

Ten questions about AI data centers

1 What is a data center?

A data center is a physical location that stores computers along with related hardware and technology infrastructure, such as servers, data storage drives, and network equipment.

2 How do they fit into the growth of artificial intelligence?

Expanding data center bandwidth is key to keeping up with the increasing computing and memory needs generated by AI's expected exponential growth.

3 How many data centers are there now in the U.S.?

Data centers have been around for years serving technology networks. Recent estimates range 4,300 data centers nationwide, according to Data Center Map and Programs.com, to more than 5,400 according to another estimate by Apollo Global Management.

4 How many AI data centers are being proposed in the U.S.?

Again, there are varied estimates. According to Axios and the American Edge Project, there are close to 3,000 new data centers proposed or under construction.

An analysis by Pew Research Center shows more than 1,500 new projects under development.

5 Where are those proposed projects located?

Data centers are being proposed across the U.S. A website operated by consumer advocate Erin Brockovich has received more than 5,000 reports on new data center projects. Top markets include Virginia and Texas as well as the Pacific Northwest, California, Phoenix and Chicago with substantial potential growth in Atlanta, Utah and Ohio.

6 Why is there such a big wave of new data centers proposed and planned?

Big technology firms as well as companies across multiple industries are betting big on AI. That includes some massive, projected increases in needed data center capacity to process AI-driven data, machine learning and connected robotics.

7 How much spending and investment are being made as part of the AI data center wave?

According to a May report by Goldman Sachs, capital expenditures on AI (including data centers, energy to power them and computer capacity) will total \$7.6 trillion from 2026 to 2031.

8 Who are the biggest users for proposed AI data centers?

Hyperscalers are the biggest players in the data center and AI waves. Big tech firms such as Amazon Web Services, Alphabet/Google, Meta Platforms (i.e. Facebook), Microsoft and Apple as well as AI firms Chat GPT and Anthropic are at the forefront.

9 Who is opposing AI data centers?

AI data centers are generating concerns and opposition from environmentalists, not-in-my-backyard neighbors and property owners as well as those worried about the loss of farmland and open space, and the potential societal and economic changes AI could bring.

10 What's next?

A number of states and localities across the country are considering or have passed data center moratoriums. The idea is to give jurisdictions time to craft new zoning ordinances and conduct more due diligence related to potential projects. Some data center developers and users are looking at how to best navigate community concerns and opposition. Other AI technology players are looking at the potential for new AI data centers in ocean waters or space.