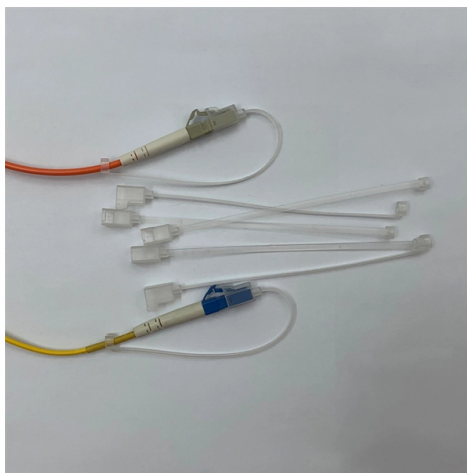


Will Internet data centers continue to grow



Overview

The future of data centers Undergirding this growing use of AI is the need for state-of-the-art data centers. This paper examines the future of these entities.

Key Takeaways

Internet data centers are expected to continue growing rapidly, driven by AI, cloud computing, and digital transformation, with global capacity nearly doubling by 2030.

Market Expansion and Investment

Global data center capacity is projected to increase by nearly 100 GW between 2026 and 2030, effectively doubling current capacity, with a 14-16.8% CAGR expected through 2030. This growth will require trillions of dollars in investment, including \$3 trillion in infrastructure and up to \$7 trillion globally to meet surging demand for AI and non-AI workloads.

Hyperscale operators like AWS, Microsoft Azure, Google Cloud, and Alibaba Cloud will remain key drivers, combining leasing and self-building strategies.

A

AI and Workload Drivers AI is a major catalyst for data center growth. By 2030, AI workloads could account for up to 70% of total capacity, with inference workloads overtaking training as the dominant driver around 2027. This shift is influencing facility design, including higher rack densities (approaching 100 kW) and liquid cooling requirements.

Non-AI workloads will also continue to expand due to cloud adoption, IoT, streaming services, and big data analytics.

Regional and Operational Trends

Growth is geographically diverse, with North America and Asia-Pacific leading due to high technology adoption and investment in digital infrastructure.

The U

S alone hosts 4,280 data centers, representing the largest share globally. Enterprises are increasingly adopting hybrid portfolios, blending on-premises, colocation, hyperscale, and edge computing, while sensitive workloads remain on-site. Power availability, rather than cost or location, is becoming the primary site selection criterion due to grid constraints.

Challenges and Technological Adaptation

Despite strong growth, the sector faces challenges including high capital expenditure, energy consumption, water usage, and regulatory compliance. Technological innovations such as virtualization, sustainable design, and next-generation silicon architectures are critical to mitigating these constraints. Companies that successfully integrate AI-focused infrastructure and energy-efficient strategies are expected to outperform competitors, while others may face volatility and consolidation.

Conclusion

Overall, Internet data centers will continue to grow robustly over the next decade, driven by AI, cloud computing, and digital transformation. The expansion will be accompanied by significant investment, technological innovation, and evolving operational strategies to meet the increasing demand for compute power and data storage globally.

Article Content

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Undergirding this growing use of AI is the need for state-of-the-art data centers. This paper examines the future of these entities.

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