DCByte

MARKET SPOTLIGHT

Germany's Data Centre Markets:

The Rise of the Secondary Markets

Introduction

Discussions on data centre hubs across Europe have focused on the FLAP-D markets, the largest data centre markets in the region. Germany, in particular, is home to the first market on the list—Frankfurt—and features upcoming data centre markets that are increasingly becoming interesting.

Germany and its Data Centre Markets

Geographically, Germany shares borders with nine countries, including Denmark in the north, Poland and Czechia in the east, and Switzerland and Austria in the south. Notably, Germany also neighbours two other countries housing FLAP-D markets towards the west – France and the Netherlands.

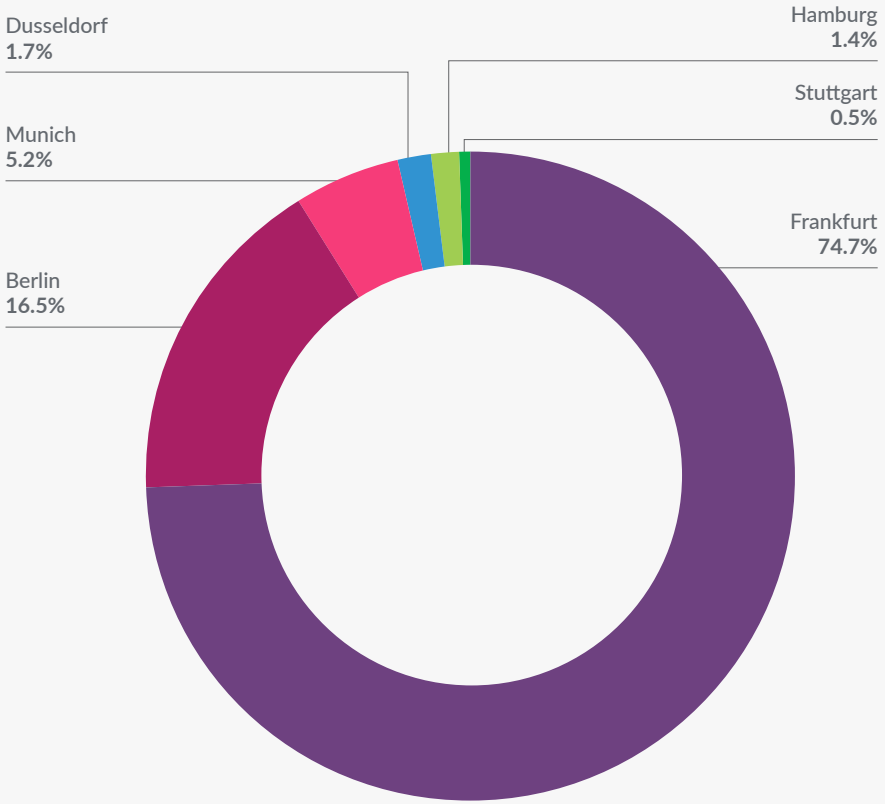
More importantly, Germany is home to one of the largest internet exchanges in the world—the DE-CIX—which recorded 34 exabytes of annual traffic in 2022 and saw close to 1100 connected networks. As of Q4 2023, the six established data centre markets within the country recorded a total supply (summation of live, under construction, committed and early stage supply) capacity of over 3.5GW.

Among the six data centre markets in the country, Frankfurt has been the historical hub of Germany's data centre footprint, with close to 75% of the country's total IT capacity. Frankfurt is one of Europe's key financial centres; institutions such as the Deutsche Bundesbank and the European Central Bank are headquartered in the city. In recent decades, these key institutions have grown steadily, along with their computing requirements which have facilitated the growth in data centre developments. Land and power constraints have challenged data centre developments in Frankfurt, with the additional introduction of the master plan with its seven designated areas in 2022 forcing data centre operators to move further out of the city.

Challenges in Frankfurt have played a pivotal role in the uprising of secondary markets in Berlin and Munich. Collectively, both markets supply over 20% of Germany's total IT capacity and continue to gain attention, particularly as cloud service providers begin to expand their operations in these markets.

Pockets of data centre activity have also begun to brew in the other smaller markets of Dusseldorf, Hamburg and Stuttgart. To date, these three markets collectively supply less than 5% of Germany's data centre capacity.

Proportion of Germany's Total IT Capacity by Market



Data as of Q4 2023

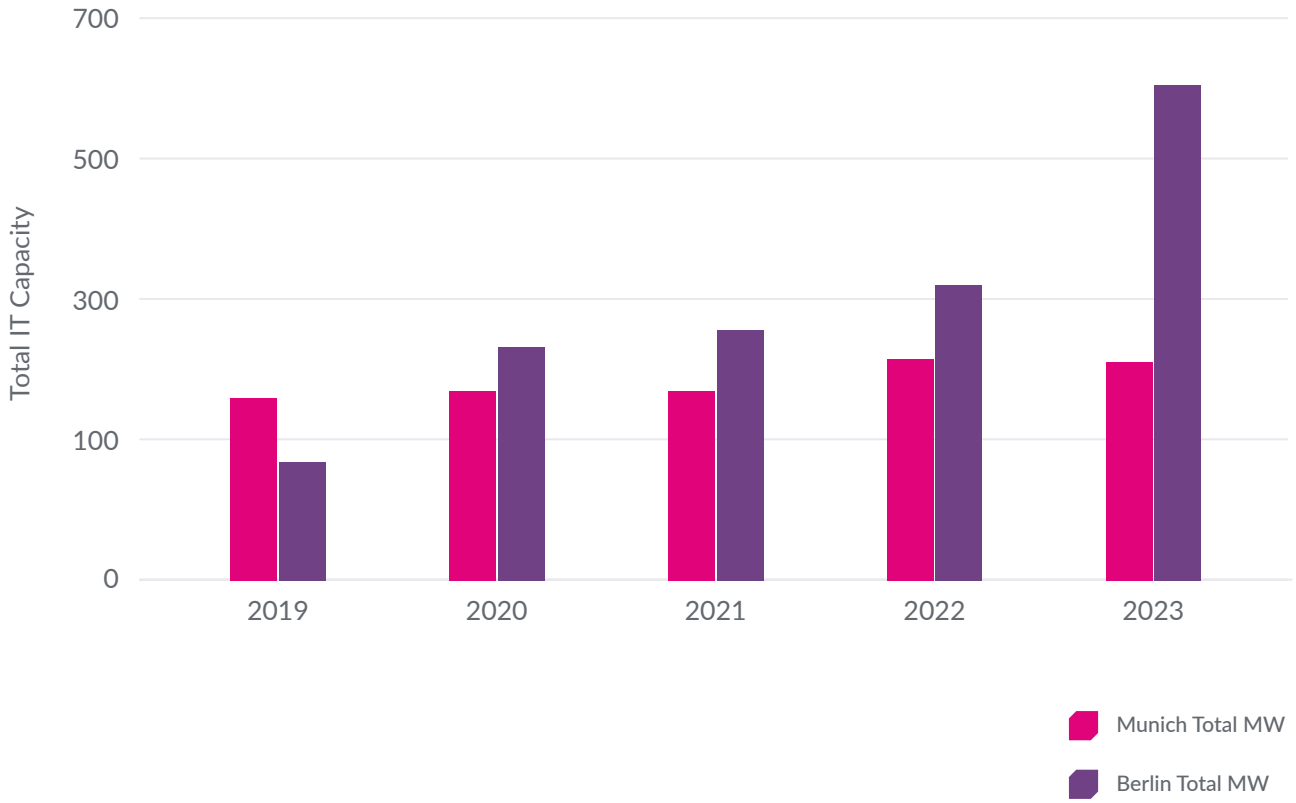
Growth in Secondary Markets: Berlin and Munich

Berlin and Munich have grown extensively in the last five years, with over 500MW of total supply added across both markets. Much of this was concentrated in Berlin. At the current rate of growth, these secondary markets are set to make up a larger proportion of Germany's total IT capacity in the coming years.

Berlin's total IT capacity growth picked up following new developments from early 2020. Before 2019, the market was primarily dominated by self-build telecommunication and managed services facilities and has since pivoted to a large wholesale colocation market. In particular, total supply in Berlin saw a three-year compound annual growth rate of over 40% between 2020 to 2023. Data centre operators such as NTT Global Data Centers, Vantage Data Centers, VIRTUS Data Centres and Prea have all contributed to the new supply. Of the new supply added since 2019, over 90% has been contributed by wholesale colocation facilities.

In contrast, Munich's total IT capacity grew at a smaller scale, with a three-year compound annual growth rate of over 5% between 2020 to 2023 with key players such as Noris Network, Equinix and NTT Global Data Centers. Unlike Berlin, nearly all of Munich's new supply has been fuelled by new retail colocation facilities as opposed to wholesale colocation ones.

Total Supply Growth in Munich and Berlin 2019 to 2023



Munich was initially expected to be the main secondary market in Germany, with total capacity in the market had surpassed that of Berlin's in 2019.

Since then, Berlin's data centre scene has observed accelerated growth, with over 2.5 times more new developments announced as compared to Munich.

This difference in growth between these two markets may be attributed to various factors benefiting Berlin. Cheaper land prices are observed in the capital city of Germany in comparison to both Munich and Frankfurt; Munich in particular has an abundance of natural landscapes (mountains and forests) which are considered protected land, hence limiting the available plots for data centre operations. Moreover, Berlin is the startup capital of Germany. It is hence positioned to meet the cloud computing needs of the city's enterprises, alongside that of wider Central and Eastern European countries given its geographical location in the east of Germany.

Image © DC Byte April 2024

Dusseldorf: An Upcoming Self-build Public Cloud Market in Germany

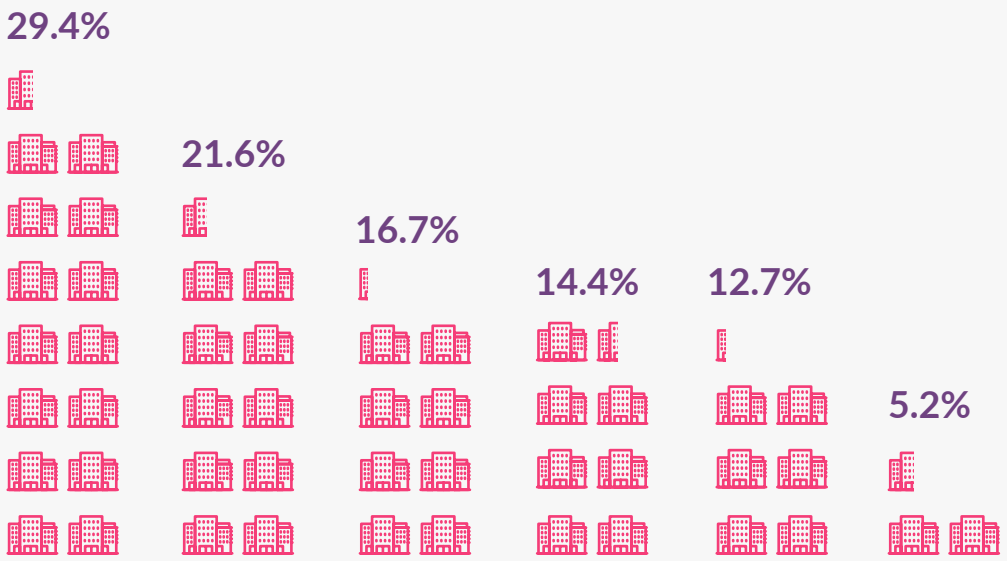
Dusseldorf has 2% of Germany's total IT capacity and is small compared to the country's top three markets. However in the early 2000s, its retail colocation sites were more active compared to those in Berlin and Munich. Companies such as Digital Realty (via acquisition of InterXion) and Equinix (via acquisition of IX Europe) also had a presence within the market due to its geographical location being closer to Amsterdam and London.

Since then, the market has grown and maintained its majority retail colocation composition, with 88% of the market's total capacity is contributed by retail colocation and build-to-suit facilities. Dusseldorf also has more international operators than domestic players; international operators hold 91% of the market's total capacity while domestic players contribute the remaining 9%. Key players in the market are Datacenter One (an AtlasEdge company), Digital Realty, NTT Global Data Centers, Penta Infra and Equinix.

At the start of 2024, Microsoft announced it would enter the wider region of the Dusseldorf data centre market, investing in the state of North Rhine-Westphalia. This entrance will shift the market's long-held retail colocation majority composition towards self-build public cloud in the coming years, contrasting with other German markets that are primarily fuelled by colocation capacity. A case study on how such investments may alter market compositions would be Belgium. In 2010, Google embarked on constructing self-build data centres in Belgium, and to date fuels over 60% of the total IT capacity recorded in the market.

In all, such investments by leading cloud service providers will elevate the profile of Dusseldorf's data centre market and highlight the potential for growth in similar smaller, secondary markets.

Proportion of the Five Key Players by the Total IT Capacity in the Market



Data as of Q4 2023

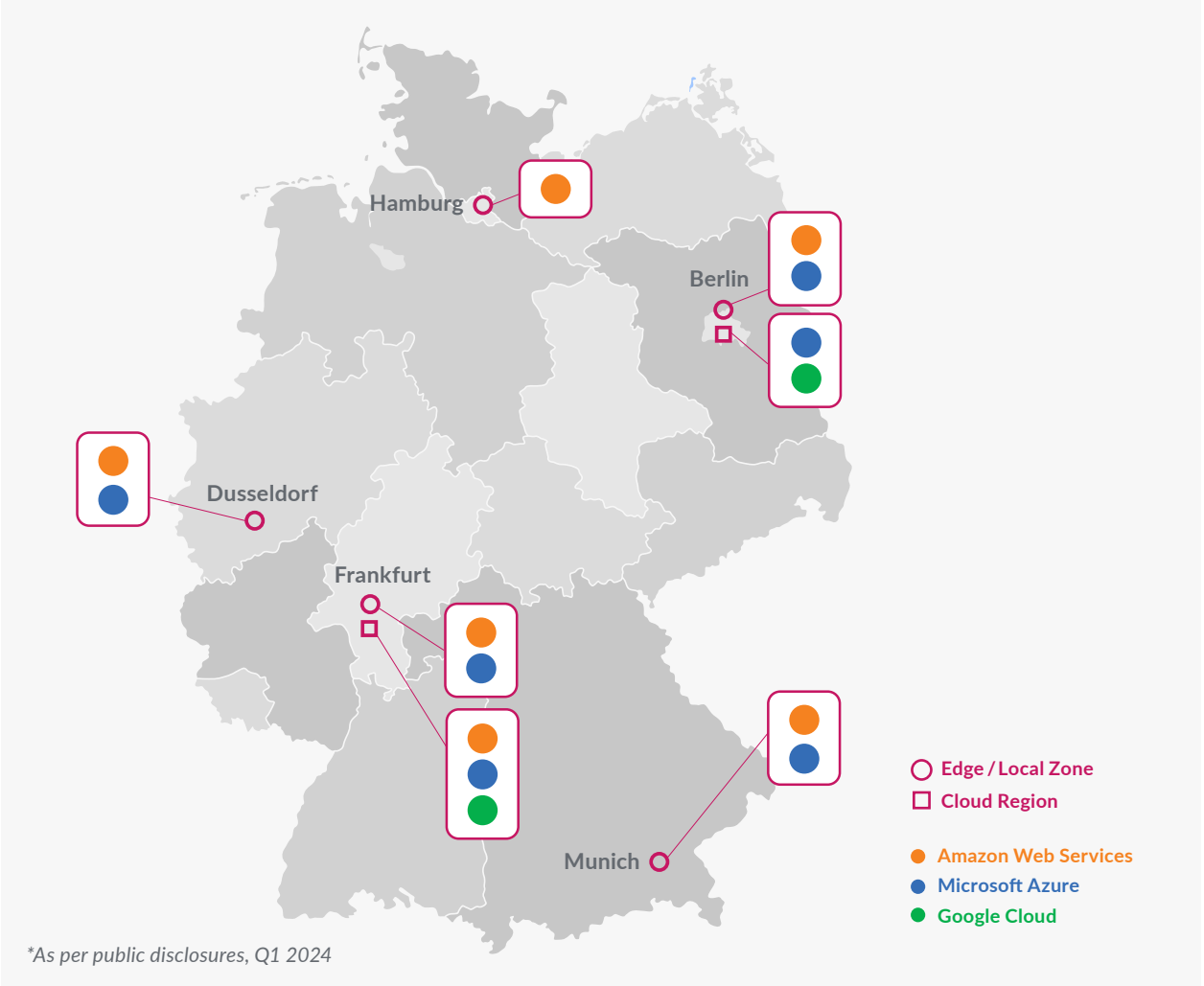
Where the Cloud Lives in Germany

Cloud service provider activity in data centre markets often provides a yardstick for market development and potential. While Frankfurt, as Germany's leading data centre hub, has an established cloud region, Berlin has seen increasing interest from several cloud players in the past few years.

In 2018, Microsoft announced the delivery of a new cloud region in Berlin that was ready for service in 2020 to help organisations meet regulatory compliance and requirements, including data localisation needs. This ended the relationship between Microsoft and Deutsche Telekom, with the latter having held a data trustee role since 2015, controlling access to customer data in Microsoft's hands.

Later on in 2021, Google announced plans for its Berlin cloud region which opened in 2023. The Berlin-Brandenburg cloud region is the twelfth region in Europe serving customers with local cloud capacity and servicing important in-country disaster recovery requirements.

Shortly after, Amazon announced its plan to launch local zones in 32 new cities globally in 2022. On the list were plans for establishing local zones in Berlin and Munich to support end-user performance on their applications and meet digital sovereignty requirements.



As per public disclosures, Q1 2024

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Conclusion

Given the recent developments and growth trajectories witnessed in the different German data centre markets, it is evident that Berlin and Dusseldorf are two markets primed for further data centre growth. Berlin in particular can be seen as the rapidly emerging secondary market and Dusseldorf as a market set to see a change in market composition with the entry of public cloud self-builds.

Foreign investments continue to funnel into various industries across Berlin—an example being the Tesla Gigafactory—with such investments potentially fuelling data centre demand down the road and cloud operators seeking options either through wholesale colocation or self-build facilities. Frankfurt, amidst the constraints, will still hold its position as the primary market with more new data centre clusters created outside of the city.

Given the extensive growth witnessed in both primary and secondary markets across Germany, the increasing importance of data centre efficiency will be shaped by regulations such as the Energy Efficiency Act which will affect the data centre industry, along with other sectors. Key data centre and digital associations such as the German Data Centre Association (GDA), Bitkom, and eco have previously presented solutions in a joint position paper on shaping a sustainable data centre industry for Germany by 2030. The Energy Efficiency Act has since been passed by the German Parliament, with dynamics among the data centre developments in Germany set to be impacted from 2026 onwards with the new regulations imposed.

DCByte

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