EUROPE DATA CENTRES

Q4 2019

CBRE

FLAP MARKET TAKE-UP SURPASSES 200MW FOR THE FIRST TIME IN HISTORY

Colocation supply
1,670MW (+24%)

Colocation availability
355MW (+55%)

Colocation take-up
201MW (+4%)

Note: Arrows indicate change from same quarter in previous year. For take-up, this is the 12 months ending 31st December 2019 compared with the 12 months ending 31st December 2018

Quarterly review

Take-up in the FLAP markets of Frankfurt, London, Amsterdam and Paris hit its highest ever level in 2019, surpassing 200MW for the first time on record.

In addition to the 201MW of annual take-up recorded in our statistics, there was a further 66MW of pre-lets procured in facilities that have not yet been developed. This unusually large amount of pre-lets will be added to the take-up figures when the individual facilities are built.

Furthermore, there is over 50MW of capacity that is currently under option in the FLAP markets.

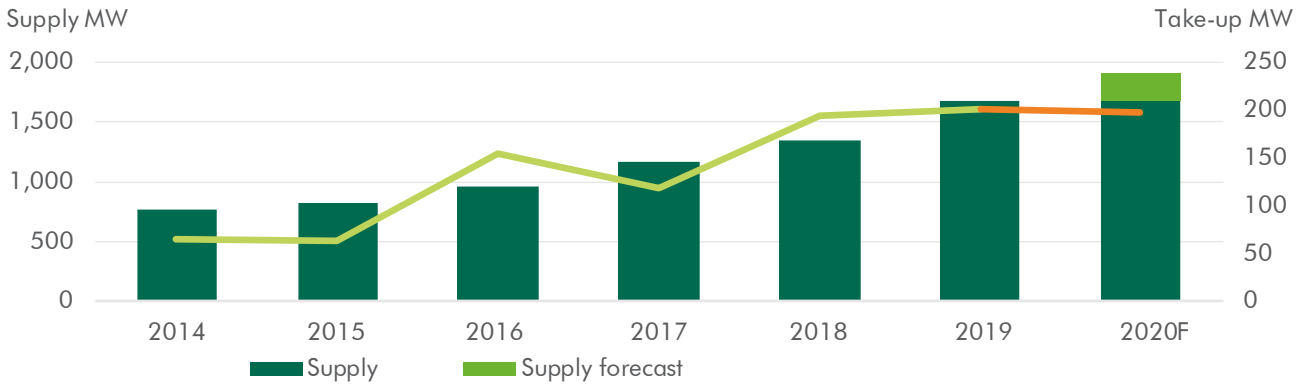
This 116MW of identified take-up underpins our prediction that 2020 will repeat the strong performance of 2019.

For more of the in-depth detail, and further market analysis including supply/take-up forecasts, pricing and other key metrics, preview our *Premier Colocation Report here.*

Snapshot

- A record 201MW of take-up across the four FLAP markets. Nearly half of this was in Frankfurt.
- There was over 319MW of new capacity brought online in these markets during the year, representing 24% market growth in 2019.
- This record level of new supply brings challenges for future development, with constraints arising for land, power and supply-chain.
- Cloud continued its domination of the European markets, responsible for 79% of take-up in the year.
- Market absorption reaches 3.0 years, the highest ever figure at year-end.
- Vacancy rates are at a seven-year high, at 21% across the four FLAP markets.

Figure 1: FLAP market colocation supply and take-up as at Q4 2019



Source: CBRE Research, Q4 2019

Supply: 2019

The four largest markets in Europe now have a combined market size of 1,670MW, having increased by 319MW in the year, representative of 24%. This means that as much new capacity has been developed in the past three years as in the 11 years before that.

Nearly half of the new capacity in 2019, 153MW, was brought on in Q4 alone, with nearly 100MW of that in London. The largest scheme was NTT's LON1 facility in Dagenham, whilst Ark, CyrusOne and VIRTUS also brought on further new facilities over 15MW each.

This level of new capacity in the key markets shows that the developer-operators are confident that the hyperscale companies will remain extremely active over the next three years.

The hyperscale companies now require much larger individual facilities of 15-20MW each. This is driving the sharp increase in market size. To illustrate the point, the aggregate size of the five largest facilities to come online in the FLAP markets during 2019, would make them the fifth largest colocation market in Europe today.

Supply: outlook

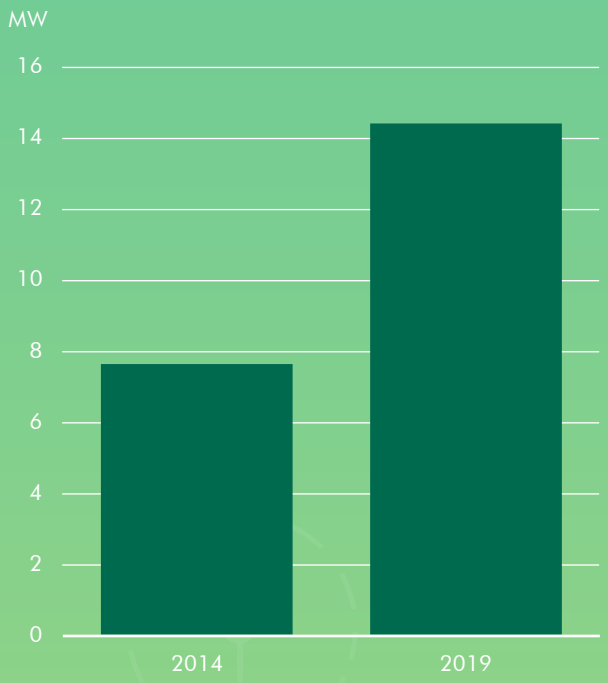
CBRE forecasts that 234MW of capacity will come online during 2020, three quarters of which will be in Frankfurt and London. This represents a projected market growth of 14%.

Whilst Frankfurt and Paris will see a similar level of new capacity coming online in 2020 as 2019, London and Amsterdam will see a decline in the amount of new capacity year-on-year. In Amsterdam the temporary ban on data centre development has affected the ability of some companies to gain the necessary permitting for 2020 delivery.

During 2020, CBRE forecasts that only two new facilities in the FLAP markets, VIRTUS LONDON 9 and Colt in Frankfurt, will have over 20MW of IT capacity, compared to five facilities in 2019. This will give confidence to those developer-operators that launched large-scale sites in 2019 and have not secured a major letting to-date.

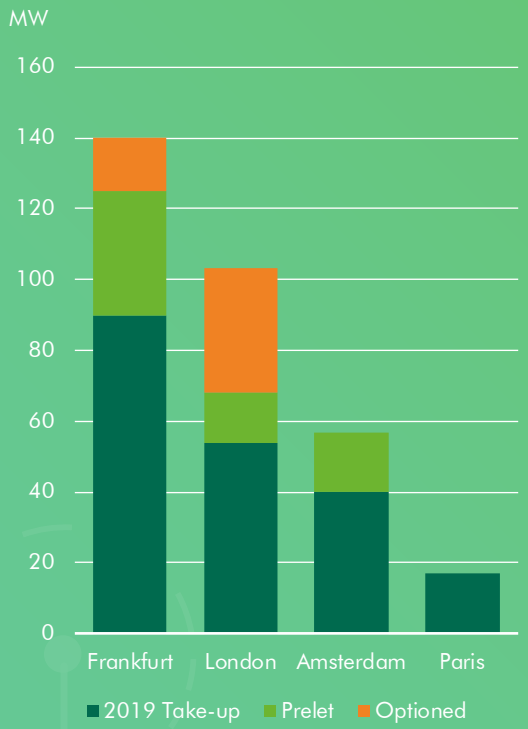
Looking further ahead, CBRE forecasts a similar amount of new supply in 2021 as in 2020. Paris is forecast to see over 50MW of new capacity for the first time in 2021. This includes new sites from two new providers and one incumbent. With further site searches ongoing in the market, Paris could become a hot landing ground for companies expanding their European operations into the city.

Figure 2: Average size of new facilities developed in FLAP markets during the calendar year



Source: CBRE Research, Q4 2019

Figure 3: 2019 Take-up, prelets and options



Source: CBRE Research, Q4 2019

Take-up: 2019

201MW of take-up was recorded in the FLAP markets during 2019, a new European record. 2019's exceptional performance was largely down to Frankfurt securing 90MW, which is higher than the combined take-up of all four markets in any year prior to the new-norm in 2016.

The extent of Frankfurt's performance is underlined by the fact that the market's 2019 take-up was 52MW above its average for the three previous years. This exemplifies the binary nature of take-up.

The hyperscale companies have been driving the demand in Europe for four years now and there is now a sense of consistency in their activity. Consequently, service providers are making major investment decisions based on this customer group.

Furthermore, cloud as a whole continues to strengthen its grip on European markets. The sector was again responsible for 79% of total take-up in the FLAP markets. The major effect was felt in Frankfurt, which saw cloud increase its share of annual take-up in the city by nearly 20 percentage-points in 2019, to 85%.

In Q4 alone, FLAP market take-up was 65MW, the second highest quarterly figure on record. Frankfurt and London were responsible for a combined 82% of this figure as the hyperscalers continued to be active in both markets simultaneously.

Take-up: outlook

In addition to the 201MW of take-up recorded in 2019, there was also 66MW of capacity pre-let in facilities currently under construction in the FLAP markets (over 50% of which is in Frankfurt). This capacity will be delivered in 2020 and 2021 as buildings are completed.

The year also saw a further 50MW of capacity held under option in facilities (over 50% of which is in London). These options are likely to be taken-up during 2020.

One of the risks to colocation take-up is if the hyperscalers decide to self-build. However, to-date none of these companies have started to do so in the FLAP markets. Given a two-year development cycle, this further strengthens the argument for strong colocation activity in the coming years.

Furthermore, the amount of pre-let capacity, and the construction of multiple large new facilities, underlines the confidence that the developer-operators have in the hyperscalers' need to continue utilising wholesale colocation services.

Consequently, CBRE forecasts that take-up in the FLAP markets will be 200MW per year in 2020 and 2021.

Availability and market absorption

Total available capacity in the FLAP markets rose to 355MW at year-end 2019, from 229MW. This is the first time that availability has increased by over 100MW in a single year. Consequently, vacancy rates across the markets increased by 4 percentage-points to 21%.

The most noticeable increase was in London where the vacancy rate increased by 11 percentage-points to reach 27%, the highest level in the market's history. This is due to a number of large wholesale facilities coming online in Q4. Amsterdam was the other market to end the year with a vacancy rate above 20%, an increase of 4 percentage-points during 2019.

True to form, Paris's vacancy rate remained steady, between 13% and 14%, throughout the year as new supply and take-up were equally matched. Conversely, vacancy rates in Frankfurt dropped by 5 percentage-points as strong take-up this year was higher than the amount of new capacity brought online, a marked difference from the other markets.

Market absorption across the four FLAP markets reached 3.0 years on aggregate, the highest year-end absorption rate. This is largely down to the dominant effect of London on the overall outcome. The city became the first FLAP market since 2010 to have a market absorption rate of over 4.0 years.

Challenges to development

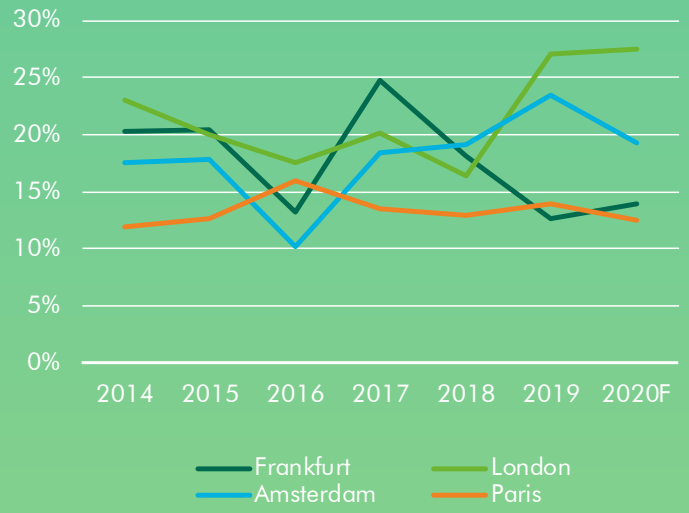
Accelerated development in the European markets has created challenges. The availability of freehold land and large amounts of high voltage power in popular data centre hubs is highly constrained, such as West London, Schiphol in Amsterdam, and Sossenheim in Frankfurt.

These factors, along with proximity to fibre, planning approval and a low risk location, are crucial to developing a data centre. However, in established markets, being able to achieve these components is increasingly difficult. In Amsterdam, for example, two municipalities have put a temporary ban on the development of new data centres because of the amount of power required by data centres in areas where it is already scarce. In other areas, such as West London, market conditions have led to sites with unique attributes, being traded at more than double residential prices.

The effects of these barriers to entry are that data centre developers are either choosing to locate in new, sometimes unproven, locations or are competing aggressively on price for prime land opportunities.

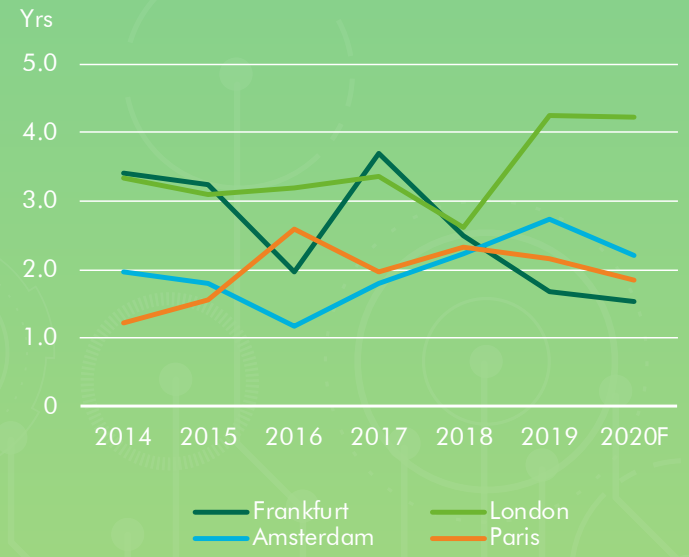
Post site selection, there are also constraints around the supply chain, for both on-site teams and manufacturing, resulting in increased lead times to initiate build programmes.

Figure 4: Vacancy rates by market



Source: CBRE Research, Q4 2019

Figure 5: FLAP market absorption, by year



Source: CBRE Research, Q4 2019

Frankfurt

Frankfurt's take-up of 90MW comfortably beats the previous European record – London's 77MW in 2018. Frankfurt's previous best performance was 49MW.

The German customers of the hyperscale companies largely require serving from inside Germany, which increases the need for the hyperscalers to procure significant capacity within the country.

As a consequence of heightened take-up, Frankfurt's vacancy rate is at its lowest since 2013, when it was 11%. It is also the lowest vacancy rate in the FLAP markets.

CBRE forecasts **that Frankfurt will have the most new capacity brought online in Europe over the next two years**, with 168MW.

London

London needed a big Q4 to ensure that it had a good year, and it delivered. Hyperscale commitments in West London during Q4 were responsible for nearly 50% of the market's total for 2019.

London welcomed nearly 150MW of new capacity in the year. This means that there is now 190MW of available capacity in the market. This in-turn gives London the highest vacancy rate and market absorption in the FLAP markets.

Like Frankfurt, all three hyperscalers are looking for significant capacity in London today. However, even strong take-up in 2020 may not have a significant effect on vacancy and market absorption, which will remain high over the next 12-18 months.

CBRE forecasts that London will witness its second year of take-up above 60MW in 2020.

Amsterdam

Amsterdam had a solid year for take-up, finishing on par with its four-year average.

In each year where take-up in Amsterdam has been 40MW or more, one transaction has been responsible for around 50% of take-up each time. 2019 was no different, as a single transaction in H1 was responsible for 45% of the market's total take-up in the year.

Given a slowdown in development in the Amsterdam market over the next 12 months, we expect vacancy rates to fall in the year as the capacity in existing buildings is sold.

CBRE forecasts that vacancy rates in Amsterdam will drop to just below 20% for 2020 and 2021.

Paris

Take-up and new supply were evenly matched in Paris during 2019, which led to market conditions remaining stable through the year. The relatively consistent lower level of take-up in Paris has meant that developer-operators have tended to bring capacity online to serve specific transactions rather than significant amounts speculatively.

There is a sense that the hyperscale companies will increase their procurement of colocation capacity in Paris over the next two years. We expect developer-operators to begin developing larger scale sites in the market to serve these requirements. These facilities will start to be delivered in 2021.

CBRE forecasts that Market Absorption in Paris at year-end 2020 during will have fallen below 2.0 years or the first time since 2015.

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

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			✓

DEFINITIONS

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.

Availability

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

Wholesaler availability is based on all vacant space.

Vacancy rate

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

Colocation take-up

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

FLAP (markets)

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

European data centres

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

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.

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).

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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&E 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.

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