

Built for what's next: designing resilience into digital infrastructure

The United Arab Emirates

Country profile

Summary

The United Arab Emirates is rapidly establishing itself as a regional hub for artificial intelligence and digital infrastructure, supported by strong hyperscale investment, strategic connectivity and government-led digital transformation.

As AI-driven demand grows, power availability, cyber security and climate resilience are becoming the sector's defining operational challenges. Rising demand is placing greater pressure on electricity networks, cooling systems and digital infrastructure.

Resilience efforts focus on cyber security, diversified energy supplies and infrastructure protection, backed by dedicated investment and the country's AI ambitions.

The next stage of resilience will depend on building public trust, adapting to climate risks, and preparing for disruptions that affect power, technology and supply chains.

Key data

Scale

37
data centres¹

Capacity

508
MW²

Capacity growth

6%
annual IT-load growth
(estimated 2025–2030)³

Geographic hubs

Dubai and Abu Dhabi are the UAE's primary data centre hubs, supported by significant hyperscale and AI infrastructure investment. While Dubai remains the country's largest established market, Abu Dhabi is expanding rapidly as a centre for AI infrastructure. Investment is also beginning to broaden the country's data centre footprint, with smaller and emerging locations including Sharjah, Al Ain, Fujairah and Ajman.^{4,5}



About this research

Built for what's next is an Economist Enterprise research programme, sponsored by global property insurer FM. It examines how risks across energy, people and technology often come together to disrupt digital infrastructure, and how organisations can best prepare to meet those shocks.

The research is based on:

- A global survey of 1,800 data centre stakeholders across the digital infrastructure value chain from 21 countries
- Interviews with global industry experts
- An expert panel discussion

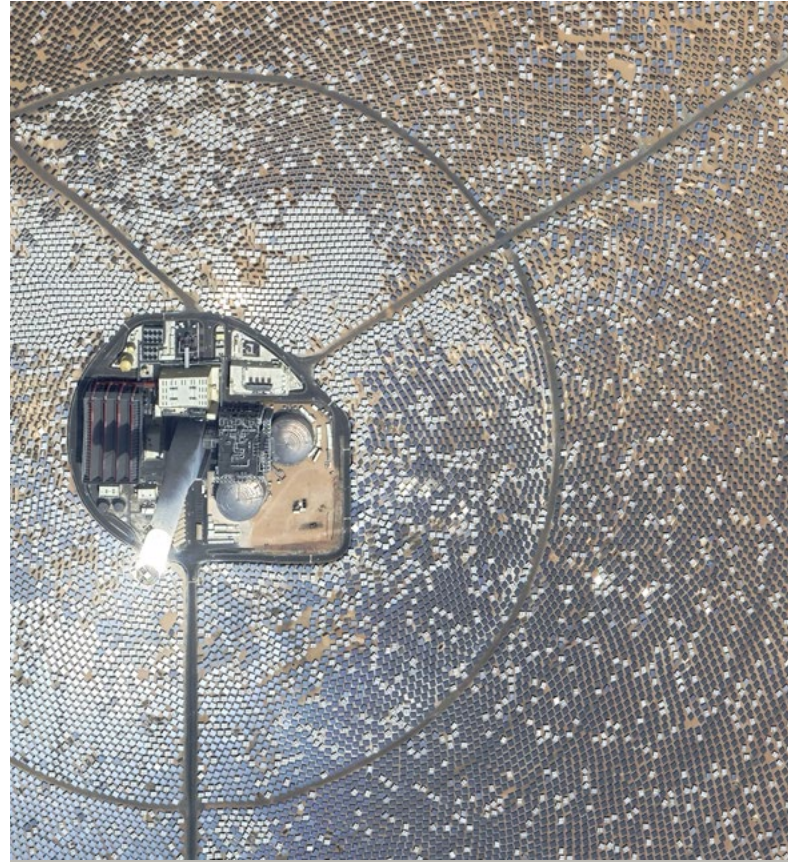
Market overview

Growth trends

The UAE's data centre market is expanding rapidly, driven by AI adoption, cloud computing and hyperscale investment. Live capacity exceeded 376MW in 2025, while projects such as Microsoft and G42's planned 200MW expansion are strengthening the country's position as a regional AI and digital infrastructure hub. Growth is also supported by the UAE's economic diversification strategy and expanding digital economy.^{6,7}

Investment trends

Large AI and digital infrastructure projects continue to drive investment. Microsoft's more than 55bn dirham (~US\$15bn) investment and the Stargate UAE AI campus are positioning the country as a regional centre for next-generation AI infrastructure, digital services and skills development. Moro Hub's Tier III-certified green data centre in Dubai is fully powered by solar energy and has been recognised as the world's largest solar-powered data centre, supporting the country's push towards more sustainable digital infrastructure.^{8,9,10}

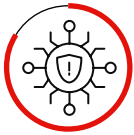


Key regulatory developments

The UAE is strengthening its policy environment through its National Strategy for Artificial Intelligence 2031 and Net Zero 2050 Strategy, supporting continued investment in AI, clean energy and digital infrastructure. However, the structure of the electricity market limits options for data centre operators to procure renewable electricity directly at scale. Access to advanced AI chips has also been shaped by the United States export controls, although restrictions were eased in 2026 for approved UAE entities.^{11,12,13,14}

Key risks

Economist Enterprise's survey found that data centre stakeholders in the UAE perceive the following as the **greatest systemic risks facing the sector**:

**84%****Cyber-attacks**

The UAE's emergence as a regional AI and cloud hub has heightened its cyber risk exposure, with the country facing up to 700,000 cyberattack attempts every day.¹⁵ Automated attacks and AI-enabled phishing campaigns are becoming more sophisticated. This has prompted the Cyber Security Council to strengthen resilience through the National Cybersecurity Strategy (2025–2031), including zero-trust security frameworks and stricter cyber-risk management.¹⁶

**78%****Grid capacity constraints**

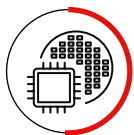
Rapid expansion of AI infrastructure is increasing pressure on electricity networks. The planned Stargate UAE AI campus is expected to reach 5GW of capacity at full build-out, illustrating the scale of future power requirements associated with AI infrastructure. In response, the UAE is expanding transmission infrastructure while increasing investment in solar generation, battery storage and onsite power solutions.^{17,18,19}

**68%****Investment or insurance withdrawal**

Large-scale AI facilities require significant capital investment and carry increasingly high asset values, creating new financing and insurance challenges. As project sizes grow, investors and insurers are placing greater emphasis on resilience, risk management and long-term asset performance.

**66%****Extreme weather or climate impact**

Extreme heat and water scarcity present structural challenges for data centre operations in the UAE. High temperatures increase cooling requirements, while growing data centre capacity is expected to place additional pressure on scarce water resources. Although alternative cooling technologies are being explored, adoption remains limited, leaving water efficiency an important area for strengthening long-term resilience.²⁰

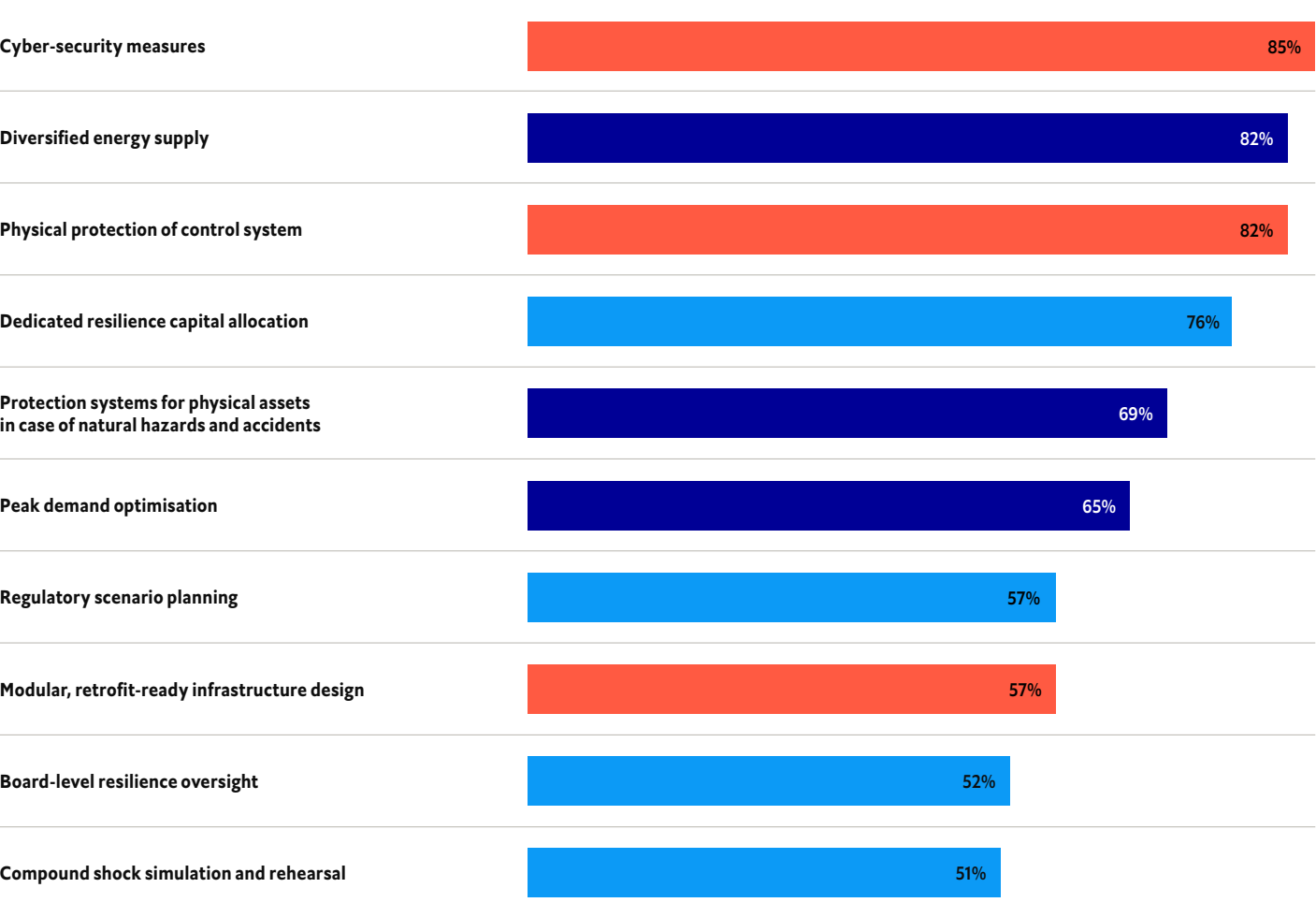
**51%****Limited critical minerals, semiconductors or cloud vendors**

The UAE's AI ambitions depend on continued access to advanced semiconductors and global technology supply chains. Export controls and supply-chain constraints may affect the availability of critical hardware, encouraging investment in strategic technology partnerships and more resilient procurement strategies.²¹

Resilience measures

Top 10 resilience measures adopted by data centre stakeholders in the UAE

■ Energy and environment ■ Governance and human capital ■ Technology and supply-chain digital infrastructure



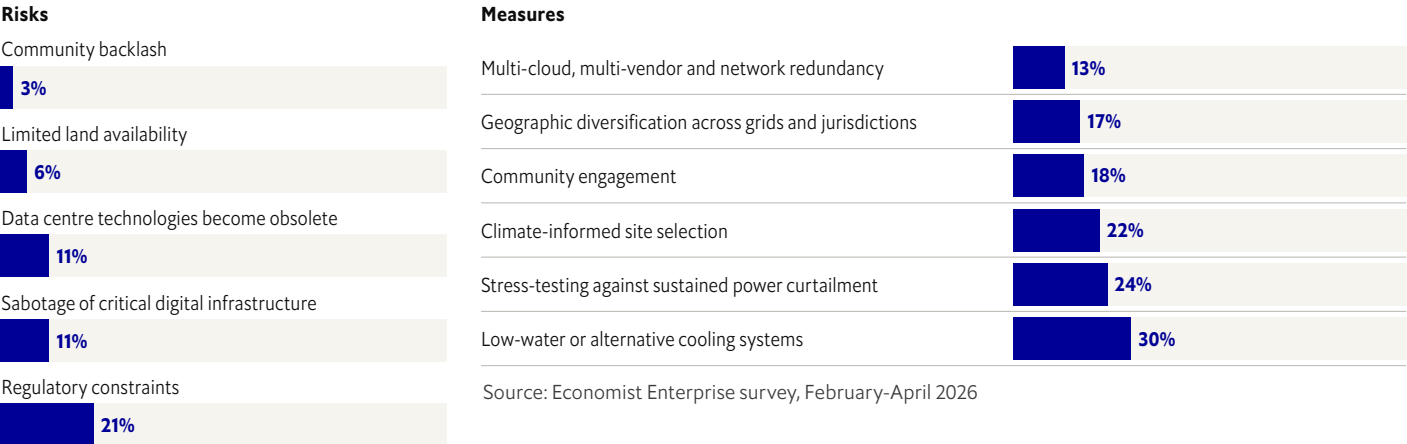
Source: Economist Enterprise survey, February-April 2026

Key takeaway

In the UAE, resilience efforts focus on securing critical digital infrastructure as AI and cloud capacity expands. Cyber security, diversified energy supplies and infrastructure protection are widely adopted, supported by strong investment in resilience. Lower adoption of board-level oversight, regulatory scenario planning and compound-shock simulations suggests scope to strengthen governance and preparedness for systemic risks.

Priority actions

Least-adopted resilience measures and underestimated risks among data centre stakeholders



Source: Economist Enterprise survey, February-April 2026

Building community support

Only 3% of stakeholders identify community opposition as a leading risk. Yet as the UAE expands its AI infrastructure, scrutiny of data centres’ energy use, water consumption and environmental impact is likely to grow. Only 18% of stakeholders have adopted community engagement as a resilience measure. Earlier engagement and greater transparency will help maintain public support.

Key actions:

- 1 Establish joint planning forums between operators, utilities, local authorities, investors, tenants and communities.
- 2 Publish transparent data on projected energy, water, land-use, noise and local economic impacts.
- 3 Conduct community-impact assessments alongside site selection and expansion decisions.
- 4 Include community opposition and permitting delays in resilience and scenario-testing exercises.

Diversify critical infrastructure and service dependencies

Grid constraints are a leading resilience risk, yet only 18% of stakeholders have diversified across multiple grids or jurisdictions. Multi-cloud, multi-vendor resilience remains limited, while climate-informed site selection is still uncommon. Reducing dependence on single infrastructure providers will strengthen business continuity.

Key actions:

- 1 Co-ordinate capacity planning across grids, power sources and jurisdictions to support resilient infrastructure growth.
- 2 Build redundancy across cloud platforms, network providers and critical technology vendors to strengthen cyber resilience and reduce single points of failure.
- 3 Balance power availability, climate exposure, connectivity and permitting considerations when planning new capacity.
- 4 Test how disruptions affecting a single grid, cloud provider, subsea cable or critical supplier could cascade across operations, and use the findings to strengthen continuity planning.
- 5 Apply consistent engineering and operating standards across sites.

Design for climate adaptation

Extreme heat and water scarcity will increasingly shape data centre operations in the UAE. Yet only 22% of stakeholders use climate-informed site selection and 30% have adopted low-water or alternative cooling systems. Greater investment in climate-ready infrastructure will improve long-term resilience.

Key actions:

- 1** Assess heat, flood and water-stress exposure before site selection and before retrofits.
- 2** Use low-water, closed-loop or hybrid cooling where local conditions make water access uncertain.
- 3** Design critical power and cooling systems for safe isolation, maintenance and replacement as operating requirements change.
- 4** Co-ordinate with municipalities, utilities, tenants and communities on water-use transparency and emergency cooling plans.
- 5** Test heatwaves, water constraints, grid stress and cooling failure together rather than in isolation.
- 6** Use monitoring and early-warning systems to identify deterioration or abnormal operating conditions before failure.

Improve preparedness for compound disruptions

Few stakeholders test for prolonged power shortages or use multi-cloud and multi-vendor redundancy. Yet cyber attacks, power disruptions, extreme heat and supply-chain failures are increasingly likely to occur together. Joint planning and scenario testing will improve preparedness.

Key actions:

- 1** Map dependencies across power, cooling, cloud platforms, subsea connectivity and critical technology suppliers.
- 2** Test scenarios combining cyber attacks, power shortages, extreme heat, water constraints and semiconductor supply disruptions.
- 3** Conduct joint resilience exercises across operators, utilities, cloud providers, tenants, investors and public authorities.
- 4** Use exercise findings to update preventive maintenance, testing schedules, critical spares, recovery plans, staff preparedness and infrastructure investment.

Conclusion

The UAE has strong foundations for data centre growth as a regionally connected digital hub. Sustaining that advantage will require climate-ready infrastructure, more diversified critical systems and stronger preparedness for complex, interconnected disruptions.

References

- 1 Research and Markets. UAE Data Center Market - Investment Analysis & Growth Opportunities 2026-2031. April 2026. Available from: <https://www.researchandmarkets.com/report/united-arab-emirates-data-centers-market>
- 2 Mordor Intelligence. United Arab Emirates Data Centre Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031). January 2026. Available from: <https://www.mordorintelligence.com/industry-reports/united-arab-emirates-data-center-market>
- 3 Mordor Intelligence. United Arab Emirates Data Centre Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031). January 2026. Available from: <https://www.mordorintelligence.com/industry-reports/united-arab-emirates-data-center-market>
- 4 Arizton. UAE Existing & Upcoming Data Center Portfolio. March 2026. Available from: <https://www.arizton.com/market-reports/uae-data-center-portfolio>
- 5 Research and Markets. UAE Existing & Upcoming Data Center Portfolio. March 2026. Available from: <https://www.researchandmarkets.com/reports/5983081/uae-existing-and-upcoming-data-center-portfolio?>
- 6 Data Centre Knowledge. UAE Data Centers: Powering the Middle East's AI and Cloud Revolution. February 2026. Available from: <https://www.datacenterknowledge.com/data-center-site-selection/uae-data-centers-powering-the-middle-east-s-ai-and-cloud-revolution>
- 7 LPGP. UAE Data Centres scale up as AI demand surges. November 2025. Available from: <https://www.lpgpconnect.com/insights/uae-data-centres-scale-up-as-ai-demand-surges>
- 8 LPGP. UAE Data Centres scale up as AI demand surges. November 2025. Available from: <https://www.lpgpconnect.com/insights/uae-data-centres-scale-up-as-ai-demand-surges>
- 9 US-dollar figures have been converted into UAE dirhams at the official exchange rate of US\$1 = AED3.6725. Exchange-rate information accessed on August 2nd 2026.
- 10 Dubai Electricity and Water Authority (DEWA). Maktoum bin Mohammed inaugurates second phase of world's largest solar-powered data centre. January 2025. Available from: <https://www.dewa.gov.ae/en/about-us/media-publications/latest-news/2025/01/maktoum-bin-mohammed-inaugurates-second-phase>
- 11 UAE Government. UAE Strategy for Artificial Intelligence 2031. Available from: <https://ai.gov.ae/strategy/>
- 12 UAE Government. UAE Net Zero 2050 Strategy. Available from: <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/environment-and-energy/the-uae-net-zero-2050-strategy>
- 13 UAE Government. UAE Energy Strategy 2050. Available from: <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/environment-and-energy/uae-energy-strategy-2050>
- 14 Data Center World Middle East. The Strategic Case for UAE Data Centre Investment. March 2026. Available from: <https://www.datacenterworldmiddleeast.com/the-strategic-case-for-uae-data-centre-investment/>
- 15 Gulf News. UAE faces up to 700,000 cyberattacks a day amid regional tensions. March 2026. Available from: <https://gulfnews.com/uae/crime/uae-faces-up-to-700000-cyberattacks-a-day-amid-regional-tensions-1.500490535>
- 16 Chambers and Partners. UAE. March 2026. Available from: <https://practiceguides.chambers.com/practice-guides/cybersecurity-2026/uae/trends-and-developments>
- 17 Wood Mackenzie. UAE data centre power demand to double by 2030 as regulatory gaps constrain clean energy procurement. March 2026. Available from: <https://www.woodmac.com/press-releases/uae-data-centre-power-demand-to-double-by-2030-as-regulatory-gaps-constrain-clean-energy-procurement/>
- 18 Global Data Center Hub. The UAE's Energy Warning: What Happens When the AI Boom Outpaces the Grid. June 2025. Available from: <https://www.globaldatacenterhub.com/p/the-uaes-energy-warning-what-happens>
- 19 Forbes. UAE 2026: What Powers Microsoft's \$15 Billion Abu Dhabi Data Centers. December 2025. Available from: <https://www.forbes.com/sites/guneyyildiz/2025/12/09/uae-2026-what-powers-microsofts-15-billion-abu-dhabi-data-centers/>
- 20 Rest of World. Big Tech is building AI in the desert. The water may not last. August 2025. Available from: <https://restofworld.org/2025/gulf-ai-water-crisis/>
- 21 CSIS. The United Arab Emirates' AI Ambitions. January 2025 Available from: <https://www.csis.org/analysis/united-arab-emirates-ai-ambitions>

About FM

This research programme is sponsored by FM, one of the world's largest commercial property insurers, and is dedicated to helping organisations build resilience and protect long-term business value. Drawing on nearly two centuries of engineering expertise, scientific research and loss-prevention experience, FM helps clients better understand and manage the risks that affect critical operations and infrastructure.

FM Intellium brings together research, engineering insight and resilience intelligence to help organisations evaluate, strengthen and benchmark resilience across the digital infrastructure ecosystem. By providing a clearer view of resilience vulnerabilities, system interdependencies and emerging risks, FM Intellium supports better business, investment and policy decisions in an increasingly complex digital environment.