

“Sovereign AI” : Concepts, Drivers, Pathways, and Best Practices

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Abstract

Currently, “sovereign AI” has attracted considerable attention both domestically and internationally. Many views have been expressed around the world on the definition, driving forces, development paths, and global best practices of sovereign AI. We have reviewed and organized these perspectives for reference.

Full Text

“Sovereign AI” : Concepts, Drivers, Pathways, and Best Practices

Chen Yu*

(Institute of Party History and Literature of the CPC Central Committee, Beijing 100017)

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[**Keywords**] Sovereign artificial intelligence; AI sovereignty; digital sovereignty; United States; China; strategy; policy; concept; driving forces; development pathways; best practices; diplomacy; international relations; global governance

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Sovereign AI: Concepts, Drivers, Pathways, and Best Practices

Chen Yu

(Institute of Party History and Literature of the CPC Central Committee, Beijing 100017, China)

Abstract Currently, “Sovereign AI” is attracting significant attention both domestically and internationally. People around the world have shared numerous perspectives on the concepts, driving forces, development pathways, and global best practices related to sovereign AI. We have compiled these viewpoints for your reference.

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At present, “Sovereign AI” (Sovereign AI) is attracting attention both in China and abroad. Around the definition, driving forces, development pathways, and

global best practices of sovereign AI, people around the world have expressed many views. We have organized these viewpoints for reference.

1 What Is “Sovereign AI” ?

On February 28, 2024, the website of the U.S. chip company NVIDIA published an article by Angie Lee, the company’s communications manager, titled “What Is Sovereign AI?” The article pointed out that sovereign AI refers to a country’s ability to use its own infrastructure, data, workforce, and business networks to develop AI. [1]

* E-mail: thestrategist@sohu.com

Sometimes translated as “autonomous AI.”

In March 2025, the “Sovereign AI” (Sovereign-AI.org) website published a research report, *Reflections on Sovereign AI and National AI Policy*, co-authored by scholars from internationally renowned universities and research institutions including Imperial College London, ETH Zurich, the Massachusetts Institute of Technology, Stanford University, the University of Bayreuth in Germany, and the Alan Turing Institute in the United Kingdom. The report states that sovereign AI refers to a country’s ability to independently develop, control, and regulate AI systems, so as to ensure that these technologies conform to national security, economic interests, and ethical values.[2]

On December 18, 2025, the website of the U.S.-headquartered consulting firm McKinsey & Company published the article *The Sovereign AI Agenda: From Ambition to Reality*, which states that, generally speaking, sovereign AI refers to AI systems established and operated with a certain degree of independence in terms of data, technology, operations, and legal structures. For governments, this may mean paying attention to national security and the domestic economic agenda. By contrast, business leaders may emphasize operational or technological autonomy.[3]

In June 2026, the U.K.-headquartered consulting firm Deloitte released the research report *Sovereign Artificial Intelligence: Insights into Strategic Opportunities in the Asia-Pacific Region*, which argues that “sovereign artificial intelligence” refers to an AI system that a country, organization, or community can independently develop, deploy, manage, and control in accordance with its own laws, values, and strategic interests, without relying on foreign technologies, data, or infrastructure.[4]

On February 4, 2026, the website of the U.S. information technology company International Business Machines Corporation (IBM) published the article *What Is AI Sovereignty?*, written by contributor Stephanie Susnjara and editor Ian Smalley. The article states that AI sovereignty concerns the infrastructure and technical capabilities that organizations directly build and control, such as data centers, GPUs, and computing resources. It also includes AI models built, trained, and deployed using local data within regional boundaries.[5]

The article *What Is Sovereign AI?*, published on the website of the U.S. networking equipment company Cisco, states that sovereign AI refers to AI systems developed, deployed, and managed within a country's legal and operational boundaries, with the aim of ensuring control over data and jurisdiction. Sovereign AI is a practice that keeps the entire "intelligence supply chain" (including the hardware, data, and algorithms used to produce AI) under national or regional control.[6]

On November 3, 2025, the Ireland-headquartered consulting firm Accenture released the research report *Sovereign AI: Take Control of Your AI Future*, which argues that sovereign AI refers to a country's ability to independently develop and deploy AI by relying on its own infrastructure, data, models, and talent. This enables the country to promote innovation, drive economic growth, advance strategic goals, and at the same time maintain full control over the entire AI life cycle.[7]

On April 15, 2026, the website of the U.S. software company Red Hat published the article *What Is Sovereign AI?*, which states that sovereign AI is one way of realizing digital sovereignty, intended to decentralize AI capabilities by eliminating dependence on external gatekeepers. With the help of open-source models and local infrastructure, sovereign AI is a framework that treats AI as a public utility owned and operated locally.[8]

On July 29, 2025, the website of the U.S. advertising technology company TechTarget published IT consultant Sean Michael Kerner's article *Sovereign AI Explained: Everything You Need to Know*. The article states that sovereign AI is an AI service—typically a generative AI (GenAI) service—whose operations are confined within the borders of a specific country, in order to ensure compliance with local data privacy laws, governance, and regulation. Most components of sovereign AI infrastructure, including AI accelerators, graphics processing units (GPUs), large language models (LLMs), and frameworks, are deployed within a specific sovereign national territory.[9]

2 Why Develop “Sovereign AI” ?

2.1 By 2030, the market size of sovereign AI may reach USD 600 billion.

On December 18, 2025, an article titled *The Sovereign AI Agenda: From Ambition to Reality*, published on the website of the U.S. consulting firm McKinsey & Company, noted that a new global survey by McKinsey of 300 executives, investors, and government officials underscored both urgency and opportunity: **71% of respondents described sovereign AI as an “existential concern” or a “strategic imperative” for their organizational goals.** At the same time, McKinsey's analysis indicates that by 2030 the market size of sovereign AI may reach USD 600 billion. This will mainly come from use cases in the public sector and regulated industries; these use cases may shift as much as 40% of AI workloads into sovereign environments.[3]

2.2 AI is no longer merely a technology; it has become an important tool for enhancing economic competitiveness and safeguarding national security.

On March 26, 2026, an article titled *Sovereign AI Is Not “Closed” or “Open,” but About “Controlling the Right to Choose”*, published on the website of the U.S. consulting firm International Data Corporation (IDC), stated that IDC research shows the market signal is very clear. Governments around the world are actively investing in sovereign AI capabilities, from national cloud infrastructure to domestic AI ecosystems. Through a variety of incentive measures, they are promoting the construction of local data centers, funding native-language AI models, and formulating guidance to standardize procurement and deployment methods for sovereign solutions. For policymakers, AI is no longer merely a technology; it has become an important tool for enhancing economic competitiveness and safeguarding national security.[10]

2.3 The foundations of AI are controlled by a very small number of entities. This dependence has triggered anxiety.

Accenture, the consulting firm headquartered in Ireland, believes that AI is no longer merely a dazzling emerging technology—it has become a pillar of national competitiveness and corporate survival. Yet today, the foundations of AI—namely computing power, data, and models—are all controlled by a very small number of entities. This dependence has prompted new thinking about national security, industrial competitiveness, and innovation capacity. Profound changes in the current international macro-environment have made these challenges and risks increasingly prominent. It is worth noting that, in the process of responding to risks and building resilience, new development opportunities are also emerging at an accelerated pace.[11]

2.4 Multiple Drivers of Sovereign AI

In March 2025, the “Sovereign AI” (Sovereign-AI.org) website published a research report titled *Reflections on Sovereign AI and National AI Policy*, jointly written by scholars from internationally renowned universities and research institutions including Imperial College London, ETH Zurich, the Massachusetts Institute of Technology, Stanford University, the University of Bayreuth in Germany, and the Alan Turing Institute in the United Kingdom. The report pointed out that the drivers of sovereign AI stem from several key factors.

Economic independence and industrial competitiveness play a core role, because countries with strong AI capabilities gain strategic advantages in automation, financial systems, and innovation-driven industries. Countries investing in sovereign AI seek to keep the economic benefits brought by AI within their own borders, rather than relying on foreign AI solutions that extract value while being unwilling to reinvest in local ecosystems. For example, South Korea’s *National AI Strategy* and Canada’s *Pan-Canadian AI Strategy* both emphasize

building an AI-driven economy while ensuring national control over research and data.

Security is another important driver. AI has become deeply integrated into national defense, cybersecurity, and intelligence operations, while reliance on external suppliers increases vulnerabilities such as cyber threats, algorithmic bias, and surveillance risks. The U.S. Department of Defense’ s Joint Artificial Intelligence Center (JAIC) is precisely a model of a nation’ s effort to develop AI capabilities internally in order to minimize external dependence. Similarly, China’ s “intelligentized warfare”

The theory of “Intelligentized Warfare” integrates AI into military and cyber operations, ensuring that AI always remains a strategic asset under state control.

Regulatory and ethical considerations further highlight the necessity of sovereign AI. Countries hope to ensure that the development of AI conforms to their regulatory frameworks, especially with respect to data privacy, transparency, and human rights. The EU’ s *AI Act* is a typical example of a regional pathway toward realizing AI sovereignty; the Act establishes clear rules that both embody European values and reduce dependence on external AI governance models. By contrast, China’ s AI regulatory system places greater emphasis on state supervision and algorithmic control, reflecting its governance priorities. Countries lacking sovereign AI may risk being subject to regulatory decisions made by AI-leading states, and those decisions may be inconsistent with their own legal or ethical standards.[2]

3 How to Build “Sovereign AI” ?

3.1 Two Pathways

On December 18, 2025, an article titled *The Sovereign AI Agenda: From Ambition to Reality*, published on the website of the U.S. consulting firm McKinsey & Company, pointed out that sovereign AI is rapidly becoming key to competitiveness—whether for countries seeking resilience or for industries aiming to ensure reliable access to AI capabilities. McKinsey’ s research shows that broad consensus has been reached across sectors on the importance of sovereign AI, but levels of preparedness for achieving this goal vary widely.

In the coming years, two pathways may emerge: one for countries that build strong, locally rooted AI ecosystems, and another for countries that rely on external infrastructure.[3]

3.2 Four Types

An article titled *What Is Sovereign AI?*, published on the website of the U.S. networking equipment company Cisco, states that sovereign AI is not a single architecture, but rather a spectrum of control formed according to the needs of organizations or countries.

1. **Full sovereignty:** Data, models, infrastructure, and personnel are all located within national borders, and domestic software and hardware supply chains are used wherever possible.
2. **Hybrid sovereignty:** Sensitive workloads remain on domestic sovereign infrastructure, while non-sensitive tasks are transferred to global platforms to take advantage of scale.
3. **Regional or bloc sovereignty:** Sovereignty is defined at the level of a political alliance, such as the European Union, allowing cross-border data flows among member states while maintaining regional legal control.
4. **Sector-specific sovereignty:** Sovereignty requirements apply only to key sectors such as national defense, healthcare, or finance, while other sectors continue to use global AI services.[6]

3.3 Seven Major Development Pathways

In March 2025, the “Sovereign AI” website (Sovereign-AI.org) published the research report *Reflections on Sovereign AI and National AI Policy*, co-authored by scholars from internationally renowned universities and research institutions including Imperial College London, ETH Zurich, the Massachusetts Institute of Technology, Stanford University, the University of Bayreuth in Germany, and the Alan Turing Institute in the United Kingdom. The report points out that sovereign AI is not a “one-size-fits-all” approach; countries must explore among many strategic choices in order to balance independence and autonomy with global integration. Although achieving complete AI self-sufficiency may be an ideal state for some countries, in practice most governments will need to adopt hybrid models, making full use of regional alliances, federated AI governance, and cost-effective sharing of AI infrastructure. Emerging methods, such as the use of pre-trained models like DeepSeek, show that AI sovereignty can be achieved without bearing high infrastructure costs. Similarly, international sovereign-AI partnerships can, on the premise of not undermining national control [[unclear: sentence continues off page]]

under that premise, providing computing resources, research cooperation, and a shared regulatory framework.

The main development paths for sovereign AI include:

1. Industry-specific sovereign AI. Many governments recognize that building a complete sovereign AI ecosystem across all domains may be unrealistic. Therefore, they may choose to prioritize safeguarding AI sovereignty in strategic industries such as financial services, national defense, healthcare, and cybersecurity. By focusing on industry-specific AI, countries can both ensure that key domains remain free from external control and benefit from international AI cooperation.

2. Build national AI capabilities. A comprehensive pathway for building

sovereign AI requires substantial investment in national AI capabilities, including establishing publicly funded AI research centers, high-performance computing infrastructure, and national AI datasets. Countries such as China and the United States have established government-supported AI initiatives to promote innovation, talent cultivation, and industrial cooperation.

3. Cooperate with large technology companies. Although achieving full AI sovereignty is a long-term goal, many countries recognize that cooperation with transnational technology companies to build AI capabilities can have short-term benefits. Strategic partnerships with major AI enterprises such as Google, Microsoft, Amazon, and Nvidia can provide access to cutting-edge AI models, infrastructure, and specialized technologies. However, such partnerships must be built on sound legal and regulatory safeguards in order to protect national interests and ensure that domestic data, intellectual property rights, and security concerns are not compromised.

4. Adopt open-source AI. One possible pathway to achieving AI sovereignty is to use open-source AI models and frameworks. Open-source AI development enables countries to customize and deploy AI solutions without being subject to proprietary technologies.

5. Integrate digital initiatives. Governments that are formulating national AI strategies can benefit by coordinating AI investments with existing digital initiatives. National projects related to digital identity, cloud computing, e-government services, and cybersecurity can all be integrated into AI strategies to improve efficiency, security, and scalability.

6. Explore decentralized AI. An increasingly evident trend in AI development is the exploration of decentralized AI architectures. Countries need not rely on centralized national AI infrastructure; instead, they can develop federated learning models and decentralized inference systems, distributing AI training and decision-making across multiple nodes.

7. Adopt a “Wait and See” approach. For some countries, the most strategic approach when building sovereign AI may be to first observe technological progress and global policy trends before making large-scale investments.

4 Who Are the “Top Students” in Building “Sovereign AI”?

4.1 Global Perspective

On April 15, 2026, the article “What Is Sovereign AI?” published on the website of the U.S. software company Red Hat pointed out that strategies for pursuing sovereign AI differ according to the availability of resources, and it described in detail examples of how different countries are entering the field of sovereign AI.

Carefully designed comprehensive sovereignty: China is currently the most prominent example of achieving nearly complete sovereign AI. Through strict laws and access controls over private-sector data, the Chinese government controls data; through a complete domestic ecosystem, it controls applications; and through domestic laboratories, it controls models. China invests in domestic chip research and development. **China is closer to digital sovereignty than any other country.**

The leading position of the private sector: In the United States, private companies have, almost without direct assistance from the U.S. government, already built AI systems that occupy leading positions. Therefore, Google, Microsoft, OpenAI, and Anthropic are leading the development of global AI, which in itself is a manifestation of sovereignty.

Regulatory sovereignty: The EU' s sovereignty strategy focuses on governance rather than infrastructure. The EU' s *AI Act* classifies AI by risk and sets the standards that systems must meet in order to operate within the EU. The EU is not attempting to compete with countries such as the United States or China in infrastructure and compute budgets; rather, it invests in domestic projects such as “Mistral” and formulates clear regulations to guide the industry.

Maintaining sovereignty as simply as possible: Smaller countries accept dependence on foreign foundation models, but concentrate time and investment on fine-tuning these models for local languages, building domestic governance frameworks, and ensuring that local data remains local. This means investing in local researchers rather than attempting to create their own version of OpenAI' s ChatGPT. Singapore' s “SEA-LION” project is an example of how local talent can be organized to build large language models (LLMs) focused on Southeast Asian communities.[8]

4.2 Asia-Pacific Perspective

In June 2026, the UK-headquartered consulting firm Deloitte released the research report *Sovereign AI: Realising Strategic Opportunities Across Asia Pacific*, which points out that in the Asia-Pacific region, countries/regions are advancing the construction of AI sovereignty through diverse national pathways rather than adopting a single, unified model. For example:

Large security-oriented economies such as China and India are pursuing more comprehensive full-stack strategies, seeking greater control over data, infrastructure, computing capacity, and governance systems. China is implementing a state-led centralized framework, has abundant AI research output, and is investing heavily in domestic data centers and AI models—and is **the only country that could potentially challenge U.S. dominance across the full AI stack.**

More globalized economies, including Singapore, Australia, and New Zealand, have adopted a strategy of “selective sovereignty,” emphasizing sound

regulation, trustworthy data governance, and risk management, while working with hyperscale technology companies to fill capability gaps and accelerate innovation.

Advanced industrial economies such as Japan and South Korea attach great importance to sovereignty in strategic areas such as semiconductors, advanced manufacturing, and AI research. They combine targeted domestic capability-building with deep integration into international supply chains, thereby achieving rapid scaling and innovation.

Emerging economies, including Indonesia, Vietnam, Thailand, Malaysia, and the Philippines, prioritize foundational enablers such as data governance, AI skills, and targeted national platforms. Their development is constrained by computing capacity and data scale, rather than by an ambition to achieve full-stack self-sufficiency.[4]

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