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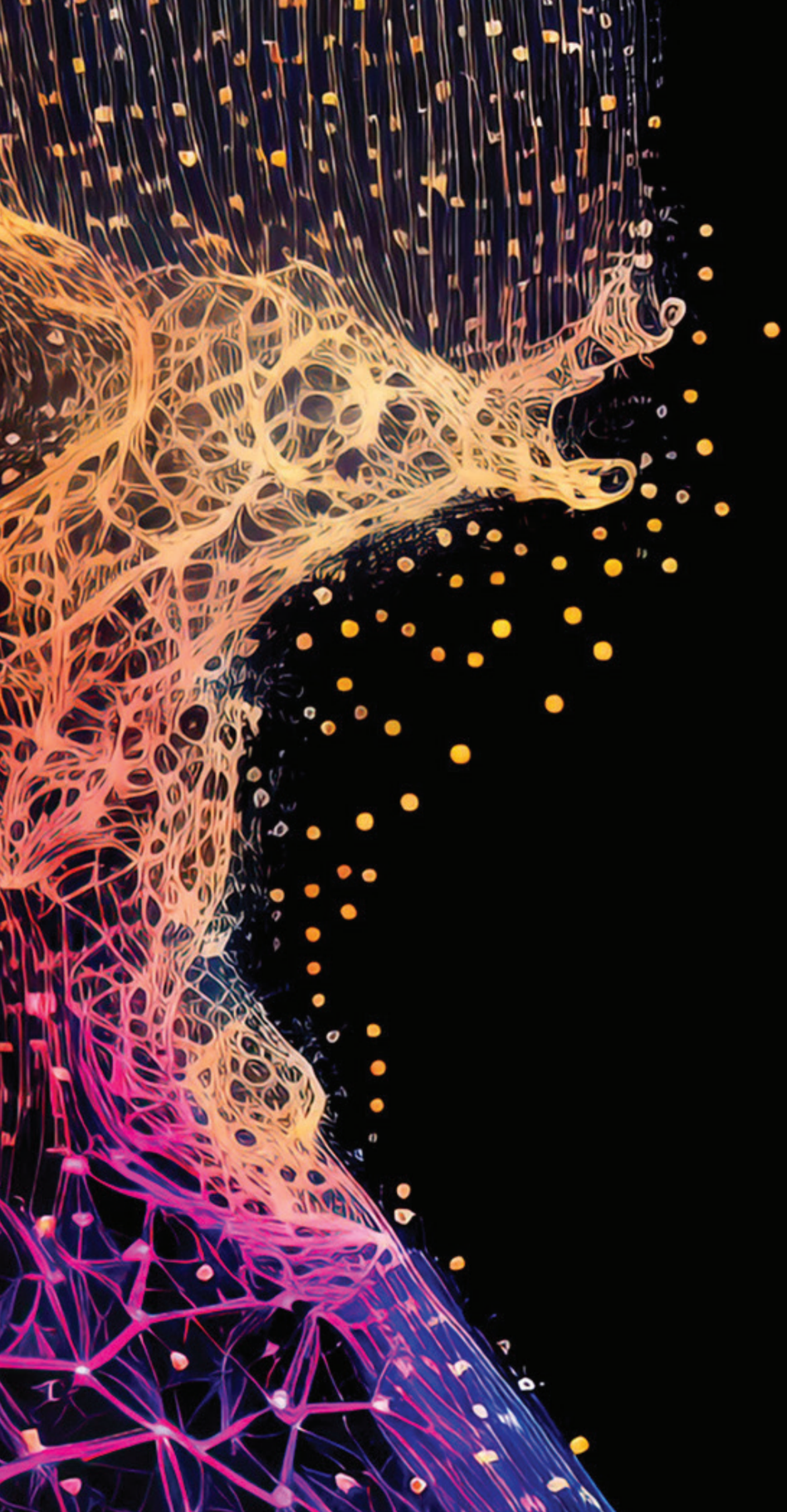
Sovereign AI:

Realising strategic opportunities across Asia Pacific



Contents

The rise of sovereign AI

Sovereign AI is the ability for nations or communities to govern their artificial intelligence (AI) destiny. This means establishing the framework to independently govern, control and manage—from development to deployment—AI systems and the data, infrastructure, algorithms, and regulatory frameworks that underpin those systems.

At its core, sovereign AI is about agency; the ability to decide how AI is built, used and governed, and how data is stored, used, and protected. Without this control, governments and citizens around the world are increasingly concerned that choices about their future will be shaped by someone else.

Sovereign AI matters because it determines who sets the terms of the future economy and the next wave of strategic advantage. It aligns to national security, economic competitiveness, productivity, cultural and ethical alignment, legal autonomy and diplomatic leverage. Sovereign AI is also about trust and resilience, and the need to retain meaningful control over data, infrastructure and models—all while unlocking growth through productivity, innovation and the creation of high-value jobs.

This paper maps the different choices and actions facing governments across Asia Pacific in developing domestic AI capabilities and their pursuit of sovereign AI. We examine the forces shaping the rise of sovereign AI, outline policy considerations, and share a policy framework to help governments and policymakers decide where to invest and how to shape AI development.

For many markets, hybrid approaches to AI sovereignty that balance domestic capability with trusted external partnerships will be the most practical and preferred way forward. Therefore, our emphasis is on purposeful cooperation—not digital isolation or dominance—through trusted supply chains, shared standards, and regional capability building. Sovereign AI is not about doing it alone; it's about building the expertise and resources to participate on your own terms.

The choices made now will shape security, prosperity and inclusion for the next decade.

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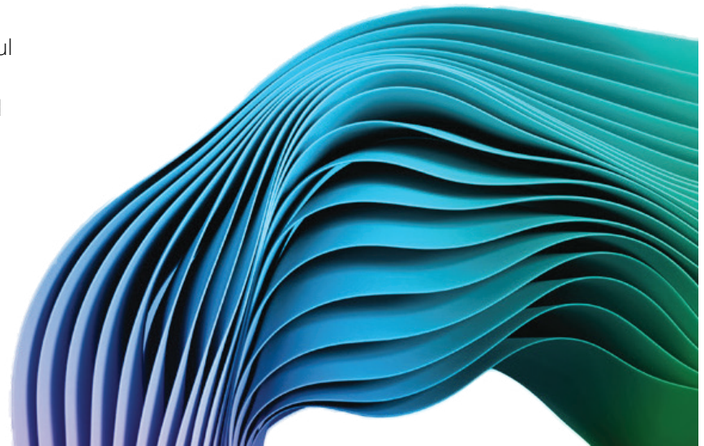

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What is sovereign AI?

Transformative power of AI

AI is transforming our world and reshaping economies, public services and everyday interactions. Driven by the emergence of Generative AI (GenAI), AI has surged globally, permeating every aspect of our lives. AI now underpins frontier technology manufacturing, biotechnology, robotics, energy scheduling and smart cities. It is also increasingly adopted in policy design and development, infrastructure planning, case management and civic engagement. For governments, AI can deliver faster, more personalised services, better outcomes in shorter timeframes, and a lower cost-to-serve. Emerging forms of AI unlock a broad range of practical applications across all areas of society and industry.

However, implementation of AI at scale also increases risk exposure. AI capabilities can amplify misinformation, bias, cyber threats, and intellectual property leakage. External control of algorithms, datasets, models, infrastructure and supply chains can create strategic dependence. It is no surprise that many governments across Asia Pacific now consider having control over critical AI systems as being key to national sovereignty and security, economic resilience and public trust. Governments are not questioning whether to engage AI, but rather, how to do so on sovereign terms that are safe, ethical, interoperable and resilient.

The origins of sovereign AI

Sovereign AI is the ability of a nation, organisation or community to independently develop, deploy, govern and control its own AI systems in alignment with its laws, values and strategic interests—without over reliance on foreign technologies, data or infrastructure. Just as nations have long defended their sovereign territorial borders and invested in domestic production and innovation to strengthen their economic or cultural influence, the same concepts apply to sovereign AI.

Sovereign AI as a concept has emerged from topics of debate such as information censorship, data ownership and surveillance, which have spanned the early days of the internet through to the cloud, and now AI.[1] Sovereign AI builds on concern around data sovereignty, which is the idea that data is subject to the laws and governance structures within the nation where it is collected, stored or processed.

This idea took hold through the introduction of regulatory frameworks targeting data usage and protection, such as the European Union's (EU) General Data Protection Regulation (GDPR). Since then, governments and organisations have sought to safeguard and control data within borders, ensuring ongoing compliance and tighter security controls. These 'sovereign clouds' give governments and enterprises control over their own infrastructure, helping them protect their businesses and services from unplanned disruptions.

Sovereign AI discussions extend these principles to AI, and consider that the development, deployment and regulation of AI technologies should also align with national laws and priorities. At this stage, different nations focus on different approaches to sovereign AI, demonstrating that there are multiple execution pathways to achieve it.

Key aspects of sovereign AI

Sovereign AI is fundamentally about protecting national interest—having autonomy, governance and ownership across the AI lifecycle. Attaining sovereign AI status requires nations to achieve the technological autonomy to design, build and maintain critical AI infrastructure, such as AI models, including Large Language Models (LLMs), compute resources and data centres, domestically or with trusted partners. It relies on domestic governance and regulatory control to set and enforce the rules for how AI is developed and used.

A key aspect of sovereign AI is avoiding over dependence on external providers, and reducing risks from supply chain disruptions, espionage and manipulation of algorithms by bad actors. It encourages nations to cultivate local AI ecosystems, foster innovation, and unlock value for their own economic and strategic advancement. Training models on local data ensures AI systems reflect cultural, linguistic and ethical nuances, making outputs more relevant and reliable for local users.

Core elements of sovereign AI:

Data sovereignty:
Control over the collection, storage, processing and use of data within legal and ethical frameworks aligned with national and strategic interests. This includes ensuring that data, particularly sensitive or strategic data, used to train AI systems is stored and processed locally, and governed under local laws.

Compute infrastructure:
Having the computational resources to train, fine-tune and deploy AI models within national boundaries, and the physical and cloud-based infrastructure that provide compute.

Models and algorithms:
Development and ownership of foundational models and domain-specific algorithms that can be trusted and aligned with local values. This includes training AI models on local datasets that reflect cultural, linguistic and ethical nuances.

Policies and regulatory autonomy:
Comprehensive legal, ethical and policy frameworks to guide responsible AI development and deployment.

Ownership and governance:
The control, rights and governance over the development, data, infrastructure, and outcomes of AI systems within a nation, enterprise or community that reduces dependency on external vendors or jurisdictions that may impose restrictions or influence outcomes.

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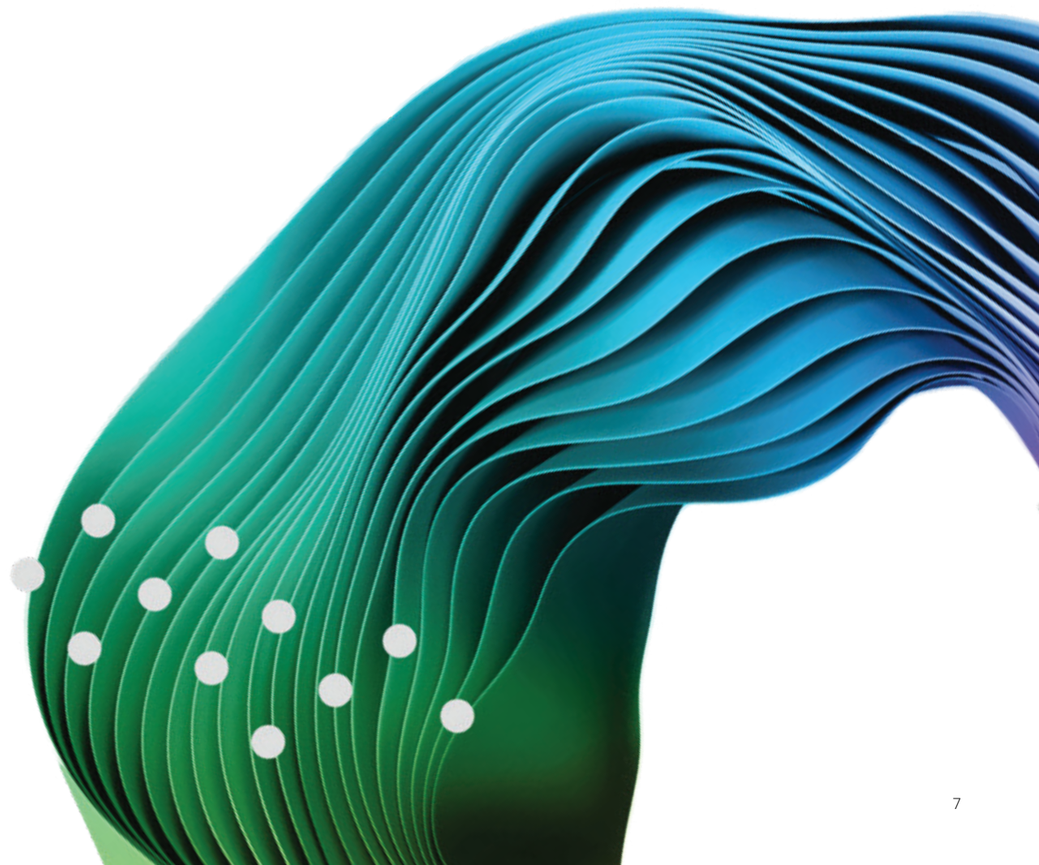
Can all economies pursue full-stack AI sovereignty?

While full-stack AI sovereignty is an attractive objective, it is not realistically attainable for all economies. Building and sustaining the end-to-end capability—from advanced semiconductor design and hyperscale compute through to large-scale model development, specialised talent pools, and robust domestic data ecosystems—requires sustained, large-scale investment, highly specialised expertise, and integrated industrial and research ecosystems that few nations possess.

For smaller and developing economies in particular, the pursuit of AI sovereignty can be held back by structural constraints. These could include limited access to capital, or sufficient and reliable energy supply and water for hyperscale data centres. They could be dependent on global supply chains for chips and hardware, may lack AI researchers and engineers, or lack large, high-quality local datasets to train competitive models. Geopolitical and trade dynamics further complicate attempts to localise every layer of the stack, as critical components, software libraries and operational know-how are often sourced internationally, and subject to export controls or commercial dependencies.

For most economies, policy choices therefore centre on pragmatic trade-offs—securing key capabilities and infrastructure, partnering with trusted allies, and investing selectively in domestic strengths—rather than attempting to replicate every piece of the global AI stack.



Sovereign AI and the changing world order

As trade tensions continue and more complex forms of globalisation emerge, governments and businesses are de-risking supply chains and strengthening their own boundaries around data sovereignty and national security. When combined with the widespread adoption of AI, the push to develop domestic AI capabilities to reduce dependence on external sources is accelerating.

There is an urgent call for nations to safeguard control over the development and use of AI where it shapes political, economic and social developments; to safeguard critical infrastructure from technical or geopolitical disruptions that could cripple national defence, key industries and public services reliant on AI; and to safeguard data security and privacy to prevent unauthorised access, manipulation or loss of sensitive information.

For many economies across Asia Pacific, the pursuit of full end-to-end AI sovereignty is neither desirable nor feasible. However, governments in the region are making considerable investments in domestic AI capabilities and pursuing some form of AI sovereignty. They are focusing on managing risk, unlocking opportunities that serve their strategic goals, preserving (or advancing) cultural identity, reinforcing state authority, and building strategic and economic resilience.

Forces shaping the development of sovereign AI

Governments are advancing sovereign AI at different speeds and for varied reasons, reflecting their unique security and resilience concerns, cultural outlook and economic ambitions. Some may use sovereign AI to tighten control over information, while others view it as essential to competitiveness and public trust. The result is a diverse landscape of regulations, policies and investment priorities.

Core drivers for developing sovereign AI:

Economic growth and prosperity

A domestic AI ecosystem fosters innovation, drives job creation, and supports economic growth—a panacea against declining productivity and labour participation rates. Sovereign AI (and a hybrid approach) helps nations capture more local value by building homegrown industries and boosting productivity and competitiveness. By nurturing domestic capacity, governments can stimulate new industries, revitalise existing sectors, and attract investment. Keeping AI development within national borders also ensures that profits, intellectual property, and expertise remain in-country.

Strategic resilience

Developing local AI systems fosters innovation and local capabilities and reduces reliance on foreign skills and knowledge. Domestic AI infrastructure can help withstand external disruptions (for example, supply chain, climate, geographic, economic or technological shocks) and ensure ongoing access to critical data, technologies, expertise and infrastructure.

National security

Control over the development and deployment of critical AI systems and infrastructure mitigates potential security risks and counters external threats, cyberattacks, misinformation or deepfakes. Sovereign AI strengthens control over infrastructure and data and ensures the AI systems, and the sensitive data they process, stay within a nation's borders. This is vital for defence, government services and other industries, such as financial services, health and utilities.

Cultural integrity

Sovereign AI enables models and systems that reflect national values, cultural nuances and local languages, including indigenous data considerations. It helps safeguard identity against homogenisation, particularly where English is not the primary language and regional dialects risk being overlooked in the creation of the LLMs that underpin AI. For areas of public interest, targeted models and systems can be built to local conditions and requirements.

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Geopolitical power and influence

Control over AI models, data and specialised compute is increasingly seen as a source of national leverage, akin to energy or defence. Technology dependencies can shape diplomatic relationships, standards adoption and market access, but there is also the risk of fragmentation if not managed through cooperation and interoperability.

Public trust

Building public trust is a core driver of government action on sovereign AI. Citizens need confidence that AI systems respect societal values and human rights and operate transparently and accountably. To deliver that confidence, governments are putting in place national frameworks, standards, enforcement regimes and assurance mechanisms (testing, monitoring, audit and redress) to demonstrate responsible use and underpin civic trust, institutional integrity and public legitimacy—ultimately ensuring AI serves the public interest.

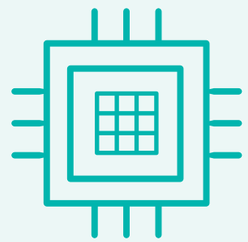
The power of chips: US-China competition

Semiconductors sit at the core of Asia Pacific's AI ambitions, with public policy increasingly shaped by the need for secure, resilient chip supply chains. Currently, the United States leads in chip design and advanced manufacturing equipment, with chip design company NVIDIA accounting for around 94% of the data-centre Graphic Processing Unit (GPU) market in Q2 2025.[2] Yet, dependence on a few chip manufacturers such as TSMC in Taiwan (China) can leave supply chains vulnerable.[3]

In late 2025, the US launched Pax Silica, an initiative to strengthen technology cooperation allies and to secure semiconductor design, fabrication, research and supply chain resilience.[4] Founding signatories include the United States, Australia, Israel, Japan, Singapore, South Korea, and the United Kingdom, and more recently the UAE and Qatar. Key partners such as Canada, the EU, the Organisation for Economic Co-Operation and Development (OECD), the Netherlands, and Taiwan (China) are also involved as non-signatory participants. Fundamentally, Pax Silica is an expression of collective technological sovereignty. For nations pursuing sovereign AI, it offers a collaborative framework to secure access to essential hardware and raw materials from trusted partners – however it also presents a trade-off for national sovereignty, as members are expected to align their policies on export controls and investment screening with the group's objectives, potentially limiting independent policymaking.

China has its sights set on outpacing the US, rapidly scaling domestic production through state-led investment (its US$47.5 billion semiconductor fund or "Big Fund III" was launched in May 2024).[5] It has initiated incentives and policy support, accelerating new semiconductor fabrication facilities (fabs) and R&D.

In a significant policy shift, US President Trump announced in December 2025 that NVIDIA would be permitted to sell H200 AI chips to China, reversing prior restrictions.[6] The deal includes a US government revenue share of 25% collected as an import duty at the Taiwan (China) export point (where they are manufactured) prior to US security reviews and onward shipment to China.[7]



Navigating policy trade-offs: key questions for policymakers

Policymakers across Asia Pacific see both the promise and risks of AI, and are moving quickly to shape regulations, identify priorities and allocate budgets. Pursuing sovereign AI requires careful consideration of costs, capabilities and speed to value—and balancing growth with the risks of overdependence, misalignment or underinvestment.

Investment is perhaps the biggest consideration. According to Stanford University's *AI Index Report 2025*[8], US private AI investment hit US$109.1 billion in 2024, vastly higher than China's US$9.3 billion, South Korea's US$1.3 billion, India's US$1.2 billion, and Japan's US$0.9 billion.

When aggregating private AI investments since 2013, the US continues to lead with US$470.9 billion invested, followed by China (US$119.3 billion), India (US$11.3 billion), South Korea (US$9 billion), Singapore (US$7.3 billion), Japan (US$5.9 billion) and Australia (US$4 billion).[9]

Looking ahead, the South Korean government has announced a US$71 billion AI mega investment.[10] Meanwhile, Microsoft has announced a record US$17.5 billion investment in India over the next four years to expand cloud and AI infrastructure, aligning with India's ambition to scale domestic AI ecosystems.[11]

Economies without deep pockets, or economies looking to adopt a hybrid approach, will need to focus their efforts and funds on critical areas, and make deliberate decisions and trade-offs, while continuing to rely on trusted partners or external solutions where appropriate.

Four interlocking themes of economics, resources, security and society emerge in sovereign AI policy and investment:

Economic benefit v outlay

Domestic resources

National interest v global supply chains

Cultural pluralism v monoculturalism

Economic benefit versus outlay

- **Economic trade-offs:** What level of public investment is justified, and how will we ensure returns are realised (jobs, upskilling, exports)? How do we balance AI investment against other infrastructure, skills or innovation priorities?
- **Public and private investment:** What is the right balance between public and private investment, ownership and governance?
- **Scale and sustainability:** Which solutions are scalable and sustainable? Should we adapt open-source code and data and use non-aligned AI technologies instead of pursuing full stack sovereignty? Do we invest in modular and cloud-integrated AI infrastructure that can scale and adapt as technology evolves? Do we use commercial cloud AI services?
- **Strategic value:** Which sectors would benefit most? How do they align with national priorities such as security, productivity, health or climate resilience?

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Domestic resources

- **Energy and water:** Do we have reliable, efficient and clean sources of energy to power data centres, and sufficient water to cool them?
- **Skills and talent pool:** Do we have enough people with the right skills? How can we attract the right talent to support the AI industry?
- **Innovation ecosystem:** How can we connect universities, startups and industry to build an AI ecosystem? What incentives do we need to bridge the gap between research and commercialisation?
- **Engagement:** How can we collaborate with business, industry, academia, researchers, AI ecosystem organisations and society to ensure we have a plan that benefits our nation?

National interest versus global supply chains

- **Speed to value:** What is the opportunity cost of delaying access to advanced, non-sovereign AI capabilities? Does our vision for sovereign AI slow innovation and service delivery? How do we balance our long term desire for control with the near term economic and social gains from hybrid or partial adoption?
- **Resilience and security:** What dependencies on foreign chips, cloud or talent could undermine sovereignty, and how will they be reduced while maintaining interoperability and openness? Who can we partner with, and do they align with our social and constitutional values?
- **International positioning:** How will our sovereign initiatives interact with global supply chains, standards and trade agreements? Will we have access to global talent and new AI systems? What can/should we build or manage domestically? What can we secure or build through trusted partnerships?

Cultural pluralism versus monoculturalism

- **Cultural integrity:** How will indigenous languages and cultural knowledge be embedded in our AI datasets and systems? How do we preserve our communities' identities, traditions, and knowledge systems?
- **Public trust:** What is needed to gain or retain public trust in AI systems, and to counter bias and disinformation, without risking the norms of communication and information access?
- **Ethical safeguards:** What safeguards are needed to prevent bias, cultural appropriation, or misrepresentation? How can ethical frameworks be designed to reflect national values while aligning with global standards?
- **Localised AI systems:** How do we ensure AI systems are fit for local use and purpose?

By framing sovereign AI not only as an economic opportunity but also as a set of strategic choices, policymakers can better assess where national investment will generate the greatest long-term benefit. The core question is not whether sovereign AI is desirable in abstract, but which elements of sovereignty are essential today, which can be deferred, and how to manage the trade-offs between control, cost, speed and access to innovation.

Policy framework for sovereign AI: **eight pillars for success**

Developing sovereign AI requires a robust policy framework that balances innovation, resilience, security, ethics and competitiveness. Drawing on global best practice, regional priorities and lessons from early adopters, eight policy pillars emerge as essential foundations. These pillars form a strategic blueprint to guide policy, investment and decision making. By focusing on each pillar, governments and organisations can break down the pursuit of sovereign AI into practical, actionable domains, enabling a more coordinated and effective approach.

Eight policy pillars for pursuing sovereign AI development

Strategy:
Define a national AI vision and roadmap aligned with national development objectives

Governance:
Establish regulatory and ethical frameworks that reflect national values and protect public interests

Compute:
Build resilient, domestic AI compute (physical and cloud) infrastructure

Energy:
Ensure reliable, secure and clean electricity for data centres together with sustainable water supply for cooling critical infrastructure

Datasets and models:
Create national datasets, models and standards

Workforce:
Invest in workforce development and skills training

AI ecosystem:
Foster a robust AI ecosystem and invest in research, development and innovation

Global collaboration:
Engage internationally on terms that preserve sovereignty

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01

Strategy: Define a national AI vision and roadmap aligned with national development objectives

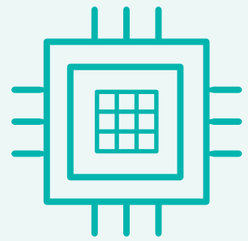
Achieving sovereign AI requires a clear, actionable strategy that links ambition to delivery. Policymakers should map concrete pathways, assign responsibilities with key stakeholders, and measure progress so policy keeps pace with technological change and economic priorities. The strategy should align investment, regulation and governance with digital infrastructure, R&D, commercialisation, talent and adoption, while supporting economic growth and competitiveness, and connecting with key industry plans.

Key actions:

- **Define national AI objectives:** Set specific economic, social and security targets (for example, GDP contribution, public service efficiency gains, or critical capability milestones) and goals to guide investment and accountability.
- **Develop measurable indicators:** Track adoption rates, research outputs, talent pipelines, model deployments, data assets and commercialisation outcomes using a national dashboard to assess progress and drive policy adjustments.
- **Coordinate policy across sectors:** Ensure the AI vision aligns with key sector strategies (defence, health, education, science and technology, infrastructure, agriculture and resources) and embeds requirements for public service modernisation.
- **Align investment and policy levers:** Coordinate grants, tax incentives, procurement rules, regulatory sandboxes and IP policy to favour local capability development and local value creation.
- **Engage multistakeholder input:** Involve industry, academia, civil society and regional, state or provincial governments to shape priorities, validate risks, and co-design deployment pathways to build public trust and encourage adoption.
- **Establish review and adaptation mechanisms:** Hold regular strategy reviews linked to horizon scanning, monitor international developments and independent evaluations, and set processes for updating policy when needed.

Leading the way with comprehensive national AI strategies

Across Asia Pacific, Singapore and South Korea are leading examples of clearly articulated national strategies, backed by public and private investment. Singapore's comprehensive National AI strategy, well established data governance and ethical frameworks, sovereign compute initiatives, and long-standing public–private AI partnerships have positioned the country as a leading AI nation. South Korea is pursuing its ambition to be a global leader in responsible development of AI, guided by its comprehensive AI Basic Act. Similarly, Taiwan enacted its Artificial Intelligence Fundamental Act in December 2025, establishing a national framework to advance AI development and promote its domestic AI industry, while safeguarding individual rights and ensuring the safe, responsible deployment of AI technologies.[12]



02

Governance: Establish regulatory and ethical frameworks that reflect national values and protect public interests

Balancing innovation with responsibility requires clear guardrails that embed accountability, transparency and public trust into AI development and use. Policymakers should adopt a risk based, pragmatic approach that balances requirements with potential harm, and pairs fast, iterative guidance with enforceable rules where the public interest is at stake.

Key actions:

- **Comprehensive legal framework:** Develop or adapt laws on privacy, data protection, cybersecurity, transparency and algorithmic accountability that reflect national constitutional and cultural values.
- **Economy wide standards for responsible adoption:** Define baseline standards for safety, fairness, transparency and alignment with national values, with industry tailoring, incentives for compliance and support for smaller organisations.
- **Adaptive regulation and guidance:** Combine binding rules with flexible tools, such as guidance documents, codes of practice, regulatory sandboxes and pilot licences, to encourage experimentation while keeping public safety guardrails.
- **International alignment and interoperability:** Harmonise definitions and testing frameworks and preserve national carve-outs for security and public interest protections.
- **Enforcement and compliance:** Establish regular mandatory audits and reporting requirements, apply proportionate sanctions for serious breaches, introduce certification for critical systems, and ensure accessible redress mechanisms for affected individuals.
- **Governance architecture:** Define institutional roles such as a lead regulator or digital safety office, establish coordination mechanisms across agencies, and create multi disciplinary advisory panels (technical, legal, civil society) to guide decision making.
- **Risk management and model reliability:** Require systematic risk assessments and mitigation plans for models, covering reliability failures (for example, hallucinations), personal data misuse, disinformation and discriminatory outcomes. Mandate pre deployment reviews for high risk systems and ongoing post deployment monitoring.

Signing up for AI governance

Across Asia Pacific, all nations have committed to international collaboration, with the majority signatories or participants to the Bletchley Declaration, the Seoul Declaration, and the Paris AI Action Summit statement. Australia, Japan, New Zealand and South Korea are members to the Hiroshima AI Process Friends Group. All 10 ASEAN member states (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) endorsed the ASEAN Guide on AI Governance and Ethics in February 2024 and the Responsible AI Roadmap spanning through 2030.

At the recent New Delhi AI Impact Summit[13] over 88 countries, including many Asia Pacific economies, signed the declaration to promote human-centric AI innovation. Inspired by the principle "Welfare for all, Happiness of all," the Summit emphasised international cooperation and multistakeholder engagement across seven Chakras (pillars) of responsible AI development: human capital development, broadening access for social empowerment, trustworthiness of AI systems, energy efficiency, use of AI in science, democratising AI resources, and fostering economic growth for social good. Ultimately, the summit reinforced international cooperation and laid the foundation for continued collaboration in translating these aspirations into concrete actions for a prosperous AI-enabled future.

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03

Compute: Build resilient, domestic AI compute (physical and cloud) infrastructure

Sovereign AI depends on robust compute—the hardware, software and networks that power model development, deployment and secure operations. Governments need to reframe compute policy as infrastructure policy (for example, assign a lead agency, set capacity targets and timelines, and link incentives to measurable local capability and resilience outcomes) and prioritise measures that ensure local access to advanced compute while managing cost, security and scalability.

Key actions:

- **Domestic compute capacity:** Establish national GPU clusters, sovereign cloud platforms, and distributed edge networks to ensure local access to high performance compute for government, research and critical industry use, and to reduce single point dependence on foreign providers.
- **Data location and control:** Set clear rules for storing, processing and transmitting sensitive data, combining localisation with certified trusted access models and encryption standards to preserve sovereignty without unnecessarily fragmenting markets.
- **Public-private investment:** Use tax incentives, infrastructure partnerships and regulated procurement to mobilise private capital, accelerate build out and ensure local economic benefit from compute investments.
- **Flexible provisioning and scalability:** Design hybrid architectures that mix on premise, sovereign cloud and secure imports under licence to manage peak demand and cost, including predictable access to external capacity under agreed arrangements.
- **Security and operational resilience:** Mandate hardening standards, supply chain verification for critical components, incident reporting, and redundancy planning (including power, network and geographic) for key compute facilities.
- **Environmental and cost efficiency:** Pair compute expansion with energy and water planning, encourage efficient cooling and power management, and incentivise long term Power Purchase Agreements (PPAs) and storage solutions to stabilise operating costs.

04

Energy and water: Ensure reliable, secure electricity for data centres and water supply for cooling critical infrastructure

Reliable, sustainable energy and water supplies are fundamental to scaling AI. The data centres that power AI workloads demand large, steady power supplies and reliable cooling. Interruptions or constrained supply undermine uptime, raise costs and increase operational and reputational risk.

Rapid energy demand growth for AI is occurring in parallel with a shift from fossil fuels to low- and zero-emissions energy across Asia Pacific grids. The electrification of major sectors like industry, transport and buildings—necessary to reduce emissions economy-wide—is also contributing to increased demand.

Policymakers should treat data centre energy and water as critical infrastructure, and plan accordingly for the sector's needs as part of this broader system transformation. Integrating data centre needs into national energy and water planning, requiring environmental and community impact assessments for major facilities, and using incentives to drive measurable sustainability and resilience outcomes, can enable AI growth in a more environmentally sustainable way, supported by local communities.

Key actions:

- **Ensure sufficient reliable, affordable energy supply:** Drive the expansion of grid capacity through a mix of flexible and dispatchable electricity sources and demand response mechanisms, so data centres—and all other energy users—can access reliable 24/7 power at an affordable price.
- **Align energy supply with decarbonisation priorities:** Incentivise data centres and AI firms to prioritise co-located or offsite renewable generation, deployment of energy storage solutions and participation in energy demand response, ensuring they seize the financial benefits of clean energy while making an active contribution to decarbonisation efforts.
- **Coordinate data centre (co)location and targeted grid upgrades:** Coordinate land use, transmission upgrades and localised microgrids to enable efficient placement of data centre facilities, optimising use of existing grid generation and transmission capacity, and minimising the cost of system augmentation.
- **Tailor energy procurement and pricing to new industrial scale customers:** Adapt tariff structures, time of use pricing and capacity contracts to reflect the unique load profiles of data centres and support predictable investment economics.
- **Set clear standards for resilience and proactive emergency planning:** Mandate resilience standards, backup power capacity and integrated contingency plans for energy outages, including coordination with critical services that will be increasingly reliant on AI such as telecoms and transport.
- **Plan for water-resilient cooling:** Require sustainable water supplies and incentivise water efficient cooling technologies (air cooling, closed loop systems, wastewater or chemical cooling where appropriate) to reduce pressure on local resources in a changing climate.

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Sustainable AI

According to Deloitte Global analysis, data centres (fundamental to AI capability) worldwide used more than 380 Terawatt hours (TWh) of electricity in 2023. This accounted for about 1.4% of global electricity consumption and 0.3% of global greenhouse gas emissions. The analysis found that by 2030, these figures are projected to nearly triple to around 1,000 TWh, or approximately 3% of worldwide power use.[14]

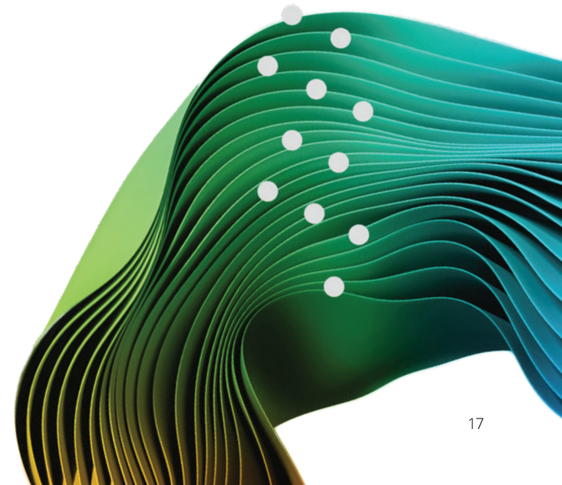
The International Energy Agency (IEA) likewise estimates that electricity consumption from data centres, AI, and the cryptocurrency sector could double throughout 2026 to account for electricity demand that is roughly the equivalent to the electricity consumption of Japan.[15]

In addition to electricity, the data centres that host AI consume vast amounts of water for cooling purposes. A 2023 study estimated that global AI demand could account for up to 6.6 billion cubic metres of water withdrawal by 2027, which is roughly equivalent to half the annual water withdrawal of the United Kingdom.[16]

The rapid growth of AI and data centres must therefore be matched by a significant increase in clean electricity supply and efficiency in both energy and water use. Delivering this will require coordinated action by technology companies and policymakers. Key levers include accelerating the deployment of renewable energy by actors in the AI ecosystem, setting transparent standards through industry wide efficiency metrics led by regulators and sector leaders, mobilising the broader ecosystem—from finance to R&D—towards cleaner operations, and optimising efficient AI design, development and operation.

If these levers are pursued now during AI's boom phase, the sector can make a more positive environmental contribution. AI can also materially support the shift to climate neutral economies when its powers are deployed to find and optimise decarbonisation solutions.

For further details, see Deloitte's recent reports Powering artificial intelligence: A study of AI's environmental footprint – today and tomorrow and Powering Asia Pacific's data centre boom: Unlocking growth and decarbonisation together.



05

Datasets and models: Create national datasets, models and standards

Access to high quality, culturally relevant data is foundational to trustworthy AI. It reduces bias, improves accuracy and uptake, and ensures models reflect local languages, norms and priorities. Governments should treat dataset and model development as core public infrastructure and prioritise accordingly. Policymakers can ensure datasets and models are built under clear governance and align with research institutes, industry and civil society to deliver public interest outcomes—and commercial opportunity.

Key actions:

- **Build national datasets:** Build open, high-quality datasets that capture local languages, dialects, and cultural context. Local language LLMs democratise access, reduce dependence on foreign datasets and lower the risk of imported bias.
- **Fund national AI programmes:** Fund universities, technical colleges and startups to develop foundation models and local applications. Prioritise partnerships or tie public funding to requirements for local capacity building and measurable deployment outcomes. This way national investments translate into sovereign capability rather than one-off projects.
- **Establish sovereign benchmarks:** Establish national testing frameworks for safety, accuracy, fairness and privacy aligned to domestic priorities. Publish results to build public trust and guide procurement.
- **Prioritise public interest datasets:** Focus initial dataset investments on high impact domains such as health, education, decarbonisation and agriculture where shared data assets can drive measurable social and economic benefits.
- **Support domain specific models:** Support development of specialised models for critical sectors (health diagnostics, climate modelling, financial services, legal analytics) that embed local regulatory rules, languages and contextual knowledge to enable rapid, trustworthy deployment.

National datasets across Asia Pacific

Nations across Asia Pacific have moved quickly to build national datasets to better reflect their languages and cultures. For example, SEA-LION (Southeast Asian Languages in One Network), one of the first open-source LLMs to understand Southeast Asia's diverse contexts, languages and cultures, was expressly created to ensure better representation. Dr. Leslie Teo, senior director of AI products at AI Singapore, explained "[Western] LLMs have a very particular West Coast American bias—they are very woke. They do not represent us."[17]

In Malaysia, ILMU is the nation's first multimodal LLM that understands Bahasa Melayu, local dialects and Malaysian cultural contexts.[18] In Thailand, the NECTEC Artificial Intelligence Research Group is focusing on language, speech and image progressing related to Thai communities and users.[19] In Taiwan, the government-led TAIDE initiative is designed to support data sovereignty and trustworthy AI deployment across critical industries.[20] In South Korea, its "World Best LLM" initiative features an open-source LLM as part of its sovereign AI drive.[21] In India, its AIKosh platform has onboarded over 1,500 datasets and 217 AI models from 34 entities across 20 sectors. Access is controlled through permission-based mechanisms that allow contributors to retain governance over data usage.[22]

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06

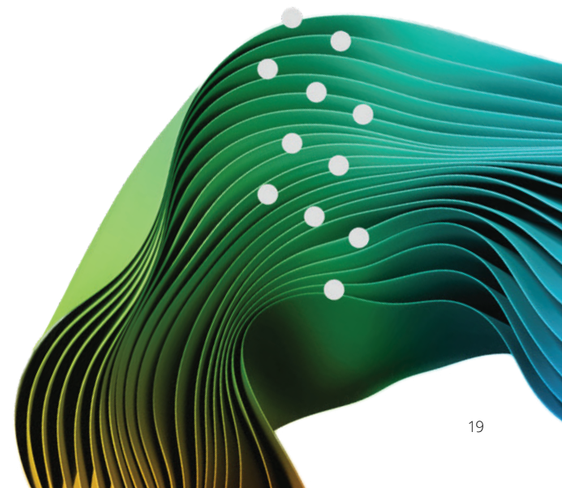
Workforce: Invest in workforce development and skills training

Human talent is at the core of any domestic AI industry. People are essential to build, run and secure AI systems. Growing local skills cuts dependence on foreign specialists and can also help workers move from roles at risk of automation into higher-value jobs, easing labour-market shifts and dislocation. A workforce that is digitally literate and AI-enabled speeds up adoption of home-grown tech, attracts investment, and helps local firms climb the value chain.

To build local AI workforces, policymakers should combine short-term, employer-led training with longer-term education reform, R&D and career pipeline investments. Funding, accreditation and industry demand signals need to be aligned so workforce programmes deliver measurable employment transitions and reduce reliance on foreign expertise.

Key actions:

- **Promote awareness of AI jobs and career pathways** through national campaigns, employer-led outreach and partnerships with industry bodies to inform training choices and reduce skills mismatches.
- **Update education and literacy across all levels:** Include AI fundamentals, data literacy and ethics. Embed practical, project-based learning and ensure senior leadership receives AI governance upskilling.
- **Scale reskilling, micro credentials and modern apprenticeships:** Tie skills to employer needs to minimise displacement, speed redeployment into higher value roles and create clear lifelong learning pathways. Also, focus on skill development in government and public sector leaders. In a Deloitte survey, only one-sixth of government leaders believed that their organisation had high or very high GenAI expertise compared to 33-56% in industries.[23] This makes navigating the technical choices around model selection, data storage and security difficult.
- **Strengthen talent attraction and retention:** Use fellowships, scholarships, repatriation incentives and streamlined visa processes for specialised roles, alongside incentives for diaspora engagement and industry secondments.
- **Implement national dashboards:** Measure and monitor talent supply and outcomes tracking researchers, engineers and interdisciplinary specialists, graduate flows from high school STEM pipelines, and employer satisfaction with skill levels.



AI workforce development across Asia Pacific

Across the Asia Pacific region, various nations are ambitiously setting targets for AI skills development. For example, Vietnam has a goal of training over 50,000 AI engineers by 2030,[24] while Indonesia has set a target of supporting an estimated 9 million new digital workers by 2030 via global tech firm partnerships and programs.[25]

Taiwan is also advancing a multi-horizon AI talent strategy aligned with its industrial transformation goals, with plans to train 200,000 AI professionals by 2028 to meet industry demand.[26] Complementing this, in 2025 President Lai Ching-te announced a longer-term national plan to cultivate 500,000 AI professionals by 2040, supported by approximately NT$100 billion (~US$3 billion) in dedicated investment funds.[27]

In Singapore, in late 2023, the government revised its 2019 AI strategy, introducing National AI Strategy 2.0, emphasising reskilling and upskilling the workforce for an AI-driven future, and building the necessary infrastructure to support this.[28]

In India, AI skills are developed in schools via its YUVAi program,[29] while the BHASHINI[30] AI-powered language translation platform is designed to lower language barriers for digital access including AI adoption across Indian language groups. This is intended to ease skills mismatch, reduce urban–rural and language divides, and broaden diversity and inclusion of women and underrepresented groups.

07

AI ecosystem: Foster a robust ecosystem and invest in research, development and innovation

A thriving domestic AI ecosystem is critical to long-term competitiveness and sector-specific advancement. Governments should define priorities and commit resources to link startups, established corporates, research institutions, investors and public services so innovation moves from lab to market.

The key is to prioritise policies that lower barriers for early-stage firms and accelerate commercialisation. The public sector can lead by example through procurement, adoption and standards-setting. Align funding, regulatory flexibility and measurement so the ecosystem delivers tangible economic and social outcomes.

Key actions:

- **Startup and innovation support:** Offer targeted tax relief, matched grants, and streamlined IP processes to nurture early-stage innovation.
- **Public sector adoption and leadership:** Governments can act as anchor customers and show the way by deploying AI across services, setting standards, and stimulating ecosystem growth.
- **Regulatory sandboxes:** Create safe test environments that allow SMEs and public agencies to test AI solutions under monitored conditions, balancing innovation with consumer protection.
- **Promote R&D:** Fund basic and applied AI research, incentivise industry led labs, and support cross disciplinary centres that translate advances into sectoral use cases—particularly those that can demonstrate clear socioeconomic benefit (for example, health, agriculture and manufacturing).
- **Support commercialisation and public-private partnerships:** Co-fund demonstration projects, scale successful pilots with matched investment, and encourage university industry collaboration pathways to move IP into products.
- **Evaluate innovation outputs:** Track patents, publications, startups formation, funding flows, technology deployments and commercialisation rates to assess policy effectiveness and reallocate support where impact is highest.

Japan drives innovation in GenAI

The government in Japan has initiated the Generative AI Accelerator Challenge (GENIAC) to fund and support domestic startups and research teams to develop GenAI applications while ensuring data and model sovereignty. [31]

08

Global collaboration: Engage internationally on terms that preserve sovereignty

Sovereign AI does not mean digital isolation. Governments should pursue international collaboration in ways that protect national interests, data sovereignty and strategic autonomy, while advancing shared standards for cybersecurity, privacy and cross border data flows. Practical collaboration requires binding safeguards—vetting, contractual protections, controlled access arrangements and interoperability standards—to manage geopolitical risk and avoid undue dependence.

Key actions:

- **Leverage regional platforms:** Work with bodies such as Asia-Pacific Economic Corporation (APEC), Association of Southeast Asian Nations (ASEAN), the Quad, and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), to drive interoperability, mutual recognition and common rules across Asia Pacific, prioritising pragmatic, sectoral agreements. Notably the new APEC AI Initiative (2026–2030), launched under the 2025 APEC Leaders' Gyeongju Declaration, is designed to foster responsible AI adoption and harmonise policy frameworks across member economies.[32]
- **Harmonise regulations:** Look at opportunities to harmonise regulation to reduce friction for trade and cooperation, while retaining sectoral flexibilities and statutory safeguards to protect sensitive data and critical infrastructure.
- **Forge multilateral and bilateral partnerships:** Work with trusted partners for joint capability building. For example, pooled R&D, shared testbeds, joint operating entities and coordinated procurement can scale capacity while distributing risk. Verify terms and exit options to preserve sovereignty.
- **Promote research and innovation collaboration:** Enable bilateral and multilateral research that advances science while protecting data sovereignty and IP through clear licence terms, access controls and audit rights.
- **Strengthen supply chain and trade resilience:** Use trade policy, export controls, trusted supplier lists and diversification strategies to reduce single point dependencies.
- **Embed global alignment and interoperability:** Align with international AI frameworks to limit fragmentation and support cross border commerce, while embedding dispute resolution mechanisms and national carveouts for security and public interest concerns.

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New Zealand teams up with Texas

A partnership between Auckland Bioengineering Institute and the Oden Institute at the University of Texas is helping New Zealand researchers to leverage technology to improve hospital patient treatment. The partners are working to develop the ability to create real-time digital models of the human body to personalise treatment and cut hospital costs. The teams behind the project estimate that AI-driven public health solutions could deliver between NZ$80-160 million in annual healthcare savings—and generate up to NZ$16 million in annual licensing revenue from digital twin tools.[33]

Beyond the region: A spotlight on Saudi Arabia's data embassies

Saudi Arabia is pioneering a novel solution to data sovereignty challenges with its draft Global AI Hub Law, which introduces the concept of "data embassies." This would allow a foreign country to store its data within a dedicated centre in Saudi Arabia, yet have that data remain exclusively under its own national laws and jurisdiction—much like a traditional diplomatic embassy.[34]

The model aims to remove legal barriers to cross-border data flows, making it easier for nations and businesses to access world-class AI infrastructure without relinquishing control over their critical data assets.[35] If successful, it could position Saudi Arabia as a trusted global hub for AI and secure data services.

However, the model's success hinges on more than legal novelty. It requires robust international agreements, credible enforcement of jurisdictional boundaries, and stringent cybersecurity standards to build trust. Practical questions remain around applying sector-specific regulations—such as those in financial services—within this unique cross-border arrangement.

The development of data embassies is one to watch, as a potential look into the future of global data governance and international digital cooperation.

Embracing pragmatic solutions over perfection

Realistically, many economies across Asia Pacific do not have the desire, or the resources to fully implement end-to-end sovereign AI, whether due to cost constraints, scalability challenges, skills shortages or the opportunity cost of delayed access to non-sovereign AI. This raises a practical question about whether the time and effort required to deploy all core elements of sovereign AI outweigh the near-term economic and social benefits that could be realised by adopting hybrid approaches.

All economies can, however, adopt various pillars or components of the pillars to strengthen their domestic AI capabilities to reap the benefits of AI and prepare for the future. Economies that prioritise investment in infrastructure, talent, innovation, collaboration and governance will be best positioned to compete, lead in digital transformation, and thoughtfully navigate the coming future of human-AI collaboration.

The sovereign AI landscape across Asia Pacific

Across Asia Pacific, sovereign AI is being pursued through a diverse set of national pathways rather than a single, uniform model. For example:

Large, security-driven economies like China and India are advancing more comprehensive full-stack approaches, seeking greater control over data, infrastructure, compute and governance. Both leverage scale and security priorities to drive localisation: China pursues a centralised, state-driven framework with extensive AI research output and heavy investment in domestic data centres and AI models—and is the only country likely to challenge US dominance across the AI stack. Meanwhile, India balances self-reliance, backed by robust public investment, regulatory reform, and a large, skilled talent pool with global integration. Both aim to insulate critical AI infrastructure from external influence, establishing home-grown innovation pipelines and regulatory regimes that reflect national interests.

More globally integrated economies including Singapore, Australia, and New Zealand adopt selective sovereignty, focusing on robust regulation, trusted data governance, and risk management, while partnering with hyperscalers to address capability gaps and speed innovation. Singapore stands out globally for early and consistent leadership, ranking among the world's best in AI infrastructure and public sector adoption, underpinned by a robust policy environment and sustained investment. This diversity reflects the reality that sovereign AI is not an all-or-nothing outcome, but a spectrum shaped by economic scale, strategic priorities, and domestic capacity. Most economies are converging on hybrid models, blending domestic capability-building with continued reliance on foreign technology, cloud services, and cross-border partnerships.

Advanced industrial economies such as Japan, South Korea and Taiwan emphasise sovereignty in strategic sectors such as semiconductors, advanced manufacturing, and AI research. They combine targeted domestic capability-building with deep international supply chain integration to scale and innovate rapidly.

Emerging economies including Indonesia, Vietnam, Thailand, and the Philippines prioritise foundational enablers such as data governance, AI skills, and targeted national platforms, constrained more by compute and data scale than by intent to achieve full-stack self-sufficiency. Malaysia stands out for its regional data centre strategy, investing to position itself as a cloud and AI hub, balancing domestic control with international partnerships.

It is clear that Asia Pacific's sovereign AI strategies exist on a continuum shaped by economic scale, strategic priorities and domestic capacity. Choices by policymakers around compute, governance, workforce and cross-border collaboration will determine not just the speed of AI adoption, but the degree of sovereign agency, particularly as AI becomes integral to critical sectors.

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Looking ahead

Asia Pacific economies stand at a critical juncture, facing a series of near-term decisions that will shape their AI capabilities and economic futures for years to come. These choices encompass investments in compute, regulatory design, workforce development, and the structure of international partnerships. Deferring or fragmenting action risks locking economies into less favourable positions in emerging AI value chains, while overly rigid or maximalist approaches risk undermining innovation and adaptability. Sovereign AI, therefore, is best addressed sooner rather than later, and understood not as isolation, but as a set of deliberate choices about where to lead, where to partner, and how to build resilience within an interconnected regional AI landscape.

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