

European Data Centres, Q3 2016

Strong Q3 lines up a record breaking year

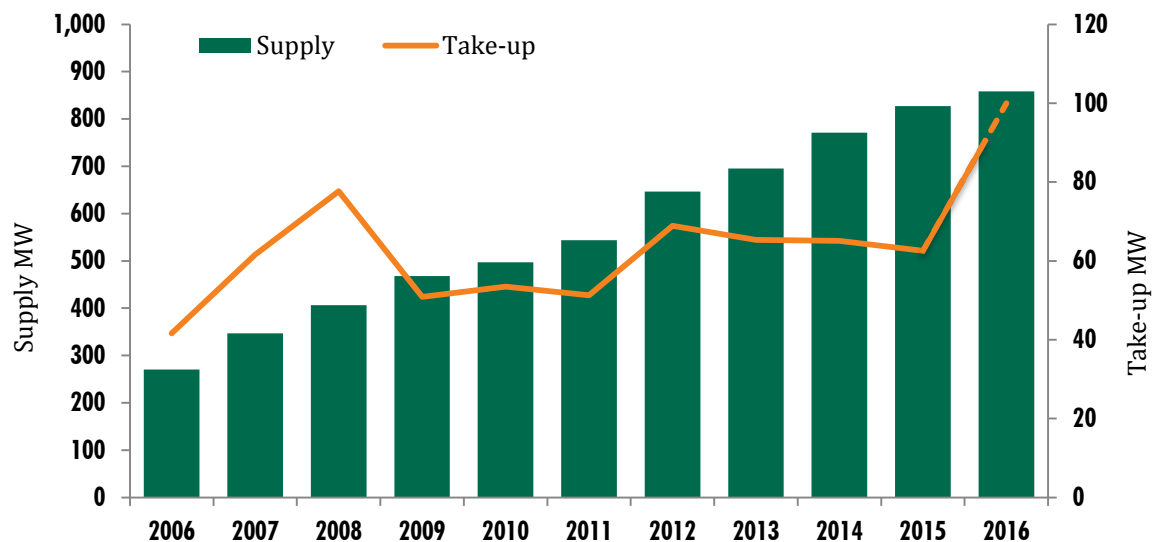
Supply
2.4%

Availability
1.7%

Colocation Take-up
24.7 Megawatts

*Arrows indicate change from previous quarter

Figure 1: European Colocation Supply & Take-up as at Q3 2016



Source: CBRE Research, Q3 2016

QUARTERLY REVIEW

In this edition of the Marketview we take a look at the numbers in Q3 as we prepare for what is going to be a blockbuster end to 2016.

We look at which markets have been the beneficiaries of heightened occupier activity in the first three quarters of the year.

What is the effect of such high take-up on vacancy and absorption rates? What impact will this have on the balance of supply and demand in major markets?

Q3 SNAPSHOT

- 24.7MW of take-up across the four major cities makes this the strongest Q3 on record.
- 79.6MW of take-up gives 2016 the highest annual take-up on record with one quarter still to go.
- One market has now beaten the previous highest level of annual take-up for any of the four markets. Which market is it?

SUPPLY & AVAILABILITY

There was approximately 20MW of new supply across the four FLAP markets of Frankfurt, London, Amsterdam and Paris in the Q3 period, bringing total supply in the four cities to 879MW.

13MW of new colocation supply was added to London's landscape over the course of Q3. This included the only significant new facility to become operational in the quarter, Telehouse North 2, the latest addition to London's Docklands ecosystem. We also saw notable additional supply at phase 2 of Equinix's LD6 facility in Slough and Volta expanding onto a new floor in their facility in the City of London.

We did see some new space come on in Frankfurt (5MW) and Amsterdam (2MW) but these were relatively small to what we can expect over the next year or so, especially in Frankfurt.

There was, again, no new space to report in Paris, but it is worth bearing in mind that Colt's facility at Les Ulis is not currently included in our reporting of the size of the Paris market. However, this may change in Q4 2016.

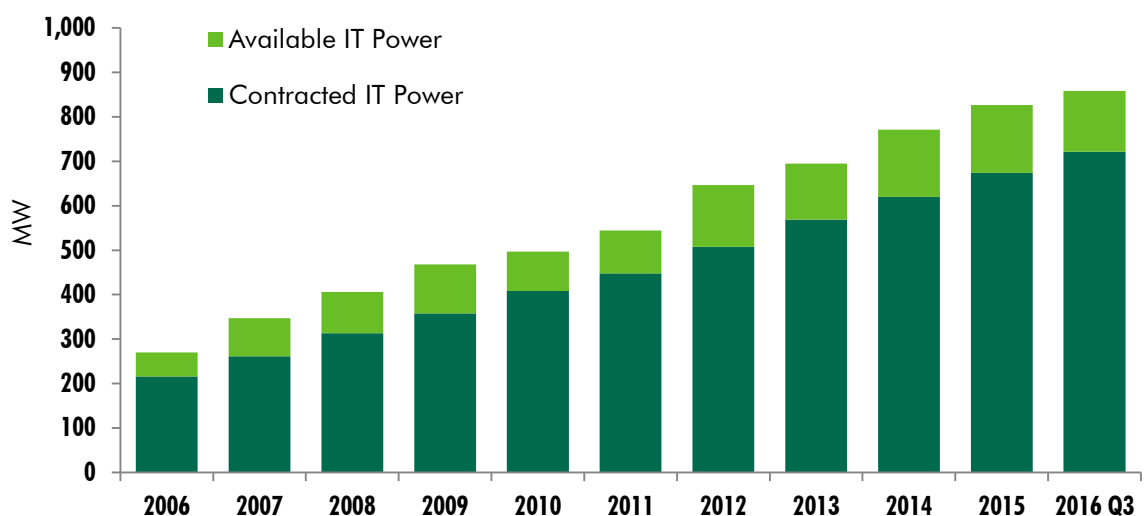
The amount of available power in the four major markets dropped slightly to 134MW. Again, it was London and Frankfurt that had the biggest impact on the statistics with availability increasing in London and dropping in Frankfurt.

As new supply in Q3 was largely attributed to retailer facilities, available space held by retailers increased by 12MW in the quarter. Conversely available space in wholesaler facilities dropped 15MW in Q3.

The knock-on effect may be that in certain markets, there are only a limited number of wholesalers that have large amounts of available power ready to sell.

Vacancy rates across the four major markets have dropped to 15.3%, the lowest ever recorded. In individual markets, the vacancy in London and Amsterdam, actually rose to 18.3% and 15.2% respectively, but dipped in Frankfurt and Paris to 12.8% and 10.2% respectively. We take a closer look at these absorption and vacancy rates in the next section.

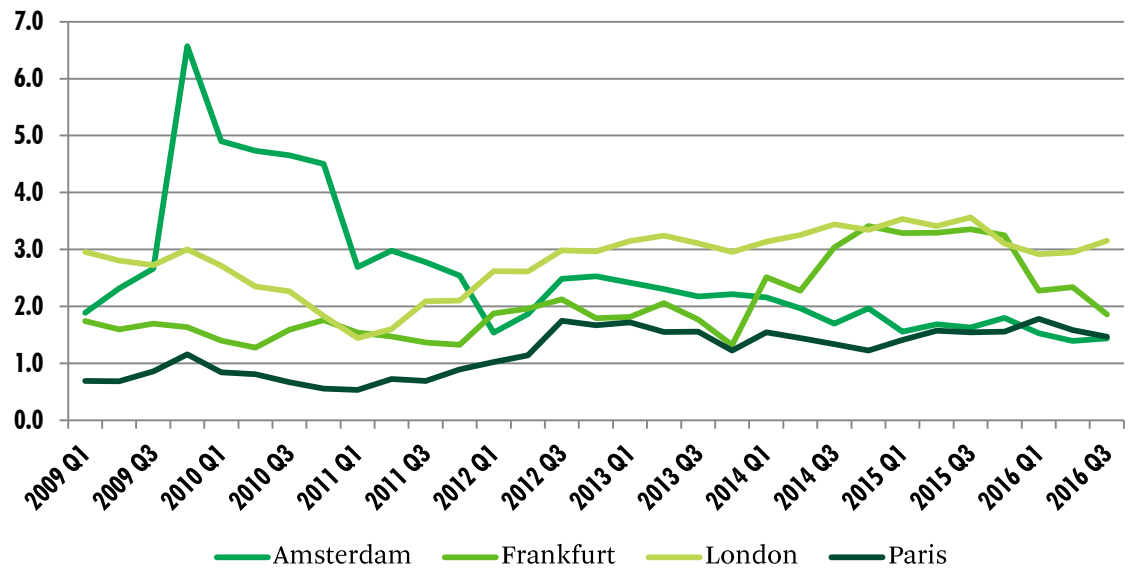
Figure 2: European Colocation Supply and Availability as at Q3 2016



Source: CBRE Research, Q3 2016

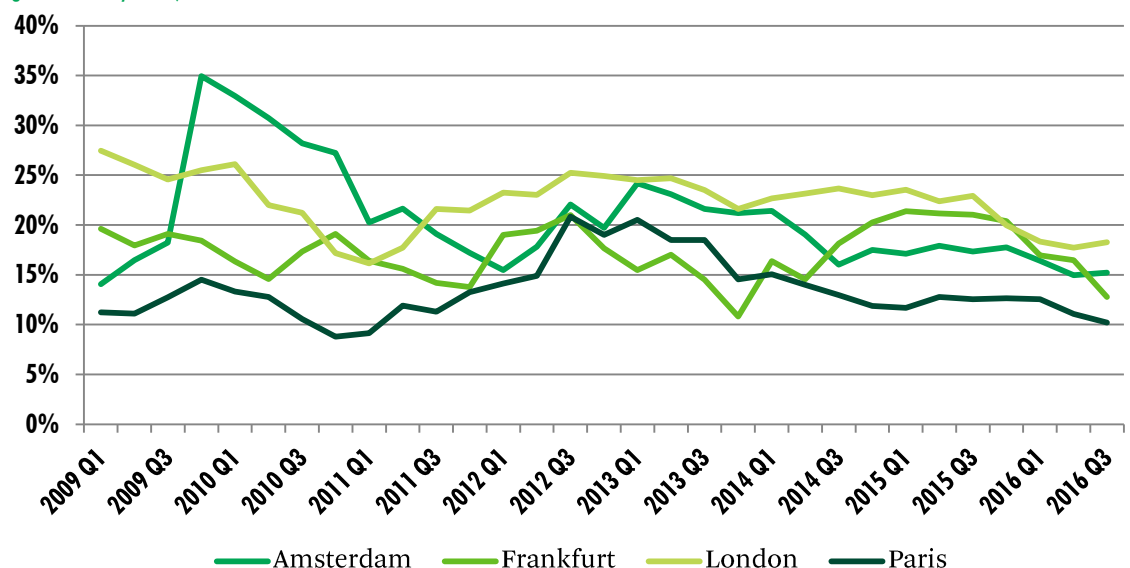
MARKET ABSORPTION & VACANCY RATES

Figure 3: Market Absorption Based on Average Take-up of Previous 5 Years



Source: CBRE Research, Q3 2016

Figure 4 Vacancy Rates, as at Q3 2016



Source: CBRE Research, Q3 2016

Following continued periods of increased take-up in the major markets, you can see the effect on absorption and vacancy rates in these charts.

We consider an absorption rate of 2-2.5 years to be market equilibrium between supply and demand, so three markets are now in a state on undersupply, whilst London appears oversupplied currently.

However, this is not entirely fair. When you look at the most recent few years in both charts you can see that the level of volatility has decreased

dramatically since 2012 as new supply coming to the market is evenly matched to the levels of take-up.

The increase in substantial pre-lettings of halls, phases and entire buildings allows operators to more accurately plan new builds without building or fitting large quantities of speculative space, as we saw in 2009 to 2010.

The significant levels of take-up seen in 2016 to-date could lead to significant levels of undersupply in 2017.

TAKE-UP & DEMAND

Colocation take-up in the main markets has already reached a record all-time annual high in 2016, and we still have a quarter of the year to go. 24.7MW of take-up in Q3 brings the 2016 total to 79.6MW.

Take-up to date in 2016 is already 17MW higher than for the full-year in 2015 and a staggering 38MW higher than at the Q3 stage of last year. 2016 YTD take-up is also 27% higher than the 5-year average for annual take-up between 2011 and 2015.

The previous record for annual take-up in the major markets was just before the global financial crisis, when 2008 recorded 77.6MW of take-up in the full-year.

Incredibly, the Frankfurt market has also already recorded the highest ever annual take-up of any European market. There has been 30.3MW of take-up in Frankfurt this year, largely due to strong performances from e-shelter, Interxion and Zenium. The previous record year, was 29.9MW of take-up in London in 2007.

Take-up in Frankfurt for just the Q3 period was 11.5MW, where Zenium was the stand-out performer, recording more

take-up than any other single operator in the four major markets over the quarter.

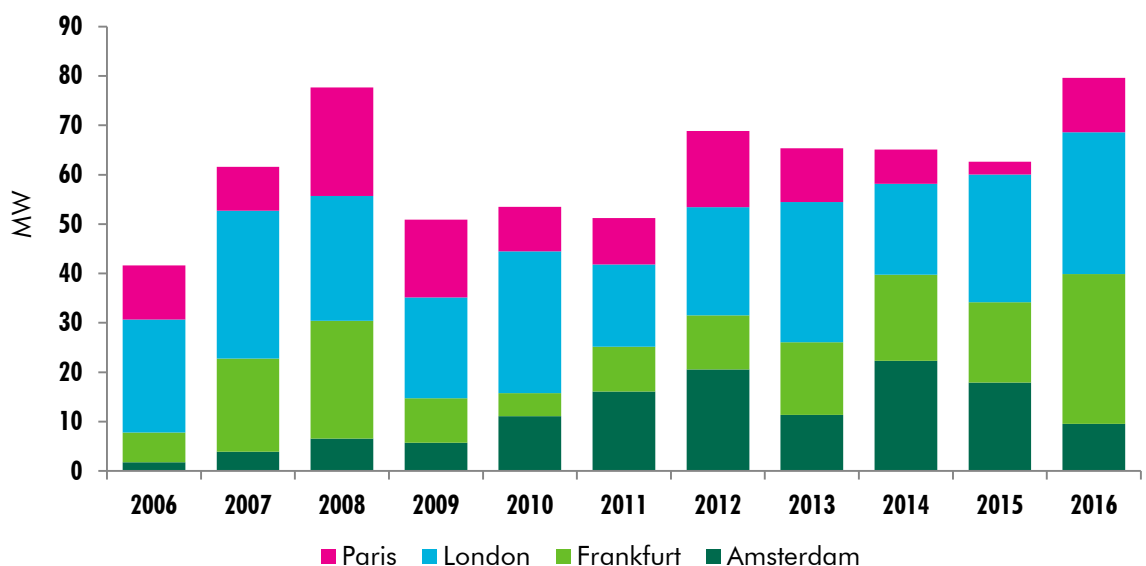
London produced another solid performance in Q3, where 7MW of take-up was recorded. This has put London at 28.7MW for the year so far and consequently on course for a Q4 showdown with Frankfurt for which market will reign supreme in 2016.

Take-up in Paris was 1.3MW in Q3, but this puts the market at 11MW for the year, which will make 2016 its strongest year since 2012. With the sense that the cloud service providers have started, but not finished, in Paris, Q4 could yet provide a final flurry of activity in the French capital.

Amsterdam saw a mini revival in Q3 with 4.8MW of take-up in the quarter. This leaves Amsterdam as the most subdued of the major markets, having recorded just 9.5MW of take-up in the first three quarters of 2016.

In our Q4 edition of the Marketview, we will provide more in-depth analysis of the full year's take-up. We will also look at the impact of the cloud service providers on overall take-up, and whether that trend is sustainable.

Figure 5: European Colocation Take-up as at Q3 2016



Source: CBRE Research, Q3 2016

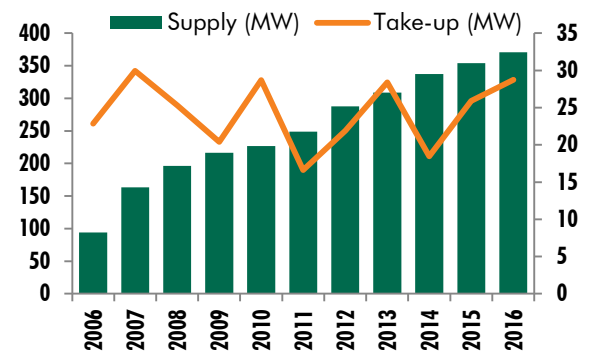
LONDON

London's level of colocation supply grew to 384MW at the end of Q3 and, over the course of 2017, London should be the first European market to break the 400MW mark for colocation supply.

Gyron had another successful quarter at their Campus in Hemel Hempstead and may look to bring on building 2 earlier than originally planned.

New supply in the London market over the coming year will largely be in the wholesaler space. This will provide more competition for any large-scale requirements that come to the market.

Figure 6: London Supply and Take-up 2006-2016 Q3



Source: CBRE Research, Q3 2016

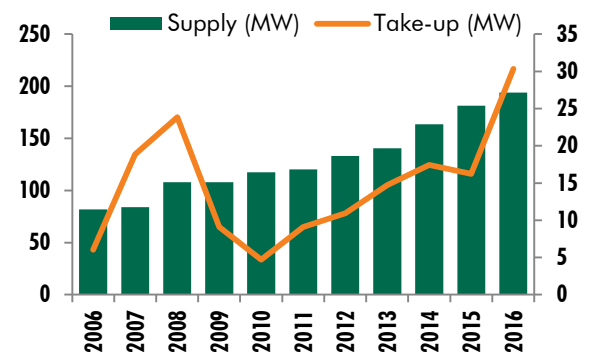
FRANKFURT

Frankfurt's remarkable year keeps going from strength to strength and its level of quarterly activity has been consistently strong throughout the year. 2015 was the first year since 2009 that year-on-year take-up had not increased, but any thoughts that the market may have been in decline have been blown away.

Frankfurt's absorption rate has dropped below 2 years for the first time since 2013. A number of international operators, now also including Colt, are looking to take advantage of continued demand by planning new build schemes.

The 25.4MW of vacant supply in Frankfurt is the lowest figure in two years. While vacancy in retailer facilities in Frankfurt has remained fairly stable throughout the year, vacancy in wholesaler facilities is down from 21.2MW at the start of the year to 9.9MW at the end of Q3.

Figure 7: Frankfurt Supply and Take-up 2006-2016 Q3



Source: CBRE Research, Q3 2016

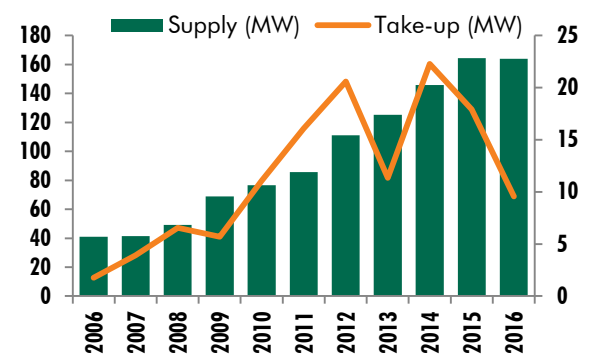
AMSTERDAM

The Amsterdam market has been unusually quiet during 2016. Amsterdam's 9.5MW of take-up in the YTD is substantially below the city's 5-year annual average of 17.6MW.

There has also been little new supply in the Amsterdam market over the course of 2016. This should however change with the launch of Interxion AMS8 in Q4.

Amsterdam's slow 2016 is perhaps indicative of the impact on a market when the hyperscale cloud service providers turn their attention elsewhere. Should those companies return to the Amsterdam market, and it is likely that they will, the market will see a sharp increase in activity. We believe that Amsterdam will bounce back and continue to remain a key market in Europe.

Figure 8: Amsterdam Supply and Take-up 2006-2016 Q3



Source: CBRE Research, Q3 2016

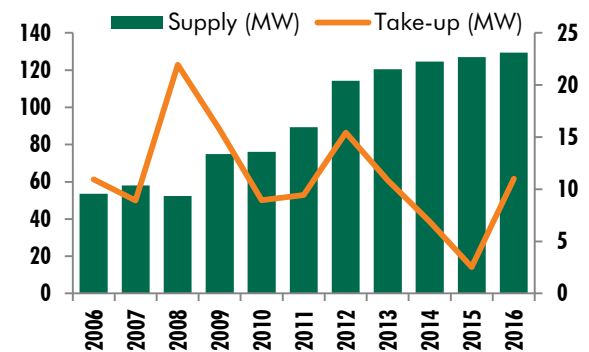
PARIS

Despite a relatively calm Q3 period, the Paris market has done well to come back fighting in 2016 and we predict that there will be new cloud service provider leasing activity in Paris before the end of the year.

Supply in the French market has been fairly static during the year and the market is tied with Amsterdam as having the lowest absorption rate out of the major markets.

Of the 13.2MW available supply in the Paris market, only 1.9MW of this belongs to wholesalers, suggesting that there is room for new wholesale supply in 2017.

Figure 9: Paris Supply and Take-up 2006-2016 Q3



Source: CBRE Research, Q3 2016

Q3 2016 KEY STATISTICS

Figure 10: Key Statistics — year on year comparison (MW)

		Supply	Availability	Colocation take-up (quarterly)	Colocation take-up (year to date)
Amsterdam	Q3 2016	166	25	4.8	9.6
	Q3 2015	153	27	1.0	9.0
Frankfurt	Q3 2016	199	25	11.5	30.3
	Q3 2015	181	38	3.5	14.6
London	Q3 2016	384	70	7.0	28.7
	Q3 2015	354	81	4.8	16.1
Paris	Q3 2016	129	13	1.3	11.0
	Q3 2015	127	16	0.6	2.0
European Tier 1 Total	Q3 2016	879	134	24.7	79.6
	Q3 2015	816	162	9.9	41.7

Source: CBRE Research, Q3 2016

DEFINITIONS

SUPPLY

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

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

AVAILABILITY

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

Wholesale 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 Retail and Wholesale 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 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 make 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.

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
- Consultancy – consolidation strategies, mergers & acquisitions
- Asset Valuation – bank, corporate
- Project management, development monitoring, due diligence, building and M&E surveys
- Research – market reports, statistics, take-up forecasting

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: http://www.cbre.co.uk/uk-en/services/global_corporate_services/data_centre_solutions. To access additional research reports, please visit the Global Research Gateway at: www.cbre.com/researchgateway.