

Data Center Construction



AI Overview

Data center construction involves building purpose-built facilities to house servers, power, cooling, and networking systems, with costs ranging from \$8 to \$12 million per megawatt and timelines typically spanning 18 to 30 months.

Overview Data center construction delivers specialized infrastructure designed for high uptime, resilience, and performance. These facilities support IT operations, cloud services, AI workloads, and large-scale data storage. Construction projects are capital-intensive, often exceeding hundreds of millions of dollars, and require careful planning, coordination, and execution to avoid delays and cost overruns.

Types of Data Centers

- Hyperscale Data Centers:** Massive facilities for cloud platforms and AI systems, often spanning multiple buildings with 20–100+ megawatts of capacity.
- Colocation Data Centers:** Lease space to multiple tenants, providing shared infrastructure while maintaining flexibility and uptime.
- Enterprise Data Centers:** Serve a single organization, often for banks, healthcare, or government, with strict compliance and security requirements.
- Edge Data Centers:** Smaller facilities near end users to reduce latency and improve service speed.

Key Infrastructure Components

- Power Systems:** Utility feeds, transformers, switchgear, generators, and battery backups to ensure uninterrupted power.
- Cooling Systems:** Air and liquid cooling, including CRAHs, chillers, and direct-to-chip liquid cooling for high-density workloads.
- Networking:** High-speed fiber connectivity, routers, switches, and firewalls for reliable, low-latency communication.
- Security:** Physical access controls, fencing, surveillance, and cybersecurity measures to protect sensitive data.
- Redundancy:** Multiple layers of backup systems to eliminate single points of failure.

Construction Process and Timeline

- Planning and Feasibility (3–6 months):** Assess site viability, power availability, and business case.
- Design and Engineering (6–12 months):** Develop blueprints, infrastructure layouts, and coordinate with vendors.
- Permits and Approvals (6–18 months):** Zoning, environme...

Article Content

Data Center Development: Full Pre-Construction Guide

Data center development covers land, power, permits, and construction. Get clear guidance, checklists, and tools to plan every phase.

Data centre cost trends

Data centre construction costs are set to climb modestly through 2026. However, there is a growing gap in the market between the two main classes of data centre. While construction costs for traditional

Microsoft acquires 470 acres on Finland's west coast for data center

Microsoft is currently developing its first cloud region in Finland. The company announced plans for the data center region in 2022, and is working with Fortum to offer waste heat to local

See if there's a data center near you with our interactive

Do you live near a data center? If not, you might live near one soon. Business Insider's new map shows 1,416 data centers built or approved for

Breaking down the data center opportunity for builders

Breaking down the data center opportunity for builders in 2026 The AI boom positions construction firms to capitalize on multibillion-dollar facility

Why the United States Is Building Data Centers at Unprecedented Scale

Data centers have moved from niche digital infrastructure to assets central to the United States' economy, security, and technological leadership. As artificial intelligence, cloud computing,

Building a Data Center: An In-Depth Guide to Construction

Learn about the process, challenges, and considerations of constructing a data center from scratch. This article covers the pre-construction phase, including design, permits, materials, and

Ocasio-Cortez and Sanders introduce AI Data Center Moratorium Act

Senator Bernie Sanders (I-Vt.) and Representative Alexandria Ocasio-Cortez (D-NY) have announced a bill to pause the construction of data centers. The "Artificial Intelligence (AI) Data

\$50 Billion MGX AI Infrastructure Fund Unlocks the Biggest AI Data ...

MGX AI infrastructure fund is now actively deploying capital across global data centers, semiconductor facilities, and high-compute construction projects.

An Interactive Map Shows the Scale of America's Data

Companies like Amazon, Microsoft, Google, and Meta are rapidly building data centers amid the AI boom. Our interactive map shows where they are.

The Complete Guide to Data Center Construction:

Explore the data center construction process. Learn about timelines, challenges, best practices, and how to build efficient data centers.

Vantage Breaks Ground on \$15B Stargate Campus in

Vantage Data Centers has broken ground on the Lighthouse data center project in Port Washington, Wisconsin. Driven by a \$15 billion investment,

Mapped: Where Data Centers Are Facing Bans and Moratoriums

Many Americans are resisting data centers across the country. Now, some lawmakers are responding with temporary moratoriums and outright bans.

Topic: Data center construction in the United States

Discover all statistics and data on Data center construction in the United States now on statista !

Meta launches \$115 million workforce academy for data center jobs

Meta is launching a \$115 million training program for blue-collar workers to build AI data centers. Graduates of the company's America's Workforce Academy will be guaranteed employment at a

Americas Data Center Update | H2 2025 | Cushman

AI-driven demand fuels Americas data center growth as regulation, power availability, and infrastructure constraints reshape development patterns.

AI data center demand "larger than we're prepared for"

Data center demand "could be larger than we're prepared for," with vacancy entering record lows of two percent, and global AI usage surging,

Data Center Construction Timeline: Phases, Duration

Learn how long it takes to build a data center and what happens at each stage, from planning and permitting to construction and commissioning.

Group claims \$64bn in US data center projects

Tens of billions of dollars of data center projects in the US have been impacted by resistance from local residents, according to a new report. Data

Data Center Moratorium Bills Are Spreading in 2026

Data Center Moratorium Bills Are Spreading in 2026 - Good Jobs First Editor's note:
This story was updated on March 9 with legislation introduced

A Guide to Data Center Construction

Data center construction is in high demand with AI and data advances. Find out everything you need to know in our comprehensive guide.

Data center frenzy is spurring a jobs boomlet for blue-collar workers

The rush to build thousands of U.S. data centers is driving demand for some workers, though economists project fewer permanent jobs.

Global data center capacity under construction reached

Demand for AI and cloud computing led the global data center capacity under construction to reach 31.7GW in 2025, more than double the

Data center construction guide: Costs, timelines, and

Building a data center? Review the costs, timelines, and essential equipment in this data center construction guide. Plus, see the best way to

Data Center Construction Projects: Complete Guide

Master data center construction projects from planning to completion. Learn costs, timelines, best practices, and emerging trends.

Data Center Construction: A Step-by-Step Breakdown | FMP

Learn how to plan, design, and build a data center that meets your business needs and budget. This guide covers the key factors to consider, from site selection to power and cooling

Top 10: Construction Companies Building Data Centres

As AI and cloud surge, meet the Top 10 data centre builders shaping mission-critical, sustainable and innovative digital infrastructure in 2025 The

Data Center Construction: Costs, Timeline, and Delivery Steps

Data center construction builds secure facilities for servers, power, and cooling systems. Get costs, timelines, key steps, and tips to manage your project.

Oracle and OpenAI start construction on Stargate data

Construction has begun on the Oracle/OpenAI Stargate campus in Saline Township, Michigan. On June 1, Related Digital, Blackstone, Oracle,

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