

Research - Data Center Series - 2/6

A Global Panorama I: Spotlight on the North American Market
- USA & Canada

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As discussed in the first article of the series, investment in digital infrastructure is on the rise globally. However, geopolitical and economic factors are changing international trade trends, and the North American market is at the epicenter of that change. Even with energy constraints, data center space limitations, and rising real estate costs, the North American market is still perceived as the “safer bet” for digital economy investors due to its multitude of data center hubs, reliable infrastructure, resilient economy, relatively high consumer purchasing power, and increasingly high demand in data usage. However, recent trends point towards diversification strategies within non-traditional markets, both in this region and beyond.

The United States of America - An IT Leviathan

The United States continues to dominate AI and digital infrastructure development, with AI investment nearing **\$55 billion** in 2023. Additionally, 7.1% of its \$19 trillion GDP is attributed to the digital economy. The country hosts **5,426 data centers**, with thousands more planned in the coming years. It is also home to major tech giants such as **AWS, Meta, Google,** and **Microsoft**, as well as leading digital infrastructure companies like **Equinix, Digital Realty,** and **CyrusOne**.

Northern Virginia remains the world's largest data center hub, thanks to its strategic location and robust infrastructure. Known as "**Data Center Alley**," the region currently has 5.9 GW in operation, 1.8 GW under construction, and 15.4 GW planned. Other major hubs include **Phoenix**, which is experiencing rapid growth due to affordable land and energy costs; **Silicon Valley**, home to tech giants but constrained by high real estate and power costs; **Dallas**, which benefits from a business-friendly environment; and **Chicago**, strategically positioned between the East and West Coast markets.

THE UNITED STATES LEADS IN AI AND DIGITAL INFRASTRUCTURE, WITH AI INVESTMENTS REACHING NEARLY \$55 BILLION IN 2023. ITS DIGITAL ECONOMY ALSO PLAYS A MAJOR ROLE, ACCOUNTING FOR 7.1% OF THE COUNTRY'S \$19 TRILLION GDP.

Canada - The Nonchalant Neighbor Upnorth

The Canadian data center market is experiencing significant growth, driven by increasing demand for cloud services, advancements in artificial intelligence (AI), geographic proximity to the United States, and supportive government initiatives. Venture capital investments in AI in Canada reached nearly **\$7 billion** in 2024. Meanwhile, in April 2024, the Canadian government announced a **\$2.4 billion** package to strengthen the domestic AI sector. The Canadian data center market was valued at USD 10.26 billion in 2023 and is projected to reach USD **22.24 billion** by 2030.

Canada's major data center hubs include **Toronto, Montreal,** and **Vancouver**. As the country's largest city and financial center, Toronto hosts a significant number of data centers, serving both domestic and international clients. The largest Canadian-owned data center colocation provider, **eStruxture**, operates facilities across Montreal, Toronto, Calgary, and Vancouver. The company plans to develop the largest data center facility in Alberta, a \$750 million, 90-megawatt (MW) operation on the outskirts of Calgary, expected to be completed by 2026.

Emerging Trends in the North American Market

- **Hyperscale Data Centers:** There's a shift toward large-scale facilities designed to support extensive data processing and cloud services, driven by increasing demand for scalable infrastructure. Scalable infrastructure in data centers refers to the ability to expand computing, storage, and networking resources dynamically to accommodate increasing workloads without disrupting operations. This is essential for meeting the growing demand for cloud services, AI workloads, and big data processing.
- **Edge Computing:** It is a distribution model that processes data closer to where it is generated (at the "edge" of the network) rather than relying solely on centralized data centers or cloud computing. The rise of edge computing is prompting the deployment of smaller data centers closer to end users to reduce latency and enhance performance.
- **Sustainability Initiatives:** Data center operators are focusing on energy efficiency and sustainability, addressing environmental concerns and regulatory pressures. The use of natural gas as a bridge toward hydrogen power and nuclear power has become more prominent within decarbonization efforts. The growing power demands have led to increased scrutiny from regulators and stakeholders; however, Canada's federal government is likely to maintain these green energy incentives, as opposed to the United States.
- **Co-location:** Facilities where multiple organizations share resources and rent space are rising in demand. Moreover, significant investments are being made to power data centers, including partnerships to develop new gas-fired or renewable energy generation facilities co-located with data centers, aiming to operate independently from wider power grids.
- **High Rental Rates:** High rental rates due to strong demand and constrained supply for both land and energy are causing investors to shift focus from traditional hubs toward secondary markets.

Low Vacancy Rates and Land Availability Issues

New developments continue to face similar challenges, including power constraints and the difficulty of finding locations that minimize real estate and operational costs. Despite these hurdles, data centers remain one of the most attractive real estate investments, driven by steadily increasing demand, limited supply, and rising rental prices.

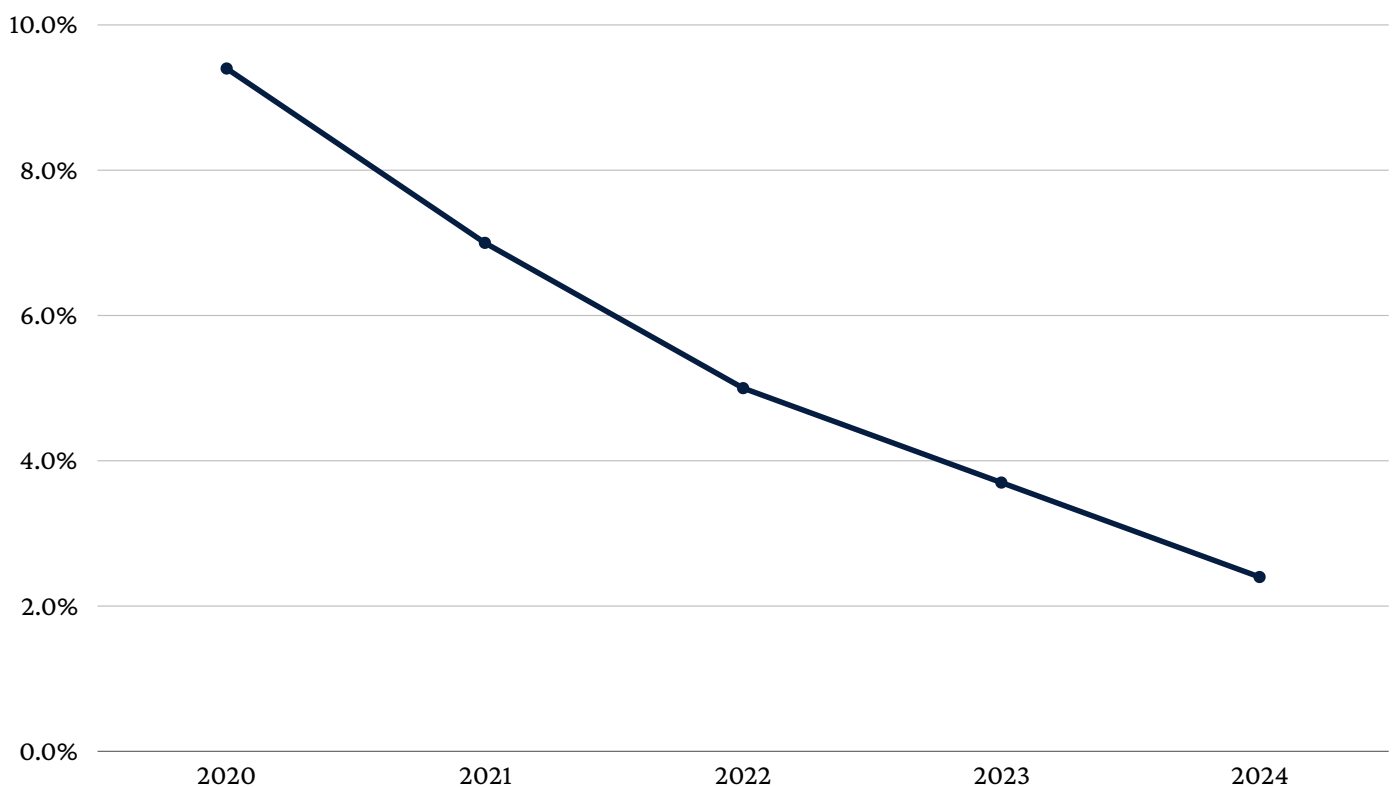
However, vacancy rates in North America have reached an all-time low, even as demand for data centers remains high, new projects are announced in record numbers, and construction activity surges.

By the end of 2024, primary data center markets in North America reported an overall vacancy rate of just 1.9%, a significant drop from previous years. Similarly, colocation vacancy rates fell to a record low of 2.6% across the continent, highlighting the intense demand for data center space.

Finding affordable space for data centers larger than 5MW in traditional hubs is increasingly difficult. Any available second-generation space is typically re-leased within weeks. Additionally, delays in new data center development further hinder market expansion—tenants seeking sizable capacity now face an average wait time of 24 months. In the first quarter of 2024, the pre-leasing rate for data centers under construction in North America surged to 84%, meaning that most new capacity was already committed before completion. This high demand has significantly extended wait times for companies needing data center space, as they often must wait for new facilities to be built and become operational.

VACANCY RATES IN NORTH AMERICA, HOWEVER, ARE AT AN OLD-TIME LOW DESPITE HIGH DEMAND FOR DATA CENTERS, AMPLE AMOUNTS OF PROJECT ANNOUNCEMENTS, AND RECORD CONSTRUCTION LEVELS.

North America colocation vacancy



Source: JLL Research

Trade wars & Input Costs

Trump's tariffs on steel, aluminum, and other imported materials—along with retaliatory tariffs from Canada—could make North America a less attractive destination for data center investment. Investors may face several challenges and should consider diversifying their capital into other markets. These tariffs are expected to drive inflation across both enterprise and consumer technology sectors. As a result, data center operators could see higher operational costs, potentially leading to increased prices for cloud services and other data-related offerings.

1. Increased Construction Costs

- Data centers require large quantities of steel and aluminum for server racks, cooling systems, and structural components.
- A 25% tariff on steel and 10% on aluminum increases the costs of building new facilities, making the U.S. and Canada more expensive for new investments.

2. Rising Operational Costs

- Potential energy price increases (e.g., Canada considering withholding energy exports) could raise operational expenses for data centers in North America.

3. Uncertainty and Trade Risks

- Tariffs create uncertainty for long-term investments since future administrations could alter or remove trade policies.

The Trump administration's tariffs are driving up costs for data center construction and operations, mainly due to rising prices for essential materials and potential energy supply challenges. If tariffs remain high and energy costs continue to rise, data center investments may shift away from North America to regions with cheaper infrastructure, stable regulations, and lower trade risks. However, if the U.S. offsets these costs with tax incentives, subsidies, or regulatory relief, it may retain some competitive advantage. That said, most benefits will likely favor domestic companies, while foreign investors may face additional challenges when operating in the U.S. Given the uncertainty and growing trade tensions, investors should explore alternative locations and diversify their target markets.

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