

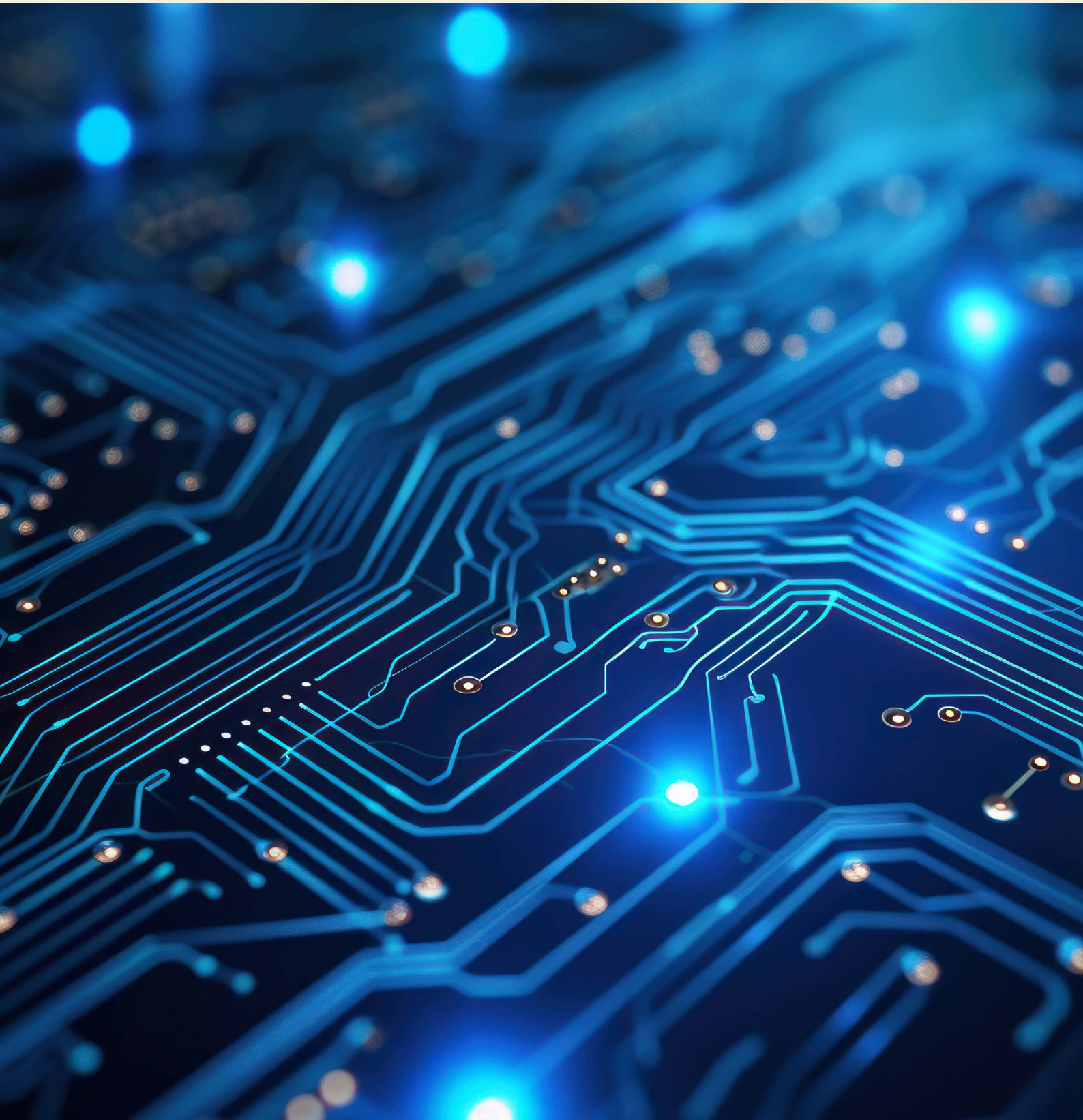
Data Centres The EMEA Report



Q2 2024

Navigating the Data Centre landscape
in the EMEA region.

knightfrank.com/research



Foreword



STEPHEN BEARD
GLOBAL HEAD OF DATA CENTRES
DEVELOPMENT & INVESTMENT

Following a period of high inflation and high interest rates, the EU became the second major global economy to cut its lending rate, with interest rates being cut from an all-time high of 4% to 3.75%. The UK later saw its interest rate cut from 5.25% to 5%, the first drop since the onset of the pandemic in March 2020.

Strong investment volumes across the EMEA region during the first half of the year reflect growing investor confidence in the data centre market, which saw £1.8 billion transacted, a 168% volume increase on transaction volumes during the first half of 2023. KKR funded Global Technical Realty completed its £315 million, 33.6-acre, industrial estate-to-data centre campus acquisition of the International Trading Estate in Southall, West London. Whilst in France, Morgan Stanley acquired a 70% stake in a new Altice colocation subsidiary, UltraEdge, in a deal worth circa. \$585 million, valuing the new company at \$836.5 million.

In Europe, we're seeing a continued move towards converting BESS connections and a rejuvenating swing towards power technologies such as fuel cells and gas turbines – neither of which are new concepts but were previously discounted on the basis that there was sufficient traditional grid power availability. However, this is a short-term solution. We are instead likely to require government initiatives to reconsider the likes of nuclear power – perhaps through small modular reactors (SMRs) – which today accounts for 18% of grid power production in the United States.

In the UK, we are witnessing new positive government sentiments supporting the growth of the

digital infrastructure economy, as evidenced by changes made to the National Planning Policy Framework (NPPF) which now references Data Centres as a use class in its own right. However, streamlining the planning process will be insufficient on its own in tackling the burgeoning constraints surrounding data centre development in London. Unless the market embraces new power technologies and takes steps to fast-track energy infrastructure upgrade projects, it will quickly fall behind global growth projections.

Our latest report examines the prime markets in Europe, the Middle East, and Africa (EMEA), the current opportunities, drivers, and constraints within those markets, and how emerging technologies could influence these markets in the future.

Contents

4 Frankfurt



5 London



6 Amsterdam



7 Dublin



8 Madrid



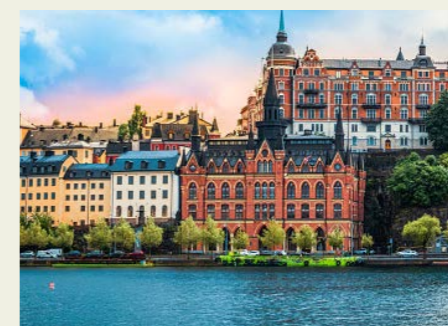
9 Paris



10 UAE



11 Stockholm



Frankfurt

► **6.4m** Population
 ► **93%** Internet Users
 ► **3.75%** Interest Rate
 ► **0.221** Electricity Price, USD per kWh

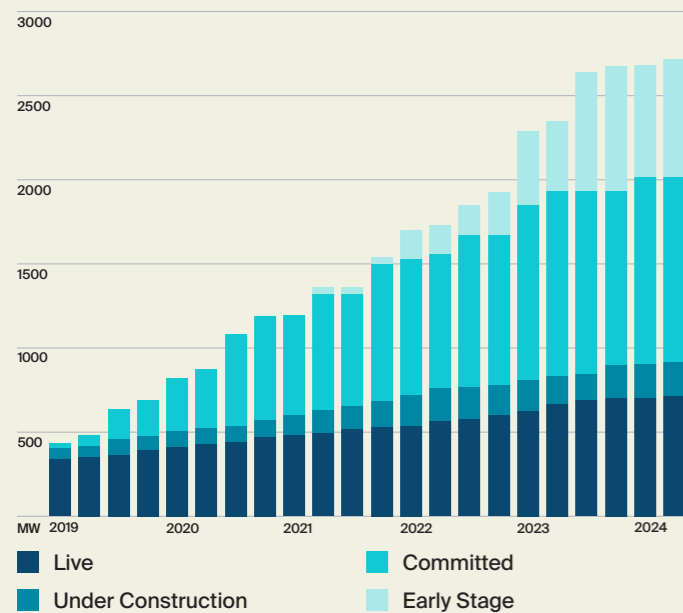
SUPPLY

Frankfurt is among one of the largest wholesale colocation markets in the EMEA region, second only to London, where aggregate market supply has now exceeded 2.7GW. Frankfurt is also EMEA's most constrained market, operating at a sub 1% vacancy rate and hosting no available live wholesale colocation-based capacity. Amidst growing interest in the market, BlackRock, in a deal valued at \$164.5 million, acquired a 50.1% stake in Frankfurt-based operator Mainova WebHouse who have three sites currently in development.

Live IT has grown by 7.4MW during the first half of 2024 following Maincubes completion of its new 7.4MW retail-based facility, north-east of Frankfurt. 19.6MW worth of projects also entered construction, with Mainova WebHouse initiating phase two construction at its MWH01 facility, alongside EdgeConneX who has started development of its first facility in the market.

Following an active 2023, pipeline developments within Frankfurt have been slow to progress during the first half of the year, as many projects struggle to attain necessary planning and power approvals. Only one new project has been announced in the market so far this year – a 32MW deployment from Mainova WebHouse.

Supply



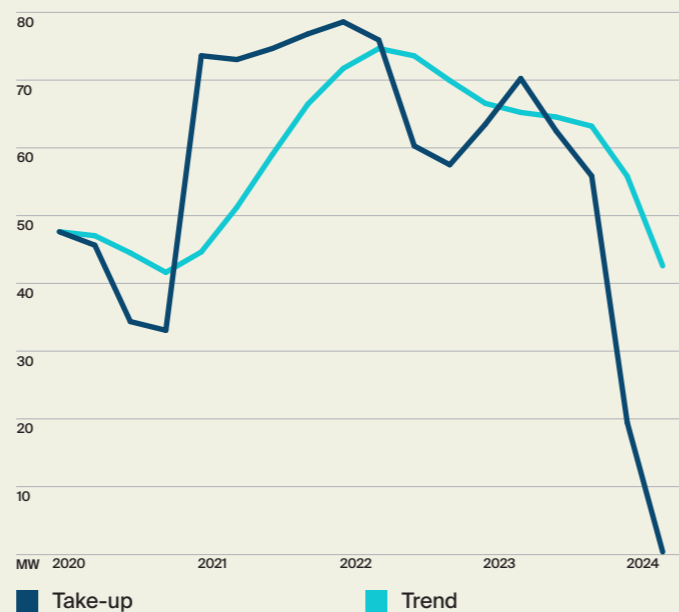
Source: Knight Frank/DC Byte

TAKE-UP

Frankfurt registered 19.2MW of take-up for the first half of 2024, an 85% drop-off from volumes recorded during the same period in 2023. This is not the result of lacking demand within the market, rather a slowdown in new space arriving to market. Resultingly, no built IT space was transacted during the period, with the only activity being the pre-leasing of upcoming space.

Construction volumes in Frankfurt are 82% pre-let, with long-term committed volumes 45% pre-let.

Take-up



LEADING OPERATORS

Frankfurt is a market with a heavy focus on colocation offerings, as opposed to self-build capacity, with colocation space accounting for 94.6% of live IT space. NTT Global Data Centers, Equinix, and Digital Realty are presently the largest operators within the market, operating a combined 65% of Frankfurt's live colocation space.

London

► **16.7m** Population
 ► **98%** Internet Users
 ► **5%** Interest Rate
 ► **0.293** Electricity Price, USD per kWh

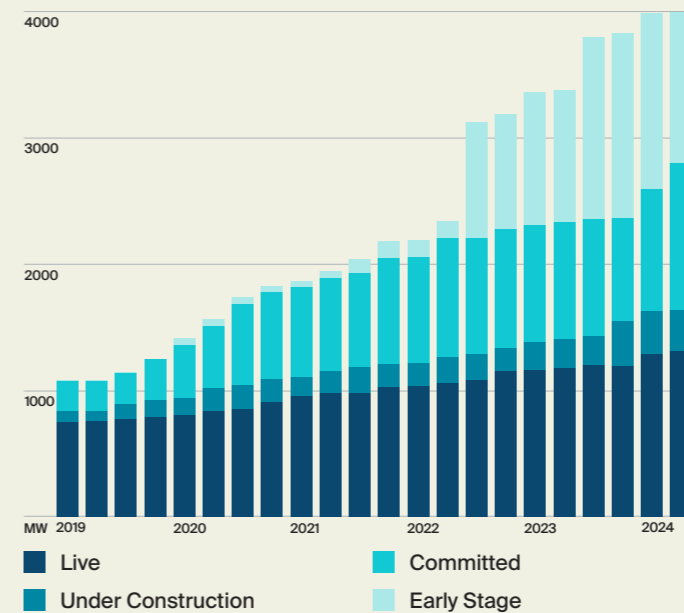
SUPPLY

Greater London data centre investment volumes totalled £363.65 million during the second quarter of 2024, representing nearly 12% of all Greater London real estate investment volumes for the period. KKR funded Global Technical Realty was responsible for the largest data centre transaction of the period, involving a £315 million industrial estate-to-data centre site purchase in Southall, west London.

The market has seen several new hyperscale projects energised during the first half of the year, with live IT volumes increasing by 9.9% after 120MW worth of projects completed development. Both Yondr and Ark Data Centres have completed respective phase one deployments, with Yondr completing 20MW at its Slough development, alongside Ark Data Centres with 24MW at its Union Park site. Both projects were pre-let to major global cloud service providers, aimed at enhancing cloud service capabilities in the region.

165MW of future projects were also announced, including a 60MW increase to Colt DCS' pipeline for its Hayes development, as well as a new 75MW project in High Wycombe from VIRTUS, and a 30MW expansion to the pipeline for Yondr's Slough campus.

Supply



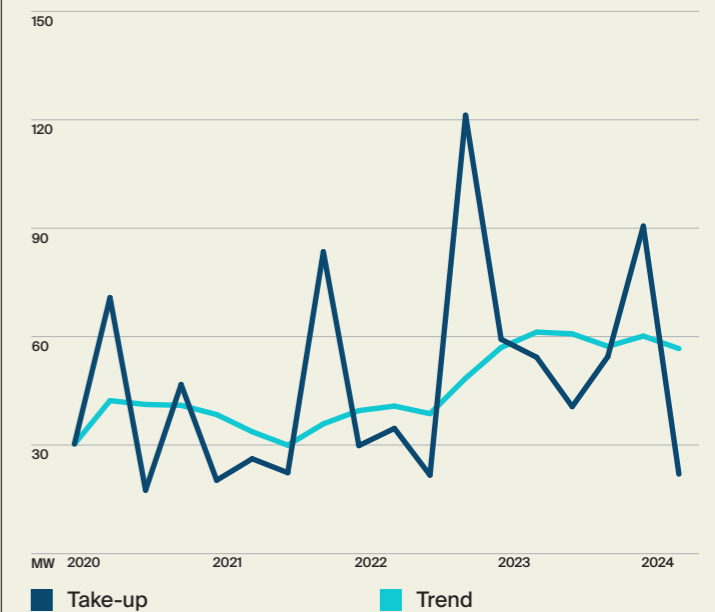
Source: Knight Frank/DC Byte

TAKE-UP

113MW of take has been recorded in 2024 so far, 83% of which has been the result of cloud-based demand in the market. 16MW of Artificial Intelligence (AI) based take-up was also recorded at a facility situated nearby to Gatwick Airport.

Colocation availability is limited to 8%, with only four sites able to support any hyperscale-based demand of more than 5MW. Market vacancy, when excluding smaller retail-based capacities, sits at only 3.2%. Construction pipelines are 74% pre-let, whilst nearly 20% of committed developments have been pre-leased.

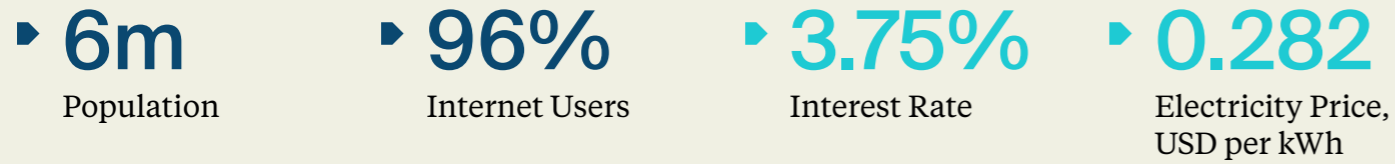
Take-up



LEADING OPERATORS

London enjoys a diverse and competitive market landscape, with the five largest operators accounting for only 55% of the market's live capacity offerings. Pipeline volumes are even more diverse; however, this will feature the first major deployments from global cloud service providers, with Microsoft building 96MW at its Bashley Road campus, alongside AWS developing 115MW across two sites – not withstanding its three existing 9MW deployments.

Amsterdam



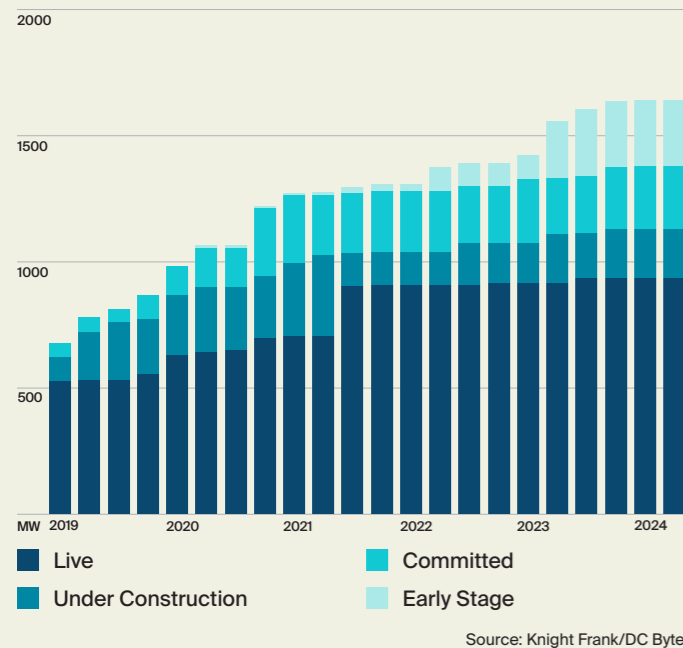
SUPPLY

Despite being the second largest FLAP-D market, in terms of live IT, Amsterdam has the smallest development pipeline with 714MW announced. For comparison, all other markets within FLAP-D boast development pipelines in excess of 1GW. Prior to the data centre development moratorium in 2019, Amsterdam was on track to become the fastest growing FLAP-D market, having grown 19.2% annually during the three-years leading up to this. However, since this, the market has experienced near flat growth, with live IT expanding at a CAGR of 2.4% over the last two-years, and with less than 1% growth expected in 2024.

During the first six months of 2024, less than 6MW of new supply has been added to the market, representing 1% of total development recorded across FLAP-D. Less than 1MW of new live IT completed construction, whilst no new projects have initiated construction. The only newly announced project for the period was a 5MW upgrade to ServerFarm's AMS1 facility in the port region of Amsterdam.

Going forward, the market is expected to continue to expand further north to the outer markets in Middenmeer and Groningen. However, only 5.6% of growth is expected annually through 2030.

Supply

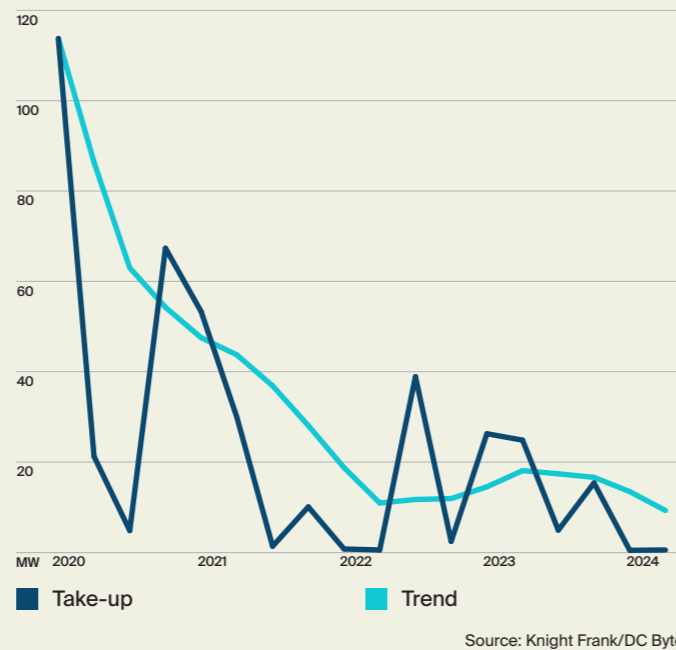


TAKE-UP

Transaction volumes in Amsterdam for the first half of 2024 registered at less than 0.2MW, the lowest half-annual performance on record for the region. Average annual take-up in Amsterdam in the three years post-moratorium is operating at a third of its pre-moratorium take-up volumes.

Colocation vacancy in Amsterdam is currently 5.6%, and less than 3% when excluding any smaller retail-based availability, lower than London. Construction volumes are 73% pre-let, whilst future pipelines are 12% secured.

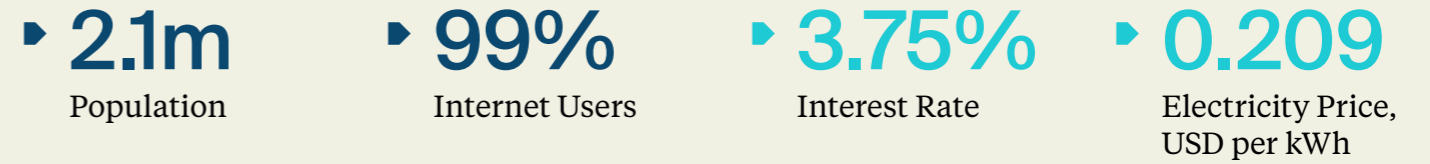
Take-up



LEADING OPERATORS

EdgeConneX are currently the leading operator in the market, followed closely by Equinix and Digital Realty, with the three owning a combined 62% of the live colocation market. EdgeConneX are similarly responsible for the largest volume of colocation space under construction. Future pipelines are more diverse with key operators such as Digital Realty, Switch Datacenters, CyrusOne, and Global Switch each with their own hyperscale projects in development.

Dublin



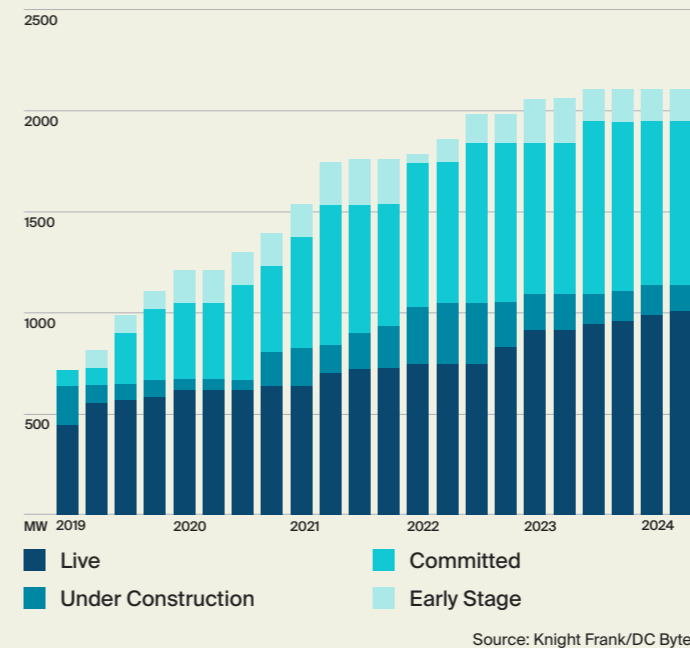
SUPPLY

Dublin has become one of the largest data centre hubs in Europe by creating an optimum environment for data centre development. Ireland's low corporation tax of 12.5%, encouragement of foreign direct investment, favourable political climate, and geographical position between Europe and the US are some of the many reasons why American enterprises continue to choose Dublin.

Public cloud operators still dominate the Dublin market, however, there has been a continuous shift towards the deployment of wholesale colocation facilities alongside these. Large-scale colocation schemes that have emerged in recent years include Echelon's DUB10, which has gone live with its second 30MW phase, with a further 30MW in phased capacity, alongside EngineNode's Bracetown development, which has received planning for around 72MW.

Live IT capacity increased by 5.2% during the first half of 2024, driven by a 20MW expansion deployment from Amazon Web Services, as well as a 30MW a phase two deployment from Echelon at its DUB10 facility. No new space has entered construction, as well as no new projects being announced.

Supply

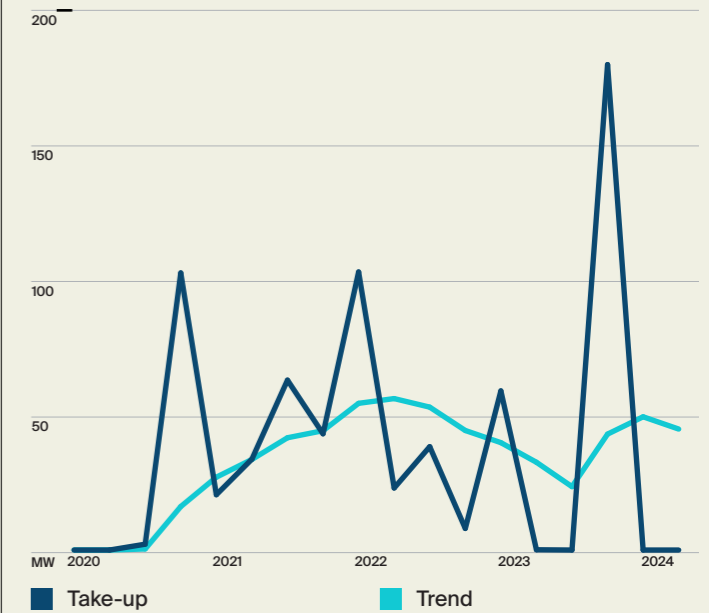


TAKE-UP

No take-up has been recorded in the Dublin market during the first half of the year, resulting from a lack of new available space arriving to market. Despite new capacity being energised during the period, this arrived to market entirely pre-let.

Colocation vacancy in Dublin is limited to 1.5%, with less than 4MW available in the market. Under construction volumes are 89% pre-let, with long-term pipelines 30% pre-let.

Take-up



LEADING OPERATORS

Dublin is dominated by public cloud service providers, with Amazon Web Services, Microsoft, Google, as well as Meta, accounting for 74% of the markets built IT. Echelon and K2 are the largest colocation providers in Dublin, with smaller provisions available from Equinix, EdgeConneX, and Digital Realty. Construction pipelines are similarly dominated by cloud providers Microsoft and Amazon Web Services, whilst Echelon own the greatest volume of pipeline developments.

Madrid

- ▶ **6.8m** Population
- ▶ **95%** Internet Users
- ▶ **3.75%** Interest Rate
- ▶ **0.142** Electricity Price, USD per kWh

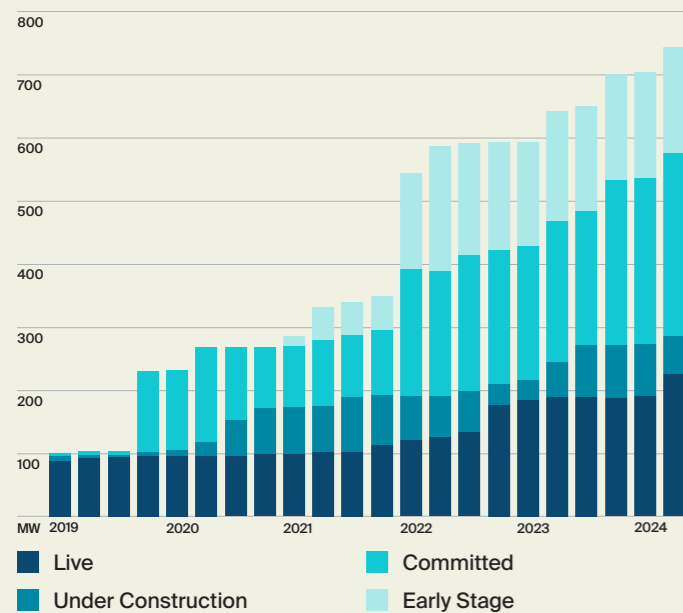
SUPPLY

Since 2017, Madrid has witnessed rising interest among international operators, initially with the acquisition of Itoconic by leading colocation operator Equinix. This was followed in 2019 when Asterion Industrial Partners purchased the majority of Telefonica's data centre portfolio, which included Alcalá, the largest operator in Spain at the time.

Total supply in Madrid has jumped 6% over the first half of 2024, rising from 700MW to 742MW. Within this, live capacity increase by 20.6%, 15MW worth of projects went under construction and long-term pipeline volumes rose by 6.3%.

38.4MW worth of space was energised during the first six months of the year, including three 5MW deployments from Microsoft at its Algete, Meco, and San Agustin sites. CyrusOne went live with its first facility in the market, a 9MW deployment north of the city. DATA4 went under construction with phase two at its MADO2 site, alongside Equinix who initiated a further 2MW expansion at its MD3X facility. Prime Data Centers were responsible for the only project announcement of the period, a 40MW wholesale facility in the Alcobendas neighbourhood of Madrid.

Supply



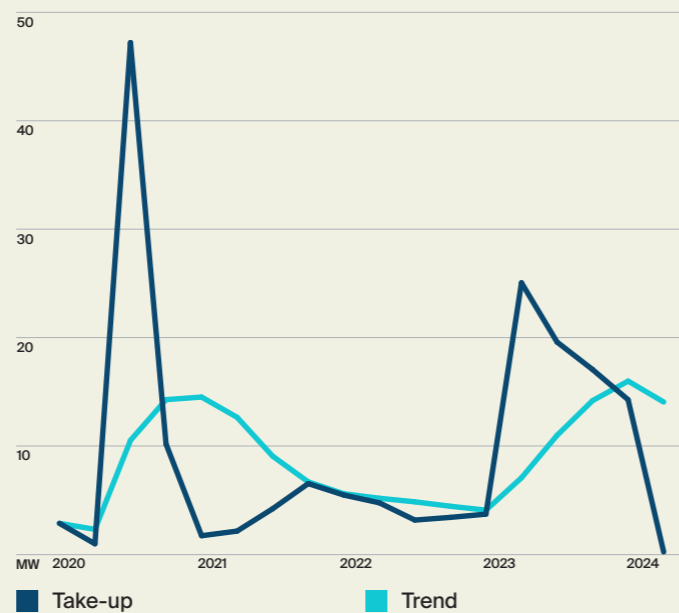
Source: Knight Frank/DC Byte

TAKE-UP

Take-up for the first half of 2024 registered at 14.1MW, with provision dedicated almost entirely to bolstering public cloud capabilities in the region. Public cloud demand has been responsible for 60% of colocation capacities demand to date.

Colocation availability is currently at 18%, with only one site able to support any hyperscale based demand. Construction volumes are 51% pre-let, whilst future pipelines remain largely available.

Take-up



LEADING OPERATORS

Amazon Web Services are presently the largest operator in Madrid, owning an 19% market, followed closely by Nabiax and Equinix at 15% and 13%, respectively. Colocation operator DATA4 currently have the largest volume under construction. Whilst Form8tion Data Centres dominate long-term pipeline supply, alongside Iron Mountain, AWS, and Grupo ACS.

Paris

- ▶ **12.4m** Population
- ▶ **85%** Internet Users
- ▶ **3.75%** Interest Rate
- ▶ **0.120** Electricity Price, USD per kWh

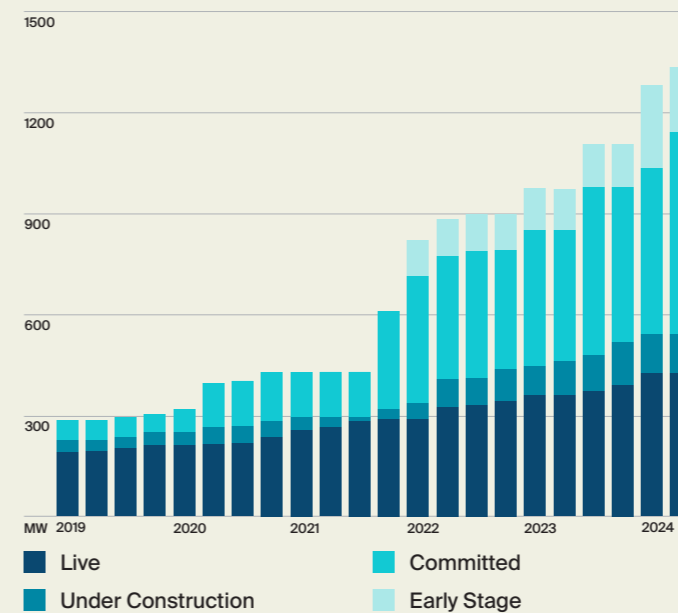
SUPPLY

Despite having fallen behind its FLAP-D counterparts in recent years, Paris has seen a witnessed an exciting start to 2024, with 314.5MW worth of new projects announced during the first six months of the year, a 21% increase on aggregate volumes recorded at the end of 2023. Following the opening of a cloud region in the city, Microsoft also announced its intention to invest €4 billion to expand its cloud and AI infrastructure in France.

Live IT capacity expanded by 44.4MW in the first quarter of 2024, featuring 40.4MW worth of project completions from Digital Realty, alongside a 4MW expansion of Equinix's PA10 site. DATA4 has started construction works on a further 20MW at its currently 86.6MW PAR1&2 campus, not including the 15MW already in development.

314.5MW worth of new projects were announced during the first half of 2024, with existing 'hyper-colocation' providers DATA4 and NTT GDC announcing 70MW and 84MW projects, respectively. Alongside these, Goodman has also been laying the groundworks for two new developments in the region. A further 52.5MW was added to the pipeline for the PAR1 site, with a new 108MW PARII development announced in Créteil.

Supply



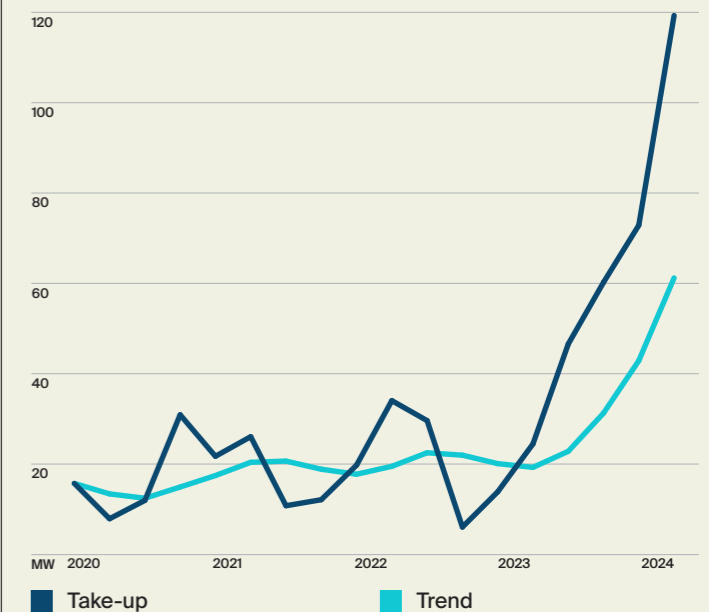
Source: Knight Frank/DC Byte

TAKE-UP

Following a significant increase in development pipelines within Paris, the market has also seen 192.2MW of space transacted across the first half of 2024, the highest across all FLAP-D markets. Leasing activity here was 99.5% the result of ever-growing cloud demand in the region, spurred on by the opening of new cloud regions and the French governments €1.8 billion cloud R&D funding project.

Colocation vacancy in Paris is limited to 4.1%, with 87% of space under construction, as well as 19% of future pipelines, being pre-let.

Take-up



LEADING OPERATORS

The colocation landscape in Paris is dominated by providers Digital Realty, Equinix and DATA4, who own a combined 62% of the markets built IT infrastructure. CloudHQ have the greatest share of volumes under construction, being responsible for 48% of volumes in active development. Future pipelines are dominated by Digital Realty, with early development from OpCore, as well as involvement from new entrants to the market such as NTT GDC.

UAE

► **9.9m**
Population

► **99%**
Internet Users

► **5.4%**
Interest Rate

► **0.110**
Electricity Price,
USD per kWh

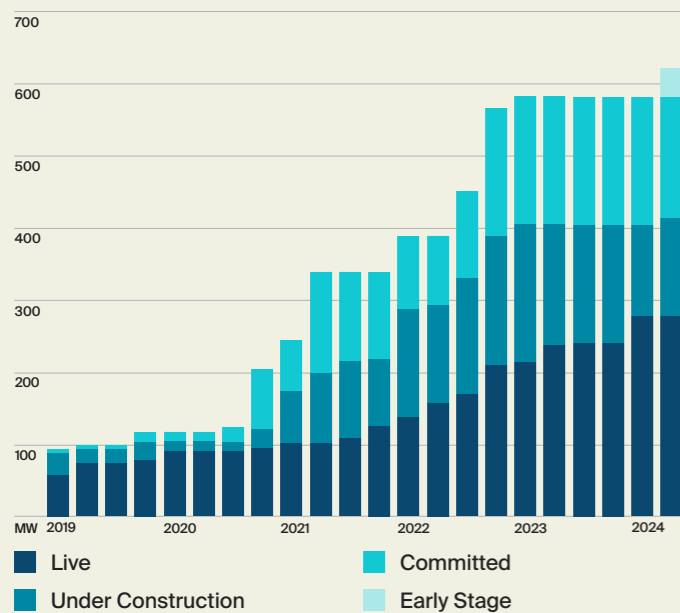
SUPPLY

The UAE data centre market has registered remarkable growth over the past few years and has now become a prominent hub for digital infrastructure in the region. As at the end of the first half of 2024, the UAE has recorded a 40MW rise in aggregate supply, a 6.9% volume increase. The country now supports a total IT capacity of 621MW, of which 277MW is live and 137MW is under construction.

Live IT volumes increased by 36.8MW, or 15.3%, following phase one completion of Khazna Data Centers' AUH6 and DXB2 facilities, which saw 31.8MW and 5MW energised, respectively. Future work at these two sites is underway, where a further 31.8MW and 16.45MW are in development. Gulf Data Hub is currently constructing seven new facilities in the region including three new 16MW facilities at its DSO campus, three new 16MW facilities at the ICAD campus, and the first 16MW at its new KIZAD campus, for a combined 112MW.

Future developments in the region will include a 30MW development for Pure Data Centres, alongside three 8MW upgrades to AWS' facilities in the region.

Supply



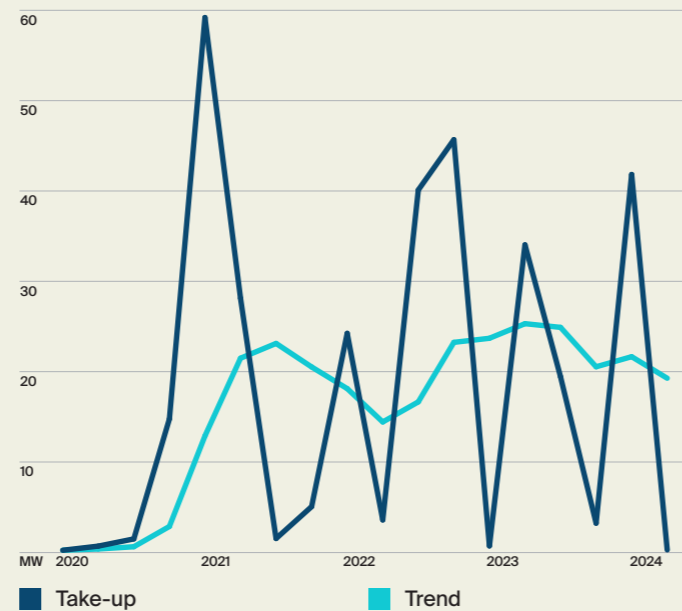
Source: Knight Frank/DC Byte

TAKE-UP

42MW worth of space was transacted over the first half of 2024, with leasing activity being continually dominated by demand from public cloud providers, which accounted for 99.6% of transactions.

Live colocation space is 3.2% vacant, with 88% of the construction and 18% of future pipelines already pre-let.

Take-up



LEADING OPERATORS

Khazna Data Centers is currently by far the largest operator of live space with the UAE, being responsible for 61% of live market capacity. Khazna is also responsible for 62% of construction projects, with the remaining 38% being developed by Gulf Data Hub. These two key operators are also responsible for a combined 50% of long-term development projects. Alongside Pure Data Centres and Amazon Web Services being responsible for the next 34%.

Stockholm

► **4.2m**
Population

► **97%**
Internet Users

► **3.75%**
Interest Rate

► **0.090**
Electricity Price,
USD per kWh

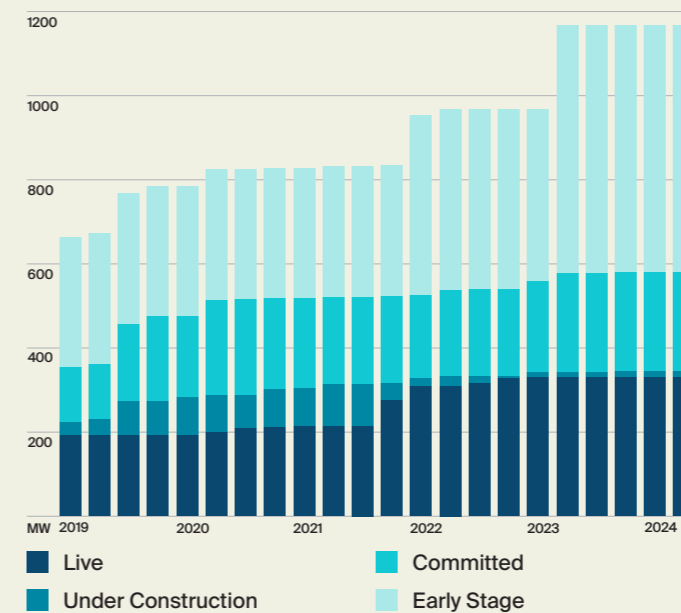
SUPPLY

Sweden is the largest country in the Nordics, and its most populous. Unsurprisingly, it is home to the region's largest data centre market, in terms of live IT. In recent years, Stockholm has registered considerable growth, with hyperscalers utilising the country's highly resilient energy network, political stability, and cooler climate. Meta has one of its largest data centres, outside of the US, located in the market, with the facility serving 97MW of IT load.

The Stockholm market has grown significantly over the past few years, adding 466MW between 2017 and 2020, followed by a further 339MW between 2020 and 2023. 199.2MW of which was added in 2023 alone. However, the market has seen no development during the first six months of the year.

EcoDataCenter had announced plans to expand their Falun facility to more than double its current capacity, with the site eventually delivering a total 45MW and phase one expected to complete by the third quarter of 2024. Investment activity also continues, with Evroc selecting Stockholm to develop a new hyperscale data centre, for which a letter of intent has been signed with Arlandastad Group.

Supply



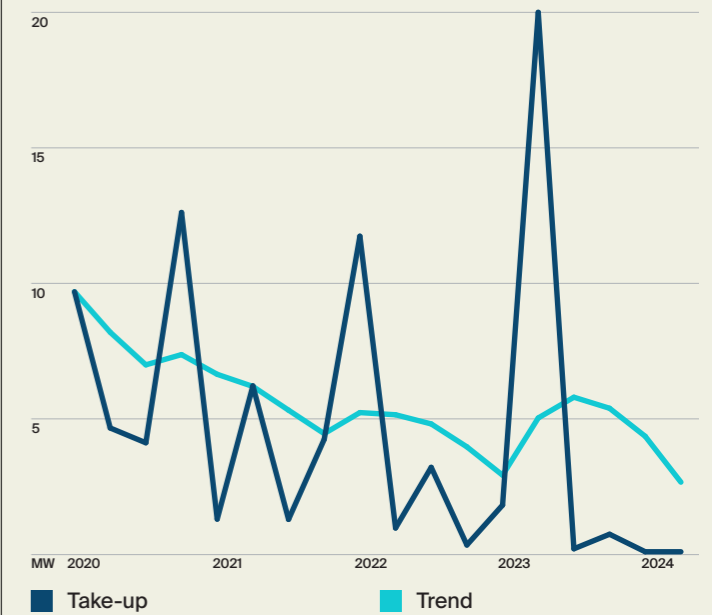
Source: Knight Frank/DC Byte

TAKE-UP

Resulting from a lack of market development, no space was transacted during the first half of 2024, owing to a lack of hyperscale availability within the market, with no single site able to host any significant demand volumes.

The market is 86% leased, with the remainder capacity being shared across twenty sites, none of which being able to support any hyperscale lead demand. Unlike many other regions in Europe, the construction pipeline remains entirely available.

Take-up



LEADING OPERATORS

Meta is currently the largest operator in the market, in terms of live IT, followed closely by Microsoft and then Amazon Web Services. EcoDataCenter are the largest colocation-based operator in the market, albeit being for only 8% of total live supply. Future pipelines are dominated by Amazon Web Services, who account for 44%, or 370MW of this.

We like questions, if you've got one about our research, or would like some property advice, we would love to hear from you.



Stephen Beard

Global Head of Data Centres
Development & Investment

+971 50 121 7523

stephen.beard@me.knightfrank.com



Darren Mansfield

Head of Data Centre Research

+44 7812 490110

darren.mansfield@knightfrank.com



Harry Hannam

Senior Analyst – Commercial Research

+44 7974 860629

harry.hannam@knightfrank.com



Alex Burgoyne

Global Head of Data Centre Valuations

+44 7885 610673

alex.burgoyne@knightfrank.com



Fred Fitzalan Howard

Head of Data Centres, APAC

+65 8872 6707

fred.fitzalanhoward@asia.knightfrank.com



This report has been produced in conjunction with DC Byte
www.dcbyte.com