

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

# Southeast Asia

## Country profile

## Summary

AI-driven demand, hyperscale investment and cross-border digital connectivity are turning Singapore, Malaysia and Thailand into an increasingly integrated digital infrastructure corridor.

Cyber security, power availability and climate resilience are emerging as the defining operational challenges as digital infrastructure becomes increasingly interconnected across the region.

Resilience efforts focus on cyber security, operational continuity and energy resilience, supported by strong governance and supply-chain preparedness.

The next phase of resilience maturity will require greater attention to community engagement, climate-ready infrastructure, and proactive management of increasingly interconnected risks.

## Key data

|       |     |                                        |
|-------|-----|----------------------------------------|
| Scale | 126 | facilities across the regional cluster |
|       | 51  | facilities in Malaysia <sup>1</sup>    |
|       | 44  | facilities in Singapore <sup>2</sup>   |
|       | 31  | facilities in Thailand <sup>3</sup>    |

|                |       |                        |
|----------------|-------|------------------------|
| Capacity<br>MW | 2,970 | Singapore <sup>4</sup> |
|                | 1,530 | Malaysia <sup>5</sup>  |
|                | 770   | Thailand <sup>6</sup>  |

|                 |                                    |                                    |
|-----------------|------------------------------------|------------------------------------|
| Capacity growth | (annual IT-load growth, estimated) |                                    |
|                 | 33%                                | Malaysia (2026–2031) <sup>7</sup>  |
|                 | 22%                                | Thailand (2025–2030) <sup>8</sup>  |
|                 | 0.28%                              | Singapore (2025–2030) <sup>9</sup> |

## Geographic hubs

Southeast Asia's data centre market operates as an interconnected regional corridor. Singapore is the region's primary connectivity hub, supported by around 30 international subsea cables. Johor and Selangor in Malaysia have emerged as the main expansion markets, benefiting from greater land and power availability and close proximity to Singapore. Thailand is rapidly expanding around Greater Bangkok and the Eastern Economic Corridor, supported by growing cloud and AI investment.<sup>10,11,12</sup>

## 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

Southeast Asia has become a leading destination for hyperscale data centres, driven by strong demand for cloud and AI infrastructure has rapidly emerged as one of the region's most dynamic data centre markets. Valued at 16bn ringgits (US\$4bn) in 2024, it is projected to exceed 53bn ringgits (~US\$14bn) by 2030, with Johor expected to account for 60% of the country's capacity by 2030. Thailand is expanding quickly, supported by a strong pipeline of projects around Bangkok and the Eastern Economic Corridor, as well as abundant land, reliable power and a strategic central location. Although land and power constraints limit new capacity, Singapore remains the region's most connected market, supported by around 30 international submarine cables and strong global network access, making it attractive for data centre operations. Singapore's market was valued at about S\$1,365m (US\$1,063m) in 2025 and is forecast to reach around S\$3,628m (US\$2,824m) by 2034, with Central Singapore accounting for over 40% of the market.<sup>13,14,15,16</sup>



## Investment trends

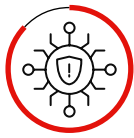
Investment is increasingly shifting across complementary markets. Malaysia recorded 426.7bn ringgit in approved investments for 2025, the highest level ever achieved. This represents an 11% increase from 384.4bn ringgit in 2024, with Johor emerging as the main investment hub through 42 approved projects worth 164bn ringgit. Thailand secured around 539bn baht (US\$17bn) across 28 projects in the first half of 2025, while 746bn baht (US\$22bn) of Board of Investment approvals in 2025 was allocated to planned data centres—the largest amount for any industry. Despite tighter resource constraints, Singapore continues to attract investment with projects increasingly focused on green design, renewable energy and energy efficiency. Singtel secured a S\$643m (~US\$501m) green loan for DC Tuas, DayOne broke ground on a 20MW Singapore facility powered entirely by renewable energy and the government plans a 700MW low-carbon data centre park on Jurong Island alongside around 6GW of low-carbon electricity imports from the region by 2035.<sup>17,18,19,20,21,22,23</sup>

## Key regulatory developments

Regulation across Southeast Asia increasingly links data centre growth to energy requirements, infrastructure readiness and digital security. Singapore enforces a high-compliance environment through its Green Data Centre Standard and a coordinated multi-agency approval process. Malaysia balances development incentives, such as the Green Lane Pathway, with stricter local scrutiny of energy and water use in Johor. Meanwhile, Thailand uses Board of Investment incentives—including eight-year tax exemptions—to target energy-efficient, graphic processing unit-enabled AI infrastructure.<sup>24,25,26,27,28,29</sup>

# Key risks

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

**87%****Cyber-attacks**

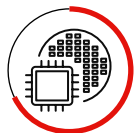
Rapid growth in cloud services and digital infrastructure is increasing cyber risk across Southeast Asia. Ransomware attacks are becoming more frequent and sophisticated, targeting organisations with varying levels of cyber maturity and exposing critical infrastructure to greater operational disruption. Continued investment in cyber resilience and incident response will be essential as the region's digital economy grows.<sup>30</sup>

**82%****Grid capacity constraints**

Power supply is becoming one of the region's biggest constraints. Demand from new data centres is growing faster than electricity networks can expand, particularly in Singapore, and Johor in Malaysia. Operators are diversifying energy supplies, investing in dedicated grid connections and developing on-site power infrastructure to support future growth.<sup>31</sup>

**76%****Extreme weather or climate impact**

Southeast Asia's tropical climate poses persistent challenges for data centres. High temperatures, humidity and seasonal monsoons reduce cooling efficiency, increase energy demand and place greater pressure on water resources.

**68%****Limited critical minerals, semiconductors or cloud vendors**

Southeast Asia is a global hub for electronics manufacturing and chip packaging. But its reliance on imported advanced chips and hyperscale cloud infrastructure leaves the region exposed to export controls and supply chain disruption. Malaysia is expanding its advanced packaging capabilities, while Singapore is the region's leading hub for research and design, finance and logistics.<sup>32,33</sup>

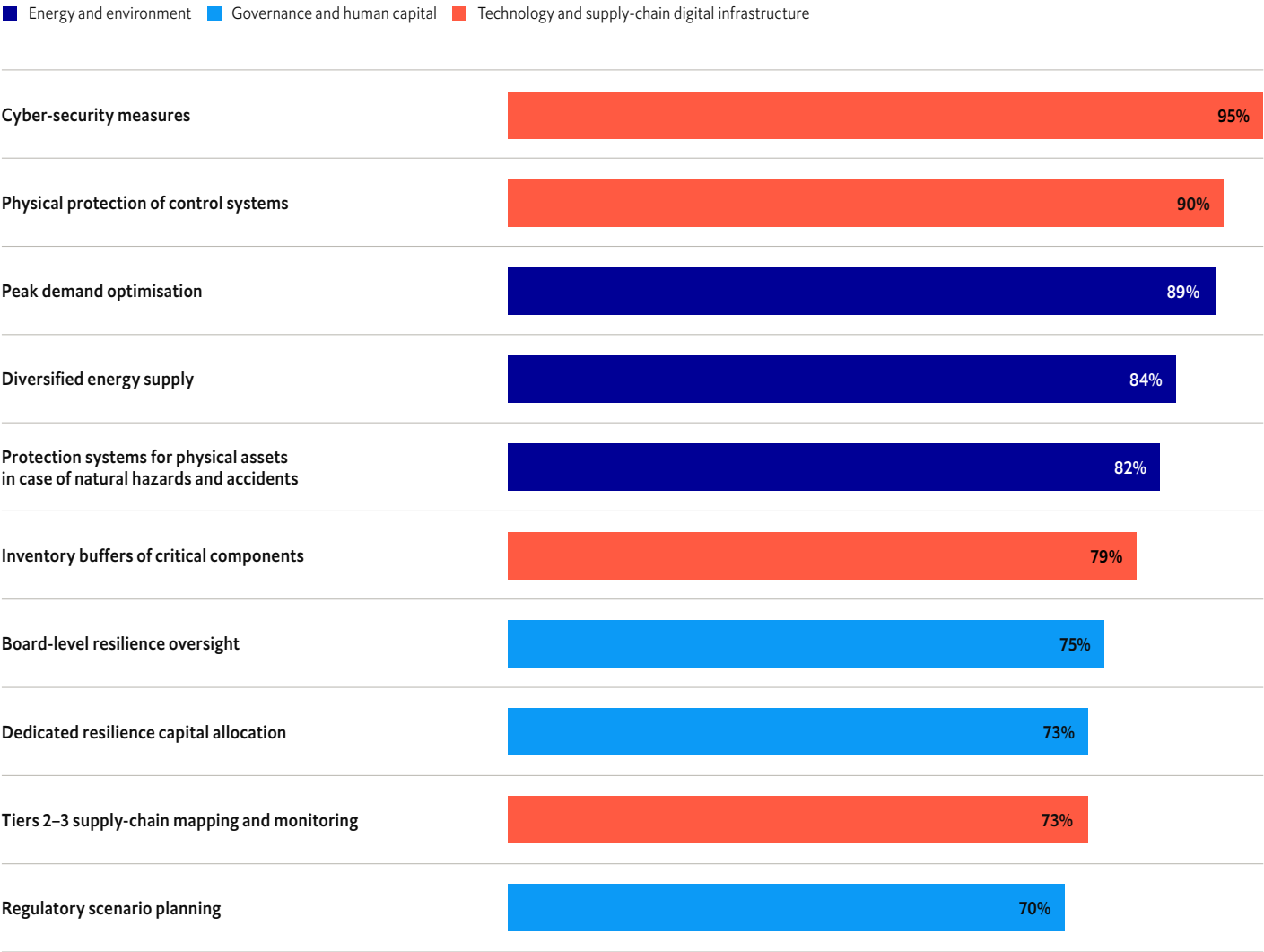
**65%****Investment or insurance withdrawal**

Rapid investment has concentrated large data centre campuses in a handful of locations, particularly around Johor, Singapore and Bangkok. This concentration can increase financial and operational risk, making insurance and project financing more difficult as asset values rise.

Source: Economist Enterprise survey, February–April 2026

# Resilience measures

## Top 10 resilience measures adopted by data centre stakeholders in Southeast Asia



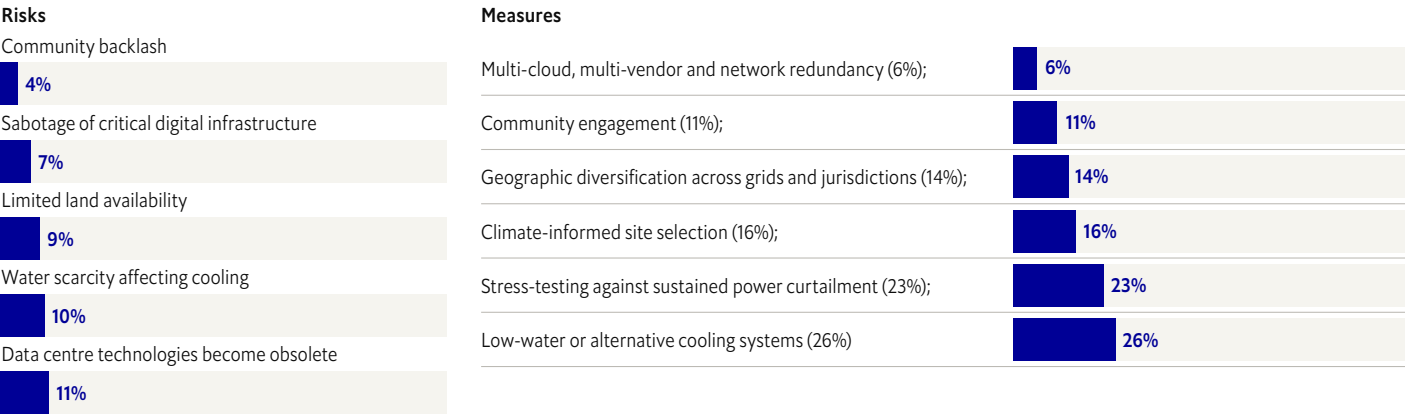
Source: Economist Enterprise survey, February-April 2026

### Key takeaway

Resilience efforts across Southeast Asia focus on cyber security, operational continuity and energy resilience. Governance measures are also well established, suggesting that stakeholders are increasingly embedding resilience into strategic decision-making rather than treating it solely as an operational function.

# Priority actions

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



Source: Economist Enterprise survey, February-April 2026

### Build community support

Only 4% of respondents identified community opposition as a major risk and just 11% prioritise community engagement. As data centre development accelerates across Southeast Asia, stronger collaboration between operators, utilities, local authorities and communities will help build public trust and balance growing demand for land, power and water.

#### Key actions:

- 1
- Establish regional forums that bring together operators, utility providers, local authorities and community representatives.
- 2
- Communicate clearly about land use, electricity demand and environmental impacts.
- 3
- Assess community, land, power and water impacts alongside site-selection and expansion decisions.
- 4
- Monitor community sentiment and permitting risks as part of project planning.

### Design for climate adaptation

Technology obsolescence (11%) and water scarcity (10%) remain relatively low priorities despite increasing climate pressures and rapidly evolving AI workloads. Crucially, only 16% of respondents use climate-informed site selection, leaving most facilities at higher risk from localised climate disruptions, extreme weather and resource shortages. Closer collaboration between technology vendors, infrastructure engineers, investors and operators will help ensure facilities remain adaptable as computing densities and cooling requirements evolve.

#### Key actions:

- 1
- Set shared design and engineering assumptions for future rack density, power and cooling requirements before capital is committed.
- 2
- Assess heat, humidity, flood and water exposure alongside lifecycle upgrade costs and long-term asset value.
- 3
- Align owners, tenants, technology providers and investors on upgrade triggers and funding responsibilities.
- 4
- Build modular, resource-efficient power and cooling systems that can be maintained and upgraded as technology changes.
- 5
- Strengthen the engineering and operational skills needed to manage advanced cooling, power and operational-technology systems.



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## Improve preparedness for compound disruptions

Only 23% of respondents stress-test for sustained power curtailment, while adoption of multi-cloud and multi-vendor redundancy (6%) and geographic diversification across grids and jurisdictions (14%) remains limited. As digital infrastructure becomes more interconnected across Southeast Asia, improving resilience will require closer co-ordination between operators, utilities, suppliers and governments to manage risks that span international borders.

### Key actions:

**1**

**Map dependencies across electricity networks, fibre infrastructure, water supplies and critical suppliers.**

**2**

**Conduct joint exercises that combine cyber incidents, power disruptions, cooling failures, extreme weather, critical component delays and infrastructure failures.**

**3**

**Establish clear co-ordination and emergency escalation procedures across stakeholders in the data centre value chain involving operators, utilities and government agencies.**

**4**

**Use exercise findings to update maintenance and testing schedules, critical spares, recovery plans, staff preparedness and investment decisions.**

## Conclusion

Southeast Asia's growth will be shaped less by capacity alone than by how well the region manages its uneven advantages and shared constraints. Singapore will remain the connectivity anchor, Malaysia the main scale market and Thailand an increasingly important growth corridor, but all three face rising pressure from power availability, climate exposure and tighter scrutiny of resource use. The next phase of resilience will therefore depend on co-ordination across the value chain, with operators, investors, utilities and policymakers aligning growth with infrastructure, energy and community limits.

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