How data centres are evolving to meet global sustainability goals

Data centres play a critical role in supporting global economic development and the low-carbon transition. They are vital hubs that ensure data is processed quickly and efficiently to meet the needs of the businesses and consumers who use it. And the demand for data centres is certain to grow in the next few years, due to the increasing prevalence of the cloud, the internet-of-things, the growth of 5G, the rise in importance of data-privacy policies, and other global trends.

By some estimates, the world will be consuming 20 times more data in 2030 than it did in 2020.[1] Much of this growth will be driven by new users, by more time being spent watching video and the increasing use of higher-definition content. For investors, the key challenge is perhaps not whether to invest in data centres, but where to allocate funds to find the most beneficial risk-reward profile.

Markets such as those in Asia, Latin America, Africa, and parts of Central and Eastern Europe represent a significant opportunity. They are underserved when it comes to digital infrastructure, which is largely focused on Western Europe, the Americas and other developed markets, such as Japan. This means there is huge potential for investors to make better risk-adjusted returns in these parts of the world.

Demand trends in these markets are highly favourable. They are home to growing populations, increasing internet penetration and a rising middle class, members of which are prime consumers of data. Many also have significant development needs. Bringing data to these parts of the world more efficiently will help these countries improve access to education, banking and healthcare.

Demand from hyperscalers

One factor behind the surge in interest in data centres is the growing demand for space from hyperscalers, the giant businesses behind ecommerce, social networks and search engines. It has been estimated that between 60 percent and 80 percent of capacity globally is now consumed by these businesses.[2] This increase in demand – driven by trends such as the growth of artificial intelligence and machine learning – is about more than simply servicing their customers' needs, however. Hyperscalers are not just buying space within data centres for themselves. Their burgeoning appetite is also due to their need to be able to offer the increasingly important cloud services they sell to local enterprises, governments and public sector institutions.

One question data centres face is around the sustainability of their operations. They require huge amounts of energy to function properly. Electricity is needed to run the processing capabilities, while the heat generated by the computing power puts a premium on the need for adequate cooling systems. The question, then, is how they can be built and operated in a way that helps the world meet its climate challenges.

Working with a partner that understands the differing factors in the markets they work in – one that collaborates with governments, local operators and other businesses – investors can achieve the stable, risk-adjusted returns they require, as well as help play a leading role in facilitating data flows in a sustainable fashion to the parts of the world that most need them.

Data centres support low-carbon transition

Of course, data centres by their very nature support the global low-carbon transition. New technologies, for example, help to streamline and accelerate the integration of renewables into energy systems and dramatically improve energy efficiency. Meanwhile, supply chains can be made more efficient by using an algorithm housed in a data centre, rather than relying on corporate logistics teams. And digital technologies facilitate a shift to a circular economy, unlocking service-based business models that reduce resource consumption.

In addition, data centres are designed to be highly power efficient, and there is clear evidence that cloud data storage, provided by data centres, is approximately 60 percent to 90 percent more energy efficient than the next best alternative.[3,4] They concentrate carbon usage that is currently distributed in the community at a single, more economical location. And there is a financial incentive for data centre operators to make their facilities as efficient as possible: Since power costs are typically passed through to the end user, a data centre that is less energy intensive is a key selling point in attracting customers.

Utilising renewable energy can also help a data centre improve its environmental footprint. Here again, there are good reasons to invest in faster-growing markets compared with those that are more mature. It can be a challenge to retrofit renewable projects into busy, crowded, existing urban environments in more developed countries. By contrast, many of the emerging markets are world leaders in renewable energy. Even a huge market, such as Brazil, has an extraordinarily high percentage of renewables in its grid. Many investors have, therefore, leapfrogged more developed countries when it comes to using greener energy.

Using data centres can help businesses meet their own sustainability goals. Many corporates are under pressure from their own investors or stakeholders to reduce their carbon emissions or reach net zero. Moving their digital operations to a power-efficient facility can provide a clear demonstration that they are taking their responsibilities seriously, and they are doing all they can to help combat climate change.

Factors investors should consider

What factors should investors consider when deciding where to allocate their funds? They should seek out a partner that not only has a substantial track record in digital infrastructure, but that has capabilities in real estate and energy, too. These are critical to securing appropriately located pieces of land, obtaining the relevant permits and securing power. Having a strong, on-the-ground presence is also vital in understanding where the local trends in data centres are going, and to help navigate market-specific rules and regulations.

Governments, businesses, universities and others increasingly understand that digitisation and digital infrastructure are the future. The market is responding and recognising this opportunity. Many governments are rapidly drawing up policies, such as those around data residency and privacy, and they are ensuring the right infrastructure is in place to facilitate the appropriate landscape for data centres. Working with a partner that understands the differing factors in the markets they work in – one that collaborates with governments, local operators and other businesses – investors can achieve the stable, risk-adjusted returns they require, as well as help play a leading role in facilitating data flows in a sustainable fashion to the parts of the world that most need them.

Notes: [1] McKinsey Global Institute, "Connected world: An evolution in connectivity beyond the 5G revolution", February 2020; [2] Structured Research; [3] AWS, "The Carbon Reduction Opportunity of Moving to Amazon Web Services", October 2019, https://d39w7f4ix9f5s9.cloudfront.net/e3/79/42bf75c94c279c67d777f002051f/carbon-reduction-opportunity-of-moving-to-aws.pdf; [4] ebc group, "Why cloud solutions could help your business reduce its energy costs", 22 June 2023, https://www.ebcgroup.co.uk/news-insights/why-cloud-solutions-could-help-your-business-reduce-its-energy-costs

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CORPORATE OVERVIEW

Actis is a leading global investor in sustainable infrastructure. We deliver competitive returns and measurable positive impact for the countries, cities and communities in which we operate. Our global experience, operational know-how and strong culture allow us to create global sustainability leaders. We do it at scale, and we have been doing so for decades. Since inception, we have raised US$24 billion to invest in a better tomorrow.

Actis' Asia real estate business invests across greater China, India, South Korea and Southeast Asia, investing with, and providing strategic value to, high-quality operating teams and partners, across diverse property types. Actis' build-to-core strategy continues to capitalise on the mismatch between the demand and the quality and affordability of existing supply. Our local teams identify where this demand is not being met and deliver the desired product at an affordable price and, thereby, create an attractive core asset.

CORPORATE CONTACT

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