tech hubs to this city adjacent to the new administrative capital of Putrajaya. As with many data centre micro markets globally, there has been a magnetising effect whereby the connectivity, presence of key internet exchanges and most importantly the Cloud deployments within data centres there has meant international operators look to locate in this area in order to increase the rental prospects of their facility. Additionally, The Malaysia Digital Economy Corporation (MDEC), which manages Cyberjaya, has been collaborating with the government and utility companies to ensure adequate power supply, making it an attractive location for data centre development.

It is worth mentioning that whilst Cyberjaya remains the premier data centre location for data centre development in the greater KL area, new locations such as Bukit Jalil and Petaling Jaya are seeing an uptick in demand from customers and operators alike. The locations offer a less constrained power grid and increased locational diversification away from Cyberjaya, providing greater redundancy for data centre customers looking to spread compute loads across different locations.

The data center market in Greater Kuala Lumpur



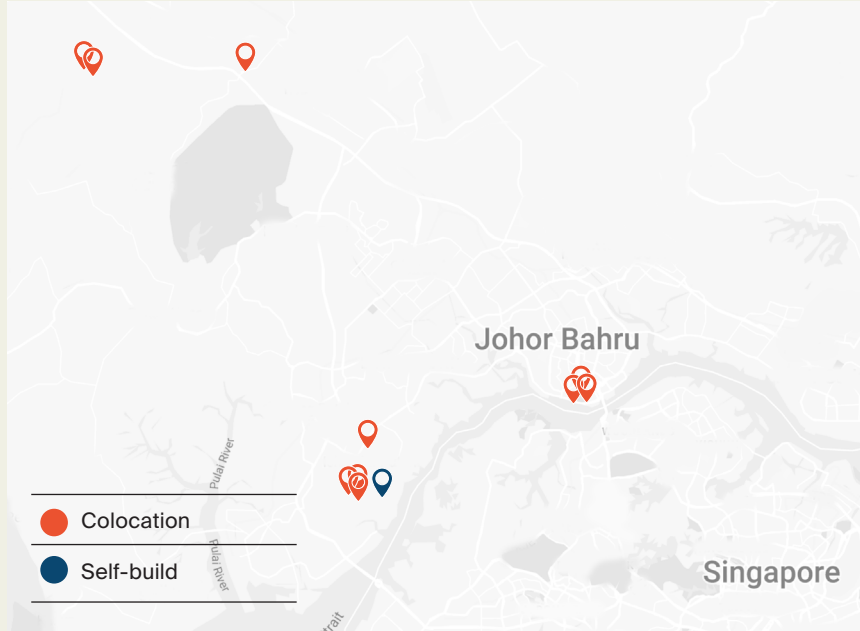
Yearly Supply and Take-up in Kuala Lumpur



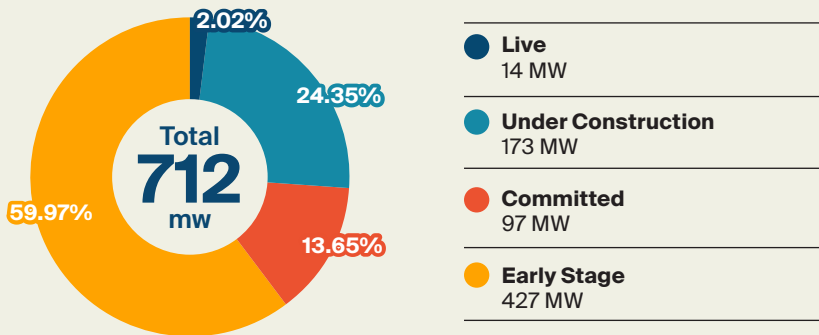
It is no surprise that Bridge, Vantage and NTT continue to develop data centres in Cyberjaya and new entrants such as Infinaxis, backed by Gaw Capital, have recently announced investments into the region. The sale of a 70% share in AIMS data centres by TIMEdotcom to Vantage's parent company Digital Bridge further pronounced Malaysia's status as a preferential location for international capital targeting the sector with the valuation eventually reaching 37.1x EBITDA on the 2021 financial results. The attractiveness of this offering was confirmed with the plethora of well known under bidders such as Equinix, BDX, Digital Edge, STT and more. With this acquisition, Digital Bridge now own a controlling stake in their main campus in Cyberjaya alongside a key retail data centre in Kuala Lumpur CBD that houses the Malaysian Internet Exchange through which the majority of Malaysian internet traffic runs through.

Singapore's constraints benefit spillover into Johor

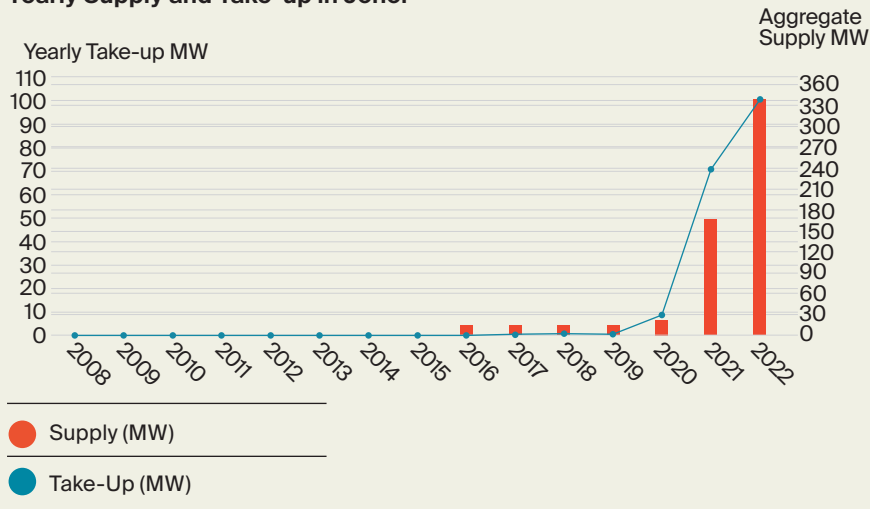
Johor is becoming an increasingly important location for data centres in Malaysia and a viable alternative hub for Southeast Asia. This recent surge of interest can be attributed to the capacity constraints on data centres in Singapore, leading to an overflow demand. Due to its close proximity to Singapore, favourable support from local authorities, and availability of land and power, Johor is an attractive location for those seeking an alternative hub. Currently, the market has 33MW of live and pipeline capacity, with most of the facilities under construction or in the planning stages. These facilities are primarily build-to-suits for Western and Chinese cloud providers, as well as regional tech companies.



Total IT Capacity



Yearly Supply and Take-up in Johor



The development of data centres in Johor is focused in three main areas: Nusajaya Tech Park, Sedenak Tech Park, and YTL Green Data Centre Park. As a result, it is anticipated that the data centre market in Johor will grow significantly, surpassing even the Greater KL region in terms of live capacity.

Early movers into Johor included the likes of Keppel, Bridges and Yondr, who have all secured multi-MW hyperscale contracts from either Chinese or Western Cloud companies. The China-backed Bridge Data Centres have made no secret of the fact that their MY06 development in Johor is anchored by ByteDance with a highly public ceremony in October last year attended by the Chief Minister of Johor and ByteDance public policy official Teresa Tan. Ms Tan cited a close relationship with the Malaysian government as the Chinese content provider 'continues to provide interconnected online experiences to people across the globe while offering them world-class privacy and security protections'

Macquarie backed Air Trunk recently announced a large investment into Johor which was particularly significant as it represents the flagship data centre operators first development that is not within the historically tier 1 data centre markets of Singapore, Australia, Hong Kong and Japan. Alongside this news, Equinix announced its entry into Malaysia with a new 2 storey JH1 facility at Nusajaya Tech Park in November 2022. The initial investment is approximately \$40 million and the data centre is expected to begin operation in Q1 2024 with 500 cabinets and 1960 sqm of colocation space which is catering to the retail requirements of data centre customers rather than hyperscale Cloud companies. Both these operators represent two of the most well respected and established data centre companies globally and further enhances Johor as a location for customers to store data outside of the land and power constrained Singapore. With news of the 60MW additional power allocation to a select group of Singapore operators set to be announced shortly, it is unlikely that this additional capacity will dampen growth in Johor as the hyperscale Cloud demand continues to surpass supply in the region.



Key developments in Johor

Company Name	Facility Name	Live IT MW	U/C IT MW	Committed IT MW	Early Stage IT MW	Landbanked Area ha
AirTrunk	JHB1			50	100	
Bridge Data Centres	MY06	19	42	39	4	
CSF Group	CX3 (Menara MSC Cyberport)	0.186				
Equinix	Nusajaya Tech Park			3.5		
GDS Holdings	Iskandar (Green Data Centre Park)				112	
GDS Holdings	Site 1 (NTP1/2/3)		63.999			
GDS Holdings	Site 2					4.129
Keppel Data Centres	Johor 1	7.8				
Open DC	JB1 (Menara MSC Cyberport)	1.1			14.9	
VADS	Iskandar Puteri Core Data Centre (Nusajaya Tech Park)	4.98		8.21		
Yondr	Sedenak Tech Park			50	150	
YTL	SEA Data Centre		48			



We would love to help you with
your data centre real estate strategies,
contact us to get the conversation started!



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