

INTELLIGENCE UPDATE

Uptime Intelligence Research Agenda



1 Jan 2025

The Uptime Intelligence research agenda includes a list of published and planned research reports for 2025, and is focused on Uptime Intelligence primary coverage areas: 1) power generation, distribution, energy storage; 2) data center management software; 3) sustainability, energy efficiency; 4) silicon and systems; 5) resiliency: outages, topology, climate risks; 6) cooling and heat rejection; 7) staffing and skills; 8) security and human risk.

January 2025

Five data center predictions for 2025

Enterprise and colocation operators face rising costs in 2025

Are data centers on top of NIS 2 cyber compliance?

Labor shortages put some large campuses at risk of outages

Sweat dedicated GPU clusters to beat cloud on cost

Al embraces liquid cooling, but enterprise IT is slow to follow

Uptime's predictions for 2025: an overview

UNEP specs for IT equipment efficiency: more work required

How AWS's own silicon and software deliver cloud scalability

IT efficiency: an untapped power resource

Data center management software: the evolving role of DCIM

Al supremacy: how will the new US GPU export controls work?

Neoclouds: a cost-effective AI infrastructure alternative

February 2025

Low-carbon hydrogen: not yet viable as primary power source

Cloud repatriation is overstated

Build resilient apps: do not rely solely on cloud infrastructure

Al adds to rising demand for capacity

Al and cooling: methods and capacities

Cloud a viable choice amidst uncertain AI returns

US state drafts plan for data center regulations

Al infrastructure ambitions will be cut down to size

The DeepSeek paradox: more efficiency, more infrastructure?

EED delegated report due early May — what's the rush?

Remaining EED reporting deficiencies need immediate attention

Agentic Al shows promise — but also carries risk

Small modular reactors: building critical mass

Outage data shows cloud apps must be designed for failure

March 2025

Sustainability requirements rise as climate risks intensify

Are data centers to blame for power quality issues?

Deconstructing NIMBY: how to avoid planning conflicts

Hardware for AI: options and directions

Al load and chiller systems: key considerations

Cloud and cost savings depend on application design

Should operators continue climate risk reporting?

The operational cost of AI training failures

Are data center workplace initiatives effective?

Density choices for AI training are increasingly complex

DeepSeek government bans: implications for operators

Water is local: generalities do not apply

Publicly reported outages see increase in deliberate attacks

April 2025

EU climate reporting: simplification is not simple

Data center AI strategies are mixed in early 2025

Cloud availability comes at a price

Quantum's quandary: racing toward reality or stuck in hyperbole?

For a grid connection, form a disorderly line

'Reasoning' will increase the infrastructure footprint of Al

Al and cooling: limits on efficiency gains and heat reuse (part 3)

The booming data center sector grapples with tariff chaos

Tariff tensions undermine trust in cloud hyperscalers

DORA update: what the EU act means for data centers

Digital twins: reshaping Al infrastructure planning

On-premises clouds: not so plane and simple

Mentorships: practical strategies for retaining new employees

May 2025

Annual outage analysis 2025: keynote report

Calculating work capacity for server and storage products

Data center sustainability standards 2025

GPU utilization is a confusing metric

In the US, data center pushback is all about power

Cloud: when high availability hurts sustainability

<u>Data centers weather grid failures — but utilities want change</u>

Uncertainty and doubt as US changes GPU export rules again

The two sides of a sustainability strategy

Error-proof emergency communications for facility teams

Data center sustainability standards grow globally

Cloud AI needs cost discipline now

Gen Al power consumption surges higher faster

June 2025

Seven fallacies of data center cybersecurity

Enhanced geothermal: long-term clean power — for some

GPU power management is a work in progress

Al and cooling: chilled water system topologies

Cybersecurity and the cost of human error

Will power shortages drive an on-prem renaissance?

Enterprises are still a key venue for corporate workloads

EU plans introduction of DC rating system

Hold the line: liquid cooling's division of labor

Is this the data center metric for the 2030s?

EED status update: implications for data centers

Are EU data center performance values creating chaos

Electrical considerations with large AI compute

July 2025

<u>Uptime Institute Global Data Center Survey 2025</u>

Unraveling the cost complexity of serverless containers

DLC adoption remains slow and steady

Ransomware incidents on OT equipment surge

Europe will not abandon the hyperscalers

Malaysia manages data center growth with regulations

EU energy efficiency package may slow digital growth

Self-contained liquid cooling: the low-friction option

State governments act to control power demand

Retail vs wholesale: finding the right colo pricing model

EU EED labeling scheme: Uptime feedback

Digital twins: the role of simulations

Al power fluctuations strain both budgets and hardware

Al super-densification: how far will it really go?

August 2025

Data center growth can improve sustainability performance

Uptime Institute Global Data Center Survey 2025: regional view

Crypto mines are turning into Al factories

GPU breakthroughs bring real-time CFD analysis closer

Cloud AI price cuts challenge dedicated deployments

EU maturity model set to replace Code of Conduct

Consensus weakens on rack density tipping point for DLC

Power companies act to stop data center-induced blackouts

Operators warming up to dielectric cold plates

Data shows scale of hyperscale colocation demand

The intelligent loop: Al and chilled water systems

DCIM vulnerabilities increase threat of cyberattacks

Emerging tech 1: Superconductivity for power delivery

September 2025

Uptime Institute Global Data Center Survey 2025: supplier view

Lack of trust will hinder adoption of Al-based controls

Al-generated operating procedures carry a safety risk

Emerging tech 2: low-carbon hydrogen

Guiding questions for liquid-cooled colocation planning

In cloud and colo, whose laws rule the data?

Cybersecurity incidents grow costlier amid persistent complexity

Intel makes major play in server efficiency

Incomplete data threatens effectiveness of EED

OT security: rising critical vulnerabilities, widespread risks

October 2025

Data center labels: a very public appraisal

Staffing crisis persists as colos struggle to retain junior operators

Battery options fizzle as sodium-ion startup shuts

French data center policies affecting sustainability

Neoclouds: Al's shock absorbers

Why are operators collecting less sustainability data?

Key players: cloud control and the colo advantage

Al's growth calls for useful IT efficiency metrics

Mapping PUE trends by data center region, age and size

Liquid-to-air eases DLC rollout, but mind the setpoints

Al and cooling: toward more automation

Emerging technology: neuromorphic computing

AWS outage: what are the lessons for enterprises?

Emerging technology: superconductivity in the facility

Al uncertainty: More adoption, more caution

Al uncertainty: Bubble trouble brewing?

November 2025

Do data centers reserve too much grid power?

Data4: Industrialization of DLC raises technical issues

GHG Protocol Scope 2 guidance updates - implications for climate disclosure reporting

Banks are readily using cloud and AI

South Korea data center fire

Cold plate evolution will change cooling

As DLC plans approach fruition, fewer name sustainability as a driver

Vendor management software comparison

Three new applications of AI in operations

Digital twins part 4 - software products

DGX-ready data center: what does that mean?

Final draft of EED label and MPSs published

Clean Energy Buyers Alliance Colo Emissions guidance published

December 2025

Uptime Institute Capacity Trends and Cloud Survey 2025: field report

Uptime Institute Capacity Trends and Cloud Survey 2025: an overview

January 2026

Five data center predictions for 2026: keynote report

Five data center predictions for 2026: an overview

Uptime Institute Sustainability and Climate Change Survey 2025: field report

Uptime Institute Sustainability and Climate Change Survey 2025: an overview

(Titles, dates and descriptions are subject to change. Further details and extra reports and updates will be added to further iterations of this sheet as needed and will be available closer to the date of publication.)



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Douglas is a Research Analyst at Uptime Institute covering sustainability in data centers. His background includes environmental research and communications, with a strong focus on education.

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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.