

Europe Data Centres: Frankfurt, London, Amsterdam & Paris



Note: Arrows indicate change from same quarter in previous year. For take-up, the figure represents a comparison of Q3, 2021 versus Q3, 2020.

Heading towards a record year of take-up and new supply!

- Data centre take-up in the FLAP markets jumped to 134MW in Q3 due in large part to pre-let supply coming online in Frankfurt and Amsterdam. It is by far the largest quarter of take-up ever recorded by CBRE. That surpasses the 92MW take-up that was realized in Q1 and the 48MW of take-up in Q2.
- Moreover, new supply also spiked compared to Q2 as providers brought over 114MW of new supply online during Q3. That is lower than Q1 when 136MW came online in the FLAP markets but higher than the 51MW of new supply that was added in Q2.
- We currently expect to see over 90MW of new supply to come online by the end of the year, with 70MW of these builds committed to customers already. CBRE still expects 2021 will be a record year for growth of new supply across FLAP markets.
- Some of these projects, however, could be pushed into Q1, 2022 with some providers seeing delays in construction. Most of this pre-let activity is attributed to demand from cloud providers.
- Margins of providers are under pressure across FLAP due to increased power, construction and build costs. Colocation providers are exploring build and operational efficiencies to help maintain margins at current pricing.

Figure 1: FLAP market supply and take-up 2020 versus full year 2021 forecast

Year	New Supply	Take-up
2020	173 MW	201 MW
2021F	394 MW	355 MW

Source: CBRE Research Q3 2021

Market Highlights

- Frankfurt:** Four new data centres came online in Frankfurt in Q3 including Equinix's first xScale site (18MW). Separately, Maincubes announced a 20MW second build outside of Frankfurt. Iron Mountain said it will buy a 10MW data centre from Keppel Group; Google announced expansion of its Cloud Region in Frankfurt with a Hanau facility and new region in Berlin-Brandenburg with €1bn investment.
- London:** Equinix announces a fifth site in Manchester that will launch in 2022. Elsewhere in the UK, edge data centre operator Proximity Data Centres said it will open a facility in Swindon.
- Amsterdam:** A large, new 50MW data centre came online in the Schiphol region in Q3. Separately, Interxion finished the expansion of its AMS17 facility at Amsterdam Science Park.
- Paris:** Interxion has opened a data centre in Ferrieres-en-Brie called PAR12 that will be a 12MW facility when it is fully built out.
- Elsewhere in EMEA:** EdgeConneX agreed to acquire Israel-based Global Data Center; Global Technical Realty is building a new 10.5MW data centre in Petah Tikva, Israel and Digital Realty struck a partnership with Pembani Remgro Infrastructure Fund to enter Nigeria. It also made a strategic investment in Atlas Edge and is planning two new data centres in Dublin – DUB15 and DUB16. Also, Equinix filed for a data centre in Ireland's Profile Park.

Supply

There was a surge of new supply in Q3 as 114MW came online across the FLAP markets with most of the new supply attributable to Amsterdam (51MW) and Frankfurt (45MW). In contrast, Paris (14MW) and London (4MW) experienced a quieter quarter.

For the FLAP markets all told, CBRE expects by the end of the year, 394MW of new supply will have come online; 94MW of new supply is forecast to land in Q4.

Supply chain issues could lead to delays though. Many providers cited continued project delays with of up to six months in some cases due to constriction of supply chains. Further to that point, some construction teams are still working with reduced manpower while several of those providers also cited increased timeframes for planning. Even if some projects slip into 2022, CBRE expects the record new supply of 318MW registered in 2019 to be broken this year.

The tremendous growth of supply comes despite the overhang of COVID and economic pressures that have led to increased costs (e.g. materials, shipping, fuel, labour, land and equipment). Providers are also facing higher energy costs of 20% or more in some cases. As a result, many providers expect to increase customer pricing over the coming year with many saying prices will rise by at least 5%. This is particularly true for larger MW+ deals where less margin-making services are consumed. Many larger providers have hedged a fair portion of their power with long-term contracts but providers due for renewal of energy contracts, as well as smaller providers on metered power only, expect to pass higher energy costs to customers in coming years, an eventuality that will likely affect all market categories. However, considerable demand for data centres across the FLAP markets from cloud providers for example, make it a vibrant market.

Q3 and forecasted build activity

Frankfurt: NTT announced its 7.3MW new building at its Frankfurt 1 campus that will come online in 2022; we still expect Colt to bring its Frankfurt West site online this year as well. Following a record year of new build in 2021, build activity will slow next year.

London: CBRE believes new build activity will jump in 2022 with up to 200MW forecasted to come online.

Amsterdam: A big hyperscaler build to suit was launched in Amsterdam in Q3.

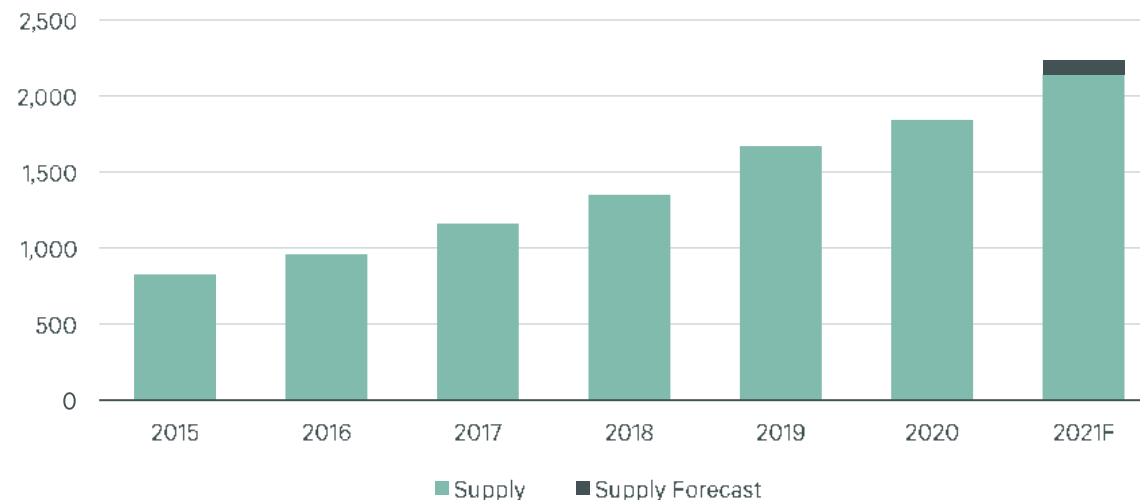
Paris: In Q3, Interxion opened what will be a 12MW facility in Ferrieres-en-Brie called PAR12.

Figure 2: New supply in Q3

Market	Q3 New Supply
Frankfurt	45MW
London	4MW
Amsterdam	51MW
Paris	14MW

Source: CBRE Research Q3 2021

Figure 3: FLAP market full-year supply and forecast supply as of Q3, 2021



Source: CBRE Research Q3 2021

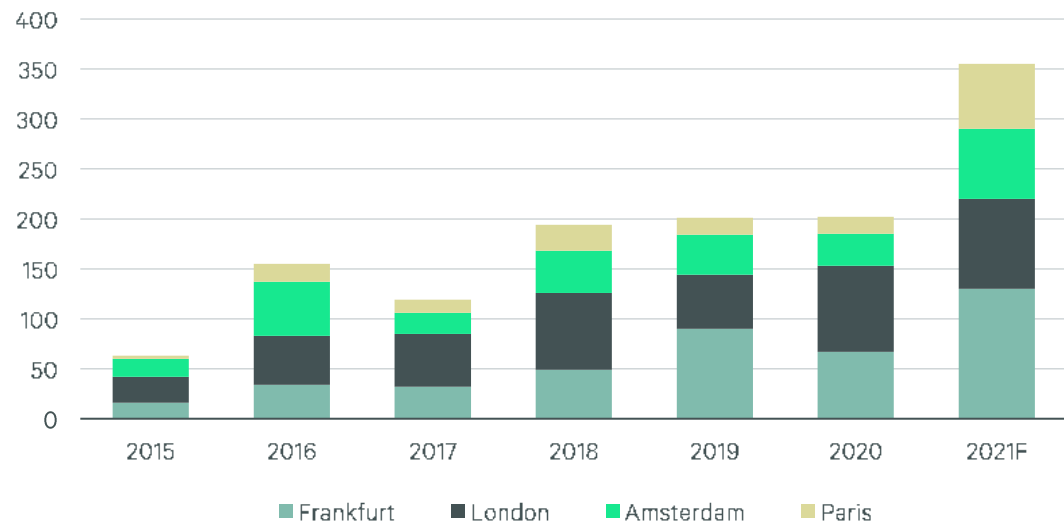
Take-up & Pre-lets

Impacted by summer holidays, Q3 is often a quieter quarter of data centre activity across Europe, though many providers said activity picked up towards the end of the quarter. What that means is the scene is set for a potentially big Q4 when customer deployments are considered. Across all markets, retail colocation is being driven by enterprise requirements post COVID with many plans for the reimagining of IT estates now being turned into a reality.

During Q3, take-up outstripped new supply with 134.4MW of take-up realised. This was up 177% from 48MW in Q2 of this year. We expect to see 355MW of total take-up before year end, with close to 80MW realised as take-up in Q4 alone.

The markets also saw some larger 600kw corporate and telecommunications deals signed. At the smaller end of the market, requirements have been driven by gaming, content, media, financial services and healthcare.

Figure 4: FLAP market take-up

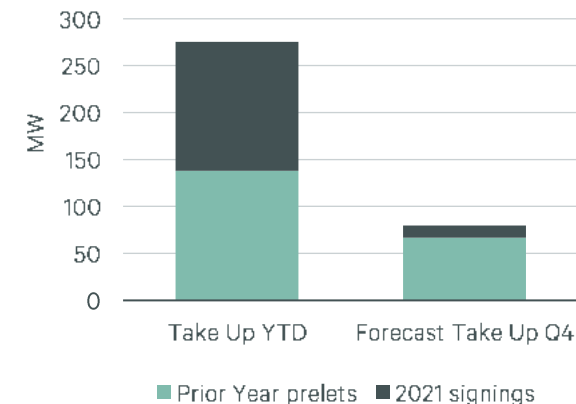


Source: CBRE Research Q3 2021

Q3 activity

- Frankfurt:** Wholesale deals represented the majority of Q3 activity in Frankfurt, the largest being the entire pre-let of Equinix's 18MW FR9x data centre. A variety of notable retail deals, from as little as 110kw, rounded out the market activity in Frankfurt last quarter.
- London:** As much as 20MW of deals were attributable to cloud in Q3 with the largest deal size of over 10MW. However, content delivery networks and enterprises factored into the mix with agreements of 550KW to 1.1MW signed.
- Amsterdam:** One large pre-let deal was realised as take-up in Q3 accounting for almost all activity in the market. This is unlike previous quarters that featured smaller deals of varying sizes by companies across all sectors.
- Paris:** There was an uptick in deals signed last quarter though activity paled in comparison to the blowout quarter seen in the market during Q1.
- Deals signed:** There was 150MW of activity recorded in Q3; pre-lets comprised the majority (101MW) of activity and take-up made up about a third of activity (49MW). Cloud providers and enterprises were responsible for about 112MW and 38MW of activity, respectively.

Figure 5: 2021 forecasted take-up, pre-lets and new deals



Source: CBRE Research Q3 2021

Pre-lets

Pre-lets are take-up that has been signed for future months, or years. CBRE attributes take-up once a facility comes online. The Take-Up YTD bar above highlights the mix of pre-lets and new deals that have come online so far this year. The Forecast Take-Up bar shows what is expected through the remainder of the year.

Q3 2021

This year's take-up so far is 275MW including 138MW of pre-lets that were signed in prior years. We forecast almost 70MW of pre-lets to come online during Q4.

Vacancy

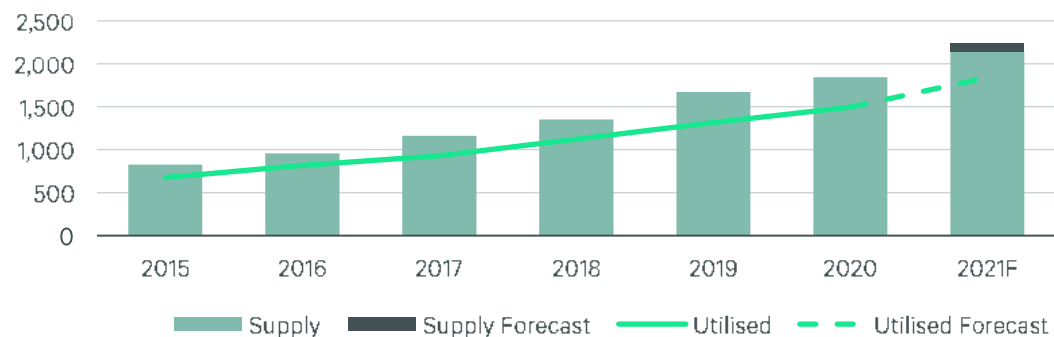
Data centres across the FLAP markets operated with a vacancy rate of 17.9%, down from 19.8% in Q2. Vacancy declined by 3.2% in Amsterdam and almost three percentage points (2.7%) in London when compared to Q2 as supply constraints remain an issue for operators. Paris was the sole market to see vacancy rise in Q3 though the increase was slight (1.3%).

When vacancies are considered, wholesale and retail providers remain two different markets. However, the gap between the markets narrowed last quarter; the wholesale market vacancy rate decreased slightly from 21.8% in Q2 to 19.8% in Q3 across FLAP. Meanwhile, retail colocation vacancy declined to 15.4% across FLAP from 17.3%.

Notably, Frankfurt's retail vacancy rate dropped from 18.7% in Q2 to 13.9% in Q3 as take-up exceeded new supply. Amsterdam's wholesale vacancy decreased to 34.3% in Q3 from 43.2% in Q2 due to a single, large pre-let that came online. Paris was an outlier last quarter in that wholesale vacancy rose to 9.5% from 5.2% as one new building came online.

Across all FLAP markets, the quarter-on-quarter decline in vacancy is an indication of the continued demand for data centre space and the need for new supply. Despite supply constraints, there are still smaller, short-term opportunities for colocation providers with enterprises for example.

Figure 6: FLAP market supply and utilization, 2015 – 2021F



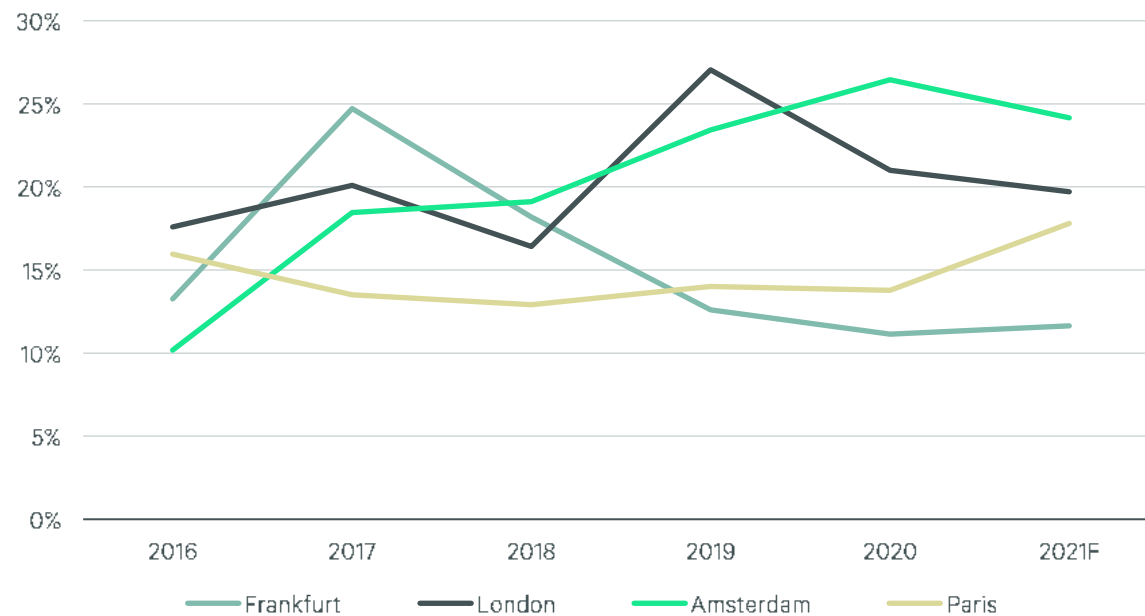
Source: CBRE Research Q3 2021

Figure 7: FLAP market vacancy rates, Q3 2021

Market	Q3 Vacancy (%)	Change on Q2 (%)
Frankfurt	12 ▼	-1.3
London	20 ▼	-2.7
Amsterdam	24 ▼	-3.2
Paris	13 ▲	+1.3

Source: CBRE Research Q3 2021

Figure 8: FLAP market vacancy rates, Q3 2021



Source: CBRE Research Q3 2021

Frankfurt

Frankfurt is expected to surpass 600MW of total supply this year, with 145MW of new supply expected to come online. A number of large projects are scheduled for the market, including a 25MW build in Sossenheim by Colt. These projects are contributing to Frankfurt and more broadly Europe's massive new supply increase in 2021. The data centre industry is waiting to hear what restrictions, like energy conservation measures, if any, the Frankfurt Government will impose on its development efforts.

- **Market Opportunities:** The Frankfurt market continues to be driven by hyperscale cloud opportunities and continues to see interest from international enterprises as well as connectivity and content providers.
- **Market Challenges:** Potential government-imposed restrictions on build activity remain an overhang for operators in Frankfurt; supply constraints and higher costs for colocation operators are issues as well.

London

London saw just 4MW of new supply added during Q3. Most providers said the market had a quieter quarter with respect to larger deals. That said, there was greater interest from enterprises namely firms in the financial services, media, gaming and healthcare sectors. CBRE saw active site searches across the market, with a strong focus on the western corridor where cloud availability zones exist. Market demand has, however, pushed across the north and east of London.

- **Market Opportunities:** London providers are starting to see an uptick in enterprise interest as companies digitize estates and move to new architectures that accommodate post-COVID working models.
- **Market Challenges:** Hyperscale self-builds, supply chain constraints, inflation, and high construction costs are persistent issues for London colocation operators. However, providers remain confident in their ability to fill their data centres.

Amsterdam

Amsterdam continues to be driven by retail colocation demand for connectivity-focused deployments. During 2021, the wholesale market has grown, mostly due to a large deployment in Schiphol but a variety of smaller deals have been signed as well. Existing providers in Amsterdam have benefitted most from the growth, though interest has been shown in sites just outside of the market. Local providers are also seeing increasing requirements for regional opportunities serving Dutch customers.

- **Market Opportunities:** Increasing interest from cloud platform providers building out availability zones for AI, IoT, media and hosting companies.
- **Market Challenges:** Hyperscaler demand in the market remains high though power and planning-related challenges remain for many colocation data centre operators. Colocation remains an opportunity for hyperscalers / cloud providers to alleviate market constraints.

Paris

Paris experienced 43MW of record take-up in Q1, which remains an annual and quarterly record for the market. A sharp downturn followed in Q2 as only 4MW of take-up was recorded though demand rebounded somewhat in Q3 with 10MW of take-up. For Q4, we expect to see virtually the same amount of take-up (10MW). Moreover, CBRE sees significant levels of pre-lets in Paris next year. Both hyperscalers and enterprises are very active in this market as well as government customers and many providers are building out or seeking land to service their requirements. To that end, there was heightened site selection activity during Q3.

- **Market Opportunities:** Opportunities to expand the presence of customers in colocation data centres or add new ones with sub-2MW requirements in Paris remain available including deals with French companies requiring dual sites and those in need of options.
- **Market Challenges:** Competitive site selection and access to power are two preeminent issues that exist for those operating in Paris.

Sweden – The sustainable connectivity hub of the Nordics

Driven by availability of connectivity options and high-quality network and energy infrastructure, Sweden is the largest leased and hyperscale self-build data centre market in the Nordics. The country has almost 120MW of retail and wholesale data centre supply, with almost 80MW of that located in Stockholm. The Swedish market is expected to grow to more than 170MW by the end of 2022. Not all of this growth will be centred around Stockholm. Leased data centre providers are growing to the north of Stockholm, where it is easier to gain access to power and where large hyperscale builds are planned. Hyperscalers are increasingly investing in self-build locations across Sweden, using the market for regional requirements as well as serving local business needs for cloud. The hyperscale self-build market in Sweden is currently 180MW and it is expected to grow to around 300MW by the end of 2024.

Benefits – connectivity, stability to sustainability

Sweden has long been viewed as a gateway market for trade between Europe, Russia and the Baltics. More recently this trade has taken place in data with neighbouring countries leveraging Sweden’s strong connectivity ecosystems. Sweden’s capital Stockholm is a crucial connectivity and data centre hub for the country and the region; over half of the Nordic’s network traffic reportedly runs through it.

Sweden is regularly ranked as one of the top-three economies for network readiness by the World Economic Forum. Latest figures show that around 81% of Sweden has access to full fibre connectivity (in comparison to the UK with 24%). This means data centre deployments outside of Stockholm also tend to be well-connected and as a result, we have seen increasing interest in regions to the south, west and north of Stockholm. The country is home to a high number of start-ups that leverage this connectivity as well as a well-established technology services sector including industrial, telecommunications and media, content and gaming.

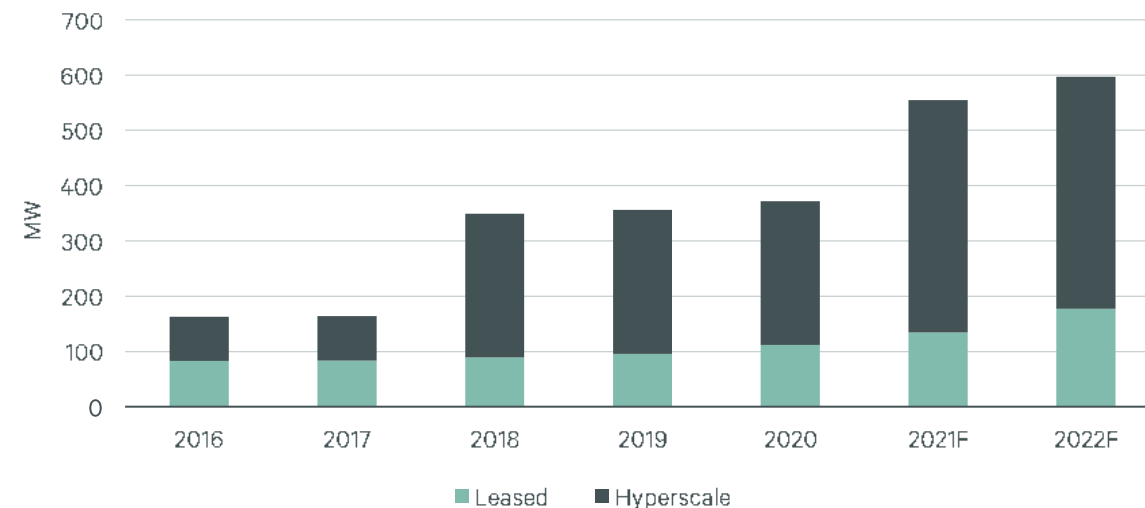
Swedish heavy industrial activity has guaranteed energy resiliency across the market with a high-quality energy network serving the country. And while some parts of Sweden – like many other locations – are experiencing problems with delivering supply, grid upgrades are taking place. Sweden’s grid is fossil fuel free with a growing renewable energy mix which appeals to large-scale data centre users such as hyperscale cloud and internet companies as well as service providers and enterprises with a focus on sustainability. Access to hydropower also means Sweden can offer some of the lowest energy pricing in Europe.

Data centre market

Sweden’s leased data centre market includes leading international providers such as Equinix and Interxion and regional providers such as DigiPlex and GlobalConnect as well as local providers such as EcoDataCenter and Hydro66. There are also a number of local providers offering hosting and network services such as Portlane and Bahnhof. All of the major US hyperscalers have a presence or have announced plans in Sweden. Facebook was the first to build a large-scale data centre in the North of Sweden. AWS has an online region and Microsoft is building to the North of Stockholm. The continued growth of these hyperscale operators indicates the growing maturity of the Swedish technology and enterprise industry. M&A activity is growing with some recent acquisitions by global investors into the data centre market.

For more information on CBRE’s detailed report on Sweden, or other market reports available, contact kevin.restivo@cbre.com.

Figure 9: Sweden leased data centre supply and forecast, 2016-2022F





Source: CBRE Research Q3 2021

CBRE's Premier Colocation Report

CBRE has created the sector's Premier Colocation Report to provide the industry with the most in-depth market analysis in Europe. The report provides access to the key metrics specific to each FLAP market on a quarterly basis.

This data includes: take-up, supply, availability, absorption (all of which are forecasted) as well as market maps, new schemes in the supply pipeline, colocation pricing analysis and occupier and investment commentary.

 For more details or to register for a demo of the report click here

 Click here to download the full premier colocation report

Contents	Market view	Premier subscription
Supply	Aggregated, annual and YTD – chart	✓
Let and available capacity	Aggregated, annual and YTD – chart	✓
Take-up	Aggregated, annual and YTD – chart	✓
High-level market commentary and quarterly highlights		✓
Key metrics	by market, current quarter – table	✓
Supply	by market, annual and YTD – chart	✓
Let and available capacity	by market, annual and YTD – chart	✓
Take-up	by market, annual and YTD – chart	✓
Net absorption	by market, annual and YTD – chart	✓
Supply projection, 2 years	by market, annual – chart	✓
Vacancy projection, 2 years	by market, annual – chart	✓
Take-up projection, 2 years	by market, annual – chart	✓
Market balance analysis	by market, annual and YTD – chart	✓
Supply pipeline, 2 years	by market – table	✓
Market map: key colocation hot spots in the market	by market – map	✓
Colocation pricing	by market, annual and YTD – table	✓
Detailed market commentary and quarterly highlights		✓
Occupier focus		
Occupier take-up review and trends		✓
Colocation pricing analysis		✓
Leading market focus		✓
Investment focus		
Corporate M&A tracker		✓
M&A market commentary		✓
Investment market commentary		✓
+ All charts and data available by individual market		✓
+ Data table with time series available for all charts		✓
+ Wholesaler and retailer split where appropriate		✓
+ Data tables available in Excel for in-house design and analysis		✓



Supply

Retailer colocation supply comprises fitted data centre space only – unbuilt shell phases of the data centre are excluded.

Wholesaler colocation supply includes both fitted and shell data centre space. Typically wholesale operators sell shell space which is built out to suit customers.



Vacancy rate

The vacancy rate is a function of availability/ total supply.



FLAP (markets)

The four largest colocation markets in Europe. FLAP is an acronym of Frankfurt, London, Amsterdam and Paris.



Availability

Retailer availability of space is based on fully fitted space, vacant and available to sell.

Wholesaler availability is based on all vacant space.



Colocation take-up

This comprises data centre space sold at retailer and wholesaler colocation facilities in the relevant quarter.



European data centres

We use the four largest markets in Europe: Frankfurt, London, Amsterdam and Paris (FLAP Markets) to represent the European colocation market.



Market absorption

Market Absorption is the number of years it would take current vacant supply to be fully let based on the fixed average take-up of the previous five years (i.e. not including take-up in the current year).



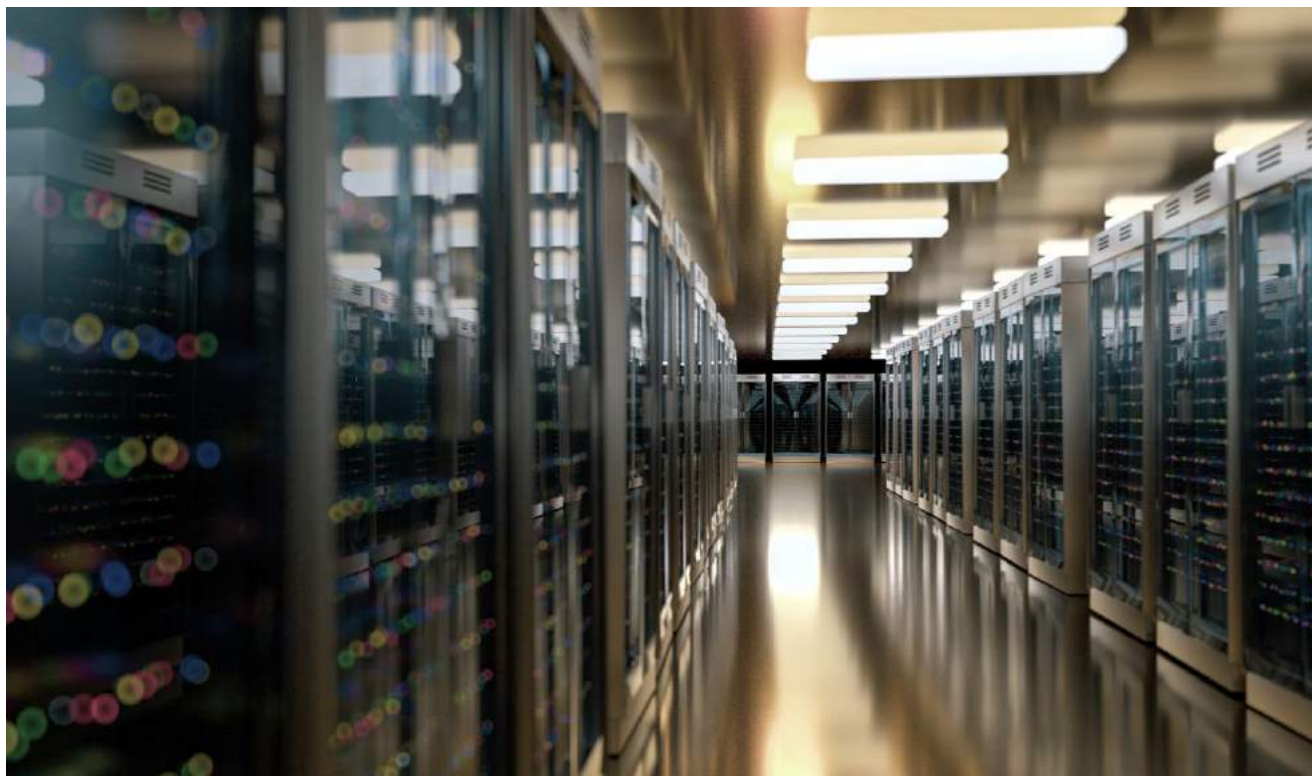
Space type

Shell: shell & core space is the base real estate of a data centre, a wind and watertight structure with exposed floor and ceiling slabs and exposed finishes to the walls. The landlord obtains permissions for data centre use and makes provisions for tenants to install their own chillers and back-up power generating equipment, or the landlord would provide these on a build-to-suit basis.

In addition, an incoming diverse raw HV (high voltage) power supply would usually be provided.

Fitted: fully fitted space is ready for tenant IT equipment to be installed almost immediately or subject only to minor works being carried out to account for bespoke equipment and layouts.

Europe Data Centres



CBRE Data Centre Solutions

CBRE formed a Data Centre team in 1994 to address the specialised technical real estate needs of high-tech firms such as telecommunications companies, data centre operators and corporates.

Core technical real estate services provided by the CBRE Data Centre Solutions team include:

- Acquisition – one-off assignments, worldwide network rollouts
- Disposal – one-off assignments, multi-site marketing campaigns
- Investment – due diligence and transactional services
- Consultancy – consolidation strategies, mergers & acquisitions
- Asset Valuation – bank, corporate
- Project management, development monitoring, due diligence, building and M&F surveys
- Research – market statistics, forecasting
- IT Consultancy

CBRE has monitored worldwide colocation supply statistics since 1999. This bulletin relates only to the four largest European Colocation markets. Additional market statistics are available on request.

To learn more about CBRE Data Centre Solutions group, please visit:

www.cbre.co.uk/services/industries-and-specialties/data-centre-solutions

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Contacts

Andrew Jay

Head of Data Centre Solutions,
Advisory & Transaction Services, EMEA
D: +44 (0)20 7782 3461
M: +44 (0)7802 361 351
E: andrew.jay@cbre.com

Kevin Restivo

Head of Data Centre Research,
Advisory & Transaction Services, EMEA
D: +44 (0)20 3257 6669
M: +44 (0)7876 742 554
E: kevin.restivo@cbre.com