# Data centre investment set to surge in 2025 amid AI boom and sustainability challenges



Data centre investment is poised for rapid expansion in 2025, driven primarily by the unprecedented growth of artificial intelligence (AI) and its exponential need for compute power. Clare Mortimar, a Deloitte partner specialising in AI and data, highlights the unusual prominence data centres have gained, remarking at London’s AI Summit 2025 how the technology’s rapid evolution has brought these facilities to the forefront of political and economic discussions—a marked shift from previous decades.

Global forecasts underscore this surge, with revenues from data centre services expected to reach $125 billion worldwide by the end of 2025, reflecting a compound annual growth rate near 9% through 2028. This trajectory follows a significant uptick in investment since 2023, fuelled by digitalisation and AI’s growing demands. The UK exemplifies this trend; at its International Investment Summit in October 2024, major US tech firms announced combined investments of £6.3 billion in the country's data centre infrastructure, spurred by the government’s move to designate data centres as Critical National Infrastructure. This shift aims to enhance security and attract further investment, underpinning the UK’s ambition to be a global AI leader.

However, the rapid growth presents supply challenges. Construction timelines for data centres, which typically span two to four years, risk lagging behind the swelling demand for AI compute power. Moreover, energy consumption is a critical concern. AI workloads are more power-intensive than ever, with global data centre energy demands projected to triple within the next five years. Managing this growth sustainably is imperative to balance innovation with environmental impact.

Sustainability tensions are vividly illustrated by the contrasting carbon footprints associated with data centre locations. Danny Quinn, managing director of Scottish data centre company DataVita, stresses that location significantly dictates a data centre’s environmental impact. Scotland, benefiting from a robust renewable energy sector, emits approximately 30 grams of CO2 per kilowatt-hour consumed, whereas London’s figure is roughly ten times higher, and Poland’s can reach 800 grams. Despite this, many large tech companies continue to develop new facilities in regions with higher emissions due to lower operational costs, raising concerns about greenwashing and the prioritisation of financial metrics over genuine sustainability.

Water usage further complicates the sustainability equation. OECD projections estimate that AI operations could require between 4.2 and 6.6 billion cubic metres of water annually by 2027, comparable to the total water consumption of medium-sized nations. Cooler climates enable the use of advanced cooling technologies that drastically reduce water dependency, highlighting another key factor influencing sustainable data centre siting.

Policy makers face a delicate balancing act between fostering AI innovation and meeting net-zero emissions commitments. The UK and US, both deeply committed to sustainability goals, must craft frameworks that allow the tech industry sufficient freedom to compete globally without undermining carbon reduction targets. Hewlett Packard Enterprise’s Matt Harris advocates for a holistic approach, encompassing data centre location, construction methods, and innovative cooling technologies like liquid cooling, which can improve energy efficiency by up to 90%. Innovative reuse of generated heat, such as for local heating schemes or swimming pools, exemplifies the creative approaches gaining traction.

The urgency of aligning infrastructure with AI's rapid expansion is underscored by Stephen Lorimer of Salute, who notes that despite growing AI budgets—including £2 billion pledged by the UK government—data centre development has not scaled proportionally. Without coordinated national strategies, the UK risks becoming dependent on foreign compute power, potentially outsourcing both innovation and control. Delays in planning and energy supply constraints further threaten the timely delivery of necessary infrastructure.

On a broader European scale, data centre capacity is also set to hit record levels in 2025, with CBRE projecting a new peak of 937 megawatts (MW) of supply, an increase of 282MW from 2024. Demand, meanwhile, is outpacing supply, with 706MW sought compared to 655MW delivered, driven in large part by dominant hubs such as London and Frankfurt, which together account for nearly half of capacity take-up.

In the UK, the government’s AI Opportunities Action Plan emphasizes infrastructure growth, earmarking £14 billion for data centre projects and creating AI growth zones aimed at stimulating further development. Significant private investments complement these ambitions: for example, Nscale plans a £2.5 billion investment in a new data centre in Essex, designed to support 50MW of AI and high-performance computing capacity by late 2026. Meanwhile, Google has announced a $1 billion investment in a vast data centre project in Hertfordshire to bolster AI innovation and cloud services, further evidencing industry commitment.

The UK government’s designation of data centres as Critical National Infrastructure has been pivotal in attracting substantial foreign investment from US companies such as CyrusOne, ServiceNow, CloudHQ, and CoreWeave. Their combined investment of £6.3 billion is expected to generate thousands of jobs and significantly enhance the UK’s digital infrastructure and AI capabilities.

Despite these promising developments, the data centre sector must confront significant sustainability and supply challenges to sustain AI’s growth momentum. The interplay between meeting net-zero ambitions, enabling large-scale AI infrastructure build-out, and ensuring the UK remains competitive globally will require coordinated policy support, industry innovation, and careful strategic planning.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/), [[3]](https://www.datacenterdynamics.com/en/news/uk-ai-opportunities-action-plan-data-center/)
* Paragraph 2 – [[1]](https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/), [[3]](https://www.datacenterdynamics.com/en/news/uk-ai-opportunities-action-plan-data-center/), [[6]](https://www.gov.uk/government/news/tech-secretary-welcomes-foreign-investment-in-uk-data-centres-which-will-spur-economic-growth-and-ai-innovation-in-britain), [[7]](https://www.datacenterdynamics.com/en/news/us-companies-to-invest-63bn-in-uk-data-centers/)
* Paragraph 3 – [[1]](https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/), [[3]](https://www.datacenterdynamics.com/en/news/uk-ai-opportunities-action-plan-data-center/)
* Paragraph 4 – [[1]](https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/)
* Paragraph 5 – [[1]](https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/)
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* Paragraph 9 – [[2]](https://www.cbre.co.uk/press-releases/data-centre-take-up-in-europe-to-reach-new-peak-in-2025), [[4]](https://www.cbre.co.uk/press-releases/europes-data-centre-markets-to-hit-new-heights)
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* Paragraph 12 – [[1]](https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/)

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## Bibliography

1. <https://www.verdict.co.uk/is-uk-data-centre-development-demand-sustainable/> - Please view link - unable to able to access data
2. <https://www.cbre.co.uk/press-releases/data-centre-take-up-in-europe-to-reach-new-peak-in-2025> - CBRE's research indicates that European data centre capacity take-up is projected to reach 855MW in 2025, marking a 22% year-on-year growth. This would set a new record for Europe, surpassing the 699MW capacity taken up in 2024. London and Frankfurt are expected to account for 46% of this annual take-up, highlighting their dominance in the European data centre market. Despite challenges in sourcing power and land for new facilities, the demand for colocation data centre space continues to outstrip supply, with 706MW of demand compared to 655MW of capacity delivered in 2024.
3. <https://www.datacenterdynamics.com/en/news/uk-ai-opportunities-action-plan-data-center/> - The UK government's AI Opportunities Action Plan has announced data centre projects worth £14 billion, aiming to bolster AI infrastructure. The plan includes creating AI growth zones to encourage data centre developments and building a new supercomputer to enhance UK compute power. Companies like Vantage, Nscale, and Kyndryl have committed to investing in UK digital infrastructure, collectively creating 13,250 jobs. Nscale plans to invest £2.5 billion in a new data centre in Loughton, Essex, supporting 50MW of AI and high-performance computing capacity, with operations expected by Q4 2026.
4. <https://www.cbre.co.uk/press-releases/europes-data-centre-markets-to-hit-new-heights> - CBRE's research forecasts that European data centre supply will reach 937MW in 2025, setting a new record for the continent. This represents an increase of 282MW over the 655MW delivered in 2024. Over half of this capacity (57%) is expected to be delivered in leading European markets such as Frankfurt, London, Amsterdam, Paris, and Dublin. Despite challenges in sourcing power and land for new facilities, the demand for colocation data centre space continues to outstrip supply, with 706MW of demand compared to 655MW of capacity delivered in 2024.
5. <https://blog.google/around-the-globe/google-europe/united-kingdom/google-1-billion-investment-in-a-new-uk-data-centre/> - Google has announced a $1 billion investment in a new data centre in Waltham Cross, Hertfordshire, UK. The 33-acre site aims to support AI innovation and provide reliable digital services to Google Cloud customers. The investment is expected to create construction and technical jobs for the local community. This move underscores Google's commitment to enhancing its infrastructure to meet the growing demand for AI-powered technologies and digital services in the UK.
6. <https://www.gov.uk/government/news/tech-secretary-welcomes-foreign-investment-in-uk-data-centres-which-will-spur-economic-growth-and-ai-innovation-in-britain> - The UK government has welcomed £6.3 billion in data centre investments from US firms CyrusOne, ServiceNow, Cloud HQ, and CoreWeave. These investments aim to bolster the UK's digital infrastructure, supporting AI development and economic growth. The projects are expected to create thousands of jobs and enhance the UK's capacity for AI innovation. The government's recent designation of data centres as Critical National Infrastructure underscores the strategic importance of these investments to the UK's economy.
7. <https://www.datacenterdynamics.com/en/news/us-companies-to-invest-63bn-in-uk-data-centers/> - Four US-based companies—CloudHQ, CyrusOne, CoreWeave, and ServiceNow—have announced plans to invest £6.3 billion in UK data centre infrastructure. These investments were revealed at the UK government's investment summit and are expected to create thousands of jobs. The projects include new data centre campuses and expansions to support AI and cloud infrastructure. The UK's recent designation of data centres as Critical National Infrastructure is seen as a significant factor in attracting these investments.