

Keeping up with the exponential data center demand

Chase McWhorter, Institutional Real Estate, Inc.'s managing director, Americas, spoke in July with Principal Asset Management's **Matt Hackman**, portfolio manager, and **Sebastian Dooley**, senior fund manager, about the current trends within the data center investment market. Following is an excerpt of that conversation.

Data centers and the digitization of economies and society is a global trend. What are some of the key similarities and differences between the U.S. and European data center markets?

Sebastian Dooley: There are more similarities across both data center markets than is the case in other property sectors. Principal Asset Management's data center team in Europe works very closely with our colleagues in the United States, especially compared with any other real estate sector in which we invest. The underlying drivers pushing data into the market are the same no matter where you go due to the digitization of the world around us – the move of businesses to the cloud, the increasing adoption of the internet and connected devices, and the emergence and integration of AI across government and corporate sectors.

There are some differences, though. The progress of the occupier market is further ahead in the United States. Our European team tends to see trends play out in the United States anywhere from 18 months to 36 months ahead of the European markets. A great live example of that is large-scale generative artificial intelligence model training. In the U.S. market, a number of these facilities have been adopted and have taken over large-model training workflows. In Europe, very few facilities are handling this workload. We expect that to increase in the coming years.

A second difference between the two markets is that the United States has far more abundant land and power available for these data center sites. Scale is getting larger across both markets, but there is a natural cap on how large the European assets can get. In prime locations, especially those close to cities in tier 1 markets, the constraints on space and power are much greater.

Finally, an emerging difference involves geopolitics. European governments and European-domiciled companies are focused on becoming more independent from the United States, with digital infrastructure very high on the priority list for national security and independence. While it has been comfortable relying on the United States for many data-processing requirements and the AI evolution, there is a greater pushback on that in Europe today. The regulatory environment in Europe is more stringent than in the United States, including ESG regulation and stricter data privacy laws.

The data center industry is continuously evolving. What are some of the changes you're seeing?

Matt Hackman: The size and scale of the assets is growing quickly as hyperscalers look for space. Additionally, the technology inside the assets is improving. We're seeing higher rack densities being deployed, which brings additional cooling technologies and requirements. Many tenants now are looking for deployments that have a hybrid approach of air and liquid-based cooling.

Because power is such a significant bottleneck, especially in many of the major markets seeing most of the deployments, we are starting to see a shift in locations. Markets that were not significant data center markets a few years ago have become

massive players within the industry today. Outer rings of markets are becoming more important, as well, as these can be locations with available land and power to meet end-user demands.

How are the changes in the data center market affecting data center design? Are some data centers becoming obsolete?

Dooley: Speed to market is key. If a facility doesn't quite fit a tenant's requirement, upgrading an existing facility – while time-consuming and costly – is much quicker than creating a new one. Facilities are constantly being recycled through different use cases. Densification is happening to handle the newer workloads coming to market, but that doesn't take away from the previous workloads that are still creating demand. Just because AI is coming to market doesn't mean the traditional cloud workloads are disappearing or lessening. While modern design has different requirements, many current facilities still work very well for cloud business. The underlying workloads continue regardless of new facilities with more modern designs being developed. We believe demand for these facilities will continue. As new chips come to market that do the same job in slightly different ways, owners can make slight modifications to accommodate the changes, rather than developing new facilities.

Hackman: Many of these existing facilities built years ago have higher redundancy than is standard in today's environment. Some of these older facilities can be decoupled, and tenants can utilize previously redundant power supply as new critical power as the power demand continues to increase.

How available is power today in the United States and Europe for data centers, and how is that impacting development?

Hackman: Many markets have a very significant shortage of near-term power availability. Developers are considering onsite generation, and relationships with the power providers can be just as important as relationships with end users. Developers are increasingly going to where they can secure power. Finding available power is what ultimately makes a development viable.

Dooley: European markets face both power production and transmission challenges. For example, in West London, which is one of the largest hubs across Europe, tenants must wait until 2030 for upstream reinforcement work on transmission lines and substations to draw additional power into the region. A similar delay is occurring Frankfurt.

Beyond power availability, what are some of the challenges – and opportunities – you see in developing data centers in today's environment?

Hackman: One of the challenges we're experiencing involves the supply chain. Some of the most important electrical items that go into a data center – transformers, switchgear, generators – can have lead times of more than two years. Not having these components on order before starting construction means you won't be able to deliver an operational facility in a relevant timeline. Developers need to have this long-lead-time equipment on order well before breaking ground on a data center. Additionally, one of the opportunities here is adaptability. Technology continues to progress rapidly, and tenant design standards can change multiple

times between lease signing and delivery of the commissioned space. You have an advantage if you can remain flexible and nimble throughout the development process.

Dooley: In Europe, local governments are becoming increasingly specific in their requirements for data center permitting. Negative press about the sector has led to local government pushback. If you understand the requirements and dynamics in a local region, you can create products in that market while other players cannot. On one hand, it is an extremely global sector, and it's becoming even more so as we move forward. But it is also becoming increasingly local, and understanding the fundamentals of specific locations and their unique needs can be a strategic advantage. In France, for example, the central government is pushing for AI investment and expansion, advancing numerous projects. For standard data centers, however, local mayors have veto rights over every project. This sets up a potential clash between local government needs versus those of regional or national government.

How do you view the liquidity in the data center market? What are the most likely exit options?

Dooley: Investors are now looking for exits and may be concerned about not having several years of suitable track records for exits. That kind of track record is impossible, given the growth of the industry over a small number of recent years. The number of institutional investors beginning to understand the sector is increasing exponentially though, and many are seeking the slightly more core products – we believe this will become a source for exits. Also, we can look beyond real estate investors to infrastructure investors, who remain very interested in acquiring these types of assets on a stabilized or mostly stabilized basis. They provide a strong pool of liquidity, as well.

We are starting to see several potential types of transactions emerge. Similar to occupational trends, these emerge in the United States before Europe. We're seeing more structures, such as traditional real estate asset sales and so-called yield co-structures, as well as numerous debt-derived liquidity solutions, whether through asset-backed securities or CMBS-type structures.

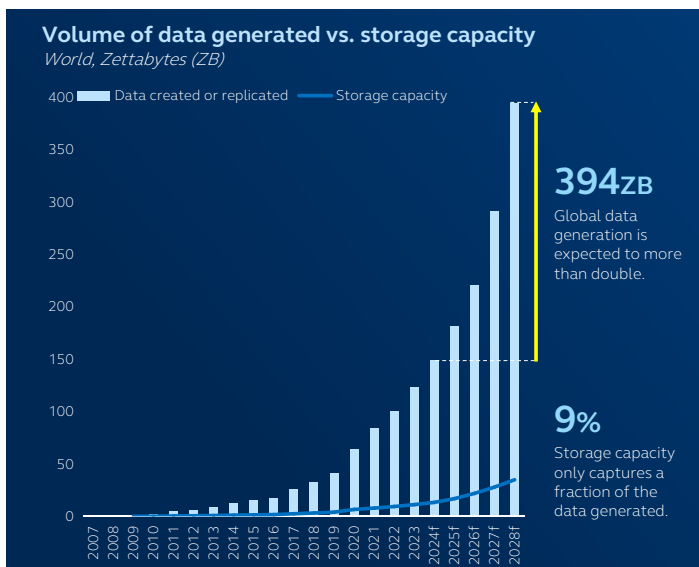
Hackman: In the United States, we are seeing a range of buyers – from end users to real estate or infrastructure investors to entire platform sales of operators. It's an interesting profile of potential exits, especially for the hyperscale facilities where long-term credit tenancy backs the leases. The financing market for data centers has recently expanded significantly, as well. The availability of financing at attractive spreads has climbed the capital stack, providing opportunities to purchase some of these larger assets with less equity than previously was the case.

As a manager that has seen the data center industry evolve since your entry in 2007, what trends do you expect in coming years?

Hackman: I expect average rack density to increase in new developments, which will require advanced cooling technologies to

become a focal point as the industry grows. With increasing power requirements, power procurement through utility arrangements or onsite generation will continue to be critical, both in the United States and Europe. Data centers will prove to be very strategic assets. Not only will they offer an enhanced return profile for investors, but they are essential from a societal growth perspective, as they continue to facilitate the digitization of our world. Twenty years ago, we were building data centers to support websites and email. Ten years ago, demand had shifted towards mobile services. Today, we build them to power AI, autonomous vehicles and intelligence systems. While the uses continue to expand and evolve, ultimately, what matters most is the availability of reliable power to these facilities and the ability of end users to deliver advanced technologies to their customers.

The demand for data centers has been exponential. It was not long ago a 10-megawatt to 20-megawatt data center was considered large; now we are seeing multi-hundred megawatt data centers being built and gigawatt campuses. Approximately 90 percent of all data has been created within the past two years. The amount of data creation is exponential, and now with AI, data is creating more data. It's difficult to truly grasp the scale of this growth or put it into perspective.



Note: 1 zettabyte = 1 trillion gigabytes. Source: IDC 2024, Principal Real Estate, November 2024

Dooley: While broad strategies can stay the same, staying nimble in the execution of individual deals and design is essential. Across several European markets, hyperscalers' demands are becoming much more specific. They are very precise with what they require in a facility and with whom they want to work. It is much tougher to be a new entrant in this market.

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