MARKETBEAT

SEOUL

Data Centre 1H 2023

CUSHMAN & WAKEFIELD

1H 2023 KEY INDICATORS*

No. of Operators / Data Centres
15 / 34

In Operation
353MW

Under Construction / Planned
635MW

Vacancy Rate
4%

** Key Indicators are based on operational or under construction Hyperscale Cloud, Colo, Edge & Telco data centre facilities by major operators in the greater Seoul market and excludes Captive and ICT.*
Source: Cushman & Wakefield

More Information

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Market Overview

Seoul's data centre market was historically dominated by telcos such as KT, LG U+, and SK Broadband, but has firmly established itself as a primary Asia Pacific data centre market in recent years with the entry of US-based data centre REITS since 2021. The expansion strategies of global cloud service providers whose deployments in the market have mainly relied on colocation, and the growing number of international operators entering the market, have allowed for a diversification of offerings with carrier-neutral options. Seoul takes up to 85% of the country's data centre market with 23MW of new supply added since the end of 2022 and a continually robust development pipeline. Owing to steady demand, Seoul's vacancy rate remained flat (the second lowest in the region after Singapore) during the same period and the market is expected to remain a target location for data centre development for local and international investors and developers. Equinix, Digital Realty, Digital Edge and Stack Infrastructure have announced significant projects that will go live from 2024 to 2025 onwards. Local cloud services providers such as Naver, Kakao, NHN, and financial institutions, are also constructing self-builds for their own use, which reduce their share of demand in the colocation market.

Land near available power supply remains scarce across the central Seoul CBD area, with multi-level builds required due to smaller land parcel sizes and high land prices. The cost of land in Seongnam and Gangnam can be up to three times higher than in Gyeonggi and Incheon, which are increasingly becoming locations of interest due to the availability of land and power supply. For instance, Paju, north of the Han River, has superior land availability and power connections. However, international investors have previously been apprehensive due to a lack of infrastructure or access to a skilled workforce. The construction of the new GTX-A rail line (estimated completion November 2023), and new highway systems north of Greater Seoul may encourage investors and developers to reconsider the area in the next few years. The data centre market in Seoul is witnessing a rise in renewable energy generation and procurement by operators. Empyrion DC, for instance, is constructing a green data centre in Gangnam, Seoul, equipped with Building integrated Photovoltaic Panels (BIPV) and in-house energy management system.

Development / Sales & Investment

In the first half of 2023, seven data center pipelines obtained new building permits and five have completed the commencement notice. Asset managers, telecommunications companies, and data center REITs have now been joined by domestic construction companies and small and medium-sized developers taking on the challenge of developing data centers. GS E&C, through the establishment of a special purpose corporation for real estate development business, has completed the construction permit for a data centre in Goyang-si, while DL Construcion has started construction of a Gasan data center, which has also been permitted. Ansan-si, Gyeonggi-do, is attracting attention as a location for the development of Internet Data Centers for the colocation business, starting with the Kakao Data Center (Enterprise Data Center). Under the Structural Upgrading Project of Banyul-Sihwa National Industrial Complex, the green energy complex has been approved, and several factory sites in the main industrial complex area are scheduled to be developed into data centers after securing capacity, which is expected to create a new cluster.

Policy & Regulations

To mitigate data centre concentration in the Greater Seoul Area (GSA), related policies are being developed. According to a policy to reduce the concentration of data centers in the GSA prepared by the Ministry of Trade, Industry and Energy, the Enforcement Decree of the Electricity Business Act will be amended to allow KEPCO to reject requests for power supply to data centers in the GSA, while data centers in non-GSAs will be provided with benefits such as reduced electricity facility levies and exemptions from reserve power charges, to encourage decentralization. In particular, the *Dispersed Energy Promotion Special Act*, passed by the National Assembly in May and scheduled to be implemented in June 2024, includes a differential electricity pricing system by region, which will raise electricity costs for data centers located in the GSA. The dispersed energy system will apply a differential tariff system, based on the distance from the power plant, to benefit regions that have electricity production facilities, at the expense of pollution and risk. The GSA, with long distances from power plants, will not be able to avoid electricity price increases, and further development within the GSA is becoming more difficult, and hence more operators are considering expanding into non-GSAs. However, service providers that require low latency, such as for stock trading, artificial intelligence (AI), Internet of Things (IoT), and video streaming, find it difficult to relocate to non-GSAs that are physically distant from key customers, and hence the demand and value of data centers in the GSA are expected to continue to rise.

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1H 2023 BUILDING PERMITS ACQUIREMENT LIST

PROPERTY NAME	LOCATION	CLUSTER	OPERATOR	SQM	IT LOAD (MW)
Oryu-dong Data Center	Guro-gu, Seoul	Mokdong/Gasan	SK Broadband	71,550	N/A
Green Energy Complex Center	Ansan-si, Gyeonggi	Others	Smart Square D&I	61,577	N/A
Incheon Data Center	Bupyeong-gu, Incheon	Incheon/Bucheon	STACK Infrastructure	55,769	48
Bucheon Nae-dong Data Center	Bucheon-si, Gyeonggi	Incheon/Bucheon	MDA No.3	26,081	N/A
Ilsan Data Center	Goyang-si, Gyeonggi	Sangam/Ilsan	GS E&C	16,945	N/A
SKB Yanju DC	Yangju-si, Gyeonggi	Others	SK Broadband	12,302	N/A
Dreammark1 Incheon Gajwa DC	Seo-gu, Incheon	Incheon/Bucheon	Dreammark1	7,351	6

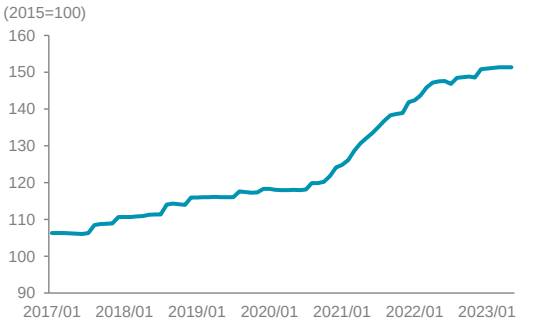
1H 2023 CONSTRUCTION COMMENCEMENT LIST

PROPERTY NAME	LOCATION	CLUSTER	OPERATOR	SQM	IT LOAD (MW)
Goyang Samsong Data center	Goyang-si, Gyeonggi	Sangam/Ilsan	IGIS AMC	78,290	N/A
Bucheon Peach Data Center	Bucheon-si, Gyeonggi	Incheon/Bucheon	Pacific AMC	76,037	48
Ampersand 101	Seocho-gu, Seoul	Gangnam	Empyrion DC	56,017	40 (Phase 1: 10)
Daelim Gasan Data Center	Geumcheon-gu, Seoul	Mokdong/Gasan	DL Construction	17,423	N/A
Dreammark1 Incheon Gajwa DC	Seo-gu, Incheon	Incheon/Bucheon	Dreammark1	7,351	6

1H 2023 SIGNIFICANT SALES

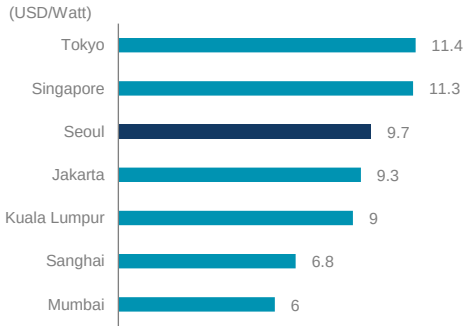
ADDRESS	BUYER	SELLER	SQM	PRICE (Mn.KRW)	SALES DATE
94-11, Oryu-Dong, Guro-gu, Seoul	SK Broadband	Beneforce	9,765 (Land)	159,550	May-23
236-7, Hang-Dong, Guro-gu, Seoul	Hayang Energy Development	SH	7,402 (Land)	100,000	Mar-23

KOREA CONSTURCTION COST INDEX



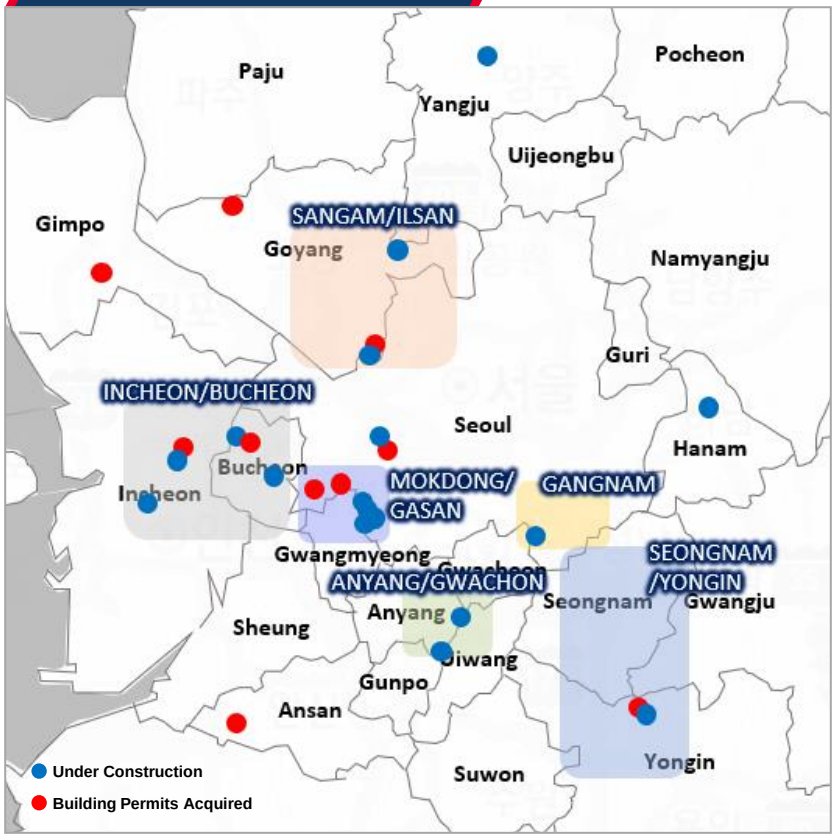
Source: Korea Institute of Civil Engineering

ASIA DATA CENTRE COST INDEX 2022



Source: Turner and Townsend

1H 2023 DEVELOPMENT MAP*



** Based on Hyperscale Cloud, Colo, Edge & Telco data centre facilities that have completed construction permits or commencement notice to MOLIT by the 1H 2023 and excludes existing supplied facilities, Captive and ICT.*