



Yale SCHOOL OF MANAGEMENT

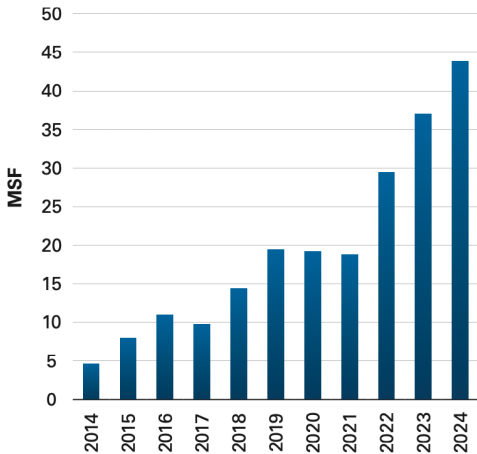
SPRING 2025 ICF REAL ESTATE COLLOQUIUM

BEYOND BRICKS AND BYTES:
THE DATA CENTER INVESTMENT LANDSCAPE

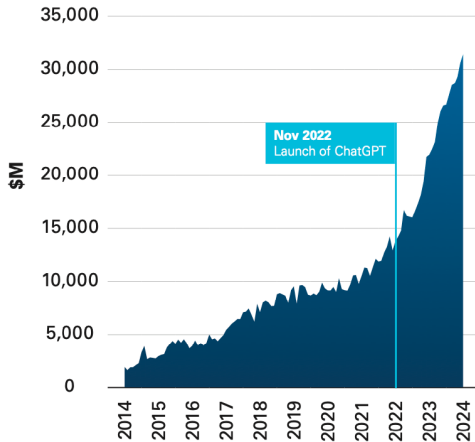
Opening Remarks by **Prof. Cameron LaPoint**

Thursday, April 17th

U.S. Data Center Development Pipeline



U.S. Private Data Center Construction Spending



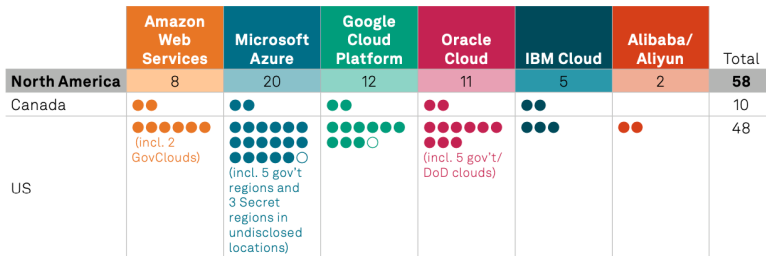
Source: Newmark 2025 United States Data Center Market Outlook

28% GROWTH IN HYPERSCALE CAPEX IN LAST 5 YEARS AMONG THE BIG 4 (GOOGLE, AMAZON, META, MICROSOFT)

Hyperscaler global footprint

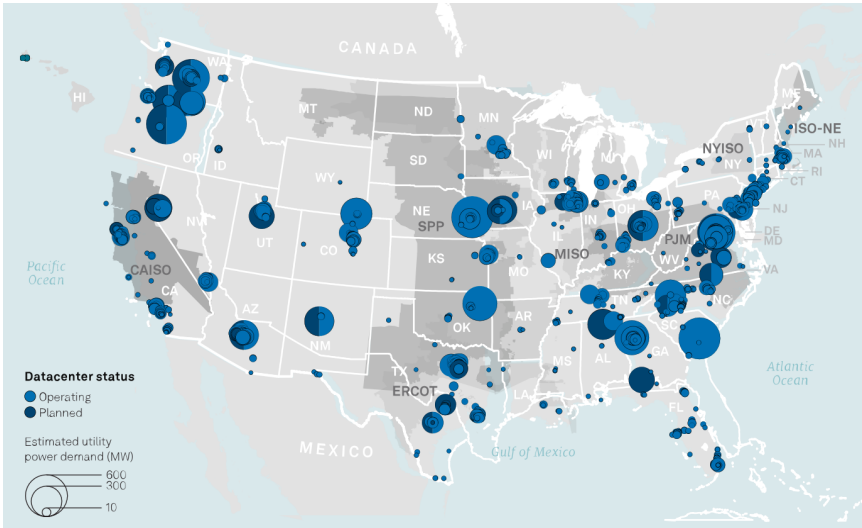
As of January 2025

● In use ○ Coming soon



Source: S&P Global Market Intelligence 451 Research (January 30, 2025)

- **Hyperscaler:** massive spaces taking advantage of economies of scale and custom engineering to provide faster network connections and process larger volumes of data
- Contrast to **enterprise** data centers which support internal IT needs of a company



Source: Newmark 2025 United States Data Center Market Outlook

- 2nd largest data center in the world, spanning 668k square feet is in **Reno, NV**

AVG. DATA CENTER VACANCY NOW LOWER THAN MULTI-FAMILY VACANCY

Primary Markets

Market	Market Size (MW)	Absorption (MW)	Vacancy Rate
Atlanta, GA	2,010	898	0.63%
Chicago, IL	1,100	450	1.03%
Dallas, TX	1,600	172	1.77%
Phoenix, AZ	2,050	507	1.29%
Northern California	810	794	3.41%
Northern Virginia	5,350	925	0.26%

Secondary Markets

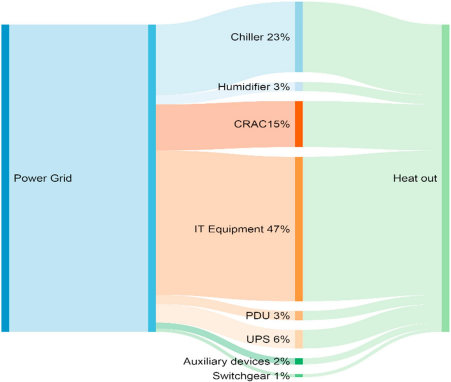
Market	Market Size (MW)	Absorption (MW)	Vacancy Rate
Austin/San Antonio, TX	750	440	2.80%
Boston, MA	90	1	12.00%
Denver, CO	130	11	22.00%
Hillsboro, OR	575	34	0.48%
Houston, TX	210	5	6.80%
Los Angeles, CA	230	17	5.06%
Salt Lake City, UT	360	9	0.30%
Tri-State (Connecticut, New York, Northern NJ)	510	46	3.80%

Emerging Markets

Market	Market Size (MW)	Absorption (MW)	Vacancy Rate
Columbus, OH	510	425	1.00%
Reno, NV	544	316	0.60%

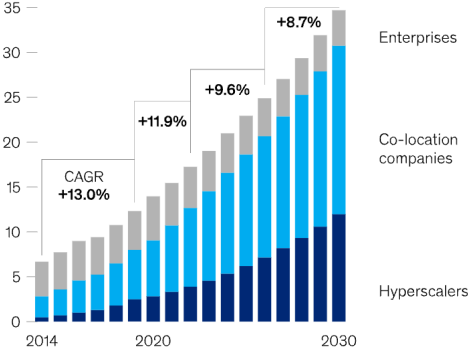
DATA CENTERS ARE MORE ENERGY INTENSIVE THAN TRADITIONAL CRE

Energy Sources for Typical Data Center



Source: Luo et al. (2019), *Applied Energy*

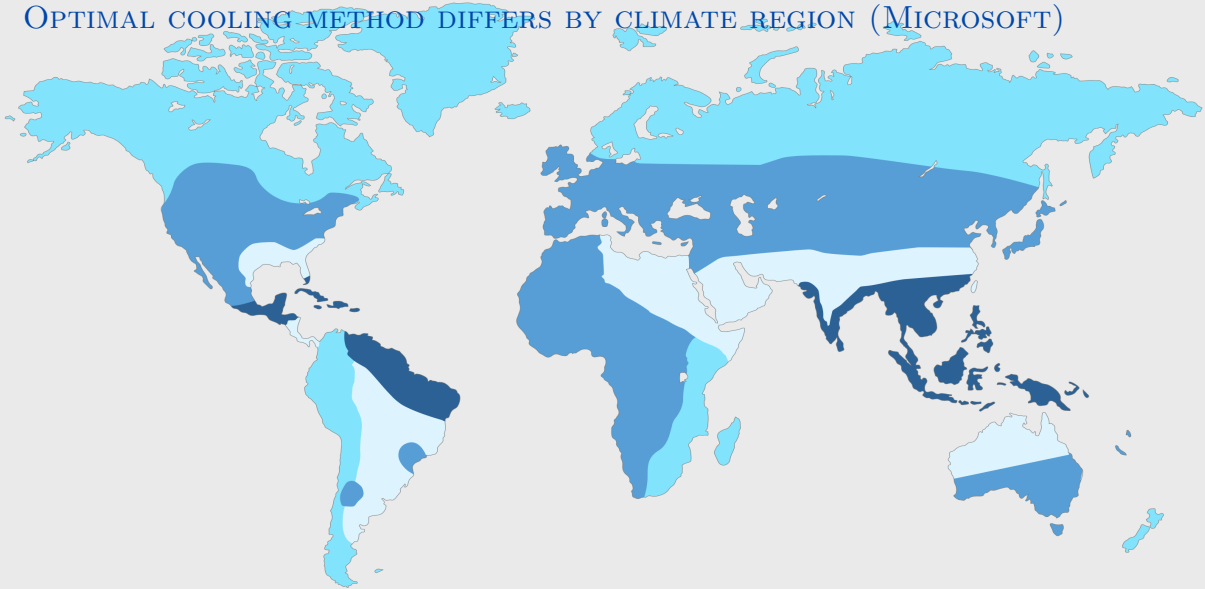
Data center power consumption, by providers/enterprises,¹ gigawatts




Source: McKinsey, "Investing in the rising data center economy"


- Driven by rising share of **colocation** centers in power consumption


OPTIMAL COOLING METHOD DIFFERS BY CLIMATE REGION (MICROSOFT)



 Mechanical cooling

 High-efficiency mechanical cooling

 Adiabatic cooling

 Free air cooling

GOVT. GRANTS AND TAX INCENTIVES HELP SPUR DATA CENTER GROWTH

Two of the biggest and most expensive projects in Idaho's 133-year history are beginning to take shape as Micron and Meta lay the foundations for Micron's \$15 billion semiconductor plant and Meta's \$800 million data center.



Source: *Idaho Statesman*, "Big change is coming to Boise fast as 2 tech giants invest \$16 billion. What to expect" (March 22, 2024)

- **CHIPS Act and IRA** at the federal level, while some states such as Ohio have offered tax exemptions for key construction inputs

A photograph of a server room with rows of server racks. The room is dimly lit with blue and red lights. The text "INTRODUCING OUR PANELISTS" is overlaid in the center.

INTRODUCING OUR PANELISTS

TEDDY MILLER (SENIOR MANAGER OF COMPETITIVE INTELLIGENCE, EQUINIX)



- **Role at data center REIT, Equinix (EQIX, \$76B market cap):**
 - ▶ Supports executive decision-making through competitive strategy
- Experience prior to Equinix:
 - ▶ Built cloud enterprise competitive strategy during **VMware's** \$69B acquisition by Broadcom
 - ▶ Research analyst at **451 Research** (now part of S&P Global Market Intelligence)
- B.A. in History and East Asian Languages & Literature from **Yale College** and **MBA from Yale SOM**

COLE WESTON (DIRECTOR, YALE INVESTMENTS OFFICE)



- **Manages Yale Endowment's approx. \$4B real estate portfolio**
 - ▶ Leads investments in GP controlled funds, co-investments, and secondaries
 - ▶ Covers all sectors within real estate
- Experience prior to joining YIO:
 - ▶ Principal on real estate equity team at **KKR**
 - ▶ Worked across capital structure at **Morgan Stanley** and **Dune Real Estate Partners**
- B.A. in Economics from **Yale College** and MBA from Harvard Business School



Yale SCHOOL OF MANAGEMENT
International Center for Finance

Submit questions here ↓↓

