

Singapore

Country Profile

This country profile is part of Foundations at risk, a research programme by Economist Impact that examines the emerging threats affecting data centres globally and evaluates country-level exposure and resilience. [Find out more](#)

Key insights

Singapore is a global leader in data centre operations and the regional leader in South-east Asia.

As a compact island city-state, data centre growth faces constraints in land use, energy generation and water supply.

A strong policymaking environment is driving sustainable practices and innovations such as vertical facilities and recycled-water cooling.

Singapore is a major player in semiconductors, although it relies on imports for advanced chips.

Key data

Scale

70+ data centres

Capacity

1.4 GW built-out total IT load

Growth

5% year on year between 2024 and 2030



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Key legislation

1

Green Data Centre Roadmap: outlines pathways for the sustainable, continued growth of data centres and supports Singapore's ambitions to grow the digital economy.

2

Green Mark for Data Centres: a certification scheme, co-developed by the Building and Construction Authority and the Infocomm Media Development Authority, that recognises and promotes sustainable data centre design and operations.

3

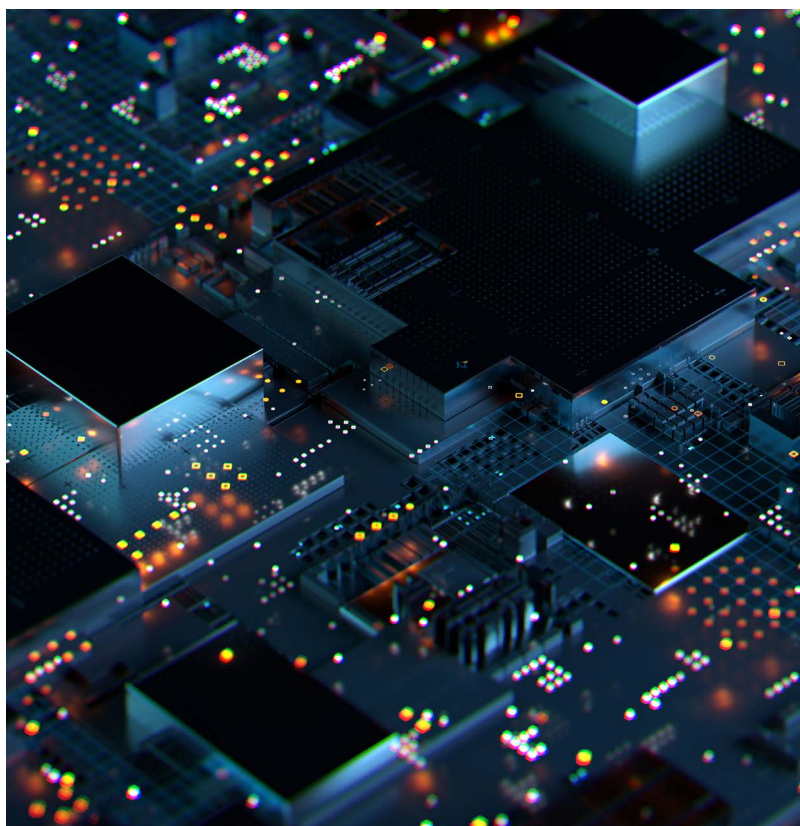
Cybersecurity Act: establishes a legal framework for the oversight and maintenance of national cybersecurity.

4

Advisory Guidelines on Resilience and Security for Cloud Services and Data Centers: provide frameworks for cloud service providers and data centers on managing risks, ensuring security and improving overall resilience. They emphasise regular audits, continuous improvement, robust monitoring and strong governance to manage cyber risks effectively.

Market overview

Singapore, home to more than 70 data centres, is among the top ten global data centre hubs.¹ With 1.4GW of combined computing capacity, Singapore hosts nearly all major hyperscalers and leading colocation providers.² The sector is expected to grow at an average of 5% each year between 2024 and 2030, to reach US\$5.6bn.³ Exceptional demand and tight supply have made Singapore one of the world's most expensive markets for data centre space: rental prices are among the highest in the world (US\$315-480 per month for 250-500-kW capacity) and vacancy was just 1% in 2024.^{4,5}



¹ Data Center Map. Available at: <https://www.datacentermap.com/datacenters/>

² Genessa Chew. Singapore: The quest for green data centres. December 16 2024. Available at: <https://www.twobirds.com/en/insights/2024/singapore/the-quest-for-green-data-centres>

³ Research and Markets. Singapore Data Center Market - Investment Analysis & Growth Opportunities 2025-2030. Available at: https://www.researchandmarkets.com/reports/5661113/singapore-data-center-market-investment?utm_source=GNE&utm_medium=PressRelease&utm_code=pf-6bt&utm_campaign=2070786+-+Singapore+Data+Center+Market+Investment+Analysis+Report+2025-2030%3a+Growth+Opportunities+in

⁴ Monthly pricing for 250-500-kW capacity

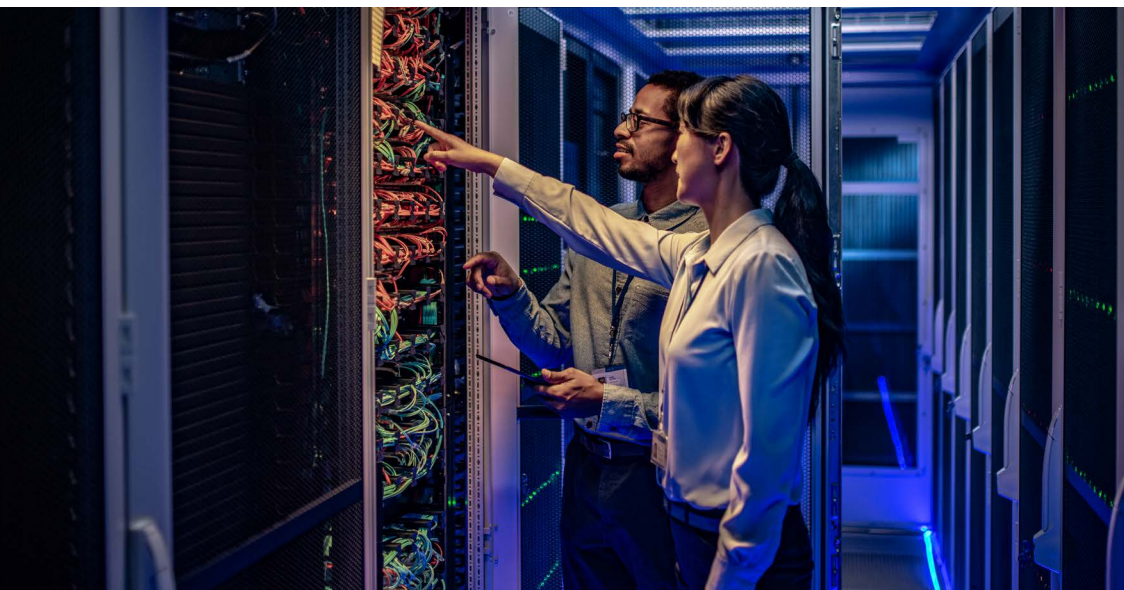
⁵ CBRE. Global Data Center Trends 2024. Available at: <https://www.cbre.com/insights/reports/global-data-center-trends-2024>

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Investment landscape

Amid rising concerns about pressure on Singapore's resources, the government imposed a temporary moratorium on data centre construction in 2019.⁶ Approvals resumed in 2022, but under strict conditions around energy and water efficiency. This focus on sustainability is further enhanced through the Infocomm Media Development Authority (IMDA) 2024 Green Data Centre Roadmap.⁷

Operators are exploring innovative approaches, including floating data-centre parks and high-density vertical designs, to overcome land and cooling constraints.^{8,9} Singapore's stable environment and strong IP regime, alongside a diverse semiconductor ecosystem, support continued investment.¹⁰



⁶ Tang See Kit. Channel News Asia. Singapore puts 'temporary pause' on new data centres: Why and what it means for the industry. May 10 2021. Available at: <https://www.channelnewsasia.com/business/new-data-centres-singapore-temporary-pause-climate-change-1355246#:~:text=Fourteen%20data%20centres%20with%20a,year%20after%20concluding%20its%20review>.

⁷ Mark Wong. Mayer Brown. Singapore's Green Data Centre Roadmap – Representing a Necessary Intersection between Digital Infrastructure and Sustainability. August 22 2024. Available at: <https://www.mayerbrown.com/en/insights/publications/2024/08/singapores-green-data-centre-roadmap-representing-a-necessary-intersection-between-digital-infrastructure-and-sustainability>

⁸ UOB-Kay Hian. Regional Morning Notes. October 30 2024. Available at: <https://www.smallcapasia.com/wp-content/uploads/2024/12/Keppel-KEP-SP-241030.pdf>

⁹ Ashurst. Lessons from Singapore Data Centres. August 30 2023. Available at: <https://www.ashurst.com/en/insights/lessons-from-singapore-data-centres/>

¹⁰ EDP Singapore. What makes Singapore a prime location for semiconductor companies driving innovation? August 20 2024. Available at: https://www.edb.gov.sg/en/business-insights/insights/what-makes-singapore-a-prime-location-for-semiconductor-companies-driving-innovation.html?cid=soc-li-na_semiconroundup-bau-cotnt-202408-nil-lp:na:na:na:na&utm_medium=soc&utm_source=linkedin&utm_campaign=bau_edb_content_nasemiconroundup_nil_202408&utm_content=linkpost-notapplicable-notapplicable-advancedmanufacturing

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Key Risks



Physical

High humidity, ambient heat and limited land, energy and water supply raise operational complexity. Data centres account for over 7% of national electricity consumption, 90% of which is imported.¹¹ Most energy is from natural gas: only 5% comes from renewables.¹²

Policy

Environmental policy encourages resource efficiency and greener operations (eg, NEWater, a recycled-water process, for non-potable cooling), and includes carbon reporting and efficiency audits.¹³ The Green Data Centre Roadmap and updated Green Mark certification steer approvals towards sustainable, high-efficiency facilities,¹⁴ but limited access to renewable energy and a complex physical environment could make it difficult for operators to deliver.

Cybersecurity

Singapore's digital expansion has made it an attractive target for cyber-attacks, and compromised servers are used as launch points in the region.^{15, 16} Despite these risks, preparedness is among the world's best, and selected data centres are designated Foundational Digital Infrastructure under the Cybersecurity Act (2018).^{17, 18, 19, 20}

Geopolitical

Singapore accounts for around 10% of global chip production and about 20% of global semiconductor equipment output.²¹ Manufacturing constraints, however, mean that advanced chip demand still depends on imports, leaving Singapore exposed to global supply-chain volatility.

¹¹ Ashurst. Lessons from Singapore Data Centres. August 30 2023. Available at: <https://www.ashurst.com/en/insights/lessons-from-singapore-data-centres/>

¹² Our World in Data. Share of electricity generated by renewables. Available at: <https://ourworldindata.org/grapher/share-electricity-renewables>

¹³ PUB (Singapore's National Water Agency). NEWater. Available at: <https://www.pub.gov.sg/Public/WaterLoop/OurWaterStory/NEWater>

¹⁴ IMDA. BCA-IMDA Green Mark for Data Centres Scheme. Available at: <https://www.imda.gov.sg/how-we-can-help/bca-imda-green-mark-for-data-centres-scheme>

¹⁵ Shannon Williams. Security Brief Asia. Singapore reports record cyberattacks in Southeast Asia 2024. February 19 2025. Available at: <https://securitybrief.asia/story/singapore-reports-record-cyberattacks-in-southeast-asia-2024>

¹⁶ SOCRadar. Singapore Threat Landscape Report. 2024. Available at: <https://socradar.io/wp-content/uploads/2024/03/SOCRadar-Singapore-Threat-Landscape-Report-2024-.pdf>

¹⁷ CSA. Keeping our cyberspace safe & secure. Available at: <https://www.csa.gov.sg/>

¹⁸ CSA. Critical Information Infrastructure Sector. Available at: <https://www.csa.gov.sg/information-for/cii-sectors>

¹⁹ Reed Smith. Singapore bolsters digital resilience with new guidelines for data centres and cloud services. March 3 2025. Available at: <https://www.reedsmith.com/en/perspectives/2025/03/singapore-bolsters-digital-resilience-with-new-guidelines-for-data-centres#:~:text=Data%20centre%20operators%20will%20need%20to%20adopt,by%20technical%20failures%2C%20environmental%20hazards%2C%20or%20cyberattacks.>

²⁰ CSA. Cybersecurity Act. Available at: <https://www.csa.gov.sg/faqs/cybersecurity-act>

²¹ Agency for Science, Technology and Research. Grasping The Trend: Chip Wars Escalate In The AI Era, Singapore's Semiconductor Sector Emerges Strong. June 16 2025. Available at: <https://www.a-star.edu.sg/News/astarNews/news/features/singapore-semiconductor-rise-ai-chip-wars>

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Action Points for Leadership

Green the energy mix

Expand access to low-carbon energy and efficiency measures to reduce dependence on imported natural gas.

Accelerate sustainability

Invest in robust, efficient cooling systems and water stewardship (including recycled-water solutions) to offset resource risks and preempt potential sustainability mandates.

Capitalise on semi-conductor supply

Leverage Singapore's reliable infrastructure, strong governance and semiconductor ecosystem amid global tensions.

Fortify cyber defences

Maintain proactive cybersecurity management, leveraging national frameworks and continuous real-time threat monitoring.

