

C L I F F O R D
C H A N C E



**2024 DATA CENTRE
INDUSTRY OUTLOOK**



— THOUGHT LEADERSHIP

JANUARY 2024



2024 DATA CENTRE INDUSTRY OUTLOOK

The data centre industry continues to develop at an increasing pace due to technological advancements and market trends. Significant global market growth, rising rack density and pricing dynamics present a number of challenges and opportunities. In this briefing we examine the drivers of change in the evolution of digital infrastructure such as sustainability and AI, and how they will impact data centres and the companies that use them.

1

DATA CENTRE GROWTH

The global data centre market is expected to see significant growth, continuing the steady upward trend since 2022. The market is anticipated to expand considerably until 2031, primarily driven by the rise of AI, and continued growth in cloud computing and shifting market demands. As organisations continue to develop their IT infrastructure, a blend of cloud models and on-premises computing is likely to optimise the balance of cost, control and efficiency. The US should continue to be central to this growth due to the region's high adoption of advanced technology and the presence of major industry players. However, in practically every other region the market is also poised for substantial growth, with projections indicating a significant increase in compound annual growth rate and overall market size from 2022 to 2029.

2

THE IMPACT OF AI

AI will be the most obvious force for change. With the AI market expected to reach almost US\$2 trillion by 2030, the need for both new bespoke data centres and upgrades to existing data centres is increasing. These upgrades are necessary to ensure AI compatibility, involving enhanced designs and infrastructures that support high-density systems and liquid cooling to manage the heat generated by AI servers. Challenges identifying suitable sites and securing power will continue to cause difficulties in core data centre markets. However, for certain AI workloads, the lower sensitivity to latency may open up new opportunities for site locations, easing pressures on constrained markets.

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EMBRACING MODULAR DATA CENTRES

We expect to see greater use of modular data centres because they are energy-efficient, quicker to set up, cost-effective, have built in cooling and power systems and can handle a lot of computing power. The global market for modular data centres is projected to reach US\$81.2 billion by 2030, from its current value of US\$25.8 billion. The flexibility and adaptability of modular data centres means that they can meet fast-changing data needs and, as they are easy to move, are particularly useful for small and medium businesses.

4

SUSTAINABILITY

Sustainability will continue to be a key focus for data centre operations, driven by environmental considerations and regulation, including the EU Green Deal and the Corporate Sustainability Reporting Directive. As reliance on cloud solutions grows and attention focuses on the energy consumption of the industry, sustainable practices in data centre construction, infrastructure and data management are essential both from a regulatory and an end-user demand perspective. These include efficient cooling systems, reducing energy wastage and managing electrical waste as well as an industry move towards bespoke power purchase agreements for clean energy. The drive to employ more sustainable construction practices is also expected to accelerate.

EVOLVING POWER SOLUTIONS

Data centres are urgently adapting to increasing energy demands, with projections indicating a global need for 35 gigawatts by 2030, up from 17 gigawatts in 2022. This demand is pushing the industry towards grid modernisation and diverse energy sourcing, combining renewables with traditional fuels. Alternative energy solutions such as battery energy storage systems and hydrogen fuel cells are gaining traction, and data centre operators continue to explore on-site power generation, including small modular reactors and geothermal systems, to meet escalating energy requirements.

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THE SHIFT TO LIQUID COOLING

The data centre industry is expected to adopt liquid cooling technologies, but progress is likely to be slow and investment moderate due to the significant upfront costs and complexities involved in retrofitting existing infrastructure. Despite these challenges, liquid cooling is transitioning from a "futuristic" concept to an immediate "must-have" in data centre design in order to meet the needs of high-density deployments and aligning with sustainability goals, offering more eco-friendly and potentially cost-effective alternatives to traditional cooling methods. Major players, particularly hyperscalers, are therefore prioritising adaptability to integrate liquid cooling solutions into their designs. A significant increase in liquid cooling is anticipated in the future as the technology becomes more embedded.

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CLOUD COMPUTING

Rising costs, climate-related disruptions and security issues mean that many companies are no longer solely focused on a purely public cloud IT infrastructure strategy; on-premises solutions and hybrid models are being revisited. This recalibration is part of a broader trend known as cloud repatriation. Despite these changes, cloud adoption is not slowing – rather, the indication is a shift towards multicloud and hybrid approaches for the right companies, combining public cloud scalability with the control and cost-effectiveness of private solutions. For data centre operators, this could mean an expanding potential customer base of large companies with the resources to explore these models.

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RISING RACK DENSITY

An increase in rack density, accelerated by the introduction of more power-intensive computing hardware, is presenting challenges. These include pressure on existing equipment, thermal management issues, complex capacity planning and escalated energy costs. In response, data centre developers are turning to specific software to analyse power, space and cooling requirements effectively. The use of software such as 3D digital twin and conducting what-if analyses are essential to mitigate the impact of future expansion in both space and power capacity.

8

DATA CENTRE PRICING

Data centre pricing is rising due to market conditions, including limited power availability, scarcity of land, infrastructure costs and higher interest rates. Strong demand has been causing vacancy rates to decline – particularly in major markets such as Frankfurt and London which have high build costs. The US has seen a significant price increase due to shortages in available supply. In the Asia-Pacific region, colocation rental rates remain strong, particularly in high-cost areas such as Singapore. Tokyo maintains steady rates, whilst Sydney presents competitive rates, attracting new operators and investors.

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HOW WE CAN SUPPORT YOU

The Clifford Chance data centre team can help clients navigate the trends and challenges we have identified. In addition, there are several key legal and regulatory issues that may affect deal economics and certainty. We are well-placed to assist you with the opportunities for investment in this asset class.

We provide commercially focused legal advice and practical solutions and can support you in every step of your data centre transaction. We have dedicated teams with in-depth experience in all areas relevant to data centre investment, including finance, real estate, M&A, financial regulation, environmental and the technology sector. Our global experts are well-used to operating as a single team, maximising efficiency for our clients.



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