

# The state of the U.S., European data center investment market

**Chase McWhorter**, Institutional Real Estate, Inc.'s managing director, Americas, recently spoke with Principal Asset Management's **Casey Miller**, managing director, portfolio management, and **Paul Lewis**, managing director for European data centers, about current trends in the investment marketplace. Following is an excerpt of that conversation.

*What is the state of the data center market today in the United States and Europe?*

**Casey Miller:** We believe the state of the U.S. data center market today is as good as it's ever been. The fundamentals for the market are very strong and continue to improve. From a landlord perspective, vacancy is hovering around 2 percent. Market rents are increasing, and leases are being signed years in advance of buildings being delivered. Market fundamentals seem to be moving towards the landlord.

**Paul Lewis:** We see all the same market dynamics in Europe. 2023 was a record year for take-up at more than 500 megawatts [MW] in tier 1 markets. We're continuing to see falling vacancy rates and restrictions on supply.

*Will strong demand continue, or have we reached a peak?*

**Lewis:** In our opinion, we have not seen a peak. We see continued drivers for demand given the digital age we all live in – continued cloud-adoption by enterprises, and more social media, streaming and gaming in our personal lives. The latest surge of artificial intelligence is just adding a further layer of demand onto the market. From a European perspective, we expect a very strong year in 2024 and 2025, and we can see no reason the market should fall away after that.

**Miller:** The majority of the growth we've seen to date in our portfolio has been for cloud adoption. We're just now starting to get into specific AI uses. With where that demand is projected to go, I think we are years away from a peak.

*What are the challenges involved in meeting this increased demand?*

**Miller:** Power is probably the largest challenge to continuing to meet this demand – both the distribution and production of power. We're starting to see markets where there simply just isn't enough power in the system. But there are even greater challenges in power distribution. How do they get power from the production plant to your specific site? The infrastructure for that is often either at capacity or it doesn't exist. It is taking years to build or to modify it. Then there are permitting issues. Not everybody wants a data center in their backyard. Of course, another consideration is data centers are capital-intensive assets, and project costs are increasing, along with the size and scope of projects. Both equity and credit markets, however, have increased appetite and sophistication for the property type.

**Lewis:** From a European standpoint, we see the same trends in our major markets. Indeed, we've been seeing those constraints around power for a bit longer. The major markets in Europe – London, Frankfurt, Dublin – are all suffering from constraints

in power. And increasingly, that's starting to move to our tier 2 markets, such as Madrid. Permitting has also been a big issue in Europe. We've seen moratoriums against data center development in places such as Amsterdam, and the permitting process is becoming longer and harder. The final point is the ESG challenge around making sure we accommodate this demand in the most sustainable way possible, going forwards.

*How are data center facilities changing to accommodate tenant needs and market trends?*

**Lewis:** For several years, facilities have been getting larger, and that trend is set to continue. When I started in the industry 2008, a 10 MW facility was a large facility, and now you're seeing tenants seeking campuses that are 100 MW to 500 MW. The design is having to change to accommodate denser compute, accommodating higher power requirements, and then also changing to accommodate modern ESG requirements to make these facilities as efficient as possible. That is motivated both by wanting to do the right thing and by the pure economics that the biggest cost of running a data center is your power cost. The more efficient the facility is, the better it is for your end customers. But you have to merge all of those changes with the lack of available and suitable land with access to power where you can get a permit. Compromises are having to be made in locations, and we're starting to see some new locations develop out of those constraints.

**Miller:** The one thing I would add is that the tenants are becoming more comfortable with a standardized build, rather than their own bespoke design, which created additional nuances. If a tenant wants product and they want it as fast as they can get it, which is normally the case, they're willing to take a developer's standard build, which helps them get to market quicker.

*How hard was it to explain some of these nuances to investors going back to the early 2000s, compared with the last few years?*

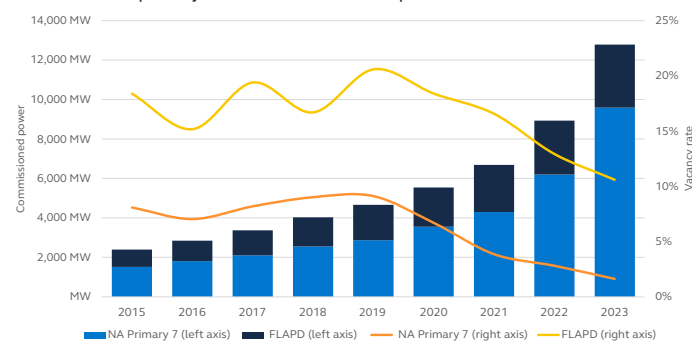
**Miller:** In the early 2000s, investor familiarity with purpose-built data centers was low, and it took time to educate. The question was: What happens if a data center use does not work in a particular location? Converting a logistics building into a data center is possible, but reversing that is more difficult. Generally speaking, once a built-out, commissioned data center, always a data center, due to the very specialized design requirements. Today, data centers have become more institutionalized, and investors are more aware of the nuances in developing them.

**Lewis:** It is also important to understand the industry has gone from converting standard logistics buildings into data centers, to the purpose-built designs required to meet the needs of data center operators today. They are designed to be as efficient as possible. There is still an opportunity to retrofit those older facilities, and with the difficulties in procuring power and permitting, I expect we will see more of that, going forwards.

**Miller:** The first and the second innings of this market evolution took a long time. I think everybody's gotten comfortable with the idea of converting a logistics building to a data center. Pre-

## Commissioned power and vacancy rate

North American primary seven markets and European FLAPD markets



Note: Primary seven North American markets: Northern Virginia, Phoenix, Dallas/Fort Worth, Atlanta, Northern California, Chicago, Portland. FLAPD: Frankfurt, London, Amsterdam, Paris, Dublin

Sources: datacenterHawk (North American data) and CBRE (European data), as of Q4 2023

pandemic, we spent a lot of time talking options if we got the data center location wrong. People were worried about, what if? Today, it's, how quick?

### What is the impact of artificial intelligence on data center design and operation?

**Lewis:** We are in the early days of seeing AI's impact on data centers. There are two basic waves of impact: Firstly, training the language models requires huge amounts of power, but it can be done in non-latency sensitive locations. It can be done in some of the emerging locations across the United States and Europe, and other parts of the world. Secondly, as AI applications start to become widely adopted, that is when the inference and latency interruptions will become more sensitive. Tier 1 markets with low latency to all end users using AI applications, either for a business or personal reason, will be, again, critical. AI affects both the physical design of the building and has implications for location.

### How are sustainability consequences impacting the sector?

**Lewis:** Given most of the major tenants, in particular, the hyperscalers, have very aggressive targets around sustainability, including the use of fully renewable energy, everything from design and construction through to operations is considered. This has been driving the build out of a number of renewable projects, such as solar and wind farms. From an operations perspective, there is also a focus on making the facilities much more efficient, requiring less power for every unit of compute. In Europe, the use of the waste heat, which is ejected from data centers, is starting to become very widely adopted. When you're applying for a data center permit, you need to determine what you're going to do with that waste heat. To improve the efficiency of the data center, it's best to find a viable and sustainable alternative use because, effectively, all that power is being transformed into heat within the data centers.

**Miller:** We are seeing in real time a true collaboration among the developer; the tenants, or the users; and the municipalities or the local utility companies providing that power. It has required a partnership approach to meet the power needs of a data center tenant, while also meeting their aggressive net-zero goals. Global hyperscalers, in some cases, are considering the impact from a portfolio perspective: Where maybe one building in a location

doesn't have access to renewable power, they're able to compensate in a different part of their portfolio. We also see partnerships between the utility company and data center, where at peak demand, the user is willing to come off utility power and turn on their generators, so they can provide the power they need at the data center level themselves, and then save the grid, so to speak.

### Given the scale of the projects, do you see increased availability of equity in debt capital considering data centers?

**Miller:** While gaining more attention, it's still a relatively new asset class for many investors. We expect the long-term structural tailwinds of the property type, however, are likely to continue to drive the increase in equity and debt capital into the sector. As the sector continues to mature, we expect this property type to become a larger portion of investors' real estate and infrastructure portfolios, much like the increase to industrial 10 years ago.

**Lewis:** The market for data centers is maturing, such that there are now plenty of different ways that you can invest in the sector – through exposure to data center operational platforms, through development, through existing stabilized assets. As the sector progresses, it is starting to appeal to different pools of capital, which is a good thing.

### What differentiates your firm from others in the space?

**Miller:** The first differentiator is the amount of time Principal Asset Management has been in the space, going back to the early 2000s. We have witnessed the sector evolve and adapt to the changing needs of tenants. In addition to that, we have a global footprint, which includes our team here in the United States, as well as Paul and his team in London, covering all of Europe.

**Lewis:** Time in the sector is a crucial differentiator. Our firm has been investing in data centers for a long time, both through private real estate and through the public markets. We have a broad and informed view of the sector, which helps to differentiate us from others in the market.

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## ABOUT PRINCIPAL REAL ESTATE

**Principal Real Estate** is the dedicated real estate investment team of Principal Asset Management<sup>SM</sup>. Our knowledge and expertise span the spectrum of public and private equity and debt. Our specialized market knowledge, dedicated and experienced teams, and extensive connections across all four real estate quadrants allow us to maximize opportunities and find the best relative value on behalf of our clients. Visit our website at [www.PrincipalAM.com/realestate](http://www.PrincipalAM.com/realestate)

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