

Vendor view

Uptime Institute Direct Liquid Cooling Survey 2022

Q4 2021, Q1 2022

SUMMARY

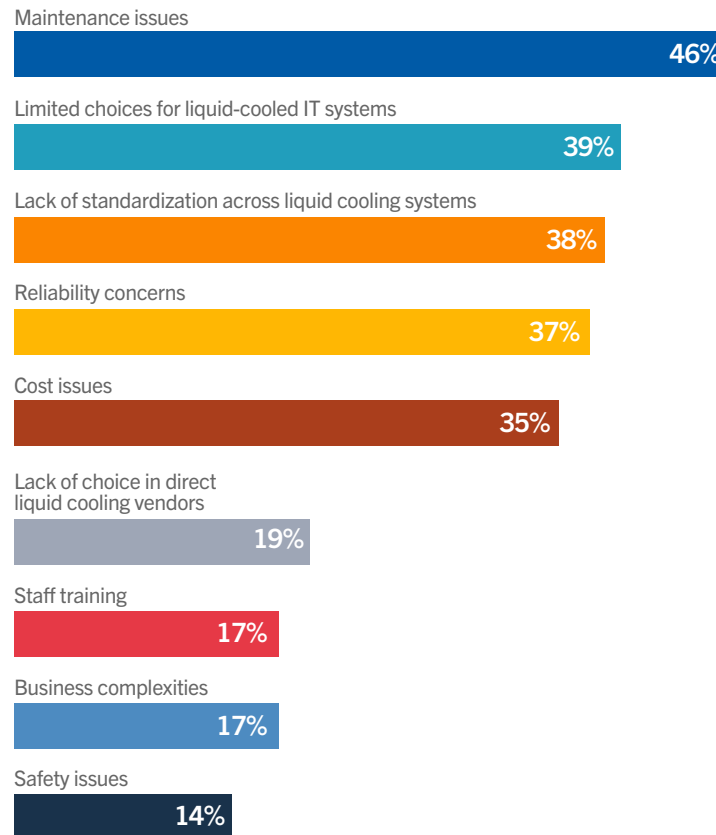
Most vendors and consultants consider direct liquid cooling (DLC) to be economically viable in facilities with racks above 20 kilowatts, and cite the need among operators to handle high rack densities as the primary driver for adoption. Despite the sustainability benefits and reduced energy costs, DLC adoption is hindered by maintenance issues, limited choice of vendors and a lack of standardization.

ABOUT THIS SURVEY

The Uptime Institute Direct Liquid Cooling Survey 2022 was conducted in December 2021 and January 2022 and had 328 respondents, including vendors, advisory firms, engineering firms and owner / operators. (Data was also sourced from the Uptime Institute Global Data Center Survey 2022, which was conducted online in April 2022 and May 2022 and had 830 end-user respondents.)

Maintenance and lack of choices top barriers to DLC adoption

Which of the following do you think are the biggest barriers to adopting DLC in data centers? Choose no more than two. (n=284)



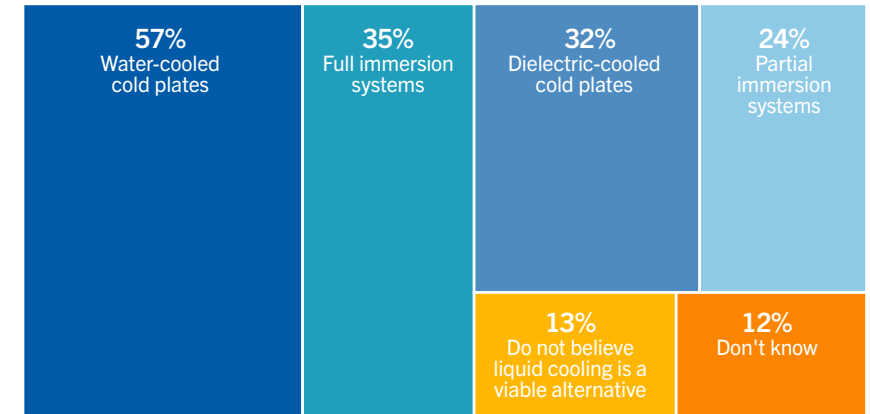
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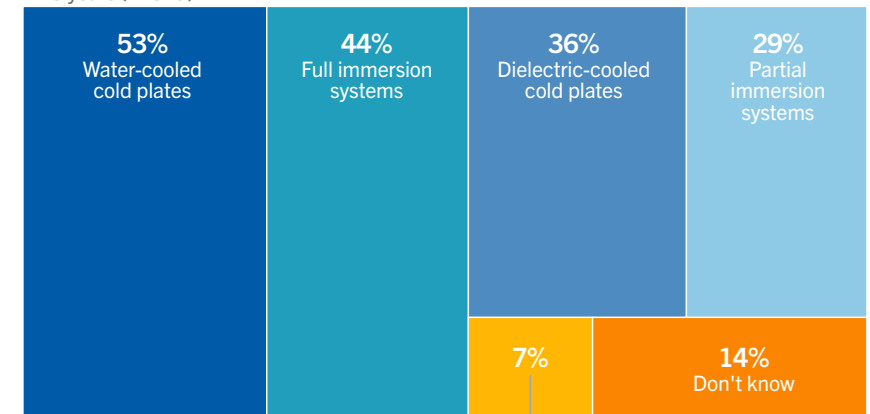
Water systems lead, but positive outlook for dielectrics

Which of the following DLC techniques do you think are viable cooling approaches in data centers, both currently and in three years? Choose all that apply.

Currently (n=315)



In 3 years (n=319)



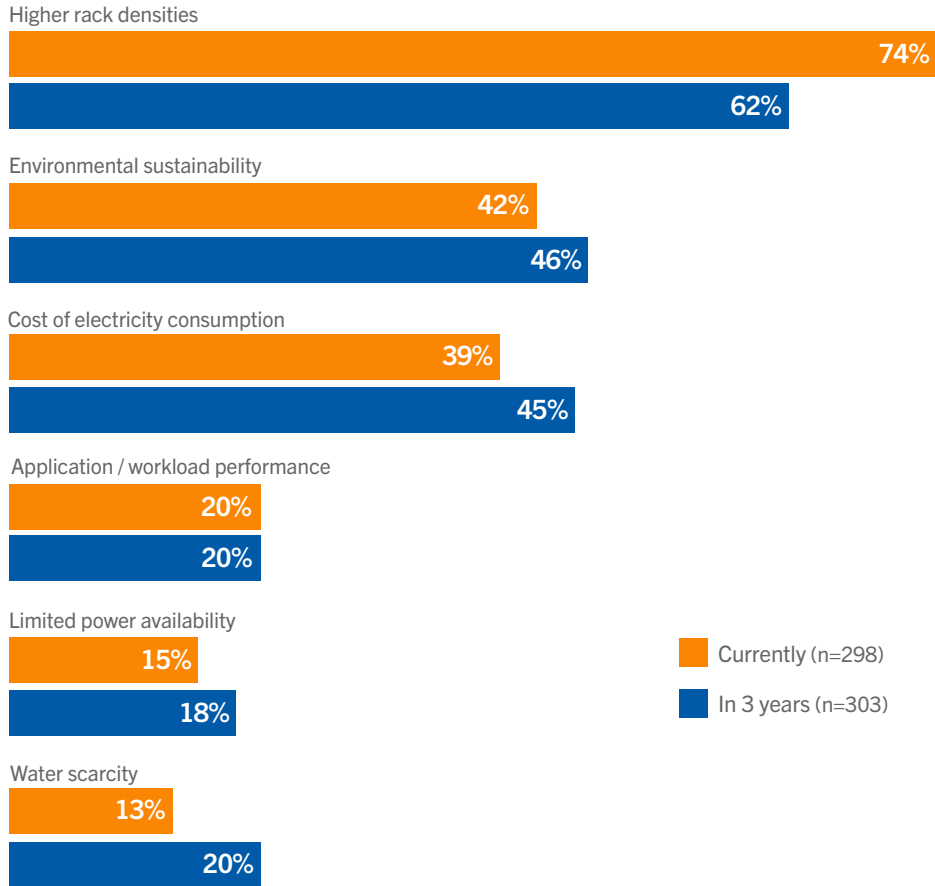
Do not believe liquid cooling is a viable alternative

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Most vendors say rack density will continue to drive adoption

Which of these options do you think are the primary drivers for immersion and / or direct-to-chip liquid cooling adoption, both now and in three years? Choose no more than two.

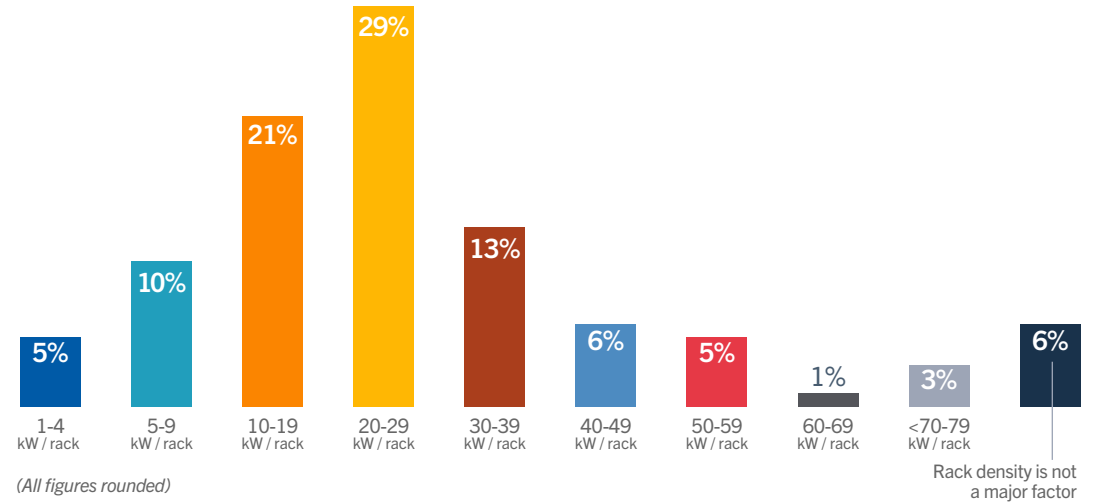


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Most vendors consider DLC viable at densities above 20 kW

In your opinion, what is the lowest IT rack power density at which DLC becomes economically viable in comparison to air cooling? (n=255)



(All figures rounded)

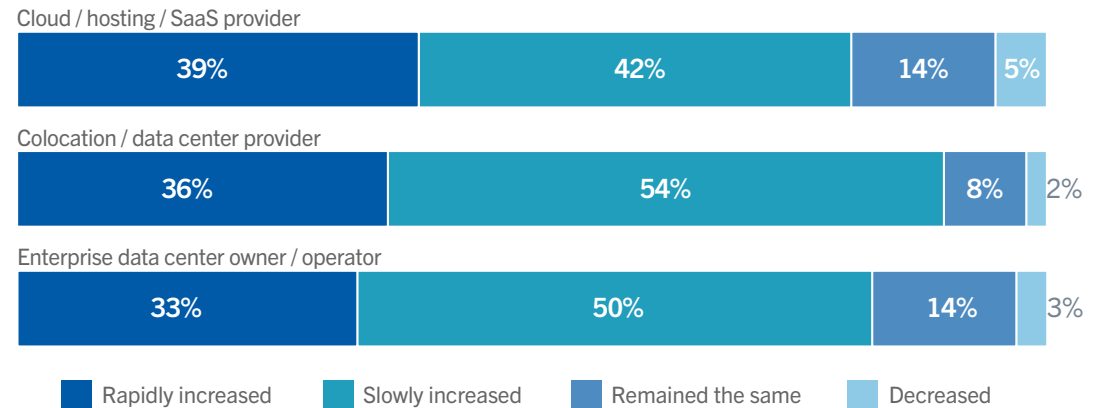
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Operator view

Rack power density rising fast across major data center segments

Over the past three years, how has the most common (modal average) rack power density deployed in your organization / colocation data centers changed? (n=611)

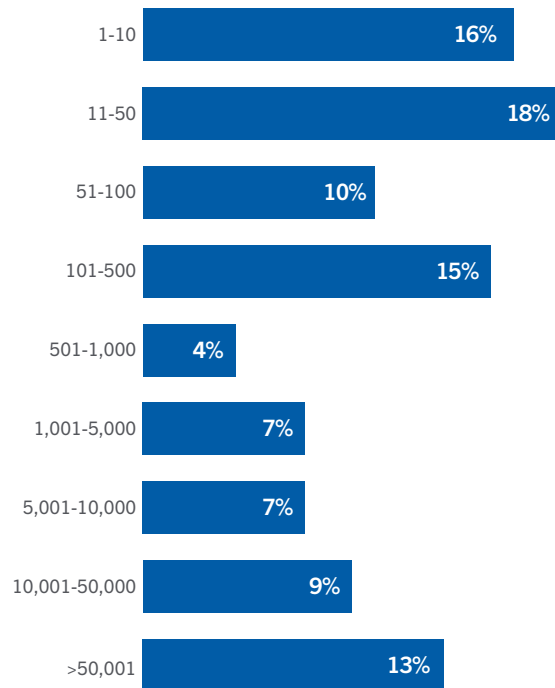


UPTIME INSTITUTE GLOBAL SURVEY OF IT AND DATA CENTER MANAGERS 2022

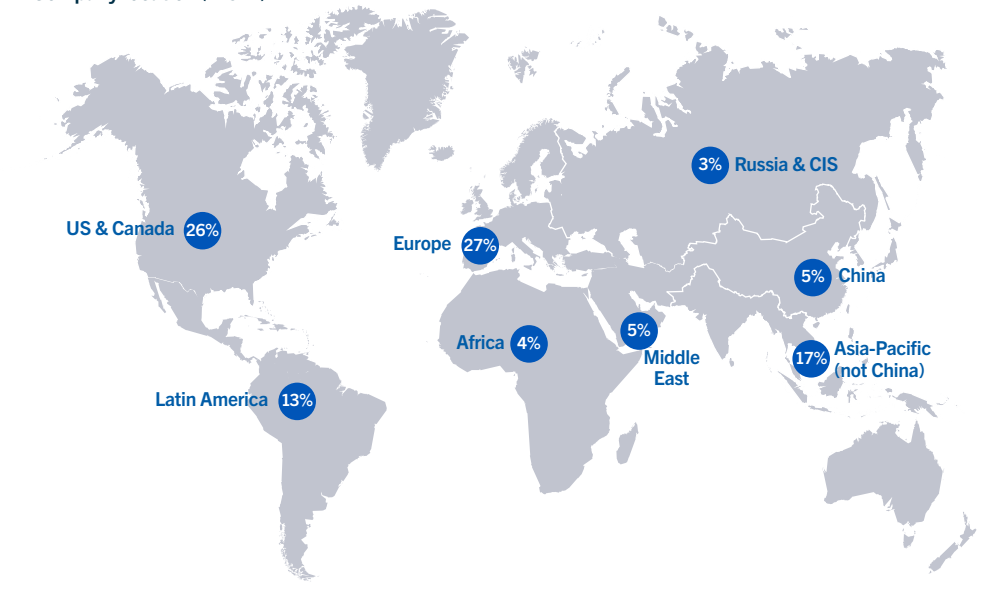
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Uptime Institute Direct Liquid Cooling Survey 2022: vendor demographics

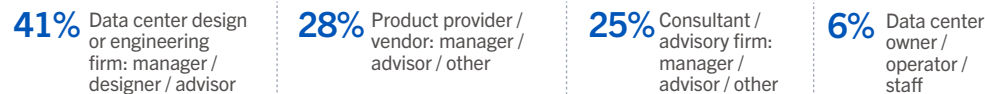
Number of full-time employees (n=312)



Company location (n=312)



Job function (n=328)



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About Uptime Institute

Uptime Institute is the Global Digital Infrastructure Authority. Its Tier Standard is the IT industry's most trusted and adopted global standard for the proper design, construction, and operation of data centers – the backbone of the digital economy. For over 25 years, the company has served as the standard for data center reliability, sustainability, and efficiency, providing customers assurance that their digital infrastructure can perform at a level that is consistent with their business needs across a wide array of operating conditions.

With its data center Tier Standard & Certifications, Management & Operations reviews, broad range of related risk and performance assessments, and accredited educational curriculum completed by over 10,000 data center professionals, Uptime Institute has helped thousands of companies, in over 100 countries to optimize critical IT assets while managing costs, resources, and efficiency.

Uptime Institute is headquartered in New York, NY, with offices in Seattle, London, Sao Paulo, Dubai, Singapore, and Taipei. For more information, please visit www.uptimeinstitute.com

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