

EMEA DATA CENTRE H1 2024 UPDATE

FEATURED IN THIS UPDATE

- EMEA DATA CENTRE MARKETS MATURITY INDEX: 36 markets covered
- DETAILED MARKET OVERVIEWS: London, Frankfurt, Dublin, Paris, Amsterdam, Milan, Madrid, Stockholm, Berlin, Abu Dhabi, Johannesburg, Warsaw, Dubai, Barcelona
- MARKET SPOTLIGHTS: Copenhagen, Zurich, Vienna, Munich, Istanbul, Helsinki, Zaragoza, Lisbon, Athens, Oslo

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As part of our Global Data Centre Advisory Group, our EMEA Data Centre Advisory team is dedicated to delivering tangible results for both global and national clients. Our multidisciplinary team of experts from various advisory backgrounds and geographies combines local knowledge with sector-specific insight and contacts. We have the experience to support and manage investment decisions made by enterprises, colocation providers, hyperscalers, sector investors and developers.



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H1 2024 UPDATE

EMEA DATA CENTRE UPDATE - H1 2024

Our EMEA Data Centre Maturity Index indicates shifting trends of operators to the emerging markets and reflects on the markets to watch soon. This report provides our outlook on the data centre market across 24 EMEA markets. It includes full reports for the following cities: London, Frankfurt, Dublin, Paris, Amsterdam, Milan, Madrid, Stockholm, Berlin, Abu Dhabi, Johannesburg, Warsaw, Dubai and Barcelona. In addition, it contains snapshot reports for Copenhagen, Zurich, Vienna, Munich, Istanbul, Helsinki, Zaragoza, Lisbon, Athens and Oslo.

Between the second quarters of 2023 and 2024, the operational capacity of EMEA's data centre markets rose by 6.6% to reach 9.3 gigawatts (GW), with about 256 megawatts (MW) of new supply added in the first half of 2024. A strong development pipeline exists, with 2.6GW under construction across the region and 8GW in planning stages, marking an overall pipeline growth of 1GW—a 10.5% increase since the second quarter of 2023.

The FLAP-D markets—Frankfurt, London, Amsterdam, Paris and Dublin—continue to lead, but Milan is quickly catching up to become a powerhouse market, with 984MW in live and pipeline capacity.

All primary markets are encountering challenges, including limited land availability, power constraints, and increasingly strict sustainability regulations, which have substantial cost and time implications for operators and investors. Despite these obstacles, the powerhouse markets contribute 4,381MW to the supply pipeline.

With Milan nearing 1GW (live and pipeline), there is now a significant gap between itself and the Established markets. Warsaw and Zurich have also progressed, with 339MW and 278MW, respectively, qualifying them as established markets. New entrants to the developing market category include Istanbul, Barcelona and Zaragoza, the latter being driven by cloud computing and Al.

*For all analysis, the EMEA region includes Frankfurt, Dublin, London, Amsterdam, Paris, Milan, Abu Dhabi, Warsaw, Johannesburg, Madrid, Zurich, Stockholm, Dubai, Berlin, Oslo, Vienna, Cape Town, Zaragoza, Copenhagen, Munich, Barcelona, Brussels, Dammam, Riyadh, Lagos, Istanbul, Marseille, Athens, Helsinki, Lisbon, Cairo, Jeddah, Doha, Nairobi, Prague, and Reykjavik.

Across EMEA, there is currently 9.3GW of operational capacity, with 2.6GW under construction and 8GW in planned stages, bringing the total to ~20GW.

Europe's leading markets for capacity under construction are the FLAP-D markets and Milan.

The Nordic countries have a total of 2.33GW, with 1.25GW operational, 310MW under construction and 768MW committed.

The FLAP-D markets have a total of 8.5GW, with 4.1GW operational, 1GW under construction and 3.4GW planned.

London continues its lead with 1,062MW operational and a pipeline of 1,209MW.

Milan has emerged as a powerhouse market, with a massive pipeline of 839MW, bringing its total capacity to 984MW.

The Middle East has 719MW operational, with Abu Dhabi leading the way with 141MW, followed by Dubai with 92MW. Abu Dhabi also has a significant 115MW under construction.

Africa has a total of 308MW live and is led by Johannesburg with a significant 111MW under construction. Lagos, Cape Town and Nairobi continue to grow their capacity.

EMEA KEY TRENDS

In addition to the research presented in this report, Cushman & Wakefield notes the following dominant trends and themes within EMEA:

HEADLINES

- Everything everywhere all at once continues.
- Gigawatt locations are following U.S. trends.
- Existing data centre capacity stats are likely to be eclipsed by new builds.
- Al and ESG are top of mind, with security likely to become more prominent.
- Powerhouse markets power on despite headwinds.
- New metro markets are emerging, with data centre campuses being secured away from current major metros.
- Ready-for-service dates remain uncertain.



POWER GRAB AND HYPERSCALE EXPANSION

- Extremely high demand for large packets of power (sites over 150MW) for cloud computing, and AI applications.
- The major cloud providers—Amazon Web Services (AWS), Microsoft Azure, Google Cloud and Oracle Cloud—continue to expand their presence in EMEA, driving increased construction of hyperscale data centres. AWS, Google Cloud, Meta and Microsoft Azure account for approximately 78% of global hyperscale self-build capacity.
- Significant hyperscale investment from AWS, Microsoft and other entities have elevated Zaragoza to a developing market in EMEA. Frankfurt remains crucial, with Microsoft and AWS expanding along key availability zones. Dublin's growth is driven by hyperscalers like AWS and Microsoft. Milan has become a key hub in southern Europe, thanks to substantial investors, including AWS and Microsoft. Madrid is also benefitting from growth spurred by AWS and Microsoft Azure. In Abu Dhabi, strong growth is supported by major investments from hyperscale providers like AWS.



DATA SOVEREIGNTY AND REGULATORY COMPLIANCE

- Countries across EMEA impose strict data localization and privacy regulations, such as the GDPR in Europe and various data laws in the Middle East and Africa.
- These regulations continue to have an impact on financial services, healthcare and government sectors. Indeed, 'sovereign data centres' have become a new classification, recognising data centres that exclusively house government data with dedicated 'sovereign clouds'.

H1 2024 UPDATE



INCREASED DEMAND FOR COLOCATION SERVICES

- Colocation services—where businesses lease space within a data centre
 rather than building their own—are on the rise. This trend is mainly driven by
 data centre investors leasing shell and core facilities to hyperscale operators,
 and to a lesser extent enterprises leasing space to transition to hybrid cloud
 models.
- Colocation providers and owner operators have preleased their new builds to hyperscale clients, resulting in low levels of availability in various markets. Markets with vacancies below 10% include Abu Dhabi, Amsterdam, Athens, Berlin, Dubai, Dublin, Frankfurt, Johannesburg, Lisbon, London, Munich, Paris, Prague, Warsaw and Zurich.
- A significant change in the market is the requirement for AI colocation facilities capable of accommodating very high rack densities between 35 kilowatts (kW) and 100kW per rack, for which there is currently very little capacity. This is a global trend that requires new data centre design criteria and will trigger new investment models.
- Al Language Learning Models (LLMs) appear to have greater latency tolerances, allowing them to be in areas away from the main metros.



EDGE COMPUTING

- The demand for edge computing is driven by digitalization, new technologies like AI, machine learning, IoT, and the acceleration of 5G. These applications require low latency and therefore the need for edge data centres close to end users.
- There are many varieties of 'edge computing', including traditional data centres highly connected to optical fibre networks, localised data centres supporting local government and enterprise workloads, and emerging applications like Al inference and machine learning.
- In our view, we are not seeing data centres fill with 5G, IoT or driverless vehicle workloads as some forecasters predicted.



SUSTAINABILITY AND ENERGY EFFICIENCY

- Sustainability is becoming a key focus, with increased pressure on operators to address challenges such as power and water consumption, e-waste and issues associated with the technology supply chain.
- Governments and companies are prioritising data centres powered by renewable energy sources like wind, solar, geothermal, nuclear and hydropower. There is also a strong emphasis on energy-efficient cooling technologies and reducing carbon footprints.
- Governments are mandating greater transparency from data centres regarding their environmental impact. For example, Germany's Energy Efficiency Act (EnEfG) targets sustainability in data centres with at least 300 kW of non-redundant load. By 2024, 50% of their energy must come from unsubsidised renewables, increasing to 100% by 2027. By July 1, 2025, data centres must implement energy management systems, and those using over 2.5 gigawatt-hours (GWh) annually must publish detailed energy-saving plans. Starting in 2026, facilities with 1MW or more of non-redundant power must certify their energy management systems.
- To reduce carbon emissions, data centres are increasingly adopting renewable energy. Major companies like Google, Apple and Amazon have pledged to use 100% renewable energy for their data centres, but achieving these goals in EMEA remains uncertain.
- European countries like Sweden, Denmark, Iceland, Norway, Finland and Spain are leveraging renewable energy to attract data centre investments, with operators increasingly committing to carbon-neutral strategies.

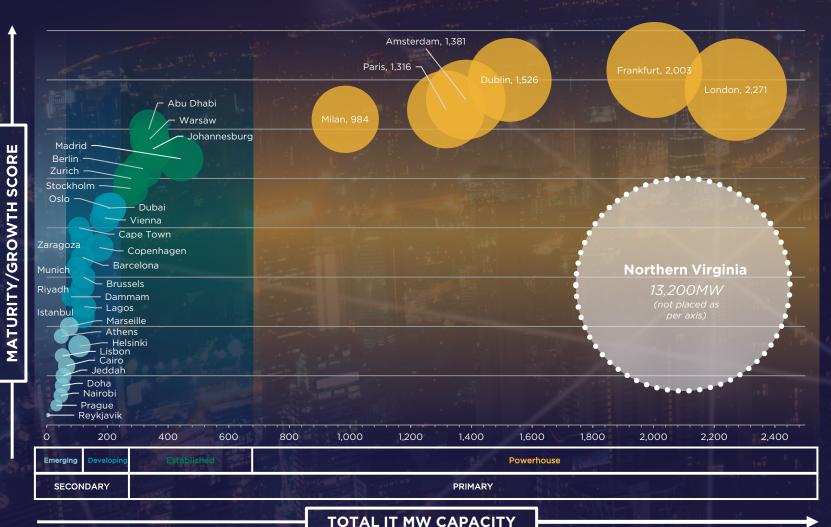
EMEA MATURITY INDEX

The Cushman & Wakefield EMEA Data Centre Maturity Index tracks 36 data centre markets across EMEA* to compare their current maturity status and their potential evolution over the next decade.

This index is a statistical comparison to evaluate markets on 15 parameters, with the rankings visually represented in the graph. It includes data 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 and 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 the impending influence of AI deployment across markets. Each primary parameter contains five secondary parameters, totalling 15 used to index the maturity of each market. Data points for each market are stacked into a parameter matrix and weighted to derive an overall growth score. Markets with higher growth scores are forecasted to evolve better into the future. We believe that while the Maturity Index reflects current market dynamics, it also each market's future potential.

*For all analysis, the EMEA region includes Frankfurt, Dublin, London, Amsterdam, Paris, Milan, Abu Dhabi, Warsaw, Johannesburg, Madrid, Zurich, Stockholm, Dubai, Berlin, Oslo, Vienna, Cape Town, Zaragoza, Copenhagen, Munich, Barcelona, Brussels, Dammam, Riyadh, Lagos, Istanbul, Marseille, Athens, Helsinki, Lisbon, Cairo, Jeddah, Doha, Nairobi, Prague, and Reykjavik.



The commonly used terms 'primary' and 'secondary' to describe data centre markets have been further refined into four categories: Powerhouse, Established, Developing and Emerging.

While many data centre markets across the region show significant capacity across all stages—operational, under construction and planned—we have carefully calibrated the planned and early-stage numbers of data centre announcements (for the maturity growth score) to ensure alignment with realistic market occurrences.

POWERHOUSE

Powerhouse markets are the largest in the region in terms of overall data centre capacity and committed pipelines, each exceeding 900MW. London, Frankfurt, Dublin, Amsterdam, Paris and Milan are categorized as Powerhouse markets. Together, these six markets account for more than 46% of the operational data centre capacity in EMEA and over 49% of the combined under-construction and planned capacities.

Since our H2 2023 report, Milan has advanced from an Established market to Powerhouse, joining the FLAP-D markets. Milan has created a significant gap between itself and the Established markets and is now just behind Paris in terms of live and pipeline capacity.

London will be the first EMEA market to reach 2GW in the next three to five years, if its 1.2GW pipeline is realised. Frankfurt remains the second-largest market in the region, with more than 1.3GW of development pipeline. Dublin ranks third with a 669MW pipeline but is heavily constrained by lack of land, power and substation upgrades. Paris, with a pipeline of 778MW, is comparable in size to Dublin.

However, based on the maturity ranking, both Dublin (2nd) and Frankfurt (1st) rank above London (3rd), which had previously held the top spot in the first half of 2023. London's lower ranking is largely due to its higher vacancy rate (9%), smaller average data centre size (8.5MW), and a smaller planned pipeline compared to the other markets.

ESTABLISHED

Established markets are between 250MW and 900MW in terms of their overall data centre capacity and committed pipelines. Madrid, Johannesburg, Warsaw, Abu Dhabi, Berlin, Zurich and Stockholm account for about 11% of the total operational capacity in the region. These markets are on track to more than double in size if the development pipeline of 1,337MW is completed over the next few years.

Since the second half of 2023, Warsaw and Zurich have moved up from Developing to Established in our Maturity Index. This rapid growth is due to several factors, including their centralized locations, strong data locality requirements, and increasing demand for <a href="https://hyperscale.com/hyperscale.c

Many data centre operators are expanding their footprint or looking to enter these Established markets due to strategic locations and the availability of necessary infrastructure. Berlin, for example, stands out as a notable alternative to Frankfurt.

DEVELOPING

Developing markets are between 100MW and 250MW in terms of their overall data centre capacity and committed pipelines. According to our Maturity Index, Oslo, Dubai, Vienna, Copenhagen, Lagos, Brussels, Istanbul, Barcelona, Riyadh, Zaragoza, Cape Town and Munich are considered Developing markets. They account for 7.7% of EMEA's operational capacity, up from 6% in the second half of 2023, and are expected to increase their share.

Since the second half of 2023, Barcelona, Dammam, Istanbul, and Zaragoza have advanced from Emerging to Developing markets.

The Middle Eastern markets of Abu Dhabi, Dubai and Riyadh are expected to expand to more than 150% of their current operational capacity over the next few years. This growth is fuelled by the growing interest of operators to invest in the region, reflecting the ongoing development of smart cities and broader tech advancements.

EMERGING

Emerging markets are between 4MW and 100MW in terms of their overall data centre capacity and committed pipelines. These include Helsinki, Marseille, Cairo, Jeddah, Doha, Lisbon, Athens, Nairobi,

Prague and Reykjavik, accounting for less than 3% of the total operational capacity in EMEA. Emerging markets are in their early development stages, yet many data centre operators find them attractive due to business-friendly environments, increasing consumer demand, suitable land, available power, fibre connectivity, and the establishment of new cloud regions. Indeed, some may describe these as 'Niche' as well as 'Emerging'.

NORTHERN VIRGINIA (NoVa)

As in previous reports, we include Northern Virginia as a visual comparison due to its status as the largest data centre market in the world, with an overall stock level of 13.2GW (operational, under construction and committed pipeline). NoVa's operational capacity of 4.9 GW is 362% higher than London's at 1.1GW, the largest market in EMEA. Despite its extensive operational data centre capacity, NoVa maintains one of the lowest vacancy rates globally, at 0.8%. This suggests a roadmap for EMEA Powerhouse markets to continue to grow in scale while keeping steady occupancy going forward.

SUMMARY

The EMEA data centre market continues to grow rapidly, driven by increasing cloud computing, digital services, data-heavy applications and the rise of Al. Power availability, cost, infrastructure, data protection and rising consumer demand are reshaping the landscape, with Tier 2 markets gaining prominence. Emerging technologies are also boosting the need for advanced data processing and storage solutions. The region's strategic location enhances global connectivity, attracting businesses while sustainability goals and environmental concerns push for the adoption of eco-friendly technologies. Despite challenges related to cost efficiency and carbon footprint reduction, the market is responding with innovative technological solutions, such as cooling and larger data centre campuses.

The following pages give greater insights into select markets from the Maturity Index. Our Data Centre Team can also provide custom research reports on any market, including additional site selection data overlays. Please contact Laura Shepherd for further details.

LONDON, UNITED KINGDOM

EMEA POWERHOUSE MARKET

KEY INDICATORS*



Operators / Data Centres



In Operation 1,062MW



UC / Planned **247MW/962MW**



COLO Vacancy

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

MARKET OVERVIEW

London remains the largest data centre market in EMEA, with 1,062MW in operation, showing little change from the second quarter of 2023. However, the pipeline for planned and under-construction projects has grown by 28%, to 1,209MW. Virtus, Equinix, Ark Data Centres and Digital Reality have the greatest amount of operational capacity.

Power availability in London's Western Corridor is a major concern, with substantial power network upgrades not scheduled until the 2030s and Not In My Back Yard (NIMBY) resistance to additional data centre builds.

There is a strong emphasis by operators on sustainability, with investment being made in green technologies and advanced cooling solutions.

The scarcity of land and power in London has pushed new developments into outer zones and the M25 corridor. Despite these challenges, London remains a vibrant and evolving hub in the data centre landscape.

The revised National Planning Policy Framework (NPPF) will significantly aid the UK data centre industry by supporting development and tackling previous barriers. It encourages local authorities to consider data centres' specific needs, easing approval processes. The recent inclusion of data centres as Critical National Infrastructure (CNI) highlights their importance, aims to reduce regulatory barriers and could drive colocation data centre growth.



- In September 2024, DC01UK announced the development of an 85-acre campus north of Barnet and east of Watford, with a 320MW campus proposed in North London.
- In August 2024, **Yondr Group** announced it had secured planning permission for a third building on its London campus in Slough. The new facility will be part of a campus with over 100MW capacity, further establishing West London as a key European data centre hub.
- In July 2024, **Digital Realty** spent \$200 million to enter the West London data centre market. This acquired campus has two data centres with a combined capacity of 15MW.
- In Jun 2024, **Goldacre** announced plans to build one of the most powerful data centres in the UK. The new facility, potentially located in Newham, will deliver 77MW to 90MW of capacity to users in the area.
- In June 2024, **Salesforce** opened its first AI data centre in London, the first of three in Europe, as part of a commitment to upscale AI innovation and digital transformation.
- In June 2024, Ada Infrastructure received approvals to develop a 210MW data centre campus in East London's Royal Docks. As Ada's flagship development in the UK, the 210MW Docklands data centre campus is designed for sustainability, safety and security, and to meet emerging AI workloads.
- As of June 2024, **Digital Reef's** massive 600MW data centre campus is being planned for East London, with a potential hydrogen fuel cell energy generation plant.
- In June 2024, property investor Segro was granted planning permission to build three data centres in Slough, west of London.
- In April 2024, **Colt** doubled its capacity at its Hayes site in West London by acquiring adjacent land, making it one of the largest campuses in the UK.

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
Chiswick Park Hounslow	11,520 sqm	Sep 2024	(undisclosed)	Hillcrest Private Equity	abrdn
47 Millharbour	8,214 sqm	Apr 2024	\$61.5M	CBRE Investment Mgmt.	abrdn OBO Digital Realty
Trident Way Ealing	33.6 acres	Apr 2024	\$398M	KKR	RLAM
Springfield Road	(undisclosed)	Apr 2024	(undisclosed)	Colt DCS	(undisclosed)
Former Mercure Hotel	16.5 acres	Jan 2024	\$159.1M	Ark Data Centres	Griggs Commercial JV First Urban (UK)

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Ada Infrastructure	Docklands	London	210	Planned
Colt DCS	Hayes	Hayes	6	Under Construction
Coll DCS	Hayes	Hayes	108	Planned
	Hemel Hempstead	Hemel Hempstead	20	Under Construction
	Hemel Hempstead	Hemel Hempstead	20	Planned
	LD14	Slough	35	Planned
	Longcross Park	Longcross	17	Under Construction
Amazon Web Services	Longcross Park	Longcross	17	Planned
	London 1	London	16	Under Construction
	London 1	London	16	Planned
	London West	London CBD	31	Planned
	London South	London CBD	30	Planned
Microsoft	Bashley Road	Park Royal	48	Under Construction
MICROSOFT	Bashley Road	Park Royal	48	Planned
	Broxbourne	Hertfordshire	22	Under Construction
2	Broxbourne	Hertfordshire	66	Planned
Google	Park Royal (LHR11 and LHR12)	Park Royal	25	Under Construction
	Park Royal (LHR11 and LHR12)	Park Royal	30	Planned
Aul. Data Cantuca	Alliance Park	Park Royal	50	Planned
Ark Data Centres	Union Park	Hayes	48	Planned
Clabal Taskaisal Basku	Clavala	Classala	13.	Under Construction
Global Technical Realty	Slough	Slough	27	Planned
Yondr	Wexham	Slough	30	Under Construction
Iron Mountain	LON-3	Slough	25	Under Construction
Kao Data	London One	Harlow	2.2	Under Construction
Nau Data	London One	nariow	22	Planned
NTT Global Data Centers	Hemel Hempstead 4	Hemel Hempstead	8	Under Construction
A 1 1 Global Data Celiters	LCY20	London	16	Planned
VIRTUS Data Centres	London 12 Slough	Slough	21	Planned
Vantago Data Contors	LHR21	London	20	Planned
Vantage Data Centers	Crawley Unit 2 - Crawley Campus	Crawley	16	Under Construction



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FRANKFURT, GERMANY

EMEA POWERHOUSE MARKET

KEY INDICATORS*



Operators / Data Centres* **25 / 68**



In Operation **696MW**



UC / Planned 283MW/1024MW



COLO Vacancy

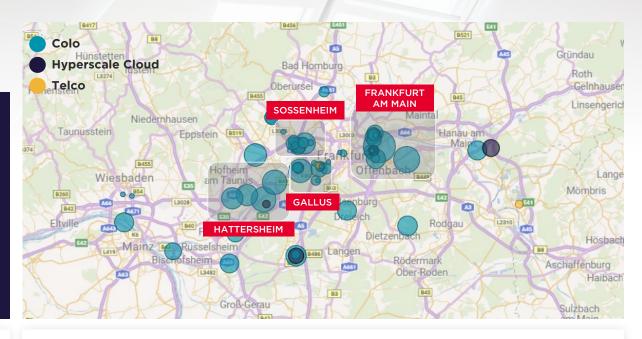
*Definition: Key indicators are based on operational Hyperscale Cloud, Colo, Edge & Telco data centre facilities in the market and excludes Captive & ICT.

MARKET OVERVIEW

Frankfurt's data centre market is experiencing significant growth, despite operational capacity remaining steady. A substantial pipeline of 1,307MW is set to become operational in the next 5-7 years. Although approximately 60MW has been added in the last six months, vacancy has dropped from 5% to 3%, highlighting the market's attractiveness. The market is predominantly composed of colocation providers, with major players including NTT, Equinix and Digital Realty, the latter holding the largest pipeline of 242MW.

Frankfurt's continued appeal as a leading FLAP-D market and the No. 1 location in Germany stems from its low-latency connectivity and role as an interconnection hub, making it a prime location for companies needing efficient data exchange. However, power and land availability remain challenges within the city of Frankfurt itself, and this has driven the expansion of the region into the wider Rhein-Main area toward Offenbach in the East, Mainz in the West and Darmstadt to the South. This broader region now hosts key Availability Zones supporting major cloud operators.

Frankfurt's strategic role in the cloud, along with the government's ambitions for the expansion of Al data centres and sovereign cloud services, positions it for continued growth. However, significant recent investments into other German regions by both colocation and hyperscale operators may lead to a likely decentralization of the German market in the medium to long term.



- As of July 2024, CyrusOne is building FRA7 data centre on a 63,000-square metre (sqm) plot at the Frankfurt Westside
 regeneration project managed by BEOS AG and Swiss Life Asset Managers. The development will consist of two threestory buildings offering 81MW across nine data halls. Construction of the first 9-MW phase is expected to be completed
 by the second quarter of 2026.
- In June 2024, **NTT** and **Mainova** partnered to create a district heating network in Frankfurt that will provide waste heat from an NTT data centre to more than 600 households in single-family and multifamily homes in Hattersheim am Main.
- In June 2024, Amazon Web Services committed to investing 8.8 billion euros (\$9.44 billion) in its AWS Europe (Frankfurt) cloud region by 2026, bringing the total planned investment in cloud computing in Germany to \$17.9 billion.
- In June 2024, utility company **Mainova** and asset manager **BlackRock** formed a joint venture, valued at \$164.5 million, to drive sustainable data centre growth in Frankfurt and empower digitalization.
- In April 2024, **Maincubes** launched its second data centre in Frankfurt, offering 7.4MW of IT capacity across 4,700 sqm (50,590 square feet) of IT white space.

RECENT SITE SALES

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
Anderson Barracks 6460	178 acres	May 2024	(Undisclosed)	NTT	Bundesanstalt fur Immobilienaufgaben (Federal Agency for Real Estate Tasks)
Weismullerstrasse 3	18.5 acres	May 2024	(Undisclosed)	Tishman Speyer JV Mainova AG	Samson AG
Frankfurt	2,269 sqm	April 2024	(Undisclosed)	nLighten	Exa Infrastructure
Frankfurt	(undisclosed)	Jan 2024	(Undisclosed)	NorthC	(Undisclosed)

CONSTRUCTION & PLANNED UPDATES*

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
	Digital Park Frechenheim - 1	Frankfurt Am Main	165	Planned
	Digital Park Frechenheim - 3	Frankfurt Am Main	6	Under Construction
Digital Realty	Digitalpark Hattersheim - 1	Hattersheim	45	Planned
	Digitalpark Hattersheim - 2	Hattersheim	15	Under Construction
	FRA15	Frankfurt Am Main	10	Planned
	GER1 & GER2	Frankfurt Am Main	78	Under Construction
CloudHQ	GER1 & GER2	Frankfurt Am Main	22	Planned
Clouding	GER3	Hattersheim	16	Under Construction
	GER3	Hattersheim	80	Planned
SDC Conital Boutness	FRA-01	Hattersheim	10	Under Construction
SDC Capital Partners	FRA-01	Hattersheim	90	Planned
EdgaCannaV	EDCFRA01	Frankfurt	10	Under Construction
EdgeConneX	EDCFRA01	Frankfurt	48	Planned
	Frankfurt V	Frankfurt	9	Under Construction
CyrusOne	Frankfurt V	Frankfurt	45	Planned
CyrusOffe	Frankfurt VII	Gallus	16	Under Construction
	Frankfurt VII	Gallus	72	Planned
	FRA I Data Centre - 1	Frankfurt	12	Under Construction
Goodman	FRA I Data Centre - 2	Frankfurt	52	Planned
	FRA II Data Centre	Frankfurt	54	Planned
Stack Infrastructure	FRAL1	Frankfurt	80	Planned
	FRA1	Frankfurt Am Main	16	Under Construction
Vantage Data Centers	FRA1	Frankfurt Am Main	24	Planned
	FRA2	Frankfurt	24	Planned
Green Mountain	FRA1-Main	Frankfurt	18	Under Construction
Green Mountain	FRA1-Main	Frankfurt	36	Planned
Calt DCC	Frankfurt West II	Sossenheim	8.1	Under Construction
Colt DCS	Frankfurt West II	Sossenheim	24	Planned
Equipiy	FR13	Frankfurt Am Main	3	Planned
Equinix	FR16x	Frankfurt Am Main	14	Under Construction
Vandu	Frankfurt - Bischofsheim	Frankfurt	10	Under Construction
Yondr	Frankfurt - Bischofsheim	Frankfurt	30	Planned





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DUBLIN, IRELAND

EMEA POWERHOUSE MARKET

KEY INDICATORS*



Operators / Data Centres



In Operation **857MW**



UC / Planned 132MW/537MW



COLO Vacancy

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

MARKET OVERVIEW

Dublin's data centre market demonstrated robust growth in the last year, adding 104MW to its operational IT capacity. This growth was driven predominantly by hyperscalers like AWS and Microsoft, alongside strong demand from colocation providers such as Echelon, K2 Data Centres, Equinix and EdgeConneX. The market also has a healthy pipeline of 669MW and an increased vacancy of 4.4%, up from 1.8% in the second half of 2023. The challenge for Dublin is realizing this pipeline amid power network capacity constraints and a government moratorium.

The city's appeal lies in its established tech ecosystem, favourable corporate tax environment, and strategic proximity to transatlantic data cables. However, Dublin faced high electricity costs and significant power constraints, leading to government-imposed restrictions on new builds in certain areas. The de facto moratorium imposed by EirGrid on power supply for data centre development in the greater Dublin region is expected to affect development until 2028, although alternative power supply plans by data centre operators could enable continued development in the region. Despite these challenges, Dublin remains a leading European data centre hub, thanks to ongoing investment in infrastructure and sustainability.

To meet environmental regulations and corporate ESG objectives, operators are choosing renewable energy sources and advanced cooling technologies. Ireland aims to achieve up to 80% renewable energy by 2030, primarily through wind power, with government support for sustainable power systems and optimized data centre designs. Initiatives such as the SEAI's EXEED-certified grant program promote energy-efficient designs by providing up to \$1.2 million per project to help lower greenhouse gas emissions.

Ireland has always been well-positioned as the initial landing point for U.S. investment, and this holds true for the data centre sector.

The financial services, tech and pharmaceutical sectors continue to drive colocation demand, ensuring steady market growth even amid challenges.



- In July 2024, the Irish government approved a new policy aimed at strengthening the country's energy storage system
 and spurring "private wires framework," which would give data centre operators a solution to the current moratorium by
 allowing them to connect directly to renewable energy sources.
- In July 2024, Microsoft entered an agreement with SSE Renewables and FuturEnergy for 30.1MW of power from the Lenalea wind farm
- As of July 2024, AWS is reportedly collaborating with Bord na Mona to develop new facilities in the Eco Energy Park, located 50 miles west of Dublin. The agreement includes 105MW of power to be provided by the Derrinlough Wind Farm.
- In April 2024, **Vantage** entered the Dublin data centre market with its flagship DUB1 Irish campus on a 22-acre site at Profile Park, Grange Castle. The campus is expected to generate 52MW in power and is expected to be operational by the end of 2024.
- As of April 2024, AWS is reportedly restricting the number of resources users can access in Ireland amid ongoing concerns about the amount of power consumed by the nation's data centres.

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF	
Amazon Web Services	Mulhuddart	Ballycoolen	73	Planned	
	DUB069 Grange Castle	Clondalkin	50	Planned	
	Clonshaugh	Clonshaugh	24	Planned	
EngineNode	Bracetown	Dublin	72	Planned	
Echelon	Dub40	Clondalkin	60	Planned	
	Dub10	Clondalkin	30	Under Construction	
Microsoft	Grange Castle II	Clondalkin	48	Planned	
	Grange Castle II	Clondalkin	48	Under Construction	
Digital Realty	Profile Park (DUB13-DUB16)	Clondalkin	40	Planned	
	Dub4	Clondalkin	2	Planned	
	Dub4	Clondalkin	1	Under Construction	
/antage Data Centers	Dub 11 & Dub 12	Clondalkin	39	Planned	
	Dub 11 & Dub 12	Clondalkin	13	Under Construction	
K2 Data Centres	Dub 2-5	Ballycoolen	30	Planned	
	Dublin 6 Citywest	Dublin	8	Planned	
Pure Data Centres	Orion	Ballycoolen	38	Planned	
EdgeConneX	EDCDUB14	Clondalkin	15	Planned	
	EDCDUB05	Clondalkin	15	Planned	
	EDCDUB14	Clondalkin	15	Under Construction	
	EDCDUB05	Clondalkin	15	Under Construction	
CyrusOne	Dublin	Clondalkin	18	Planned	
Equinix	DB6x	Ballycoolen	10	Under Construction	
	DB7x	Ballycoolen	5	Planned	

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AMSTERDAM, NETHERLANDS

EMEA POWERHOUSE MARKET

KEY INDICATORS*



Operators / Data Centres **70** / **77**



In Operation **964MW**



UC / Planned 196MW/222MW



COLO Vacancy

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

MARKET OVERVIEW

Amsterdam boasts a substantial 964MW of operational data centre capacity, with an additional 417MW in the pipeline expected to come online within the next 5-7 years. Major hyperscale operators like Google and Microsoft are market leaders, with 170MW and 187MW operational, respectively. Colocation providers such as EdgeConneX and Digital Realty also have significant presences, with capacities of 189MW and 141MW, respectively. Additionally, Great Grey Investments Data Center (GGIDC) is reported to enter the market with a planned 84MW data centre campus.

Despite being the second-largest data centre market in Europe by operational capacity, Amsterdam ranks fourth when considering its pipeline. This limited new supply is attributed to constraints on land and power availability, coupled with insufficient upgrades to substations. In late 2023, Amsterdam's municipality implemented a 'preparatory decision' that restricts new data centre developments within its jurisdiction as part of a broader metropolitan strategy. The Dutch Data Centre Association (DDA) has criticized these measures as overly restrictive, following a previously imposed one-year moratorium on new constructions in 2019. Although construction resumed in 2020, these constraints have influenced the market dynamics. For example, projects with an IT capacity over 70MW, or those above 10 hectares in size, are banned in most of the Netherlands.

Challenges such as power and space limitations within the metropolitan area have shifted new developments to other locations, including the Haarlemmermeer municipality, southwest of Amsterdam. Colocation demand remains strong, driven by increased adoption of hybrid cloud applications. Amsterdam continues to attract builds by EdgeConneX, Digital Realty, Equinix, Global Switch and CyrusOne.

The market's focus on sustainability aligns with stringent Dutch government policies and corporate ESG initiatives, leading to significant investments in green energy and energy-efficient cooling systems. The sector aims to be climate-neutral by 2030, and Dutch data centres are leaders in using waste heat. In the Amsterdam area, data centres have strict rules to design and operate Power Usage Effectiveness (PUE) below 1.2.



- In July 2024, Switch Datacenters announced the launch of its 16MW AMS4 facility, which was 75% complete at delivery.
 The excess heat produced from its operation will feed into the Diemen heat grid.
- As of May 2024, CapitaLand completed the 19-million-euro (\$20.5 million) refurbishment of the Paul van Vlissingenstraat data centre in Amsterdam. The data hall has been expanded to accommodate 450 racks across 1,532 sqm (16,500 sf), upgrading the site's IT capacity from 1.4MW to 2.3MW.
- As of June 2024, Peakside Capital Advisors AG sold a commercial and office property in Schiphol-Rijk to a 'global data centre operator and investor' for development. The property, south of Amsterdam at Tupolevlaan 28-46, totals around 6,535 sqm (70,340 sf) of commercial and office space.
- As of Jun 2024, Google plans to invest 600 million euros (\$640.62 million) in a new data centre in the Dutch city of Groningen.
- In April 2024, the government of the Netherlands announced that it had begun feasibility studies for two new nuclear power plants that would be built in Borseele, Zeeland. One plant is expected to provide 1.6GW of power. TenneT, who operates the grid, states that connecting the two power stations to the existing grid would be problematic.

RECENT SITE SALES

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
Tupolevlaan Schiphol-Rijk	(undisclosed)	Jun 2024	\$6.5M	(undisclosed)	Peakside Capital JV Partners Group

CONSTRUCTION & PLANNED UPDATES*

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Great Grey Investments Data	Data Centre	Amsterdam CBD	28	Under Construction
Center (GGIDC)	Data Centre	Amsterdam CBD	56	Planned
Microsoft	AMS13/AMS14	Middenmeer	36	Under Construction
Microsoft	AMS13/AMS14	Middenmeer	36	Planned
Yondr	Agriport (Middenmeer)	Middenmeer	30	Under Construction
	EDCAM06	Amsterdam CBD	35	Under Construction
EdgeConneX	EDCAM07	Amsterdam CBD	18	Planned
	EDCAMS09	Amsterdam CBD	4	Under Construction
Google	Oldambt	Amsterdam	11	Under Construction
	AMS11	Amsterdam CBD	13	Under Construction
District Deaths.	AMS11	Amsterdam CBD	13	Planned
Digital Realty	AMS16	Amsterdam CBD	7	Planned
	AMS17	Amsterdam CBD	1	Planned
Cyrus One	Amsterdam I and 2	Amsterdam CBD	4	Under Construction
Cyrus One	Amsterdam I and 2	Amsterdam CBD	22	Planned
Global Switch	Amsterdam East - 1	Amsterdam CBD	4	Under Construction
Global Switch	Amsterdam East - 2	Amsterdam CBD	28	Planned
	AMS5	Amsterdam CBD	7	Under Construction
Cwitch Datacentous	AMS5	Amsterdam CBD	14	Planned
Switch Datacenters	AMS6	Amsterdam CBD	5	Under Construction
	AMS6	Amsterdam CBD	5	Planned
NTT Global Data Centers	Amsterdam 1	Amsterdam CBD	11	Planned
NTT Global Data Centers	Amsterdam 1	Amsterdam CBD	11	Under Construction
Iron Mountain	AMS-1 and AMS-2	Amsterdam CBD	4.6	Planned
Iron Mountain	AMS-1 and AMS-2	Amsterdam CBD	5	Under Construction
ServerFarm	Server Farm AMS1	Amsterdam CBD	5	Planned
NorthC	Datacenter Groningen	Groningen/Eemshaven	1.5	Under Construction

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PARIS, FRANCE

EMEA POWERHOUSE MARKET

KEY INDICATORS*



Operators / Data Centres **71 / 76**



In Operation **538MW**



UC / Planned 150MW/628MW



COLO Vacancy

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

MARKET OVERVIEW

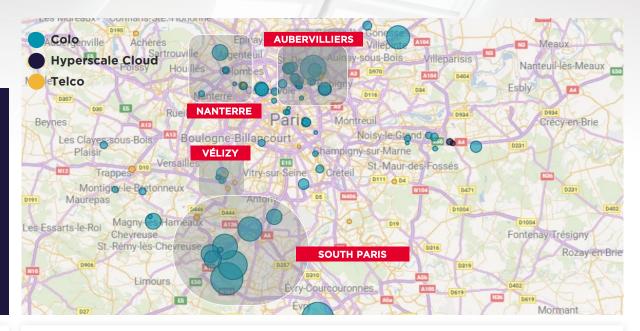
Paris's data centre market has experienced steady operational capacity growth, with a significant increase in its development pipeline, now reaching 778MW. Noteworthy new entries include Goodman with a planned 72MW, CloudHQ with 149MW in various stages of planning and construction, and NTT Global Data Centers, which has 84MW planned. Data4 leads with a sizable 185MW pipeline, in addition to their existing 87MW. Digital Realty maintains the largest live capacity in Paris, currently at 137MW.

Recent developments include Equans delivering the second phase of Digital Realty's PAR13 facility, a 20MW data centre spanning 54,000 sqm in Les Ulis. Engineering firm Mercury has also been selected to lead the next expansion phase at Digital Realty's Paris campus, including the PAR10 and PAR11 facilities, following the completion of the 19MW PAR9 facility earlier this year.

European cloud provider OVHcloud has launched a new cloud region in Paris, with three data centres located approximately 30 km apart, to create reduced latency across an availability zone. These ongoing investments solidify Paris's position as a critical data centre hub in Europe, balancing expansion with sustainability goals.

However, power availability is a growing concern, particularly in central Paris, prompting a strategic shift toward suburban areas. Previously Marseille, with access to subsea cables, was gaining attention as an alternative development zone, but concerns have merged over the availability and price of land and power.

In response to France's environmental regulations and its goal of achieving carbon neutrality by 2050, sustainability is a top priority.



- As of July 2024, Nokia and IMS Networks have been selected by RENATER for data centre deployments in Paris.
- In July 2024, Equans announced that the second phase of Digital Realty's PAR13 data centre has been successfully delivered in Paris, offering 20MW of IT capacity.
- As of May 2024, Microsoft plans to spend 4 billion euros (\$4.31 billion) on data centre infrastructure in France and will buy renewable energy via power purchase agreements (PPAs) for the first time.
- In May 2024, **Digital Realty** signed two 15-year deals for wind energy. The projects, from developer **Wpd**, encompass small wind farms in the French regions of Bretagne and Hauts-de-France.
- In Apr 2024, OVHcloud launched the multi-zone cloud region in Paris, spanning three data centres located approximately 30 km apart to provide organizations with resilience and low latency.

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
Paris 2	2,000 sqm	Apr 2024	(undisclosed)	nLighten	Exa Infrastructure

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
CloudHQ	CDG Campus	South Paris	74	Under Construction
CloudhQ	CDG Campus	South Paris	74	Planned
Colt DCS	Les Ulis I & II	South Paris	40	Planned
COIL DC3	Villebon I & II	South Paris	87	Planned
	PAR1&2	South Paris	35	Under Construction
DATA4	PAR1&2	South Paris	30	Planned
	PAR3	South Paris	120	Planned
Goodman	PAR1	Paris	72	Planned
NTT Global Data Centers	NTT Global Data Centers	South Paris	84	Planned
	PAR10, Digital Park	Aubervillers	6	Planned
Digital Doolty	PAR11, Digital Park	Aubervillers	11	Under Construction
Digital Realty	PAR11, Digital Park	Aubervillers	6	Planned
	PAR13/14	South Paris	60	Planned
KDDI Telehouse	Paris Magny-Les-Hameaux	Paris	14	Planned
	Porte de Paris Data Centre	Aubervilles	8	Under Construction
Equinix	PA12X	Nanterre	14	Planned
	PA12X	Nanterre	14	Planned
	DC3	Paris	3	Planned
Opcore	DC5	Paris	4	Planned
	DC5	Paris	5	Under Construction
Thésée DataCenter	TDC01	Paris	12	Planned
nLighten	DC6 Paris	Paris	2	Under Construction

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MILAN, ITALY

EMEA POWERHOUSE MARKET

KEY INDICATORS*



Operators / Data Centres
20 / 35



In Operation 145MW



UC / Planned 142MW/697MW



COLO Vacancy

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

MARKET OVERVIEW

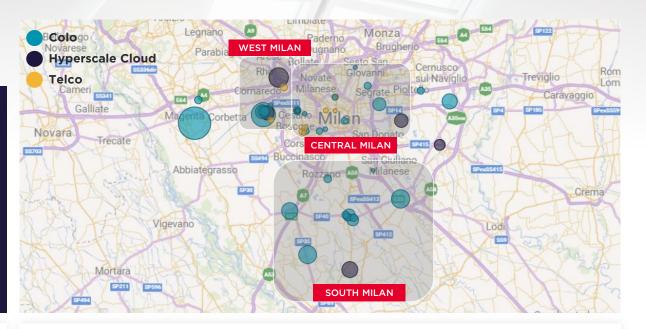
Milan's data centre market has increased its total supply by 11% to 145MW over the last year, with a substantial pipeline of 839MW, distinguishing itself as a pivotal digital infrastructure hub in southern Europe. AWS, Microsoft, STACK Infrastructure, DATA4 and Vantage Data Centres have significantly added to pipeline capacity, with CloudHQ planning a massive 240MW campus. Microsoft added 16.4MW in operational capacity during the last quarter. Strong take-up has led to a vacancy rate decline of almost 3% in the first half of 2024.

Milan is now a key player in Europe's data centre industry, thanks to its location and the increasing use of cloud technology. Since our H2 2023 report, Milan has progressed from an Established market to a Powerhouse, joining the FLAP-D markets. The city has created a significant gap between itself and the Established markets and is just behind Paris in terms of power when considering both its live and pipeline capacity.

Investments in Milan's data centres are rising due to Italy's leadership in European sovereign cloud initiatives and digital transformation efforts, including the Triennial Plan for IT in Public Administration, the PNRR and the Cloud Italia Strategy.

Milan's expansion is significantly influenced by power constraints in central areas. The surge in cloud computing, driven by banking, manufacturing and media, underscores the city's strategic importance. Hyperscalers like Microsoft Azure played a pivotal role in this growth, attracted by Milan's strategic location in the Mediterranean region. These factors collectively highlight Milan's distinct position and growth trajectory in the European data centre landscape.

Sustainability initiatives continue centre stage, with operators investing heavily in renewable energy and advanced cooling technologies, driven by both regulatory mandates and corporate ESG goals.



- As of Aug 2024, Italian telco and data centre provider **Retelit** plans to use waste heat from its Milan data centre to heat 1,250 households in city's Municipality 6.
- In April 2024, **Data4** announced spending 500 million euros (\$535 million) on MILO2, a new data centre campus in Milan.
 The first data centre on the site is in the process of obtaining necessary permits and is expected to offer an IT capacity of 15MW. Once development work is complete, the campus could offer up to 100MW.
- As of May 2024, AWS plans to expand its local cloud presence in Italy and is expected to conduct a multi-billion-dollar investment in Milan.
- **PIMCO/Apto** secured a plot of land near Lacchiella, south of Milan, that will be used to build a data centre facility with about 300MW of IT capacity. Last year, PIMCO, an American investment management firm, announced the establishment of Apto to build and operate data centres for cloud service providers expanding in Europe.
- QTS acquired a 150MW IT load plot on the former IBM site and is actively addressing environmental concerns and existing lease agreements as part of its commitment to the transaction.

RECENT SITE SALES

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
Milan	19 acres	Apr 2024	(undisclosed)	Data4	(undisclosed)

CONSTRUCTION & PLANNED UPDATES*

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
CloudHQ	Milan	West Milan	240	Planned
Amazon Web Services	Milan Fiera Data Campus	West Milan	74	Planned
Vantage Data Centres	MXP1 Data Center Campus	South Milan	8	Under Construction
	MXP1 Data Center Campus	South Milan	56	Planned
	MXP2	West Milan	16	Under Construction
	MXP2	West Milan	16	Planned
STACK Infrastructure	MILO3A	South Milan	5	Under Construction
	MILO4	Milan	15	Under Construction
	MILO4	Milan	45	Planned
	MILO6	Milan	20	Under Construction
	MILO6	Milan	20	Planned
	MILO8	South Milan	20	Planned
DATA4	MIL01	West Milan	30	Under Construction
	MIL01	West Milan	70	Planned
Microsoft	Milan 3	West Milan	34	Planned
	Milan 4	Milan	30	Planned
	Milan 5	South Milan	45	Planned
Equinix	ML7x	West Milan	15	Under Construction
CyrusOne	DC Segrate	Milan	27	Planned
Compass Datacenters	Milan	Milan	16	Planned
	Milan	Milan	32	Under Construction
Rai Way	Milano Siziano	South Milan	4	Planned
	Milano Siziano	South Milan	0.4	Under Construction



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MADRID, SPAIN

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres



In Operation **163MW**



UC / Planned **218MW/60MW**



COLO Vacancy

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

MARKET OVERVIEW

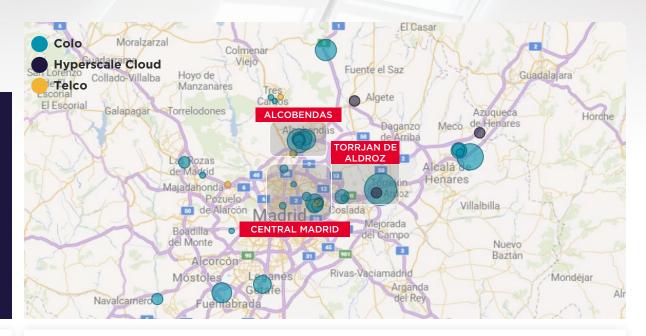
Madrid's data centre market has experienced remarkable growth, expanding by 42% to 163MW in the past year, with an impressive pipeline of 279MW. This growth has been driven by hyperscalers like AWS and Microsoft Azure, along with colocation providers such as DATA4, Nabiax, Edged Energy/Merlin Properties and Equinix.

Madrid's strategic location, strong connectivity, and sustainability focus have positioned it as a critical hub in Spain (notwithstanding the rise of Barcelona and Zaragoza) and in southern Europe, linking major cities like Lisbon, Zaragoza, Barcelona and Bilbao, all of which provide continental gateways to South America, Africa, the Middle East and Southeast Asia.

Despite challenges with land and power availability, suburban locations such as the Henares Corridor and Alcobendas offer better fibre routes and potential for renewable energy sourcing, aligning with Spain's ambitious goal to achieve 74% renewable energy by 2030 and 100% by 2050. Investments in renewable energy and advanced cooling technologies, like liquid and free-air cooling, are motivated by regulatory and corporate environmental goals.

Additionally, non-traditional players, including civil engineering and construction firms, are entering the market, contributing to innovative approaches in data centre construction and operations.

Despite the positive momentum, infrastructure limitations persist, as evidenced by the Spanish government's recent rejection of 59 data centre proposals due to insufficient energy infrastructure. New regulations, including a requirement for bank guarantees equivalent to 40 euros per kW, are expected to slow down an extremely active market.



- In July 2024, Pure Data Centers acquired land in Madrid for a 25MW site, marking its first data centre in the Spanish market.
- · In June 2024, Microsoft opened its first cloud region of data centres in Spain to provide AI and cloud services.
- As of June 2024, CyrusOne went live with its first facility in the market, a 9-MW facility north of the city.
- As of June 2024, Oracle announced plans to invest \$1 billion in Al and cloud computing in Madrid. The investment will
 enable Oracle to open a third cloud computing region in the country.
- In May 2024, **Prime Data Centers** announced plans to develop a 26,000 sqm data centre in Madrid. The company has secured 7.6 acres in Alcobendas with plan to develop a facility that will be able to deliver 40MW of critical power.
- In May 2024, Nabiax secured leases totalling 10MW for its data centre campuses in Madrid, adding 7.5MW and 2.5MW of IT capacity at its Alcala de Henares and Julian Camarillo data centre campuses, respectively.
- In May 2024, U.S. data centre firm Prime announced expansion into Spain, with plans for a 40MW facility in Madrid. The
 company has acquired a 7.6-acre site at Calle de la Pedriza 1 in Alcobendas, close to Equinix, CyrusOne and Data4
 facilities.

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
C. Via de Los Poblados	37,200 sqm	Jul 2024	(undisclosed)	(undisclosed)	Banco Sabadell
Madrid	4.4 acres	Jul 2024	\$11.8M	Pure Data Centres	ActivumSG
C. de la Pedriza	7.6 acres	May 2024	(undisclosed)	Prime Data Centers	(undisclosed)
C. Trespaderne	28,140 sqm	Jan 2024	(undisclosed)	Islalink	Corum
Mad 1	4,500 sqm	Apr 2024	(undisclosed)	nLighten	Exa Infrastructure

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Iron Mountain	San Fernando San Fernando	Torrejon de Aldroz Torrejon de Aldroz	74 2	Planned Under Construction
Grupo ACS	Carretera Nacional	Madrid	50	Planned
Prime Data Centers	Alcobendas	Alcobendas	40	Planned
Merlin Properties	Madrid-Getafe	Madrid	17	Planned
Digital Realty	MAD4	Central Madrid	15	Planned
Form8tion	Madrid One Madrid One	Madrid Madrid	8 18	Planned Under Construction
Data4	MAD02 MAD02	Madrid Madrid	6 24	Planned Under Construction
Adam	Navalcarnero	Madrid	4.2	Planned
NTT Global Data Centers	Madrid 1	Madrid	3.3	Planned
Equinix	MD5 MD3X	Alcobendas Madrid	8 7	Under Construction Under Construction
Nablax	Julian Camarillo	Madrid	1	Under Construction
Global Switch	Madrid	Torrejon de Aldroz	//1/	Planned



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JOHANNESBURG, SOUTH AFRICA

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres 11 / 10



In Operation 139MW





COLO Vacancy

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

MARKET OVERVIEW

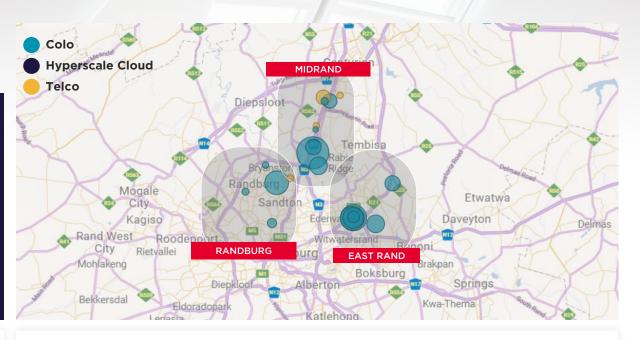
Johannesburg's data centre market is expanding rapidly, with 139MW of operational capacity and another 211MW in the pipeline. Major operators such as Africa Data Centres, Teraco (Digital Realty), and Vantage Data Centres are driving this growth, with Vantage aiming to add 84MW to its current 16MW capacity. Equinix also announced its entry into the market with a 20MW project, following its \$160 million investment announcement in 2022.

Approximately 72% of South Africa's operational data centre capacity is concentrated in Johannesburg, largely due to its strategic location as the largest commercial and industrial hub in the country. The city has become a focal point for digital infrastructure, attracting significant interest from businesses leveraging AI, big data and cloud services. This growing adoption of digital technologies, combined with a strong financial sector, is driving demand for data centres, particularly in northern and eastern areas like Midrand, Samrand and along the R21 highway.

Electricity availability remains a key concern for operators in Johannesburg, but government initiatives are helping to address these challenges. Teraco has committed to renewable energy solutions, with plans for a R3.5 billion (\$198M) investment in 200MW of solar power by 2035. Similarly, Vantage Data Centres has entered agreements to source energy from solar farms in remote areas like the Northern Cape.

In addition to local developments, international connectivity will receive a major boost from submarine cables like 2Africa and T3. The 2Africa cable, the largest subsea cable system globally, is already beginning to carry customer traffic and will connect 33 countries across Africa, Europe and Asia. This will enhance data transmission speeds, reduce latency, and improve the reliability of digital services in Johannesburg and the broader region. Both 2Africa and T3 will play crucial roles in reinforcing Johannesburg's position as a critical digital hub for Africa and beyond.

These advancements reflect Johannesburg's growing importance as a data centre market, supported by strategic investments in energy, connectivity and infrastructure.



- As of June 2024, Digital Parks Africa (DPA) is expanding its Samrand data centre campus outside Johannesburg, expanding its Centurion facility by 4.5MW, adding 810 sqm (8,720 sf) and 570 racks.
- As of May 2024, Google is set to build the Umoja Cable, the first subsea cable between western Australia and South Africa
- Africa Data Centres' new solar farm in South Africa's Free State will begin as a 12MW array, initially servicing its Cape Town site before extending to supply power to its Johannesburg facilities.

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Vantage Data Centers	JNB2 JNB2 JNB1 Campus JNB1 Campus	East Rand East Rand Midrand Midrand	10 10 48 16	Planned Under Construction Planned Under Construction
Teraco	Bredell Campus - JB4 Isando Campus - JB5	East Rand East Rand	31 30	Under Construction Under Construction
Africa Data Centres	JHB2 Samrand Data Centre - 2 JHB2 Samrand Data Centre - 3	Midrand Midrand	20 10	Under Construction Planned
Equinix	JN1	East Rand	20	Planned
Digital Parks Africa	Samrand Datacentre	Midrand	6	Planned
NTT Global Data Centers	Johannesburg 1	Midrand	6	Planned
Open Access Data Centres	Isando JNB1	East Rand	4	Under Construction

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WARSAW, POLAND

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres



In Operation 176MW



UC / Planned 81MW/82MW



COLO Vacancy

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

MARKET OVERVIEW

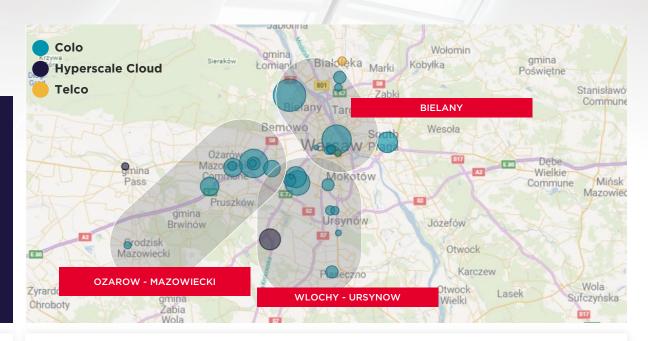
Warsaw's data centre market has experienced steady growth, expanding by 19% in the past year to reach 177MW, with a robust pipeline of 163MW. The vacancy dropped from 12% to 9% from the second half of 2023 to the first half of 2024. As a strategic digital bridge between Eastern and Western Europe, Warsaw is a vital hub. Key operators include EdgeConneX and Microsoft, with Atman planning to add 28MW to its existing 23MW. Other major players, such as Vantage (44MW) and DATA4 (39MW), are also expanding their capacity significantly.

Warsaw's connectivity to major European data centre markets, including Germany, Sweden and Denmark, along with its relatively affordable land and power costs, has solidified its status as a strategic hub for data centres. Currently, around 80% of Poland's operational data centre capacity is concentrated in Warsaw.

Poland's governmental digitalization initiatives, such as the Digital Competence Development Programme (2020–2030) and the National Broadband Plan 2025, are expected to drive technological growth and increase demand for data centres. Additionally, Poland is working to boost its renewable energy sources, aiming for at least 23% by 2030, which could attract investments from environmentally conscious operators. However, Poland's renewable energy mix does not compete with other EMEA countries, putting it at a disadvantage.

Despite this competitive challenge, Warsaw's central location, skilled IT workforce and lower operational costs make it a prime destination for global operators. The market is expanding with new facilities and infrastructure upgrades, benefiting sectors such as finance, e-commerce and public services. The city's commitment to renewable energy and enhanced connectivity has drawn clients seeking sustainable solutions.

Despite challenges related to evolving data protection regulations and power infrastructure demands, strong government support and Warsaw's growing role in the European digital economy have encouraged the rapid adoption of cloud services.



- As of July 2024, Orange signed a contract with GreenYellow to deploy solar panels on its data centre in Warsaw. The
 facility will have 299 kilowatt peak (kWp) of photovoltaic (PV) systems expected to generate 250 megawatt-hours
 (MWh) of power annually.
- As of Apr 2024, Polish data centre operator Atman raised PLN 1.35 billion (about \$345 million) to further its
 developments in Poland. This data centre is expected to house three buildings with a total colocation area of nearly
 19,000 sqm (204,515 sf) and offer 43MW of capacity across 36 data halls.
- Polish data centre builder Beyond.pl plans to expand its Poznań colocation campus from 86MW to 150MW to support
 AI, machine learning, and high-performance computing. The expansion will provide high power density IT infrastructure,
 with over 130 kW per rack.
- In July 2024, GlobalNet installed a Point of Presence (PoP) in the Equinix WA1 facility, offering customers IP transit connectivity and DATAIX services.

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Vantage Data Centers	Warsaw Campus (WAWI) Warsaw Campus (WAWI)	Bielany Bielany	36 8	Planned Under Construction
Vultr	Warsaw	Warsaw	42	Under Construction
DATA4	Warsaw Campus Warsaw Campus	Ozarow Mazowiecki Ozarow Mazowiecki	29 10	Planned Under Construction
Atman	Warsaw 3 Warsaw 3	Ozarow Mazowiecki Ozarow Mazowiecki	14 14	Planned Under Construction
Equinix	WA3 WA4x	Warsaw	1 6	Planned Under Construction
Orange	Warsaw Data Hub	Warsaw	0.8	Planned
T-Mobile	Szlachecka A & B	Warsaw	0.72	Planned
EdgeConnex	EDCWAW01	Warsaw	0.5	Under Construction

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ABU DHABI, UAE

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres



In Operation 137MW





COLO Vacancy

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

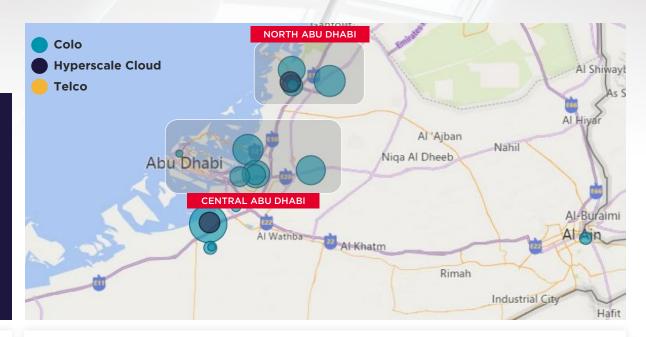
MARKET OVERVIEW

Abu Dhabi's data centre market is experiencing strong growth, with 141MW operational and an additional 185MW in the pipeline, positioning the city as a key digital infrastructure hub in the Middle East. The expansion is driven primarily by hyperscale providers like AWS and local enterprises adopting hybrid cloud solutions. Demand for colocation services has surged, particularly from sectors like finance, healthcare and media. Major players, including Khazna Data Centers and Gulf Data Hub, have substantial pipelines totalling 137MW, while Pure Data Centres is entering the market with 40MW. Vacancy stands at an all-time low of 0.7%, highlighting the strong growth of the market.

Abu Dhabi's strategic location as a gateway between Africa, Asia and Europe, combined with robust connectivity, attracts numerous international operators. The city's growth trajectory reflects its ambition to become a leading digital hub in the region, supported by innovation and sustainability initiatives. AWS is also developing self-built Availability Zones (AZs) in Abu Dhabi, with the government facilitating favourable conditions. Khazna is addressing government cloud needs, highlighting strong public sector demand, while government policies and investments in AI and cloud companies like G42, backed by Mubadala, demonstrate a focus on leveraging technology for economic growth.

Sustainability and energy efficiency are key priorities, with operators investing heavily in renewable energy and advanced cooling technologies, such as liquid and free-air cooling, to meet regulatory and corporate ESG goals. To address green energy needs, the region is exploring options like nuclear power and a large solar park.

Despite challenges with land and power availability in central Abu Dhabi, developments have shifted to suburban areas where these constraints are less severe. This strategic expansion, supported by government initiatives, strong demand for cloud services and a focus on sustainability, is driving Abu Dhabi's rise as a critical player in the Middle East's data centre landscape.



- In August 2024, Mubadala Investment Company, the Abu Dhabi sovereign investor, announced its investment in Yondr Group, a leading global hyperscale data centre developer, alongside Apollo through an existing investment from Apollomanaged funds.
- As of June 2024, UAE telco **Du** planned to deploy **Oracle Alloy** to offer cloud and sovereign Al services to the
 government and public sector in the United Arab Emirates (UAE).
- As of May 2024, Khazna Data Centers is building two new 30-MW data centres in Abu Dhabi, which are expected to be operational by 2026.
- In April 2024, UAE oil company ADNOC paired with e& to build private 5G wireless networks spanning 11,000 square kilometres.
- Qatari telecoms company **Ooredoo** will borrow \$550 million to build data centres, aiming to become one of the top three or four data centre players in the Persian Gulf.

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
	AUH 6	Central Abu Dhabi	32	Under Construction
Khazna Data Centers	AUH 7	North Abu Dhabi	30	Under Construction
Knazna Data Centers	AUH3	Central Abu Dhabi	5.5	Under Construction
	AUH5	North Abu Dhabi	6	Under Construction
	Icad Campus	Abu Dhabi	32	Planned
Gulf Data Hub	Icad Campus	Abu Dhabi	16	Under Construction
	Kizad	North Abu Dhabi	16	Under Construction
Data Caratana	Yas island	Central Abu Dhabi	30	Planned
Pure Data Centres	Yas Island	Central Abu Dhabi	10	Under Construction
A manage NA/ala Campina	Industrial City of Abu Dhabi (ICAD)	Abu Dhabi	8	Planned
Amazon Web Services	Khalifa Industrial Zone	North Abu Dhabi	8	Planned
du	Kizad	North Abu Dhabi	1.8	Planned

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BERLIN, GERMANY

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres

10 / 17



In Operation **82MW**



UC / Planned 23MW/212MW



COLO Vacancy

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

MARKET OVERVIEW

Berlin's data centre market has steady operational capacity and a strong pipeline of 236MW, driven by key players, including Data Castle, Yondr, Prea, and Vantage Data Centres. NTT Global Data Center will also add 24MW to its existing 41MW.

Berlin's rise as a key German market, alongside Frankfurt, is underpinned by its less constrained land market and access to significant pockets of power, including a high proportion of renewable energy. However, the fast growth of the market is now leading to power challenges as Germany transitions from coal and gas to alternative sources.

As Germany's second cloud region, Berlin will continue to play a vital role in the national data centre landscape, as demonstrated by significant investment by Virtus and NTT in Wustermark and NTT's expansion within the city. Berlin's affordable real estate, skilled tech workforce and strategic location will continue to support market growth.



- NTT is in the early stages of developing its third data centre campus in Berlin, offering 96MW of capacity in the municipality of Brieselang.
- In April 2024, AWS revealed its first 'sovereign cloud' region, which will be based in Brandenburg and is due to be
 operational by the end of 2025.
- Virtus Data Centres, part of STT GDC, is in the early stages of building a 300MW Wustermark Megacampus in Brandenberg, to the west of Berlin. Phase 1 will cover 350,000 sqm, with operations set to go live by 2026.

RECENT SITE SALES

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER	
B5 B273 Nauen	37.1 acres	Apr 2024	(undisclosed)	Maincubes	(undisclosed)	
Brieselang	26.7 acres	Apr 2024	(undisclosed)	NTT	(undisclosed)	

CONSTRUCTION & PLANNED UPDATES*

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Prea	Bluestar Data Centre	Berlin	69	Planned
Vantage Data Centers	BER2 BER2 BER1 BER1	Mittenwalde Mittenwalde Berlin Berlin	16 8 35 7	Planned Under Construction Planned Under Construction
Yondr	Berlin - Ragow	Mittenwalde	42	Planned
Data Castle	Green Data Center Berlin	Berlin	26	Planned
NTT Global Data Centers	Berlin 2	South Berlin	24	Planned
maincubes	BER01	Berlin	8	Under Construction



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STOCKHOLM, SWEDEN

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres 19 / 36



In Operation 172MW





COLO Vacancy

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

MARKET OVERVIEW

Stockholm's data centre market has grown significantly in recent years, though it posted only a modest 3% increase in the past year, adding 5MW of capacity. The current pipeline stands at 104MW, with AWS accounting for 60MW. However, much of the remaining pipeline is in early stages and may take years to reach construction.

Stockholm remains a key connectivity hub, with Kista emerging as a notable data centre cluster. The market is unique for its large proportion of self-built facilities (Microsoft, AWS) compared to colocation operators like Equinix, Digital Realty and STACK Infrastructure. A shift is also underway, with more data centres planned for regions outside metropolitan areas, such as Dalarna County, where cheaper land and high connectivity make them attractive alternatives as power and land costs rise in the city.

Sweden has a strong focus on renewable energy and sustainability, with Stockholm aiming to become carbon-negative by 2030. The Stockholm Data Parks initiative, promoting 100% renewable energy, highlights the city's appeal to environmentally conscious operators.

Sweden's renewable energy sources and national policies supporting hyperscale developments continue to drive growth. However, challenges around power availability and construction permits are becoming more pronounced. The country's energy capacity has decreased in recent years due to demands from industries like steel manufacturing and battery storage. Recent reversals in electricity tax benefits, aimed at discouraging cryptocurrency mining operations, have added complexity to the market. Still, Sweden's competitive electricity prices for non-household consumers support its role as an attractive location for data centre investments.

Despite these challenges, Sweden remains a leading market for sustainable data centre operations. Alternative regions like Dalarna County are gaining traction as infrastructure improves, and operators are increasingly repurposing former industrial sites to secure power access. Long development timelines are expected to persist as the market adapts to these new dynamics.



- In August 2024, CoreWeave announced a partnership with Nvidia to deploy Nvidia Blackwell GPU clusters to help meet the demand for large-scale Al infrastructure from leading Al labs and enterprises.
- In July 2024, Swedish colocation provider **Conapto** announced the launch of its Stockholm 4 South data centre, offering 20MW of capacity across 8,000 sqm (86,110 sf) of IT space.
- As of June 2024, Telenor Group plans to invest \$9.45 million to expand the sovereign cloud with AWS, using Skygard's
 data centre.
- In May 2024, Microsoft signed a 3.33 million-tonne carbon capture deal with Stockholm Exergi. Starting in 2028, Stockholm Exergi's plant will permanently remove up to 800.000 tonnes of CO2 from the atmosphere annually.
- Sweden's EcoDataCenter acquired a 20-acre site in Borlänge from a former papermill plant. The new campus will offer
 at least 240MW of power capacity, with the first data centres expected to be operational by 2027. This site is located
 near EcoDataCenter's existing Falun campus, which currently has three operational data centres and a fourth under
 development.

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
	Eskilstuna - 2	Greater Stockholm	20	Planned
Amazon Web Services	Katrineholm – 2	Greater Stockholm	20	Planned
	Vasteras - 2	Greater Stockholm	20	Planned
	Stockholm 1 City - B	Central	0.1	Planned
Conapto	Stockholm 2 South-B	Stockholm	0.3	Planned
•	Stockholm 4 South	Stockholm	12	Planned
STACK Infrastructure	STO01	North	9	Planned
	STO01	North	9	Under Construction
Global Connect	Stockholm Data Parks	North	5	Planned
atNorth	SWE01: SIF DC - B	North	5	Planned
Bahnhof	Elementica	Central	3	Planned



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^{*}Part of a portfolio sale

DUBAI, UAE

EMEA ESTABLISED MARKET

KEY INDICATORS*



Operators / Data Centres **8 / 16**



In Operation **92MW**



UC / Planned **54MW/55MW**



COLO Vacancy

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

MARKET OVERVIEW

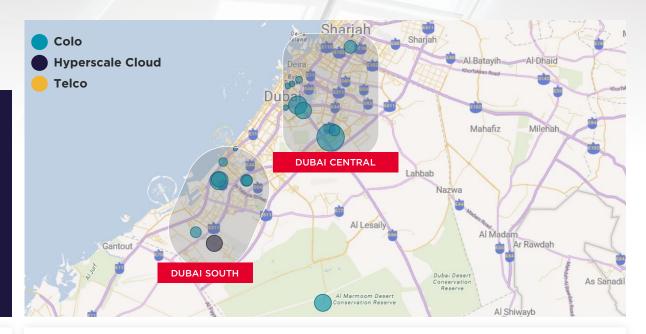
Dubai's data centre market is expanding rapidly, with 92MW of operational capacity and 109MW in the pipeline. Khazna Data Centers leads the market, with 35MW live and an additional 47MW in development. Gulf Data Hub also has a significant presence, while AWS stands out as the most prominent self-build operator, with 8MW live and another 8MW committed.

Dubai has positioned itself as a regional leader in Al innovation, with initiatives like Smart Dubai and the Dubai Artificial Intelligence in Health (DAIHL) driving the integration of Al across sectors such as healthcare, transportation and government services. The UAE's Artificial Intelligence Strategy further supports this shift, enhancing the demand for data centre capacity. The growth of the market is also demonstrated by vacancy totals, which dropped almost 50% from the first half of 2023 to the first half of 2024— from 13% to 7%.

With access to numerous submarine cables and a focus on using solar energy for sustainable operations, Dubai is well-positioned for environmentally conscious data centre development. The UAE's commitment to sustainability is evident in its net-zero carbon goal by 2050, making green technologies and energy-efficient practices a priority for many operators. This effort is shown by the launch of the Moro Hub Data Centre, the world's largest solar-powered data centre in Dubai, which is powered entirely by solar and has the capacity of 100MW.

Government initiatives such as Dubai 10X and the Dubai Data Strategy have further fuelled market growth, while Dubai Silicon Oasis has emerged as a major data centre hub. Global cloud service providers and local telecom operators are driving demand, with notable expansions such as du's partnership with Microsoft to significantly increase IT capacity.

Despite challenges related to power availability and navigating regulatory frameworks, Dubai's strategic location as a connectivity hub in the Middle East and strong government support for digital transformation offer significant growth opportunities.



- In August 2024, Vertiv announced collaboration with Gulf Data Hub to deploy a state-of-the-art 16MW data centre in Dubai Silicon Oasis.
- **Equinix** is developing a facility in Dubai Production City, next to their DX1 building. Equinix's DX3 became operational in the third quarter of 2023 with 3.6MW. Another 4.4MW is currently being constructed and is due for completion in the first quarter of 2026. They have committed to develop DX4 (which is pre-leased) with construction due to start before end 2024.
- · Du's Business Bay Data Centre has a 30MW land expansion planned that has been preleased to Microsoft.
- **Du's** Dubai Silicon Oasis has 2MW currently operational, and the company is looking to expand by 5MW, which is already preleased to an AI customer.
- Khazna is planning a 40MW facility (DXB4) that has already had 20MW preleased.
- Qatari telecoms company **Ooredoo** will spend \$550 million to build data centres as it bids to become one of the top three or four data centre players in the Persian Gulf.

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Khazna Data Centers	DXB2 Sharjah DXB3	Central Dubai Dubai South Dubai	21 9 16	Under Construction Planned Under Construction
Gulf Data Hub	Dubai Silicon Oasis Campus Dubai Silicon Oasis Campus	Central Dubai Central Dubai	16 16	Planned Under Construction
Morohub	MBR Solar Park Data Centre	Central Dubai	14	Planned
Amazon Web Services	Dubai South	South Dubai	8	Planned
du	Dubai Silicon Oasis	Central Dubai	4	Planned
Equinix	DX3	South Dubai	3.6	Planned

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BARCELONA, SPAIN

FMFA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres





UC / Planned **22MW/59MW**



COLO Vacancy

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

MARKET OVERVIEW

Barcelona's data centre market is on the cusp of significant growth, with 38MW of operational capacity and 81MW in the pipeline. Equinix and AtlasEdge are well-established in the market, with Edged Energy/Merlin Properties with operational capacity in place and Digital Realty in the building phase. Panattoni plans a 42MW facility, and AQ Compute has 15MW under construction on the same Cerdanyola campus. The city's recent infrastructure developments, including the Barcelona Cable Landing Station have further boosted its appeal as a growing data centre hub. Currently, Barcelona does not have an established hyperscale Availability Zone, which could herald the next phase of growth. Since our last report, Barcelona has advanced from being in the Emerging market category to Developing.

Sustainability is a key focus in Barcelona's market expansion. In January 2024, Edged Energy launched a 16MW data centre powered entirely by renewable energy. Additionally, Merlin Properties and Edged Energy partnered with Barcelona Cable Landing Station (CLS), EXA, and Axent to build a carbon-neutral, cutting-edge facility.

Since 2015, Barcelona has attracted over 50 billion euros in tech investments and now hosts 10 of Spain's 22 potential unicorns. By mid-2024, Catalonia will house 150 tech centres, with 78% located in Barcelona. This surge has quadrupled the number of tech hubs in the city, generating 28,000 jobs and contributing 2.7 billion euros to the local economy annually. This momentum is drawing increased interest from data centre operators and investors.

Additionally, Barcelona's strong connectivity to Europe, Africa, Asia and the Americas, combined with its vibrant economy, positions it as a strategic data centre location. The Spanish government's ambitious renewable energy targets—74% by 2030 and 100% by 2050—further enhance the city's attractiveness for sustainable data centre operations.

With its strategic location, focus on green energy and rapidly growing tech ecosystem, Barcelona is emerging as a key player in the European data centre market.



- As of July 2024, AQ Compute began construction on its new data centre, AQ-BCN1, a 60MW (MVA) campus that will be
 Al-ready and powered entirely by renewable energy. Construction for the first phase of 15MW began in the second
 quarter of 2024 and is expected to be complete in 2025. Once fully built, the site will have direct fibre access to the
 Barcelona Cable Landing Station.
- In July 2024, **Atlas Edge** acquired land for its second data centre in Barcelona. This facility site is projected to deliver 10MW of operational power by 2027, with the potential to expand to 24MW.
- **Equinix** also purchased an adjacent site (BA2 IBX) next to its existing BA1 location, creating an Equinix campus. The facility will serve as a connection point for data communications between Europe, Africa and the Middle East. The data hall spans over 2,500 sgm and provides 3.41MW. Operations for Phase 1 began in the third guarter of 2024.

RECENT SITE SALES

PROPERTY / SITE	SIZE	SALE DATE	SALE PRICE (US\$)	BUYER	SELLER
Barcelona	4.5 acres	Jul 2024	(undisclosed)	AtlasEdge	(undisclosed)

CONSTRUCTION & PLANNED UPDATES*

OPERATOR	DATA CENTRE	LOCATION	POWER (MW)	STAGE - EST. RSF
Panattoni	Parc de l'Alba DC	North Barcelona	42	Planned
AQ Compute	AQ-BCN1	North Barcelona	15	Under Construction
Merlin Properties	Barcelona	Les Corts	13	Planned
EdgeConneX	BCN01	Barcelona	5	Under Construction
T-Systems	CPD 22	Barcelona	3.9	Planned
Equinix	BA2 IBX	Les Corts	1.7	Under Construction



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ZURICH, SWITZERLAND

EMEA ESTABLISHED MARKET

KEY INDICATORS*



Operators / Data Centres 16 / 27



In Operation





Zurich's data centre market continues to grow robustly in 2024, supported by substantial investments in IT infrastructure and a focus on sustainable operations. With an operational capacity of 130MW, Zurich contributes over 60% of Switzerland's total IT capacity. The city also has a strong pipeline of 149MW, indicating its continued expansion as a key data centre hub.

Among the major players, Vantage Data Centers leads the pipeline with 56MW of IT capacity under development, followed by Green Datacenters AG with 40MW and STACK Infrastructure with 36MW. Together, these three operators account for 90% of the upcoming data centre development in Zurich, reflecting the city's strategic role in meeting the increasing demand for digital infrastructure.

Zurich's data centre industry benefits from both local and international investment, driven by the growing demand for cloud services and colocation solutions. The IT sector is expected to see continued capital inflows, as industries such as financial services, telecommunications, and healthcare increase their reliance on secure, high-capacity digital infrastructure.

With these ongoing developments, Zurich is a critical node in Switzerland's and Europe's digital ecosystem.

OSLO, NORWAY

EMFA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres







Oslo's data centre market has grown to an operational capacity of 90MW, with a pipeline of 121MW, driven primarily by major operators like Green Mountain and STACK Infrastructure. New entrants, such as Skygard, are adding 10MW under construction, reflecting the city's growing appeal to both domestic and international players.

Oslo's reputation as a hub for sustainability and innovation has attracted key sectors such as finance, healthcare and public services, driving demand for colocation and cloud services. The city's commitment to renewable energy, particularly hydropower, has made it an attractive destination for environmentally conscious data centre operators. Nearly 100% of Norway's energy comes from hydropower, ensuring a stable, renewable energy supply, which is a significant draw for green-focused companies.

Additionally, Oslo's strong fibre optic network and robust connectivity make it an ideal location for data-driven enterprises. While the city faces challenges such as evolving data protection regulations and high operational costs, strong governmental support and a skilled IT workforce boost investor confidence.

Oslo is also pioneering in energy-efficient technologies, with Green Mountain utilizing fjord cooling for its data centres, contributing to lower Power Usage Effectiveness (PUE) figures. Although planning regulations in Norway are stringent and can delay projects, the country's stable political environment and commitment to sustainable growth make it a leading player in the data centre market. Ongoing investments in infrastructure, including subsea cables, are further enhancing Oslo's connectivity and attractiveness for future developments.

It is important to note that there is a significant data centre market in Norway (as with other Nordic countries) that exists in locations not related to major metros, and these may be subject to profiling in future EMEA reports.

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VIENNA, AUSTRIA

EMFA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres



In Operation



COLO Vacancy

Vienna's data centre market doubled in the past year, reaching 190MW of operational and pipeline capacity, fuelled by significant investments in digital infrastructure. Digital Realty holds 25.5MW, with an additional 46MW in development, while Microsoft is entering the market with a 77MW pipeline. These developments underscore Vienna's rising prominence as a central hub for cloud computing, Al and edge computing solutions, positioning it as a potential gateway city toward Istanbul and beyond.

Vienna's strategic location, strong telecommunications network, and economic stability make it attractive to both local and international players. The city's connectivity to Germany. Switzerland and Eastern Europe enhances its appeal as a key digital hub.

Government policies supporting digital transformation and renewable energy adoption have further driven market growth. Vienna's focus on sustainability, including the use of renewable energy and advanced cooling technologies, aligns with global trends toward greener data centre operations, making it an attractive choice for environmentally conscious enterprises.

Currently, around 47% of the market is dedicated to colocation services, with the remainder primarily self-built by telecoms and managed service providers. While demand has grown at a slower pace compared to other European markets like Germany, interest from international operators remains strong, though market entry has been cautious.

Despite these challenges, Vienna's position within the broader European data centre ecosystem, combined with government support for digital infrastructure, ensures its continued growth potential.

COPENHAGEN, DENMARK

EMEA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres





12 48MW / 89MW

COLO Vacancy 24%

Copenhagen's data centre market is poised for significant growth, with 37MW of operational capacity and 137MW in development. Digital Realty leads with 13MW online and 9.4MW planned. while new entrants like at North and Microsoft are expanding, with pipelines of 30MW and 68MW, respectively. STACK Infrastructure is also increasing capacity from 0.8MW to 24MW. The recent announcement by atNorth for a 250-MW facility in Ølgod signals growing confidence in the wider Danish market for large-scale developments, particularly in the wholesale and hyperscale cloud sectors.

The market's growth has been primarily driven by hyperscale cloud providers, with Microsoft establishing a self-build cloud region near the city. Other hyperscale operators such as Apple, Meta and Google have also invested heavily, albeit further afield in Jutland and Funen, which has led to Denmark becoming a decentralized market in terms of overall capacity. Copenhagen's green energy credentials, with over 65% of electricity sourced from renewables like wind, make it a prime location for operators focused on sustainability. The city's target to be carbon neutral by 2025 further enhances its appeal. This growth has led to a strong take-up by businesses, dropping the vacancy from 32% in the second half of 2023 to 24% in the first half of 2024.

Copenhagen's strategic location in northern Europe provides low-latency access to major markets, supported by excellent on-land data infrastructure with connections to 13 subsea cable landing stations, making it an ideal gateway to both Scandinavian and European business hubs.

Government policies encouraging heat reuse, energy efficiency and tax benefits, along with strong renewable energy initiatives like the North Sea energy islands, continue to drive market growth. West Denmark, especially Jutland, has seen new campus developments by Apple, Google and Meta, as well as significant land holding for future expansion.

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ISTANBUL, TÜRKIYE

EMEA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres 18 / 21







Istanbul's data centre market is experiencing moderate growth, driven by gradual digital transformation and expanding cloud services. The city's strategic position, bridging Europe and Asia, has helped it emerge as a key data centre hub, with 21 operational facilities. However, the market is underperforming in relation to its potential as a major market, given its population size and industrial strength.

Istanbul, Tekirdağ, and Ankara lead in terms of current data centre capacity in Türkiye, with about 50% of the upcoming capacity focused on Istanbul. New data centre locations are emerging in Tekirdağ, Izmir and Ankara.

Market data for the first half of 2024 indicates that while there was little expansion in Istanbul's overall data centre capacity, the colocation vacancy rate dropped significantly to 18%, down from 43% in the second half of 2023. This sharp decline is attributed to rising demand for colocation services and the growing footprint of cloud infrastructure.

Notably, major upcoming investments from operators like EdgeConneX and Equinix account for 80% of the projected IT MW capacity increase, Additionally, Exa Infrastructure and Socar Fiber are partnering on an 1,850-km terrestrial cable project connecting Türkiye, Greece and Georgia. The cable will span Türkiye and may extend toward the Iraq border, providing an alternative route to subsea cables in the Red Sea. This development will further strengthen Türkiye's position as a preferred data centre location.

This ongoing activity signals Istanbul's continued evolution as a critical node in the global data centre ecosystem.

ZARAGOZA, SPAIN

EMEA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres 3/5



In Operation





Investments from major cloud providers, primarily AWS and Microsoft, have positioned the strategically located Zaragoza /Aragon region as a major hub in Spain's data centre landscape. While data centre expansion is happening across the country, Zaragoza stands out due to its strategic location and growth potential.

Zaragoza's data centre market is rapidly growing, with 42MW of operational capacity, a 68% increase over the last year. This growth has been largely driven by AWS, which has 36MW live and a pipeline of 74.4MW. Microsoft has a modest 5MW operational, but the trend is clear for the city to become a major cloud and GPU hub in the region. Currently, only one colocation operator, DXC Technology, operates at 1MW capacity in Zaragoza. However, the increasing presence of hyperscale cloud providers is expected to drive the colocation demand and supply.

Spain's Climate Change and Energy Action Plan, targeting 74% renewable energy by 2030 and 100% by 2050, encourages data centre operators to prioritize sustainability. AWS and Microsoft are investing in renewable energy projects in Zaragoza, aligning with national objectives and reinforcing the region's commitment to green operations.

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HELSINKI, FINLAND

EMEA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres
12 / 20



In Operation **55MW**



COLO Vacancy

Helsinki's data centre market is rapidly expanding from a modest base, with 55MW of operational capacity and 53MW in the pipeline. Equinix leads with 15.5MW live, while atNorth is expanding its current 3.2MW with a 15MW pipeline. Telia plans to add 15.5MW to its existing 9.6MW, and Hetzner Online has 12MW operational with another 12MW committed.

Helsinki is positioning itself as a hub for AI and high-performance computing (HPC) applications, supported by Finland's robust power infrastructure and government incentives. Finland's appeal for data centres stems from its cool climate, affordable electricity—driven by a mix of nuclear and renewable energy sources—and advanced district heating systems that enable operators to meet sustainability goals by reusing waste heat.

To support its carbon-neutral target by 2035, Finland offers incentives, including lower energy tax rates, for data centres that use over 5MW of power. Data centres that resell waste heat to district heating networks also receive electricity tax cuts.

Government support has been instrumental, with initiatives such as land sales and infrastructure improvements for data centre operators. Microsoft's hyperscale Finland Central AZ benefited from significant support from state-owned Fortum, which helped facilitate heat reuse and land acquisition.

As demand for AI and HPC grows, Helsinki is expected to attract 5-10 new operators, capitalizing on high rack densities and advanced computing capabilities, and solidifying Finland's position as a key data centre hub in the Nordic countries.

MUNICH, GERMANY

EMEA DEVELOPING MARKET

KEY INDICATORS*



Operators / Data Centres 10 / 16



In Operation **73MW**





Munich is an established hub in Germany's data centre market and ranks highest in terms of economic output. While it has not seen the exponential growth levels of Berlin, it has continued to grow steadily, now boasting 73MW of operational capacity, with a pipeline of 27MW.

Equinix and Noris Network each hold 18MW of operational capacity, with Equinix adding another 20MW to its pipeline. NTT Global Data Centers also has a strong presence, with 15.2MW operational, although no further expansion plans have been made public. In the first quarter of 2024, PGIM Real Estate acquired a data centre development site near UnterschleiBheim with a 30MVA power supply, further signalling confidence in this market from commercial investors.

Key trends shaping Munich's market include cloud migration, edge computing and AI. As Frankfurt continues to face land and power constraints and Berlin also experiences potential power limitations, we believe that Munich will remain an important alternative market in the German data centre sector going into 2025.

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LISBON, PORTUGAL

EMEA EMERGING MARKET

KEY INDICATORS*



Operators / Data Centres 11 / 15



In Operation





Lisbon's data centre industry is experiencing remarkable growth, fuelled by its strategic location and the escalating demand for digital infrastructure. Major players such as Altice Portugal, Equinix and NOS Sistemas dominate the market, controlling over 60% of the city's active IT capacity. Global investor interest is intensifying, largely due to Lisbon's advantageous position near key subsea cables that connect Europe with other continents.

The development pipeline for data centres in Lisbon has increased by 200% compared to the first half of 2023. This, coupled with a gradual decrease in vacancy rates, signals a vibrant and expanding market. Equinix has announced the construction of its second data centre in Lisbon, investing \$54.3 million to provide 2.050 sgm of colocation space. This facility will be a crucial link between Africa, Europe and the Americas. Similarly, AtlasEdge is entering the market with the acquisition of two sites, offering a combined 20MW of IT capacity.

Located at Sines, about 150 km south of Lisbon, Start Campus has secured an expanded power allocation, boosting its total projected IT capacity to 1.2GW, making it Europe's largest colocation site. This 8.5-billion-euro initiative aims to operate on 100% renewable energy with a PUE of 1.1 through innovative ocean-based cooling technologies, further aligning it with Portugal's sustainability goals.

Lisbon also plays a pivotal role in global internet infrastructure, hosting 25% of the world's submarine fibre optic cables essential for intercontinental data exchange. Google's 'Nuvem' cable, set to be operational by 2026, will link Portugal with Bermuda and the U.S., enhancing transatlantic data flow. Additionally, the 45,000-km 2Africa subsea cable, led by Meta and extending to Carcavelos near Lisbon, is expected to be operational by 2024, further bolstering Portugal's digital connectivity.

ATHENS, GREECE

EMFA EMFRGING MARKET

KEY INDICATORS*



Operators / Data Centres Operator: 6 / 8



In Operation





Athens has experienced a dramatic 163% growth in its data centre market, with current operational capacity reaching 21MW. A strong pipeline of 27.5MW is set to follow, driven largely by Microsoft's entry into the market, Digital Realty is also expanding, following its acquisition of Lamda Hellix, with 6.8MW under construction to complement its existing 9MW. Alongside Digital Realty, Sparkle maintains a significant presence with 8.2MW live and another 1.5MW planned.

New development activity has been concentrated in the southwest of Athens, particularly around Koropi, which is emerging as a data centre hub. Greece's digital infrastructure is set for further enhancement with large-scale investments aimed at boosting the country's AI capabilities, like the \$331 million data centre hub (90MW) announced by Data4 in Paiania.

Despite high energy costs, which are among the highest in Europe, Greece's commitment to digital transformation and AI advancement continues to drive market growth. Government initiatives to promote digitalization and the increasing adoption of cloud computing are expected to further boost the market.

With these strategic developments, Athens is positioned to become a key player in Europe's data centre and Al landscapes, attracting further interest from global operators such as Google and other cloud service providers.

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