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Data Centers

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Scaling up

How surging demand is driving exponential growth



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EXPERT COMMENTARY

The needs of the largest companies are changing the market for investors and driving sustainability, says Actis's Dalmar Sheikh



Hyperscalers are transforming the landscape

Around the world, the data center market is now dominated by a handful of technology companies capable of creating, processing and storing millions of terabytes of data every day. These hyperscalers are global leaders in fields such as social media, e-commerce and cloud computing, and provide the backbone of the world's digital infrastructure through their platforms.

The continued growth in areas such as the Internet of Things, 5G, AI and machine learning are all factors that are increasing data generation and consumption, and solidifying the already dominant market position of these firms. Between 60 percent and 80

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percent of all new data center capacity globally is being built or consumed by them.

Data centers are the physical infrastructure which – effectively – houses the internet. They require uninterrupted power, redundant cooling systems and networks, as well as sophisticated physical security. Any virtual information, system, or communication is ultimately processed or stored in one of these physical locations.

However, the growing presence of

the hyperscalers in these data centers is not just transforming the way they are used. It also has important implications for where and how investors should allocate their capital to generate the returns they require.

Investors need to ensure the facilities they invest in meet the demanding standards – including around sustainability – that hyperscalers require, are flexible enough to meet future needs, and are built in the right location. For example, the hyperscalers are rapidly expanding into Tier 2 markets. New construction is therefore likely to focus in areas where hyperscalers will be increasing their presence in years to

Analysis

come, but where risk/reward ratios are attractive.

Off the beaten path

Locations that offer lower energy costs and a better energy mix to meet the sustainability goals of these hyperscalers are also likely to prove more attractive. They require room for expansion, flexibility to meet the new designs inherent as server technology progresses, and a significant level of energy efficiency in design. An understanding of the evolution of these changes will be critical to investors as they assess where to deploy capital in the future.

There are other considerations, such as the way hyperscalers are likely to acquire the space they need quickly enough to meet their needs. Despite their massive capex deployment capabilities, hyperscalers face limitations to building their own infrastructure in many situations.

The first limitation is speed to market: they cannot be everywhere at once, and the rate at which new capacity is needed has far outstripped the ability of hyperscalers to build it. This is especially true in newer or more challenging markets where they are competing with nimbler developers that have local knowledge on land and power, as well as understanding of local permitting and regulations.

Second, growth in revenues for these hyperscalers can be difficult to predict in these new markets, and self-building is unlikely to be cost-effective in the sub-30MW entry scale. Instead, in these instances, hyperscalers prefer to lease space from another builder-operator. Investors can take advantage of this opportunity by looking at emerging data center markets, especially in Asia, Latin America and Africa. These areas are characterized by fast growing populations offering a high potential for digitization and greater industry uptake of digital services.

Current data center capacity in these regions is low relative to their populations. Further, these areas are outside



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of hyperscalers’ traditional self-build markets in Europe and North America. It is critical for them therefore to partner with asset managers, builders and operators who have local experience in procuring real estate and power.

Crucially, investors need to focus on infrastructure that is sustainable, to meet the stringent requirements hyperscalers put on them. This is particularly critical when it comes to addressing accusations that hyperscalers and the data centers they occupy are damaging the global effort toward a sustainable future, given the amount of power they consume.

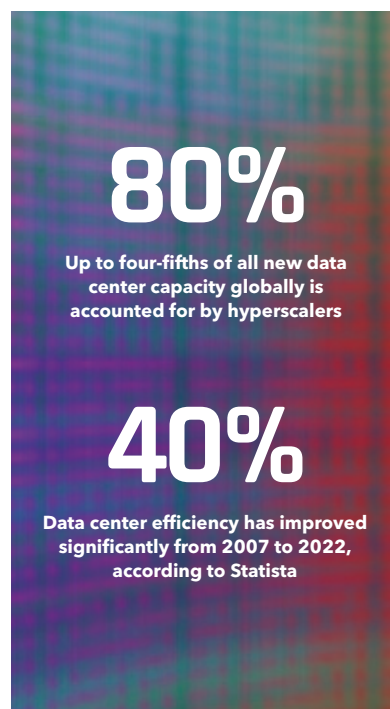
However, it is important to consider the alternative. On-premises data centers are less efficient than the cloud data centers these hyperscalers use. Hyperscalers operate more efficient data centers, have better server utilization and a cleaner power mix, meaning reduced carbon emissions compared to on-premises data centers.

The road to net zero

The data center industry itself is leading by example. Data released by Statista in September 2022 based on a



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survey of IT and data center managers globally showed data center efficiency improved by nearly 40 percent between 2007 and 2022.

One of the reasons for this is that data center operators have an incentive to provide energy-efficient infrastructure. The cost of power is typically passed through directly to the customer, so more efficient infrastructure delivers a lower final price to the client.

All the main hyperscalers have their own, aggressive, net-zero or carbon-neutral targets in the next 10 to 30 years. Using an efficient data center can help them meet their goals.

Partly as a result, the data center industry is a major buyer of power purchase agreements (PPAs) for renewable energy: in 2021, Amazon and Microsoft were the two largest corporate buyers of renewable energy through a PPA.

However, the market concentration also carries significant risks for investors. Hyperscalers are aware of their position as buyers and can use this power to push for ever lower lease pricing, shouldering investors with an unnecessary level of risk. Meanwhile,

macro headwinds are liable to impact all hyperscalers similarly.

These risks, however, can be leveraged into opportunities for investors who have a high degree of local knowledge: some markets which have a supply and demand mismatch have seen lease pricing increases of between 30 percent and 120 percent due to the lack of appropriately zoned land with power.

The right direction

Overall, we believe investors should look at markets where the convergence among scale potential, nascency of digital penetration and lack of existing quality of data centers is the greatest. This is often in the fastest-growing regions of the world, where digital penetration is currently at its weakest, and hence the benefits of access to the data and technology that hyperscalers bring will be the most significant.

Global data center creation rates show no signs of slowing down, and the need for them will only increase. A sophisticated understanding of energy policy, developments in data sovereignty laws and the backstop of local industry demand to complement that of the

hyperscalers is required to ensure they are developed in the right place at the right time – and have the ability to scale as customers grow.

Data centers which are ready for service when hyperscalers experience demand spikes in a region can ask for price premiums, given the lack of other options. Investments in scalable designs can establish a local footprint, while being ready for expansion as new demand comes online.

Hyperscalers have brought a new dimension to a data center industry which is now decades old. Their scale and reach have helped transform the digital infrastructure sector into a global business that is enabling digitization all over the world. For investors who work with the right partner, their increased activity in the sector can only help them as they seek to generate the stable, long-term risk-adjusted yields they require. ■

Dalmar Sheikh is director, global head of data center operations, at Actis. He works in the real estate team from the firm's Singapore office, having joined in 2022 from Amazon to work on new and existing data center investments in Africa, Asia and Latin America