



U.S. data center update

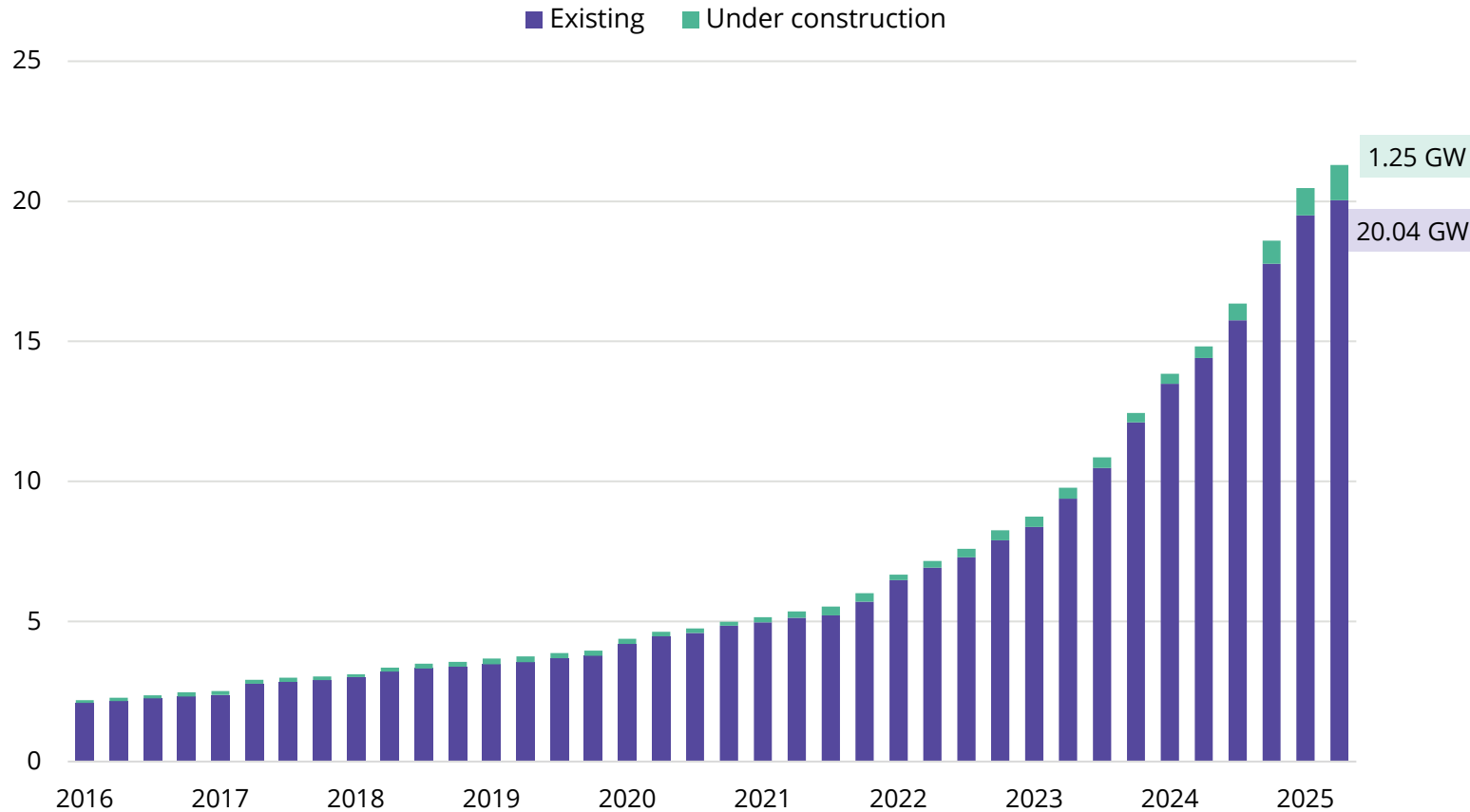
Leasing and
Capital Markets trends

Q2 2025

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Inventory

Colocation inventory by quarter (GW)



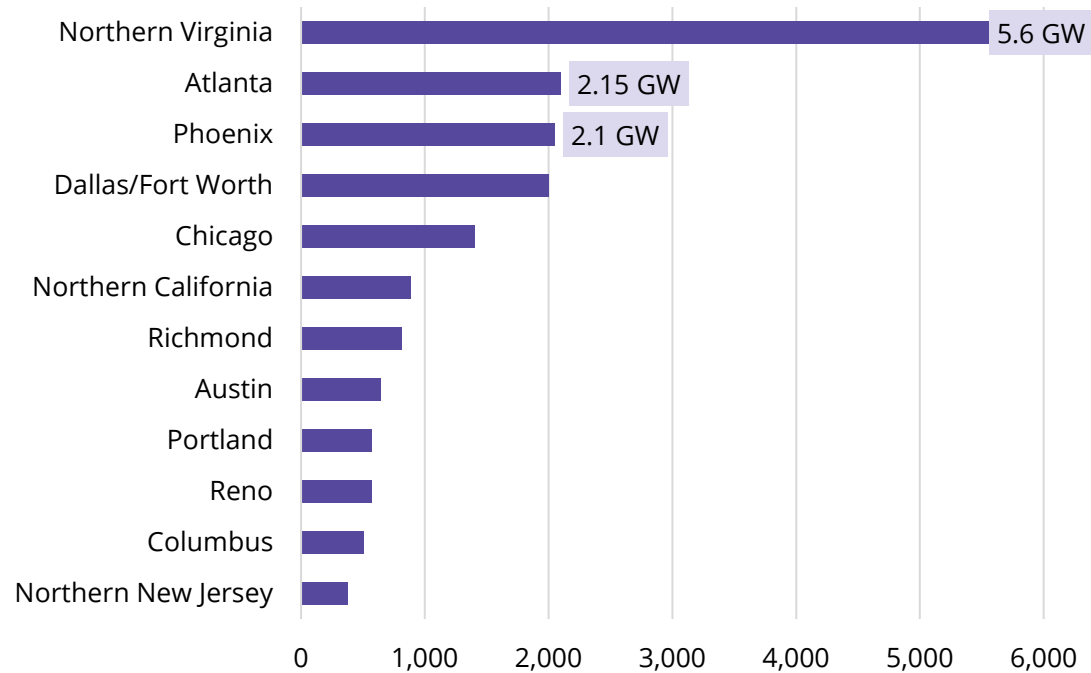
New deliveries in Q2 2025 remained slower than in prior years, largely due to the ongoing absorption of recent supply and the dampening effects of tariff disruptions as companies braced for higher capital costs.

However, this slowdown is not demand driven; vacancy rates continue to compress, and construction pipelines are expanding with projects that are largely pre-leased, underscoring strong growth ahead fueled by sustained investment in AI infrastructure.

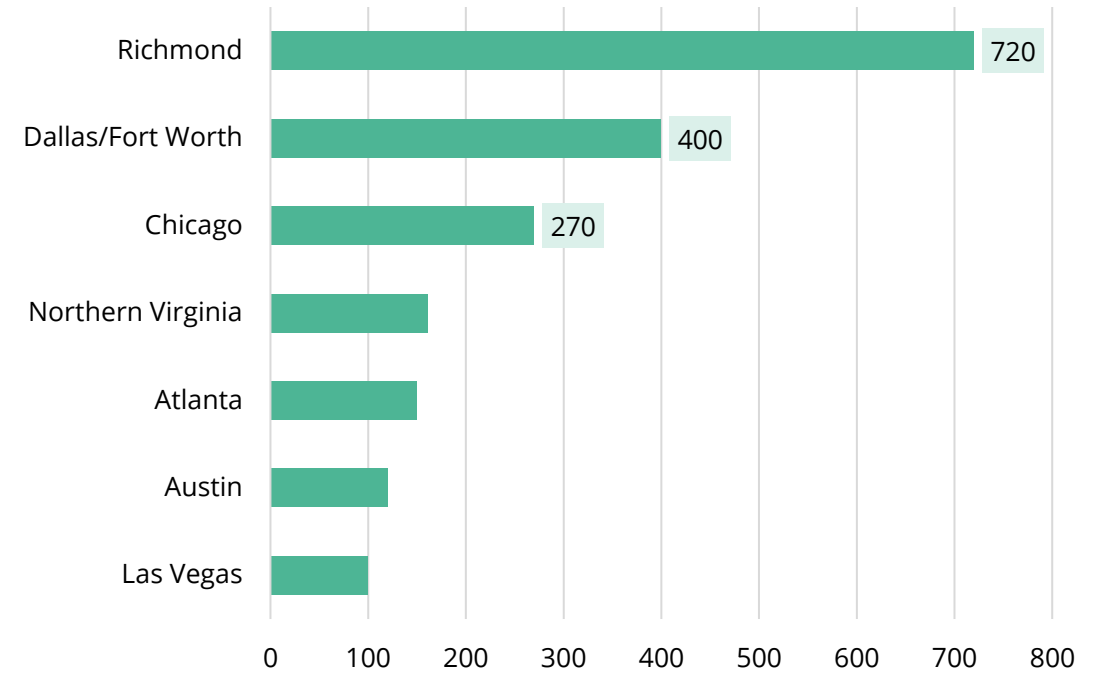
Inventory

Despite a brief pause in overall market growth, Richmond experienced exceptional expansion, leading the nation in both absolute and relative terms, with its total inventory increasing more than sevenfold year to date as development from the Ashburn/Sterling corridor pushes further south. Dallas/Fort Worth recorded the second-largest growth in total power, while Chicago ranked second in relative quarter-over-quarter growth at 23%, followed by Austin at 17.5%. Atlanta and Phoenix continue to compete for the title of the second-largest data center market, with Atlanta edging ahead this quarter.

Colocation inventory of largest U.S. markets (MW)



Markets with largest YTD inventory increases (MW)

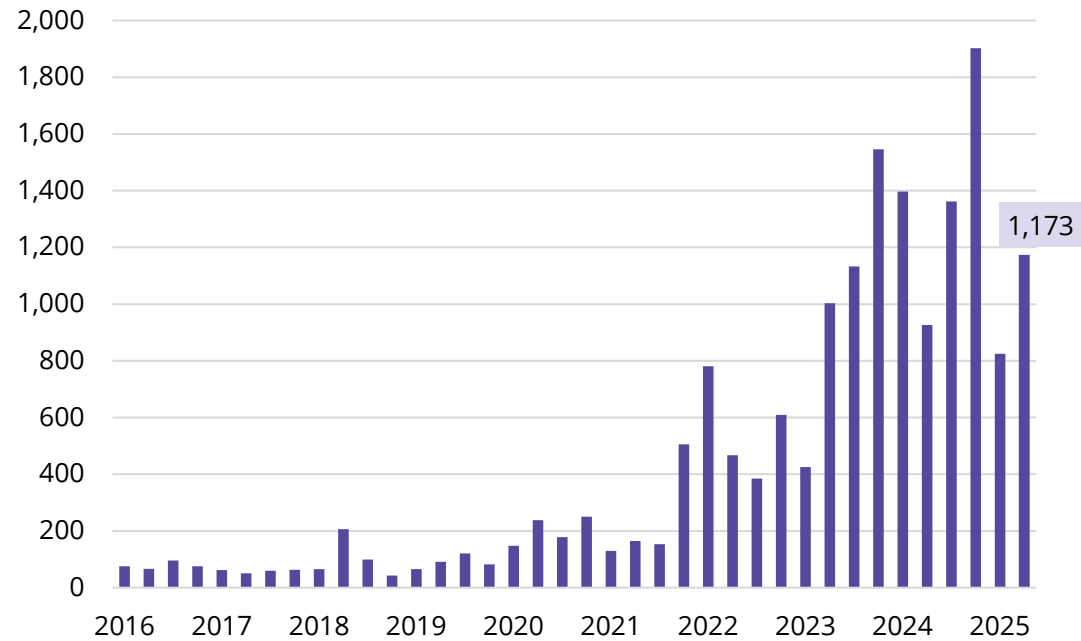


Absorption

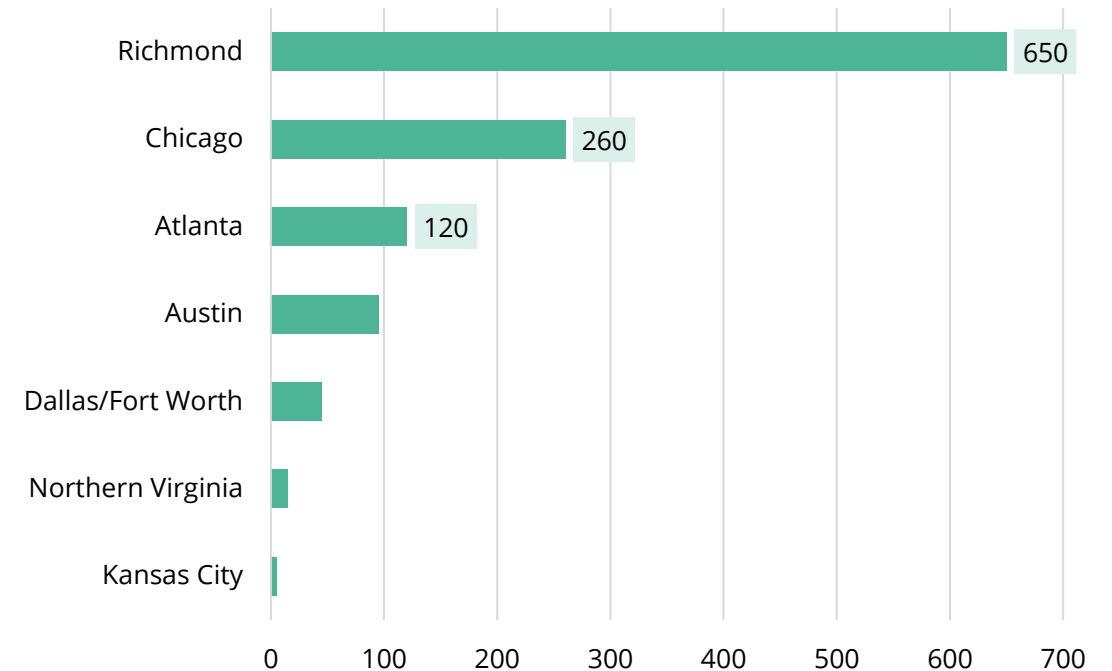
Amid this cooldown period, Richmond leads in net absorption, an impressive achievement for an emerging market. Chicago follows with steady leasing activity driven by enterprise and colocation demand, while Atlanta continues to gain momentum as a key Southeastern hub.

Notably, nearly half of the quarter's largest transactions occurred in highly rural or non-traditional markets, reflecting how data center growth is increasingly expanding beyond established metros amidst current power supply constraints.

Net absorption (MW)



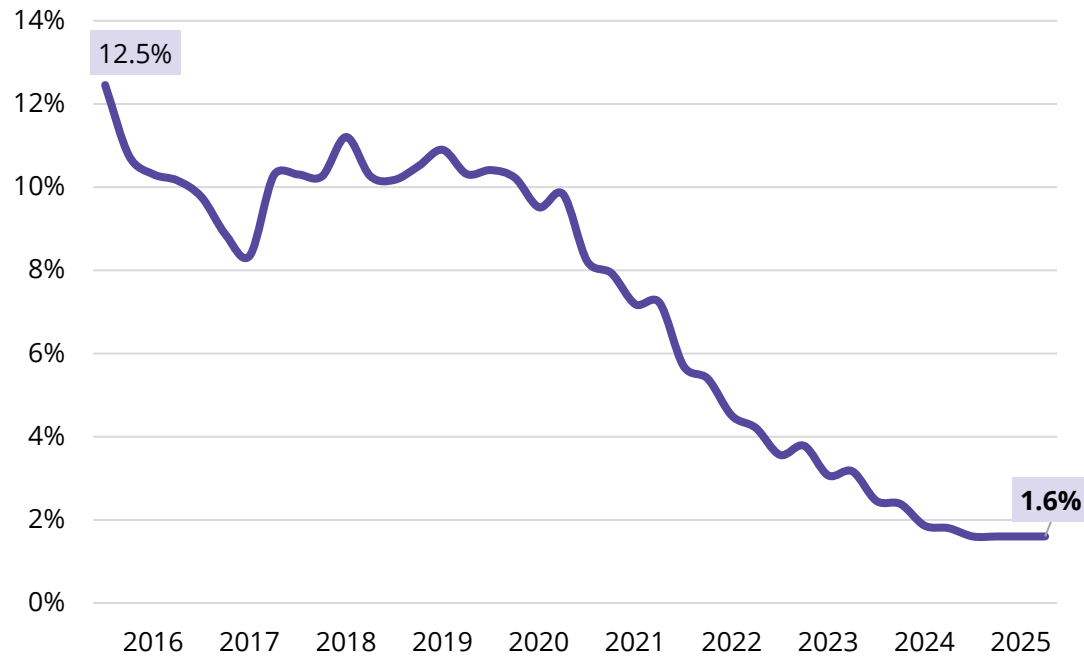
Highest net absorption markets (Q2 2025)



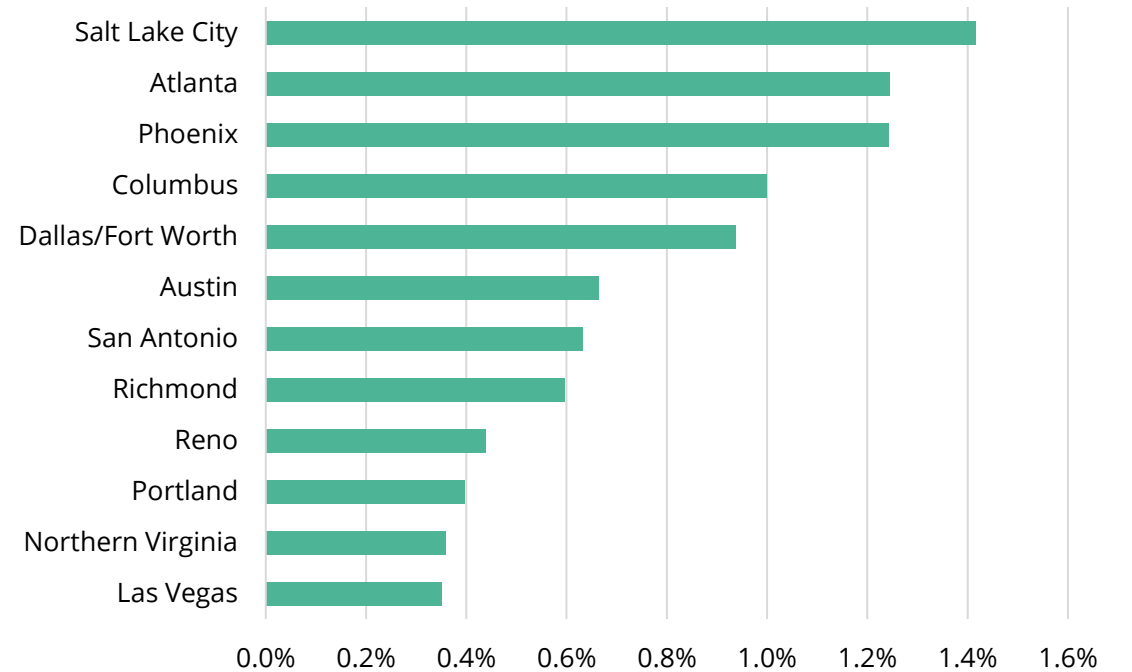
Vacancy

Data center demand remains exceptionally strong, with vacancy rates at historic lows. Major primary markets like Northern Virginia and Dallas/Fort Worth report colocation vacancy below 1%. While not among the lowest-vacancy markets, Chicago posted the sharpest decline of the primary markets this quarter, with vacancy dropping from 3.9% to 3%.

Vacancy rate by quarter



Lowest vacancy markets (Q2 2025)

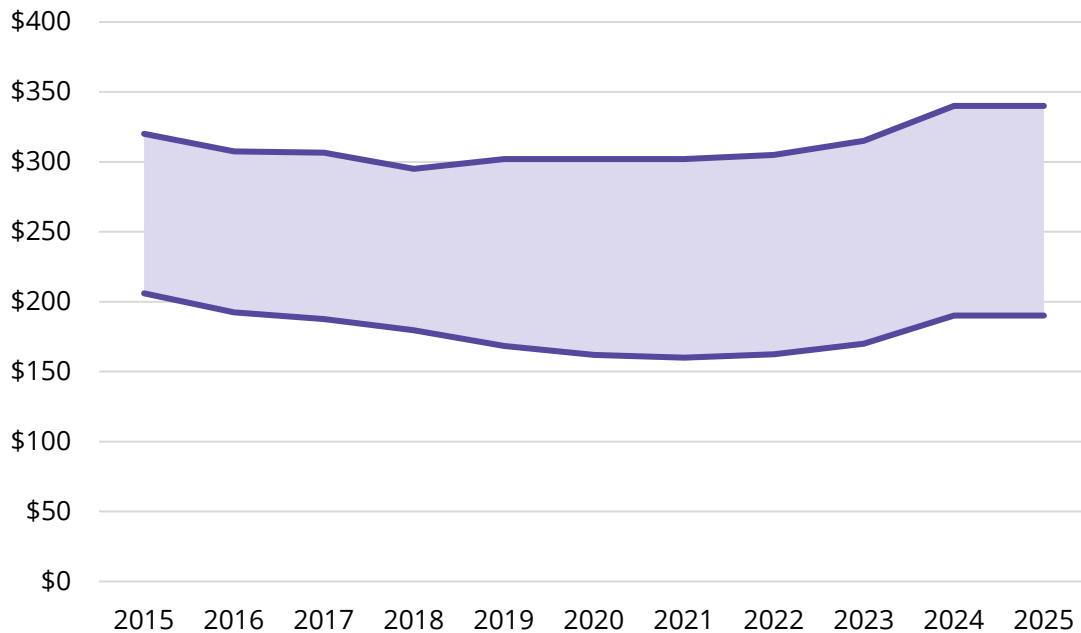


Historical pricing

Turnkey colocation rents remained steady in the second quarter, but pricing for large-scale requirements is rising as sizable blocks of capacity are become increasingly scarce in most mature markets.

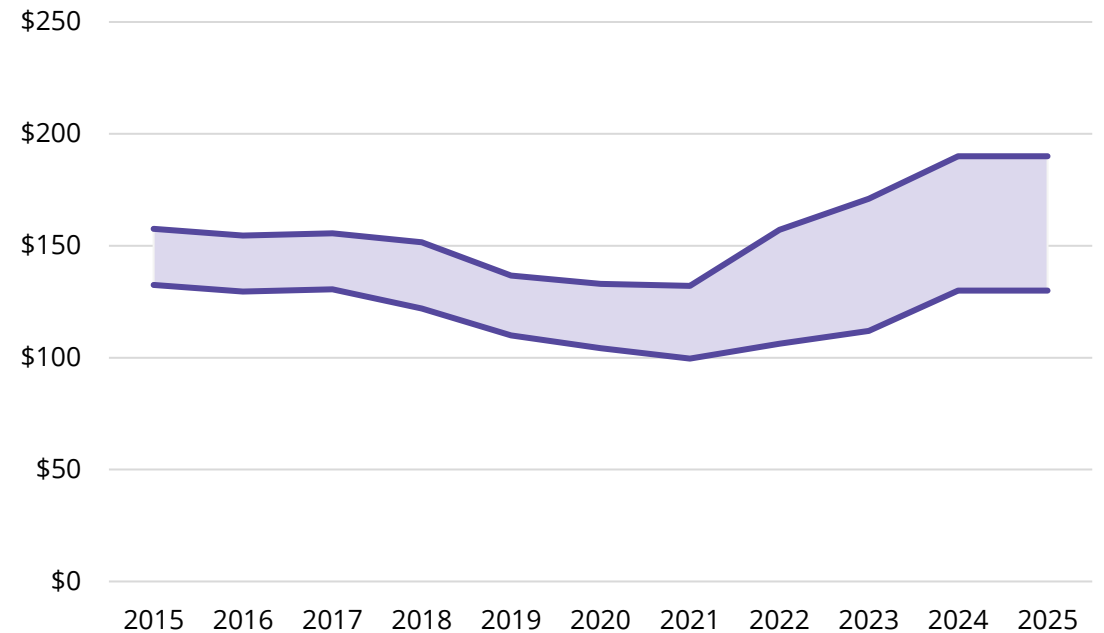
Average retail range (\$/kW)

Leases under 250 kW



Average wholesale range (\$/kW)

Leases between 250kW - 4 MW



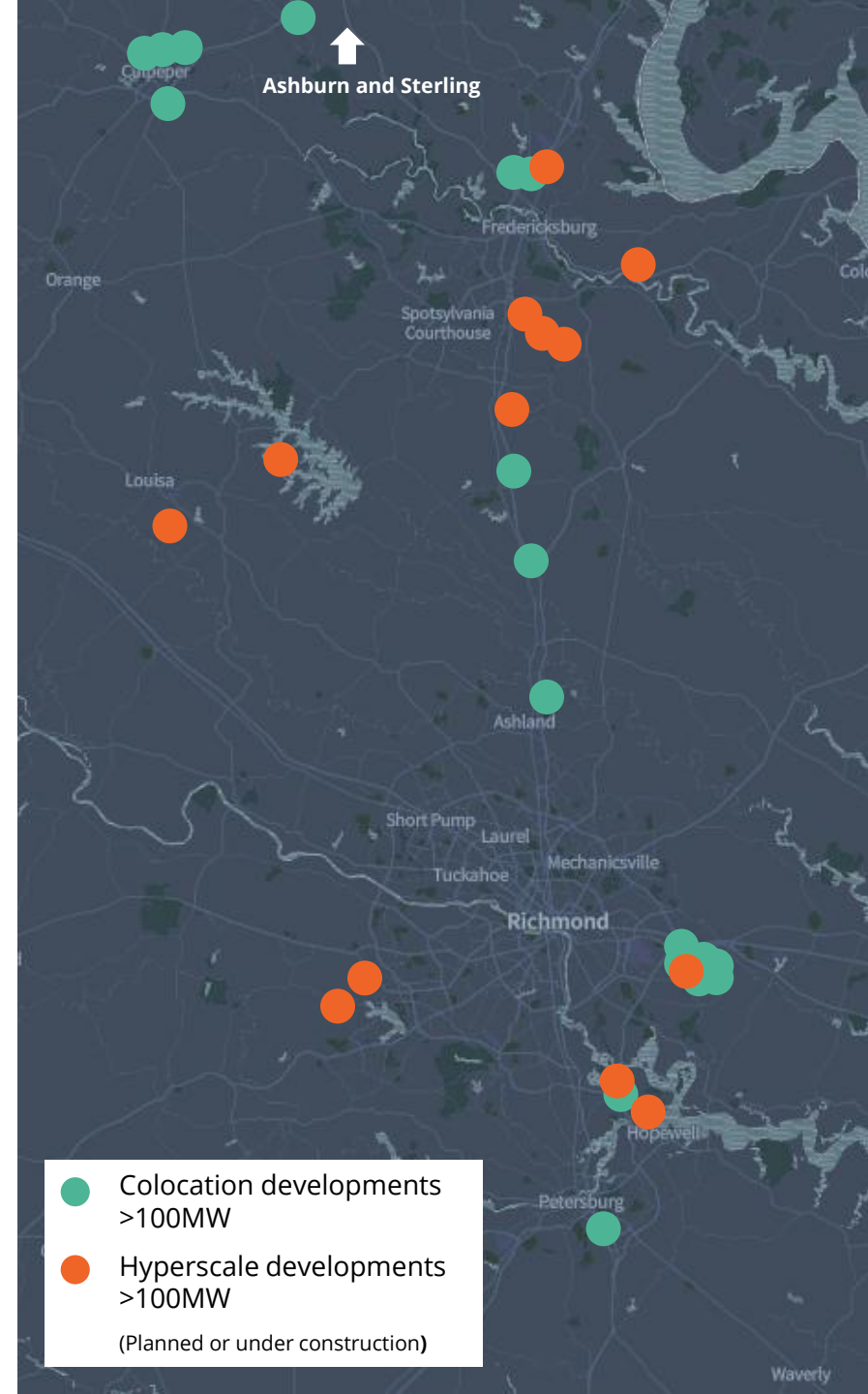
Market highlight: Richmond, VA

As available power and land in the Ashburn–Sterling “Data Center Alley” reach capacity, developers are moving south into once-sparse areas like Culpeper, Louisa, and Fredericksburg and along a “string of pearls” of large developments stretching down I-95 into Richmond, Henrico County and outlying areas.

In the Richmond market, encompassing the areas from Fredericksburg to the North and Petersburg to the South where land and power for data development is still abundant, commissioned colocation inventory has increased by over sevenfold since the beginning of the year to over 800 MW. Even so, that growth is dwarfed by the development pipeline: roughly 4 GW of colocation projects and nearly 5 GW of hyperscale capacity either planned or under construction.

However, local opposition to rapid data center growth is reshaping the regulatory environment in the Richmond market. As of June 2025, Henrico County requires all data center development—including those within former fast-track zones like White Oak Technology Park—to obtain a Provisional Use Permit (PUP), eliminating previous by-right approvals and requiring new design restrictions to be met. These regulations apply retroactively to projects that are rezoned but not yet fully permitted.

This tightening is being felt elsewhere, as well. In early July, Tract withdrew its application for a 700-acre campus in Chesterfield following negative feedback from the Planning Commission, though it intends to resubmit. Later that month, AWS pulled plans for a massive 1,370-acre third campus in the county amid community opposition, pausing to reevaluate its proposal.





Capital market trends

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Capital markets trends



More M&As

Mergers and acquisitions in the data center sector are expected to accelerate further in late 2025, fueled by heightened activity in the telecom space, increased institutional investment, and the tax benefits of accelerated depreciation introduced under the One Big Beautiful Bill Act (OBBBA).



New players

As the sector matures, both private equity and institutional capital are increasingly entering the market. Their growing participation is expected to continue throughout 2025, capturing a larger share of data center ownership.



Power plays

Amid soaring demand for energy, developers and data center operators are moving upstream—targeting partnerships, joint ventures, and acquisitions directly within the power sector.



Speculative developers

With demand for data centers surging, a wave of new, opportunistic developers—many with limited prior experience in the sector—are actively pursuing ground-up projects.

Major M&A deals

July: AI cloud provider **CoreWeave** announced a **\$9 billion** all-stock acquisition of **Core Scientific**, adding ~1.3 GW of data center capacity. The deal enables CoreWeave to vertically integrate and repurpose crypto facilities for AI compute.

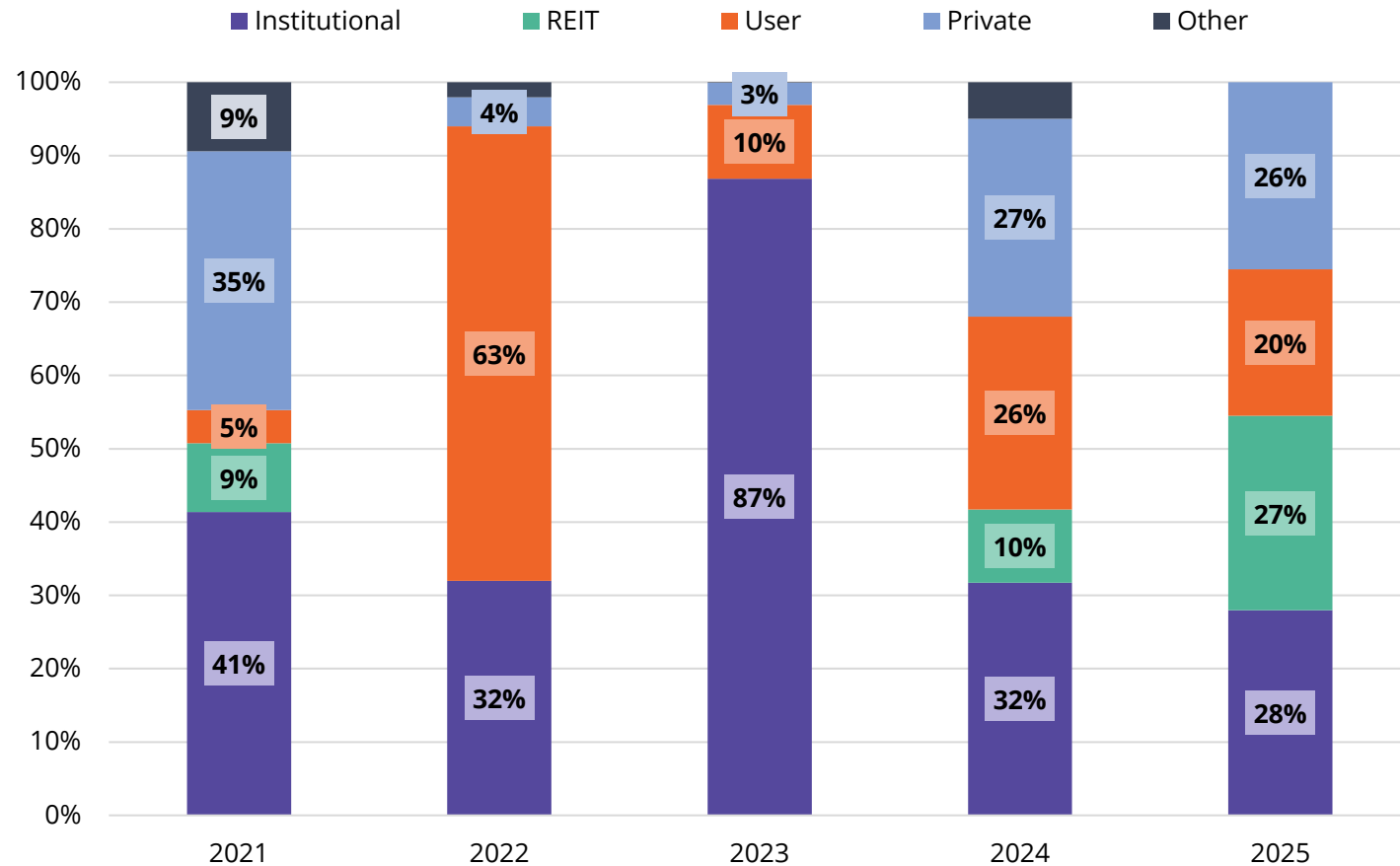
July: **Hewlett Packard Enterprise** closed its **\$14 billion** acquisition of **Juniper Networks**, combining Juniper's AI-native networking with HPE's hybrid cloud portfolio. The move positions HPE to compete more directly with Cisco in enterprise and AI-driven networking.

May: **Sanmina** acquired **ZT Systems'** cloud/AI server manufacturing business from AMD for up to **\$3 billion**, while AMD retained design and IP. The deal strengthens U.S.-based server production for hyperscale and AI data center deployments.

April: **Harrison Street** and **1547** acquired **DRFortress**, Hawaii's largest carrier-neutral data center, from GI Partners. The deal expands their edge footprint, leveraging DRFortress's role as the state's primary interconnection hub linking Asia-Pacific and U.S. networks.

Buyer composition

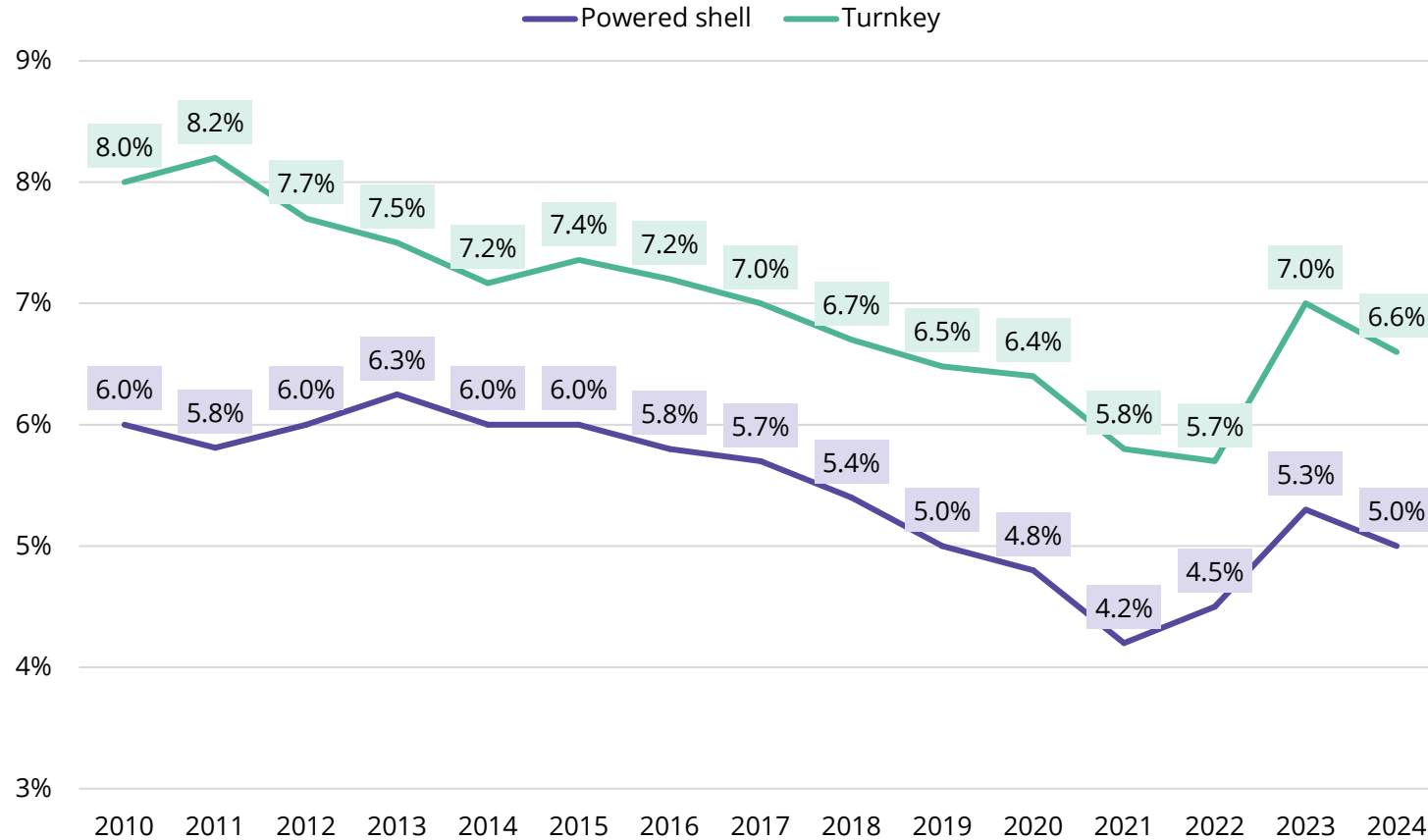
Data center buyer composition



In 2025, institutional investors continue to lead the market, though they experience a slight pullback, while REITs remain a strong, steady presence. Colocation operators and hyperscalers have eased off after recent build-out waves, and private capital has resurged, reflecting renewed opportunistic investing. Overall, the sector shows a maturing landscape driven by large-scale, long-term investors alongside active REIT and private backers.

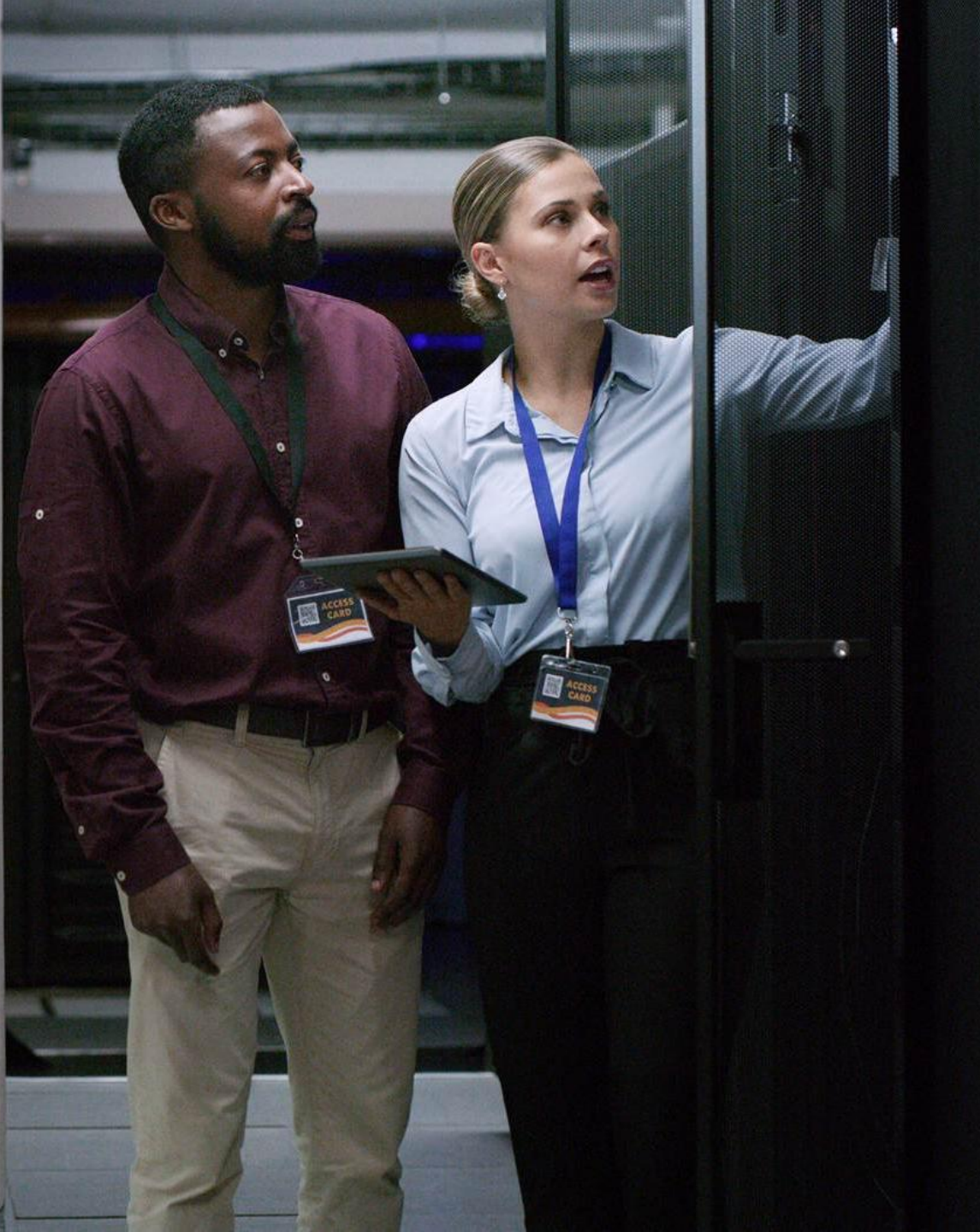
Cap rates

Typical data center cap rate



Note: Typical cap rates are not necessarily averages of all market transactions; to handle small sample sizes, we have made adjustments to remove outliers and/or correct for deal nuances that may impact cap rates. Not yet reported for 2025 due to limited data.
Source: Avison Young Market Intelligence

Cap rates for data centers have fallen to the mid-6% range for turnkey facilities and around 5% for powered shell properties. While future federal rate cuts remain uncertain, strong investor demand is likely to keep pushing cap rates lower.

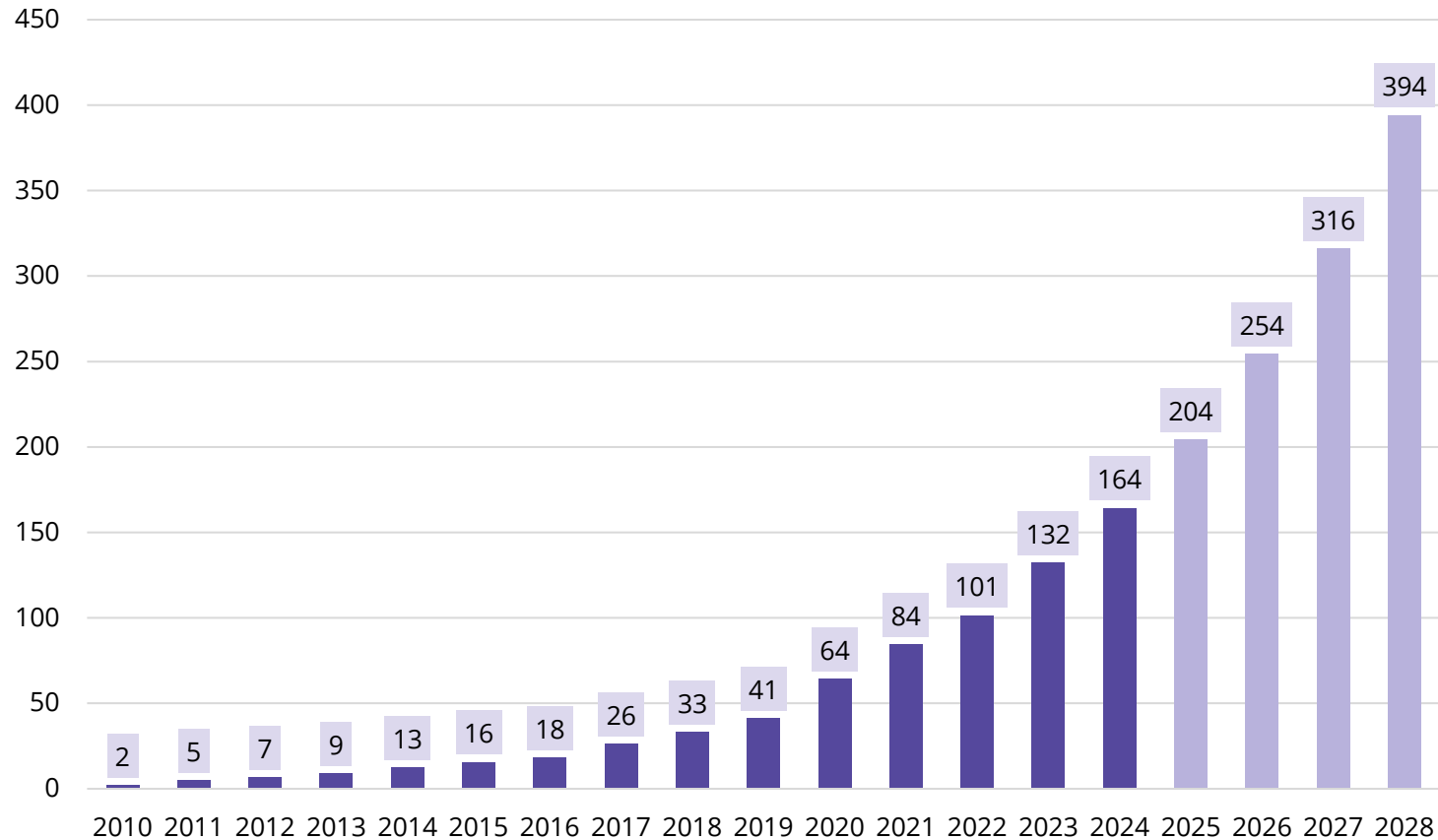


Looking ahead

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Demand drivers – digitalization

Data created and replicated worldwide (zettabytes)



The global datasphere (data created/replicated worldwide) is growing rapidly, projected to double from 2025 to 2028. Several new technologies have the potential to consume significantly more data than typical applications today, including:

Artificial intelligence (AI): AI and machine learning (ML) necessitate the collection, storage and computation of massive data sets

Robotics and autonomous vehicles (AVs): the training, inferencing, and retraining of robots and AVs create large quantities of data

Internet of things: previously “dumb” devices are now connected and generating data

Advancing technology: existing technologies require more data as sophistication increases (e.g., photo file size)

Cloud storage and computing: increasingly more enterprises are shifting data storage and computation to cloud and hybrid solutions

5G connectivity: enhanced mobile connection speeds have enabled new use cases that rely on quick communication with edge data centers (necessitating many more such edge data centers)

Demand drivers – AI

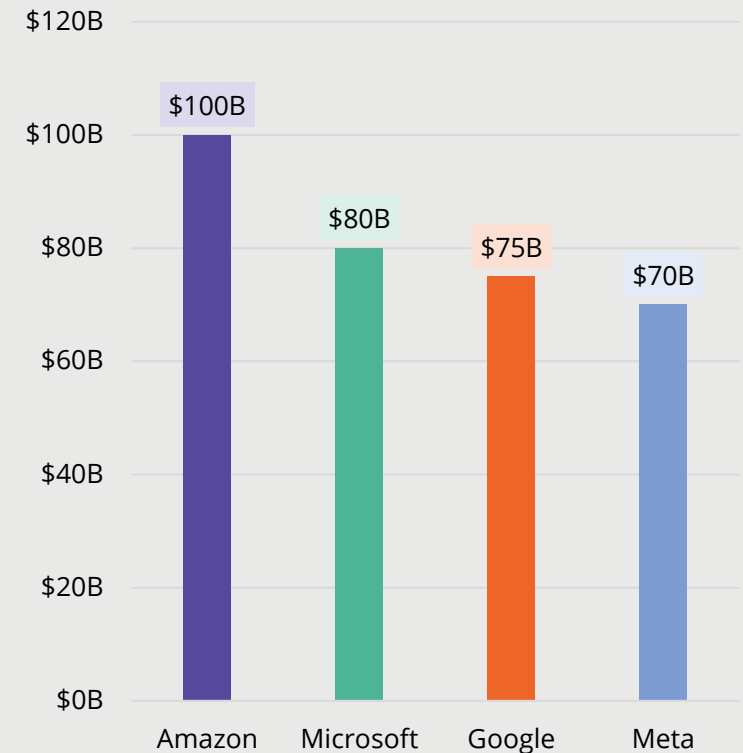
Hyperscalers expand and invest in AI

All major operators have increased their forward-looking construction pipelines nationwide. Hyperscalers are supply constrained and many are reporting that demand for AI services is outstripping their existing server capacity. To catch up, they are rapidly expanding in both traditional hubs and new regions. For instance, Google is investing \$1 billion+ to expand its Iowa campus (adding AI and cloud capacity), and numerous new zones (from Ohio to Oregon) are seeing large-scale builds driven by cloud AI growth.

Technology is becoming ever more demanding

- AI data centers and the ever-evolving equipment they house are becoming more power-intensive. In just the previous decade, a data center was considered mid-sized once they reached double figures in megawatt IT capacities, and large facilities topped out at 20-30 megawatts (MW).
- Each server rack, which were sized in a footprint similar to the household refrigerator, require between 4kW to 12kW on the higher end. Current new-build AI data centers now scale to over 100 MW in a single building, and over 100kW in a single rack, with Nvidia claiming its next-generation server racks to require 600kW and cost in the tens of millions apiece. Cooling and power delivery technologies must follow close behind to support the pace of growth in tech.

Forecasted 2025 AI capex

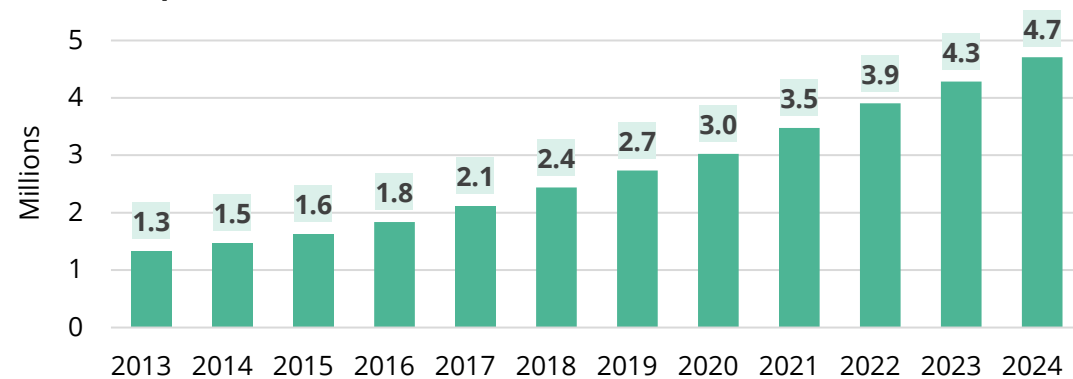


Source: CNBC (2025, Feb 6). *Amazon plans to spend \$100 billion this year to capture 'one in a lifetime' opportunity in AI;*
The Microsoft Blog (2025, Jan 3). *The Golden Opportunity for American AI;*
Google Q4 2024 Earnings Call;
Meta Q2 2025 Earnings Call

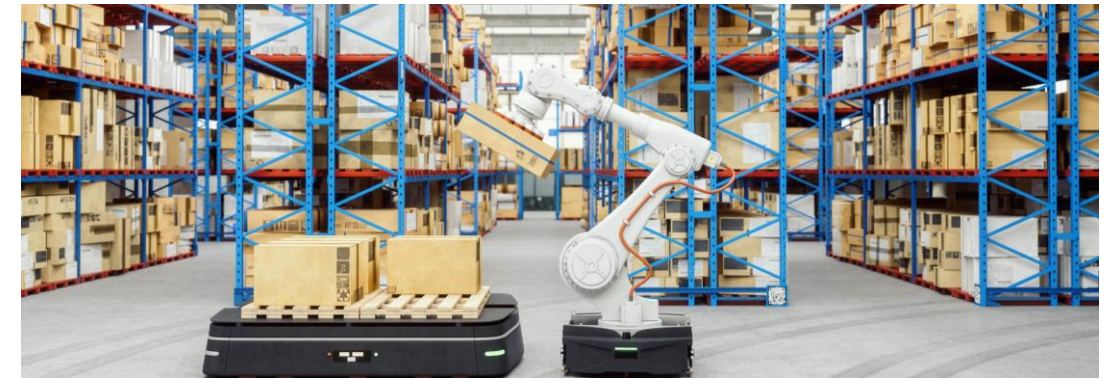
Demand drivers – robotics

Robotics is a rapidly advancing industry with the potential to profoundly transform society. Data centers play a critical role in this evolution: training, real-time inferencing, and continuous retraining of robotic systems generates vast amounts of data and requires substantial computational power, fueling ongoing demand for advanced data center infrastructure.

Global operational stock of industrial robots*



Commercial use robotics is becoming more common



Robotics will be the next stage of the industrial revolution

From fully programmed assembly line machines to semi-autonomous collaborative robots and fully autonomous systems, robotics is driving major gains in production efficiency and cost reduction. Shifting demographics and the global shift from manufacturing-driven to service-driven economies have accelerated adoption, particularly in countries like China, which now accounts for more than 50% of global robot installations. Japan and South Korea are following similar trajectories, and continued advancements in robotics have the potential to reshape the future of manufacturing and logistics worldwide.

AI/ML is significantly accelerating robotics development

Just a few years ago, robotics training relied heavily on physical-world iterations—slow, costly, and labor-intensive. Today, companies like NVIDIA have created tools to revolutionize this process, enabling digital twins of the physical robots to train and iterate in fully virtual environments at massive speed and scale. Robotics is advancing faster than ever, and at every stage—training, real-time operation, data collection, and retraining—enormous volumes of data are generated, and massive computational resources are required. Data centers sit at the core of this transformation, and the infrastructure needed to power this evolution presents a major growth opportunity.

Ramifications of One Big Beautiful Bill

The One Big Beautiful Bill Act (OBBBA), signed into law in July 2025, is a sweeping tax and policy package expected to significantly influence U.S. data center development. Key provisions and impacts include:

- **Immediate expensing of capital investments:**
Permanently extends 100% bonus depreciation (full expensing) for short-lived assets, allowing data center investors to fully write off equipment (especially useful for expensive and short lifespan AI GPUs) and other capital costs in the first year. This **improves cash flow and lowers the after-tax cost of new servers and infrastructure**, encouraging faster data center expansion.
- **Streamlined permitting and regulatory relief:**
Introduces measures to speed up project approvals. For example, an opt-in fee program guarantees faster federal environmental reviews (NEPA assessments within ~180 days and impact statements within one year) for projects that pay a fee. In parallel, regulators are examining Clean Water Act rules, potentially creating a nationwide general permit for data center construction to simplify wetlands and water-impact permitting. These steps aim to **shorten development timelines for new data center builds**.
- **Environmental/ESG implications:**
Rolls back numerous clean energy incentives, which may impact data center sustainability strategies. The Act accelerates the phase-out of *green energy tax credits* established under the 2022 IRA—for instance, terminating wind and solar energy credits for projects placed in service after 2027. These changes are expected to **slow new renewable energy projects**, potentially making it harder or more costly for data centers to meet renewable power and ESG targets.
- **AI infrastructure and local regulation:**
A proposed federal **moratorium on state and local regulation of AI systems** (including AI-focused data centers) was **removed** from the final bill after Senate review. **Local governments retain the power to apply zoning, environmental, and permitting rules to data center projects**. This means developers must still navigate local regulations for AI infrastructure, rather than rely on a blanket federal override—preserving community oversight but potentially affecting site selection and approval timelines.

On-site generation – natural gas

Natural gas is emerging as a strategic solution for data center developers seeking to accelerate power availability. With abundant reserves in states such as Ohio, Texas, and Pennsylvania, natural gas offers a cost-effective alternative to traditional utility-supplied power and, in some regions, delivers pricing advantages over wholesale utility rates. For ESG-focused users, natural gas can also provide a cleaner option than utility grids that still rely heavily on coal or oil, while requiring far less land than solar or wind, an important factor for site selection.

The OBBBA has further strengthened this trend by reducing tax incentives for wind and solar while expanding incentives for natural gas projects. As a result, on-site gas generation is becoming increasingly attractive. While most gas-powered facilities still require grid interconnection for reliability, particularly for AI workloads with sharp load swings that gas turbines struggle to follow, examples of fully islanded gas projects paired with battery energy storage systems (BESS) are beginning to emerge.



Blackstone to acquire Potomac Energy Center power plant in \$1B deal

In January 2025, Blackstone announced its agreement to acquire the Potomac Energy Center—a 774 MW natural gas power plant in Loudoun County, VA—from investment firm Ares Management.

Within just a few miles of the site are hyperscale campuses operated by Microsoft, Amazon, and Google, alongside dense clusters of colocation facilities.

Given the severe power constraints in Northern Virginia and the surging demand for capacity, Blackstone’s move is almost certainly aimed at securing power for future data center developments.

This acquisition builds on Blackstone’s growing data center strategy, following its 2021 purchase of QTS Realty Trust and its late-2024 acquisition of Asia-based provider AirTrunk, positioning Blackstone as the largest data center owner globally.

On-site generation – microgrids

As data center construction surges, power generation and transmission timelines from local utilities have become a critical bottleneck, slowing scalability and speed to delivery. As a result, behind-the-meter solutions like on-site microgrids are becoming increasingly attractive to developers despite high upfront costs. Microgrids allow data centers to scale power on the developer’s own construction timeline rather than waiting years for utility upgrades. Additionally, they enhance reliability by insulating operations from grid disruptions. When integrated strategically with local utilities, microgrids can also contribute to grid stability by supplying excess power or acting as a buffer during peak demand or emergencies. For the many data center operators aligning with ESG goals, microgrids allow greater control over renewable energy integration. On-site solar, battery storage, and fuel cells (e.g., Bloom Energy) are becoming common components of data center microgrids.



Bloom Energy partners with Oracle to deliver on-site power to several data centers

In July 2025, Bloom Energy partnered with Oracle to deploy solid oxide fuel cells (SOFCs) to power select high-performance compute data centers within 90 days. These fuel cells will be colocated on-site at AI-focused facilities to address immediate power needs. Bloom’s SOFCs, currently fueled by natural gas, provide a cleaner, scalable and efficient solution with a future pathway to hydrogen.

This partnership’s accelerated deployment timeline—far faster than traditional utility interconnections—underscores growing commercial confidence in on-site generation. By reducing reliance on grid upgrades, it enhances energy resilience and supports the escalating power demands of AI and other advanced computing workloads.

Looking ahead



Large scale requirements

Leasing requirements are scaling to unprecedented levels, with AI users now urgently seeking blocks of 100 MW—and in some cases, exceeding 500 MW.



Transformer shortage

The ongoing shortage of transformers in the U.S. has considerably extended lead times for deliveries. This will impact data center development, potentially causing delays of two to three years.



Pushing design limits

AI workloads are rapidly raising power density demands. Currently, leases are regularly done at 120kW per rack and next-gen GPU racks are expected to require up to 600 kW—forcing major shifts in cooling and facility design.



Outward push

Near-zero vacancy in urban primary markets are spilling to outlying suburban and rural markets due to availability of land and power. Logistics will become a significant bottleneck.



Alternative power

As power limitations drive innovation, data center operators are increasingly turning to alternative off-grid and hybrid power solutions, including microgrid solar, wind, natural gas, and nuclear energy.



Pricing will keep rising

Low vacancy will persist as supply chain and utility constraints limit new deliveries, creating upward pressure on rents and sale prices for existing data centers and powered land.

For more market insights and information visit **avisonyoung.com**

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