

Data Center Operator Survey Results: 2026 Direct Liquid Cooling Adoption Trends

OCTOBER 2026



SUMMARY

Just over one in four operators (26%) now use direct liquid cooling (DLC) in their owned data centers — up 8 percentage points from 2025. Another 59% say they would consider it in the future.

Higher rack densities (73%) and *high-powered servers* (46%) remain the primary drivers of DLC adoption.

Operators find the most important factors in terms of viability are *ease of retrofit into existing infrastructure* (47%) and *lower operating costs* (36%).

The top barriers are *cost* (41%), *reliability concerns* (35%) and a *lack of standardization* across systems (34%).

In leased colocation space, 17% of operators now use DLC, up from 13% in 2025.

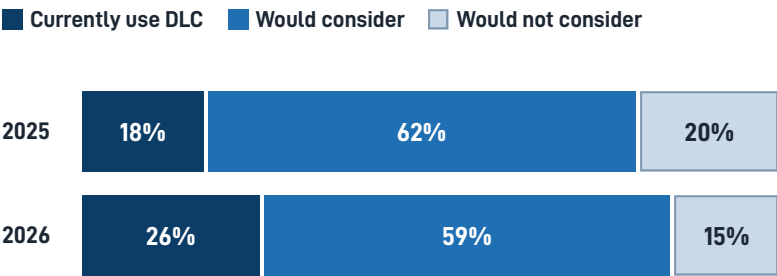
ABOUT THIS REPORT

Uptime Institute's 2026 Cooling Systems Survey was conducted between June 24 and July 21, 2026, and had a total of 1,034 data center industry respondents.

This report is based on the results from 501 data center owner/operator respondents.

A jump in direct liquid cooling (DLC) adoption

I. Do you currently use, or are you considering using, any direct liquid cooling technology in your owned data centers? (2025 n=388; 2026 n=355)

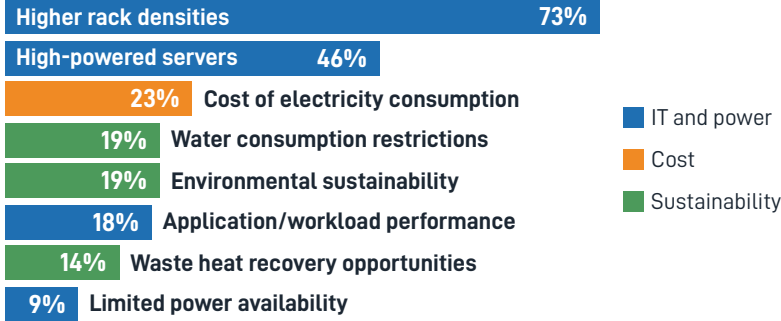


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Primary drivers of adoption

II. Currently which of these do you think are the primary drivers for direct liquid cooling adoption? Choose no more than two. (n=426)

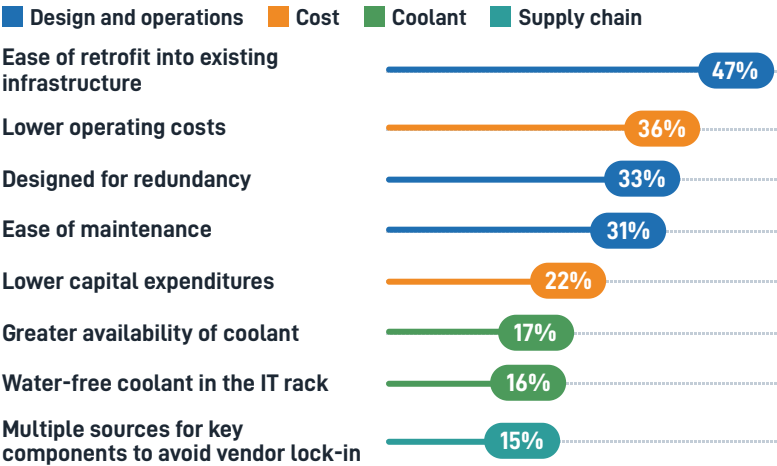


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Key factors for determining DLC viability

III. What factors do you consider most important for determining whether a direct liquid cooling system is viable? Choose no more than two. (n=427)

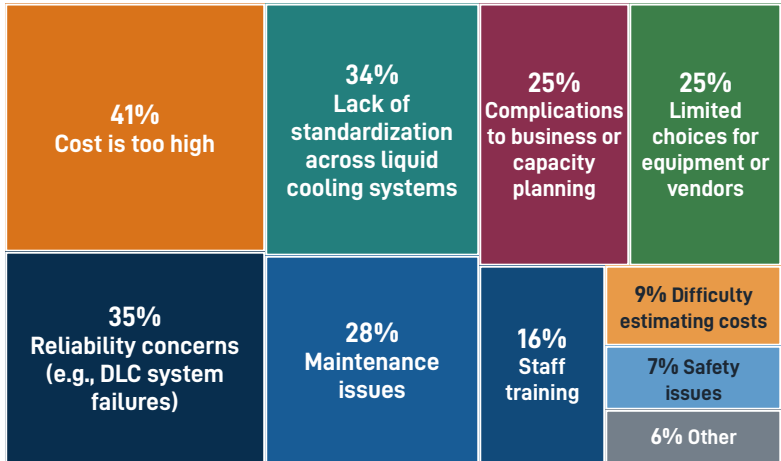


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Biggest barriers to adoption

IV. Which of the following do you think are the biggest barriers to adopting direct liquid cooling in data centers? Choose no more than two. (n=429)

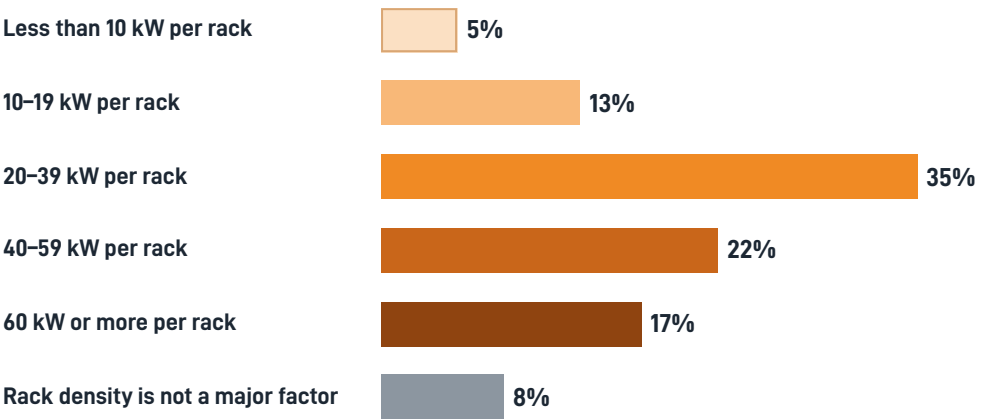


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Rack density threshold for DLC

V. At what IT rack power density do you think air cooling is so costly (or unable to meet cooling requirements) that the use of direct liquid cooling becomes necessary? (n=422)

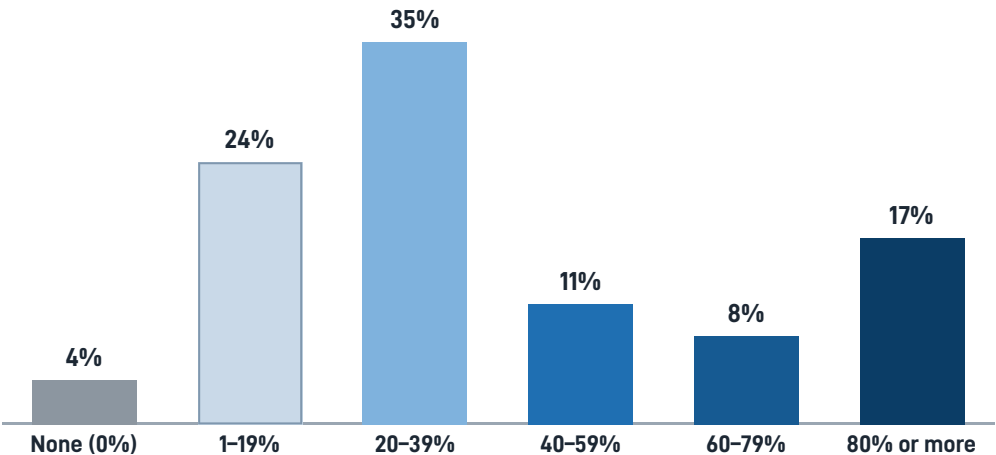


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Current users: Share of IT racks using DLC

VI. And in your owned data centers, what percentage of your organization's IT racks would you say incorporate direct liquid cooling? (n=81)

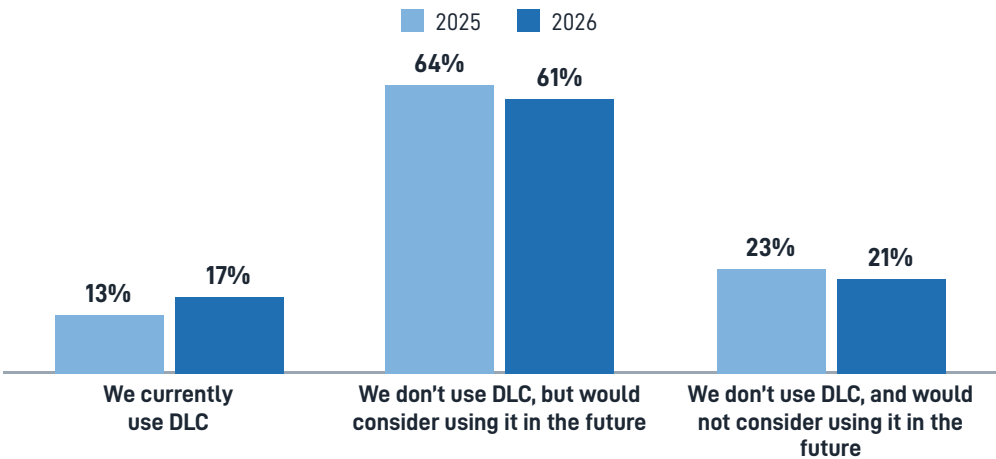


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DLC adoption in leased colocation space

VII. Do you currently use, or are you considering using, any direct liquid cooling technology in your leased colocation space? (2025 n=169; 2026 n=132)

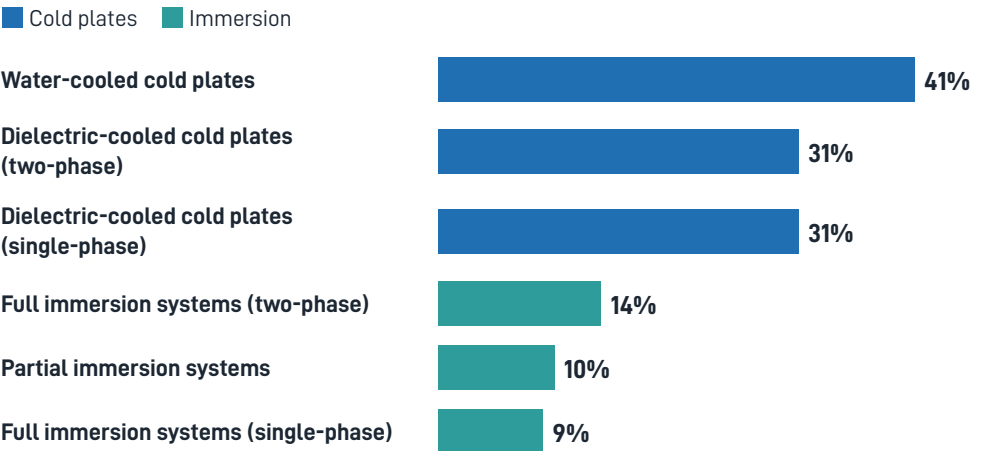


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DLC types in leased colocation space

VIII. Which types of direct liquid cooling is your organization using or considering for your leased colocation space? Choose all that apply. (n=80)

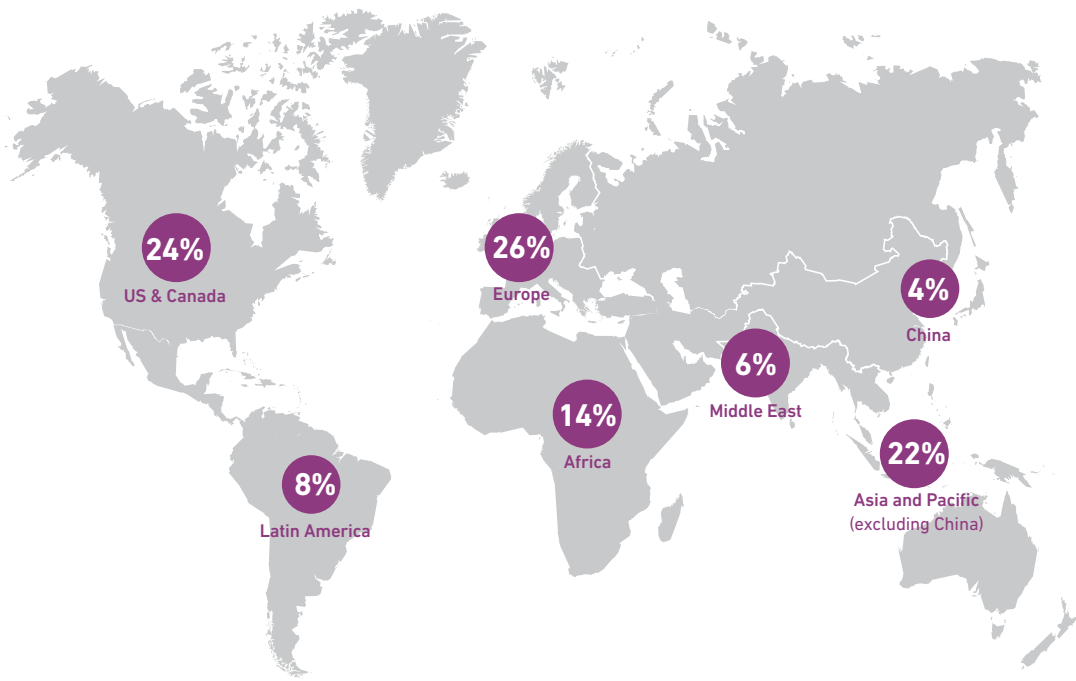


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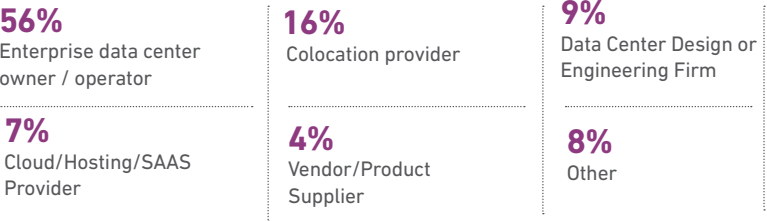


Data Center Operator Demographics

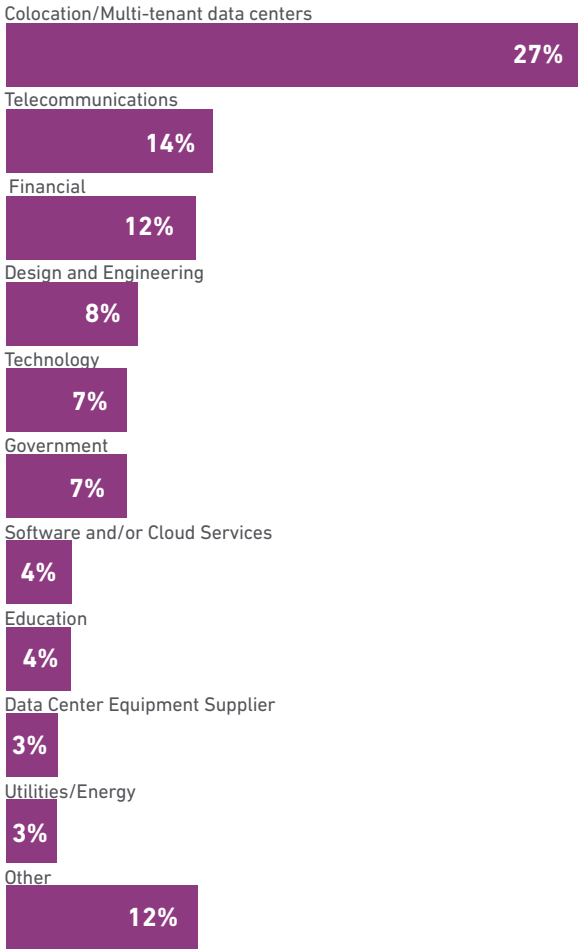
Respondents' location (n=500)



Digital infrastructure environment (n=501)



Verticals (n=365)



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About Uptime Institute

Uptime Institute is the Global Digital Infrastructure Authority. With over 4,000 awards issued in over 122 countries around the globe, and over 1,100 currently active projects in 80+ countries, Uptime has helped tens of thousands of companies optimize critical IT assets while managing costs, resources, and efficiency.

For over 30 years, the company has established industry-leading benchmarks for data center performance, resilience, sustainability, and efficiency, which provide customers assurance that their digital infrastructure can perform across a wide array of operating conditions at a level consistent with their individual business needs.

Uptime's Tier Standard is the IT industry's most trusted and adopted global standard for the design, construction, and operation of data centers. Offerings include the organization's Tier Standard and Certifications, Management & Operations reviews and assessments including SCIRA-FSI financial sector risk assessment, the Sustainability Assessment, and a broad range of additional risk management, performance, availability, and related offerings.

Uptime Education training programs have been successfully completed by over 90,000 data center professionals, such as the much-valued ATD (Accredited Tier Designer) and AOS (Accredited Operations Specialist). The Uptime Education curriculum has been expanded by the acquisition of CNet Training Ltd. in 2023.

Uptime Institute is headquartered in New York, NY, with offices in London, São Paulo, Dubai, Riyadh, and Singapore, and full-time Uptime professionals based in over thirty-four countries around the world. For more information, visit uptimeinstitute.com.

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