axonpartnersgroup.com

The Sovereignty Paradox

Building Sovereign AI Across the Full Value Chain

Where to compete, what to control, and why security is the licence to scale - strategic choices for Middle East governments and local industries

June 2026

Authors

Jorge Martínez,
PARTNER

Álvaro García,
SENIOR MANAGER

Ignacio Vilana,
MANAGER

AXON CONSULTING

Contents

Abstract

Artificial Intelligence is no longer just an adoption challenge. It is part of a global contest for economic competitiveness, national resilience and strategic control. Yet much of the current debate on AI sovereignty remains fixated on models (who builds, owns and accesses them). This paper argues that such framing is incomplete.

AI sovereignty does not require owning the frontier model or controlling every layer of the value chain. It can be more realistically achieved through strategic optionality: the ability to decide, layer by layer, what to own, diversify and trust, as well as where security must be embedded as a condition for scale.

The paper sets out a full-stack view of AI sovereignty, structured in three tiers: the physical foundations of power, silicon and compute; the capability layers of data, models and applications; and the scaling and control layers of ecosystem, talent, cybersecurity, assurance and governance. It then shows how the binding constraint is shifting from models to the physical base of the stack (above all power, compute and silicon) and benchmarks showing where each region stands.

For the Gulf states of the GCC, this creates a timely opportunity. Their structural advantage in power can become the platform for a sovereign AI position, provided governments and local industries make deliberate choices about what to control, what to diversify and where to partner.

1. AI and the Sovereignty Paradox

Artificial Intelligence is no longer just an adoption challenge. It is part of a global contest for national and corporate power.

For the last decade, AI has usually been framed as an opportunity to improve efficiency, modernise operations or create new digital services. Such framing is now insufficient. AI is increasingly shaping economic growth, productivity, public-sector performance, industrial competitiveness, scientific acceleration and security resilience. It is also changing the balance between attackers and defenders: the same capabilities that can improve detection, response and cyber crisis anticipation can also be used to automate reconnaissance, scale deception, accelerate fraud and conduct attacks at machine speed.

Artificial Intelligence is no longer just an adoption challenge. It is part of a global contest for national and corporate power.

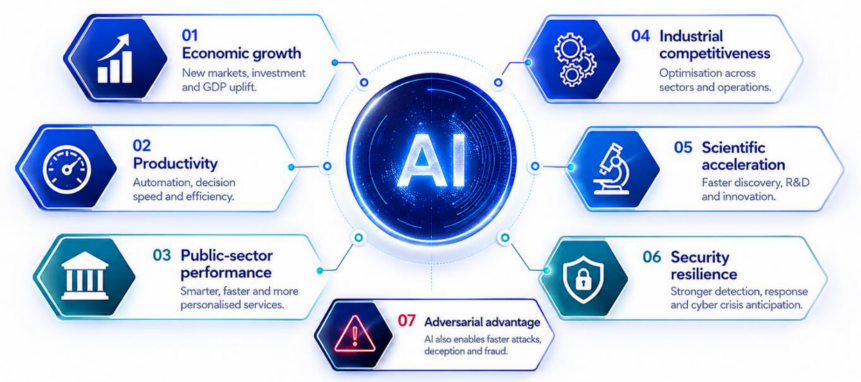

Exhibit 1 - AI's benefits

The prize is significant but capturing it will depend on how quickly AI diffuses through the economy and how ready institutions are to absorb it. The IMF's January 2026 World Economic Outlook Update estimates that rapid AI adoption could lift global growth by up to 0.3 percentage points in 2026 and by 0.1 to 0.8 percentage points per year over the medium term, depending on adoption speed and improvements in AI readiness globally.[1] At the same time, the World Economic Forum reports that 94% of surveyed leaders expect AI to be the most significant driver of change in cybersecurity, and 87% identify AI-related vulnerabilities as the fastest-growing cyber risk.[2]

[1] International Monetary Fund, World Economic Outlook Update: Global Economy: Steady amid Divergent Forces, January 2026.

[2] World Economic Forum, Global Cybersecurity Outlook 2026, January 2026.

The strategic question is, therefore, no longer whether governments and companies should adopt AI. The question is what it takes to capture its benefits, defend against its risks and maintain sufficient control over the value chain on which it depends.

This is where much of the current debate remains too narrow. AI is often discussed through the lens of models: who builds them, who owns them, who accesses them and who adapts them. Models matter, but they are only the visible layer of a deeper system. AI power depends on an ordered system of interdependent layers:

Sovereignty is not isolation. It is strategic optionality: the power to choose.

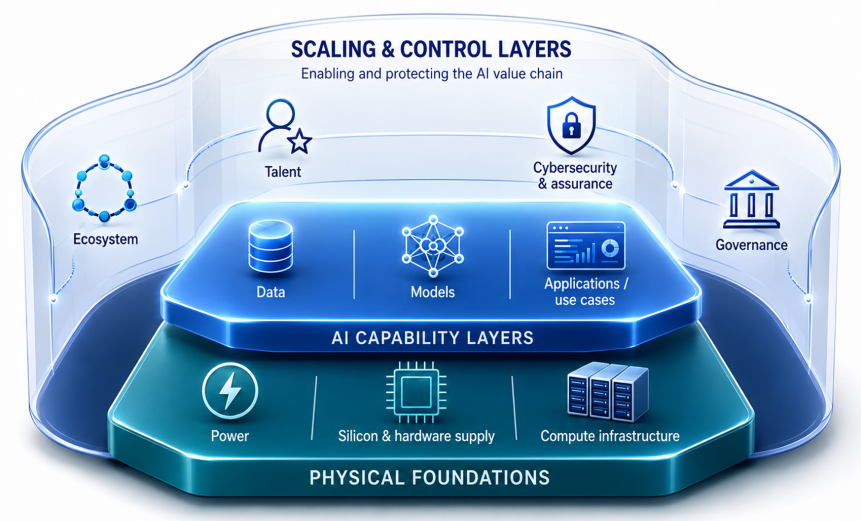

Exhibit 2 - AI value chain

- At the base sit the **physical foundations**: Power, silicon and hardware supply, and compute infrastructure. These determine whether AI can be powered, processed and sustained at scale.
- Above them sit the **AI capability layers**: Data, models, and applications or use cases. These determine whether AI can generate relevant, differentiated and operationally valuable outcomes.
- Around them sit the **scaling and control layers**: Ecosystem, talent, cybersecurity and assurance, and governance. These determine whether AI can be deployed securely, trusted by users and regulators, and scaled across critical sectors.

The central argument of this paper is that AI sovereignty cannot be reduced to model ownership. A country may sponsor, build, buy or adapt AI models, and local industry may develop or integrate AI solutions, while still depending on external compute capacity, chips, infrastructure providers, data pipelines, cybersecurity capabilities, talent pools and governance rules. In that situation, the country may access AI and benefit from it, but does not meaningfully control the conditions that make AI usable, secure and scalable.

However, sovereign AI does not require owning every layer of the value chain. This is the **sovereignty paradox**: for most countries, having full control of the entire value chain is unrealistic. Rather, sovereignty requires knowing where to compete, what to control, whom to partner with, what to keep portable and where security must be embedded as a condition for scale. **Hence sovereignty is not isolation; it is strategic optionality: the power to choose.**

2. The Bottleneck and the Global Map

The binding constraint is also shifting from models to the layers beneath them. The IEA's 2026 update confirms that global electricity consumption from data centres is projected to almost double from 485 TWh in 2025 to 950 TWh in 2030, reaching around 3% of global electricity demand. The headline percentage remains modest; the strategic issue is concentration, speed and physical feasibility. In 2025, global electricity demand from data centres grew by 17%, while electricity consumption from AI-focused data centres surged by 50%. Over the same period, major model providers reported a threefold increase in active users and a fivefold increase in revenue. This demand is now translating directly into infrastructure pressure.

The binding constraint is also shifting from models to the layers beneath them.

Investment is also moving at infrastructure scale: the largest technology companies' capital expenditure exceeded USD 400 billion in 2025 and is expected to rise by a further 75% in 2026, with the capital expenditure of just five technology companies now larger than global investment in oil and gas production. The bottleneck is therefore widening beyond electricity. AI factories have more than tripled in capacity in 18 months, high-bandwidth memory shortages are expected to persist until at least the end of 2027, and advanced AI server racks could reach peak power demand equivalent to 65 households by 2027, after AI server power density increased elevenfold between 2020 and 2025. Where energy, compute, silicon, grid access, and capital align, AI infrastructure becomes strategic, on a par with power grids and telecommunications.[3]

Two constraints now dominate: securing enough power, and securing it fast enough. On speed, more than 2,000 GW of generation and storage (1.6 times the United States' existing capacity) were waiting in grid-interconnection queues at the end of 2025, and the time to connect a new plant has roughly doubled, from under two years in the early 2000s to more than four years today, with new transmission lines taking up to a decade.[4] These timelines collide with AI build-outs scheduled in months, which is why developers increasingly turn to "bring your own power" - dedicated on-site gas or nuclear generation - rather than waiting for the grid.[5]

The strain is also beginning to reach the public. In clusters such as Virginia, data centres already consume around a quarter of the state's

[3] International Energy Agency, Key Questions on Energy and AI, World Energy Outlook Special Report, 2026.

[4] Lawrence Berkeley National Laboratory, Queued Up: 2025 Edition (grid-interconnection queues and lengthening connection times); U.S. Department of Energy, Evaluating the Increase in Electricity Demand from Data Centers, 2025.

[5] IEA, "Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions," 2026; World Economic Forum, "Is power grid connectivity the strategic bottleneck for AI?," May 2026.

electricity and could approach half by 2030.[6] Households in several markets are seeing measurable rate increases attributed to data-centre demand, prompting a wave of US states to draft data-centre-specific legislation to protect ratepayers.[7]

The same framework can be turned outward, to ask where each region actually stands. No single region is strong across the entire stack (even if, for now, the United States and China are nearing this target). Advantage is uneven and layer-specific. The benchmark below maps relative strength, high to low, for each layer of the value chain, organised into the three tiers set out above: the physical foundations, the AI capability layers, and the scaling and control layers. It is an indicative assessment, informed by publicly available 2025–2026 sources on AI infrastructure, investment, governance and readiness. It is intended to show where regional strengths are concentrated across the value chain rather than to rank individual countries.[8]

No single region is strong across the entire stack. Advantage is uneven and layer-specific.

	Physical			Capability		Scaling & Control	
Region	**Power**	**Silicon & Hardware supply**	**Compute Infrastructure**	**Data & Models**	**Application/Use Cases**	**Ecosystem & Talent**	**Security & Governance**
United States	Medium	**High**	**High**	**High**	**High**	**High**	**High**
China	**High**	Medium	**High**	**High**	**High**	**High**	Medium
Europe	Medium	Low	Medium	Medium	Medium	Medium	**High**
Advanced Asia-Pacific	Medium	Medium	Medium	Medium	**High**	**High**	**High**
Middle East / GCC	**High**	Low	Medium	Medium	Medium	Medium	Medium
Latin America	Low	Low	Low	Low	Medium	Medium	Low
Africa	Low	Low	Low	Low	Medium	Low	Low
Complexity to improve	**High**	**High**	**Medium**	**Medium**	**Low**	**Medium**	**Low**

Exhibit 3 - Regional strength across the AI value chain

No region has unconstrained strength across the full AI stack.

The United States remains the strongest overall player, but the power layer is increasingly exposed to grid access, infrastructure concentration and speed-to-build constraints; China matches the United States across several layers but remains exposed on silicon and hardware supply (although they are working on addressing these limitations) and on international trust and governance. Beyond those two global leaders, strength is specialised rather than broad - Europe's edge is governance; Advanced Asia-Pacific combines strong application

[6] Global Efficiency Intelligence, Data Centers in the AI Era: Energy and Emissions Impacts in the U.S. and Key States, 2025. Data centres reached roughly a quarter of Virginia's electricity in 2025 and are projected to account for 36–51% by 2030.

[7] Brookings, "Confronting and addressing rising energy bills linked to data centers," 2026; Stateline, "With electricity bills rising, some states consider new data center laws," February 2026.

[8] Assessment informed by Stanford University, AI Index Report 2026; International Energy Agency, Key Questions on Energy and AI, 2026; International Energy Agency, Energy and AI, 2025; Oxford Insights, Government AI Readiness Index 2025; and UNCTAD, Technology and Innovation Report 2025.

deployment, ecosystem depth, talent and governance maturity, while remaining an important but not fully sovereign player in the semiconductor and hardware system. Latin America and Africa show the adoption side of the equation: both have relevant potential in sector-specific use cases, public services and local-market applications, but remain constrained by infrastructure depth, compute access, investment scale, data maturity, skills and governance capacity.

3. The Middle East / GCC Opportunity

The Middle East / GCC fits this pattern with one decisive anchor: **its clearest structural advantage sits at the base, in power, while the layers above it remain medium-to-low** and still need to be built, diversified or selectively controlled. This matters because the next phase of AI competition will be increasingly constrained by the physical foundations of the value chain: power, compute capacity, silicon access and infrastructure build-out.

For the Middle East, the question is not whether to compete, but how to play each layer.

The strategic question is therefore not whether the region should lead in all the layers of the AI value chain, but how it should play each layer. For each one, there are three possible postures:

- **Trust** an external provider where speed and efficiency matter more than direct control.
- **Diversify** across several providers or technologies to preserve portability and reduce concentration risk.
- **Own / control** the capability where the layer is strategically sensitive, locally differentiating or critical to national resilience.

Own where you lead, diversify where ownership is premature, and make security the licence to scale.

The region should therefore assess each layer and find the right model based on its competitive angle, the feasibility to get control and its strategic aspirations. The table below sets out our proposed approach, informed by our experience across the region.

Value-chain layer	ME/GCC today	Recommended posture	Strategic rationale
Power	High	Own / control	The region's strongest structural advantage. Energy availability, land and infrastructure ambition can anchor a differentiated AI infrastructure position.

Value-chain layer	ME/GCC today	Recommended posture	Strategic rationale
Silicon & Hardware Supply	Low	Diversify	Full ownership is unrealistic in the near term. The priority should be multi-vendor (and multi-country) access, procurement resilience and reduced exposure to single-supplier concentration.
Compute Infrastructure	Medium	Own / control	With abundant power and a deep pool of infrastructure partners ready to build, the region can develop compute capacity largely on its own terms. It should own and control strategic compute for government, critical sectors and high-value workloads, treating data-centre capacity as a sovereign asset.
Data & Models	Medium	Own data + diversify models	Sovereign and sector-specific data are controllable assets and a source of differentiation, while frontier-model ownership is costly, uncertain and difficult to sustain. The region should control priority datasets, preserve access to multiple model families, and adapt or fine-tune models where local language, sector context, regulation or sensitivity justify it.
Applications / Use Cases	Medium	Own / control selectively	This is where value is captured. The region should prioritise sector-specific applications linked to national priorities, critical infrastructure and public-sector transformation.

Value-chain layer	ME/GCC today	Recommended posture	Strategic rationale
Ecosystem & Talent	Medium	Diversify + Own / control	External talent and partnerships can accelerate execution, but long-term resilience requires national talent pipelines, local firms and institutional capability.
Security & Governance	Medium	Own / control	Security and governance are the licence to scale AI in critical and regulated sectors. The region should control national-level cyber defence, AI assurance, incident response and regulatory standards, while aligning with international frameworks to preserve interoperability and market trust.

Exhibit 4 - Middle East / GCC strategic posture by AI value-chain layer

They will be those who take feasible measures to control and reduce dependencies across the full value chain.

The countries capitalising on all AI benefits and best defending against AI risks will not simply be those who build the frontier models or that own and control all pieces in the value chain. **They will be those who take feasible measures to control and reduce dependencies across the full value chain.** Governments have to find their preferred sovereignty balance, and the local industry has to build those layers that do require national ownership and control.

Five takeaways from the analysis

1 **Sovereignty is optionality, not ownership**
Owning every layer is unrealistic and unnecessary. Sovereign AI means deciding, layer by layer, what to own, what to diversify and what to trust.

2 **Advantage is built from the base up**
The benefits everyone wants sit at the top of the stack but depend on the foundations beneath. Whoever controls energy, compute and the freedom to switch controls the chain.

3 **The binding constraint has moved from models to infrastructure**
Model capabilities are converging quickly, while energy, compute and silicon remain scarce, concentrated and harder to replicate.

4 **Trust is the licence to scale**
In government and critical sectors, AI cannot be scaled unless it is secured, governed and trusted. Assurance is the condition for adoption, not an add-on.

5 **The Middle East should play to its base and stay portable**
Own where structural advantage or strategic sensitivity matters most, diversify where ownership is premature, and convert one foundational advantage into a durable position up the chain.

Key references

International Monetary Fund, World Economic Outlook Update: Global Economy - Steady amid Divergent Forces, January 2026. https://www.imf.org/en/Publications/WEO

World Economic Forum, Global Cybersecurity Outlook 2026, January 2026. https://www.weforum.org/publications/global-cybersecurity-outlook-2026/

International Energy Agency, Key Questions on Energy and AI (World Energy Outlook Special Report), 2026. https://www.iea.org/reports/key-questions-on-energy-and-ai

Lawrence Berkeley National Laboratory, Queued Up: 2025 Edition (grid-interconnection queues), 2025. https://emp.lbl.gov/queues

U.S. Department of Energy, Evaluating the Increase in Electricity Demand from Data Centers, 2025. https://www.energy.gov/articles/doe-releases-new-report-evaluating-increase-electricity-demand-data-centers

International Energy Agency, Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions, 2026. https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions

World Economic Forum, Is power grid connectivity the strategic bottleneck for AI?, May 2026. https://www.weforum.org/stories/2026/05/electricity-data-grid-connectivity-strategic-bottleneck-ai-transformation/

Brookings Institution, Confronting and addressing rising energy bills linked to data centers, 2026. https://www.brookings.edu/articles/confronting-and-addressing-rising-energy-bills-linked-to-data-centers/

Stateline, With electricity bills rising, some states consider new data center laws, February 2026. https://stateline.org/2026/02/05/with-electricity-bills-rising-some-states-consider-new-data-center-laws/

Stanford University (HAI), Artificial Intelligence Index Report 2026, 2026. https://hai.stanford.edu/ai-index/2026-ai-index-report

International Energy Agency, Energy and AI, 2025. https://www.iea.org/reports/energy-and-ai

Oxford Insights, Government AI Readiness Index 2025, 2025. https://oxfordinsights.com/ai-readiness/government-ai-readiness-index-2025/

UNCTAD, Technology and Innovation Report 2025, 2025. https://unctad.org/publication/technology-and-innovation-report-2025

Global Efficiency Intelligence, Data Centers in the AI Era: Energy and Emissions Impacts in the U.S. and Key States, 2025. https://www.globalefficiencyintel.com/data-centers-in-the-ai-era-energy-and-emissions-impacts-in-the-us-and-key-states

About
Axon Consulting

Axon is an international firm founded in 2006 that provides investment and advisory services to a broad client base in the ICT and digital space in more than 70 countries across the world.

Axon's emerging technologies practice is at the core of our work and a growing priority for clients. We focus on strategy, policy, and market intelligence around a broad spectrum of next-generation technologies, engaging both private and governmental stakeholders. By partnering closely with decision-makers, Axon helps them anticipate trends, address critical challenges, and develop actionable roadmaps to harness the full potential of emerging technologies.

Tel: +34 913 102 894
Email: marketing@axonpartnersgroup.com