

10th Edition

# State of the Data Center

2026 EXECUTIVE SUMMARY

Ten years of data reveals how AI is reshaping data center design, power, density, and talent

# Executive Summary

**AFCOM's 2026 State of the Data Center Report** draws on a survey of data center professionals to put hard numbers behind some of the industry's most important trends and challenges. Now in its 10th edition, AFCOM's report provides insight into critical data center trends such as the impact of AI workloads, rising rack density, liquid cooling use, on-site power generation, sustainable power, security risks, labor shortages, and more. Below are summaries of findings in seven key areas. The full-length report, available to AFCOM members, includes additional research findings and in-depth analysis. The report's author, Apolo.us CEO Bill Kleyman, has written all 10 State of the Data Center reports, and he offers this perspective on how to consider the research:

*"As you read the 10th edition of the State of the Data Center, I encourage you to view it not only as a snapshot of where we are today, but as a signal of where we are headed next. The data center has never been more critical. And the decisions we make in the next few years will define digital infrastructure for the next decade."*

## Key findings from the report:

**72%**  
expect AI workloads  
to increase data  
center capacity  
requirements.

That 72% figure includes 48% who expect a significant impact on capacity requirements from AI workloads. In addition, 74% of respondents plan to deploy AI-capable solutions in their data centers, up from 64% in 2025. As evidenced throughout the report, the capacity needs to run AI workloads are fundamentally altering how data centers are sized, powered, and cooled.

Average  
rack density  
rises nearly  
**70%**  
in one year.

Average rack density hit 27 kW per rack, up from 16 last year, by far the largest year-over-year increase in rack density in AFCOM's 10 years of research. In 2021, average rack density was just 7 kW. And 69% of respondents expect rack density to increase further in the next 12–36 months. Higher densities pack more computing into a smaller physical footprint, but that also increases heat, spurring need for advanced technologies such as liquid cooling.

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More than  
**60%**  
are using liquid  
cooling or will within  
two years.

This year, 36% of respondents have liquid cooling deployed and another 28% plan adoption within the next 12-24 months. Rack density is certainly a big factor driving liquid cooling use, but respondents have a wide range of opinions on what density threshold requires liquid cooling: 20% say 21-40 kW, 20% say 41-60, 20% say 61-80. The rest fall above or below that.

**87%**  
report workforce  
gaps are impacting  
operations, up from  
85% last year.

The most common approaches to respond to data centers' labor shortage include retraining and upskilling staff, cited by 36%, and increasing outsourcing of services (33%), particularly for specialized or short-term needs. The roles that respondents think will be most in demand near term are data center engineers (cited by 56%, up from 50% last year), multi-skilled data center operators (40%), power systems and energy engineers (36%), and security specialists (36%).

**61%**  
cite physical  
security among  
their top threats—  
more than any  
other risk.

Asked to identify their top five security and infrastructure threats, respondents cited human threats (internal or external) more than any other factor, cited by 61%, up from 58% last year and just 40% in 2024. Ransomware follows closely behind, cited by 58%, but it's the first time in nearly a decade it wasn't the most cited. The other top risks are AI-driven synthetic identity attacks (cited by 46%), advanced persistent threats (44%), and DDoS attacks (42%). As data centers are recognized as critical infrastructure supporting AI platforms, financial systems, government workloads, and national security, that visibility increases exposure to insider risk, coordinated physical attacks, and social engineering campaigns.

**Three-fourths**  
of respondents  
use or will use  
renewable energy  
within three years.

38% of respondents report using renewable energy today, and 37% plan to do so within the next three years. Also, 30% have initiatives in place to manage water and energy usage, and another 41% have such initiatives planned. That suggests operators have much work to do in the next few years, but that the industry is taking action on sustainability goals, rising regulatory requirements, and community environmental concerns.

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**Nearly half**  
expect to have  
on-site power  
generation within  
a year.

On-site power generation increased to 25% this year, up from 19% last year, and another 23% plan to implement on-site generation within the next 12 months. Factors driving on-site power generation include bypassing electricity grid connection delays and congestion, higher efficiency without transmission losses, enhanced resiliency during grid instability and storms, and support of sustainability goals, in cases of on-site solar-and-battery systems. On-site generation isn't a complete or permanent substitute for tapping the electrical grid, but rather an integrated element that complements grid interconnection.

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## About AFCOM

AFCOM is a professional association that's dedicated to advancing the careers of data center and IT infrastructure professionals. Since AFCOM first began its journey as the Association for Computer Operations Management in 1980, we've evolved alongside the dynamic industry we serve.

Our mission is to provide a forum for members to learn, build professional relationships across the industry, and engage with industry-specific tools, news and the latest research to support their full career development. AFCOM has earned recognition as the market leader in educating, connecting, and guiding the data center community at large.

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Members can download the full report [here](#).