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AI Decrypted

A Guide for Navigating AI Developments in 2025

dgagroup.com

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Introduction

The year 2024 saw breakneck technological advancement across the AI stack – and incremental progress in debates around regulation at the frontier of AI.



2024 saw massive developments in underlying AI hardware infrastructure, significant improvement in model performance, and the increased adoption of applications at both the consumer and enterprise levels. Most leading developers put out new and more capable versions of models and applications just before the end of the year. Technology leaders in 2024 also laid the groundwork for a whole new class of AI applications and associated models. Agentic AI is now on the horizon, bringing the prospect of further progress in key areas such as enhanced reasoning and cross-model communication.

As 2024 ended and the new year began, rumblings about DeepSeek, a Chinese AI startup, began to roil the industry and spooked investors, knocking billions off the capex of leading firms across the AI stack in late January. DeepSeek's success in training models more efficiently, cheaply, and with fewer GPUs has called into question the planned expenditures by major AI firms, including the massive Stargate project. As the year unfolds, DeepSeek's technical success raises several new questions, particularly around the ability of developers of open source/weight models to close the performance gap with proprietary models, while driving down the cost of inference. DeepSeek's emergence has upset assumptions about the American lead in frontier AI innovation, calling into question the effectiveness of U.S. technology controls, and bringing with it new geopolitical challenges.

Growth appears strongest in areas where:

- Tasks are knowledge-intensive
- Structured data is available
- Processes are repeatable
- ROI is easily measurable
- Regulatory barriers are manageable

Key trends driving adoption

- Integration of LLMs into existing software
- Improving ease of deployment
- Lower implementation costs
- Better reliability and accuracy
- Increased user acceptance

The pace of development directly translates into the challenges demanding attention from governments, regulators, and civil society. At this time last year, the EU AI Act was hailed as the first comprehensive regulation of AI, with the presumption that others would follow. Instead, it stands largely alone. Meanwhile, the EU is grappling with the stifling effects of a massive regulatory framework on the bloc's innovation ecosystem and economic competitiveness. National regulatory efforts in the U.S. and China have proceeded slowly, with governments reluctant to impose regulations that could hinder innovation as the two countries compete for technological leadership.

U.S. President Trump took office in early 2025, and his close ties to Silicon Valley will introduce new geopolitical and regulatory variables surrounding industry leaders and AI governance. In addition to the splashy White House launch of Project Stargate, a major new AI infrastructure project Trump endorsed just hours after his inauguration, the new U.S. administration aims to exert greater control over chokepoints in the software and hardware supply chains that underpin the development of frontier AI models, leading to significant realignment and restructuring of the global industry.

In 2024, "camps" emerged in the struggle to influence global AI governance leadership, with the U.S. and U.K. leading the developed world and China leading the developing world. These lines are likely to sharpen in 2025. Western-led efforts, including the GPAI-OECD partnership and the G7, failed to make significant progress. More inclusive forums, such as the G20 and the UN (the latter favored by China), issued statements and high-sounding rhetoric but are unlikely to lead on substance. Only the Bletchley Park Process appears to have made substantial progress toward a global governance regime. However, Bletchley is stymied by perceptions in the Global South that it is driven by G7 interests. For this and other multilateral efforts, 2025 will be a make-or-break year.

As businesses aim to navigate the AI landscape in 2025, we have outlined 10 emerging trends and challenges that will define the future of AI.

As AI Decrypted 2025 went to press, the U.S. Commerce Department issued a controversial rule—the Framework for Artificial Intelligence Diffusion—that effectively gives the U.S. government control over where AI data centers can be built globally. Despite lingering questions about implementation and enforcement under the Trump administration, the rule is set to have a significant impact on the AI industry in 2025.

For hyperscalers, the rule could slow or complicate international expansion, drive up compliance and legal costs, disrupt global R&D collaborations, and create uncertainty about enforcement thresholds.

The rule divides the world into three categories:

- Countries with no limits on access to advanced computing resources.
- Countries with restricted access.
- Countries requiring approval through a new process to gain access.

Restrictions target clusters of high-performance computing (HPC) resources-GPU or specialized AI accelerator clusters- exceeding certain performance thresholds. The regulation applies broadly to all non-U.S. locations but focuses on countries of strategic or national security concern, where data center build outs will face stricter scrutiny or presumptive denial of licenses.

Summary

01

AI Agents & Systems: The Dawn of Reasoning Capabilities

The rollout of new model capabilities raises the stakes and amplifies socioeconomic impacts.

02

Bigger Still Means Better: Hyperscalers Reign as AI's Kingmakers

Soaring demand for compute and energy solidifies tech giants as indispensable, forcing a sometimes uneasy alliance with governments.

03

Applied Science Leverages AI: AI Applications in Science Will Outshine Business Use Cases

Building on the Nobel Prize wins, AI applications in scientific discovery will take center stage.

04

The Oil of the AI Age: Governments and Industry Invest in Advanced Semiconductors

The race to supply compute and build data centers will accelerate, with government involvement growing rapidly.

05

AI Stresses Energy Grids: Reliable – Ideally Renewable – Power Becomes the Hottest Commodity

As energy use for training and inference continues to ramp, the conversation shifts to the location and energy mix required for AI data centers.

06

U.S.-China AI Cold War: AI Becomes Full-Fledged Competition

Early hopes for Biden-led talks on AI risks with Beijing will falter, as zero-sum competition and U.S. tech restrictions dominate.

07

Regulation on Standby: Fragmentation of Existing National AI Regulatory Efforts

While the EU AI Act will test regulatory waters, most countries will hesitate to follow suit, fearing that they will lose out in the emerging new AI economy.

08

Choosing Sides: Multilateral AI Conversations Lose Steam

With the Trump administration less focused on alliances and more committed to private sector innovation, joint Western initiatives on AI risk testing will stall or fragment.

09

Beijing Stakes its Claim: China Organizes for AI Leadership Role

China, seeing AI governance initiatives as U.S. and G7 driven, will position itself as the spokesperson for the Global South on AI deployment and regulation.

10

Industry Wild Card: AI Cold War Gets Hot

As energy use for training and inference continues to ramp, the conversation shifts to the location and energy mix required for AI data centers.

AI Agents & Systems: The Dawn of Reasoning Capabilities

Agentic AI—advanced applications leveraging multiple models capable of making autonomous decisions and taking actions in the virtual world with real-world outcomes—will transform how we interact with AI technology. This includes the deployment of AI-powered humanoid robots, initially deployed in warehouses but with expansive applications. This shift brings heightened economic and social stakes and new levels of unpredictability. The deployment of AI agents and systems—leading model developer Anthropic calls them “virtual collaborators”—will raise new ethical quandaries as they gain the ability to fund political campaigns, lobby bills in Congress, and influence real-world decisions. Agentic and multi-model systems will also complicate regulatory efforts currently focused on the capabilities of single models.

Comparative Analysis: GenAI vs. Agentic AI

Category	GenAI	Agentic AI
Use Cases	<ul style="list-style-type: none"> • Content Creation • Design Assistance • Data Augmentation • Conversational Agents • Code Generation 	<ul style="list-style-type: none"> • Autonomous Systems • Industrial Automation • Decision Support • Interactive Environments
Training Time	Weeks to months depending on model size	Can vary widely, more commonly uses reinforcement learning algorithms
Hardware	High-performance GPUs and large scale distributed compute infrastructure	Application-specific
Major Players	OpenAI, Anthropic, Meta, xAI	Anthropic, DeepMind/Google, Microsoft/OpenAI, XAI, Inflection AI, Character.AI
Challenges	<ul style="list-style-type: none"> • Bias/Fairness • Accuracy • IP • Resource Intensive • Misuse 	<ul style="list-style-type: none"> • Reliability • Environment Complexity • Scalability • Interpretability • Compliance

Agentic systems can independently tackle complex tasks such as streamlining workflows, optimizing logistics, or engaging in dynamic problem-solving. Expanded reasoning capabilities embedded in personal assistants and other applications will enhance models' abilities to code, manage self-contained processes, and provide an increasingly seamless user experience. A rush at the end of 2024 to release new models and platform features was just a taste of the competition to come. Efforts to lay the groundwork for the agentic AI era will accelerate early in 2025 among major players such as OpenAI, Google, Meta, Anthropic, and a handful of non-U.S. developers.

Following the change of administration in Washington, there will also be growth in novel applications of advanced models. For example, efforts to fuse agentic AI and digital assets will gain momentum in 2025, with blockchain and cryptocurrency ecosystems a priority for the Trump administration. All of this will contribute to increased attention in 2025 on making concrete progress toward new and geographically broad regulatory frameworks (see below).

Trend: As agentic systems become the primary touchpoint for AI technology, they will revolutionize digital spaces and transform how we interact with the digital and physical worlds.

Acting on behalf of individuals or organizations, AI agents will enable businesses to operate more efficiently and streamline processes, serving as a real-world test case for whether highly capable AI systems replace or augment certain types of workers. OpenAI's o3 and Google's Gemini 2.0 models, both utilizing chain of thought and agentic reasoning, foreshadow these emergent capabilities. For users, these systems promise more natural and engaging interactions, as well as greater utility. Hyperscalers are well-positioned to integrate agentic systems into existing products, further concentrating market power and raising concerns about the dominance of large tech platforms in this emerging space.

Challenge: Because AI agents act dynamically and often require access to sensitive data, new data privacy and security vulnerabilities will demand regulatory attention.

Malicious actors may exploit these systems to extract confidential information, disrupt operations, or manipulate how these systems learn and behave. The adaptability of AI agent systems also means that traditional cybersecurity defenses may be insufficient to address evolving risks. Organizations will need to rethink how they protect data and systems in this new landscape.

“Agentic has got to be the word of the year... In 2025 we will see the first very successful agents deployed that help people in their day to day.”

- Srinivas Narayanan
VP of Engineering at OpenAI

Challenge: Even without independent decision-making abilities, AI is increasingly being integrated into criminal and terrorist activities, as anticipated by law enforcement agencies.

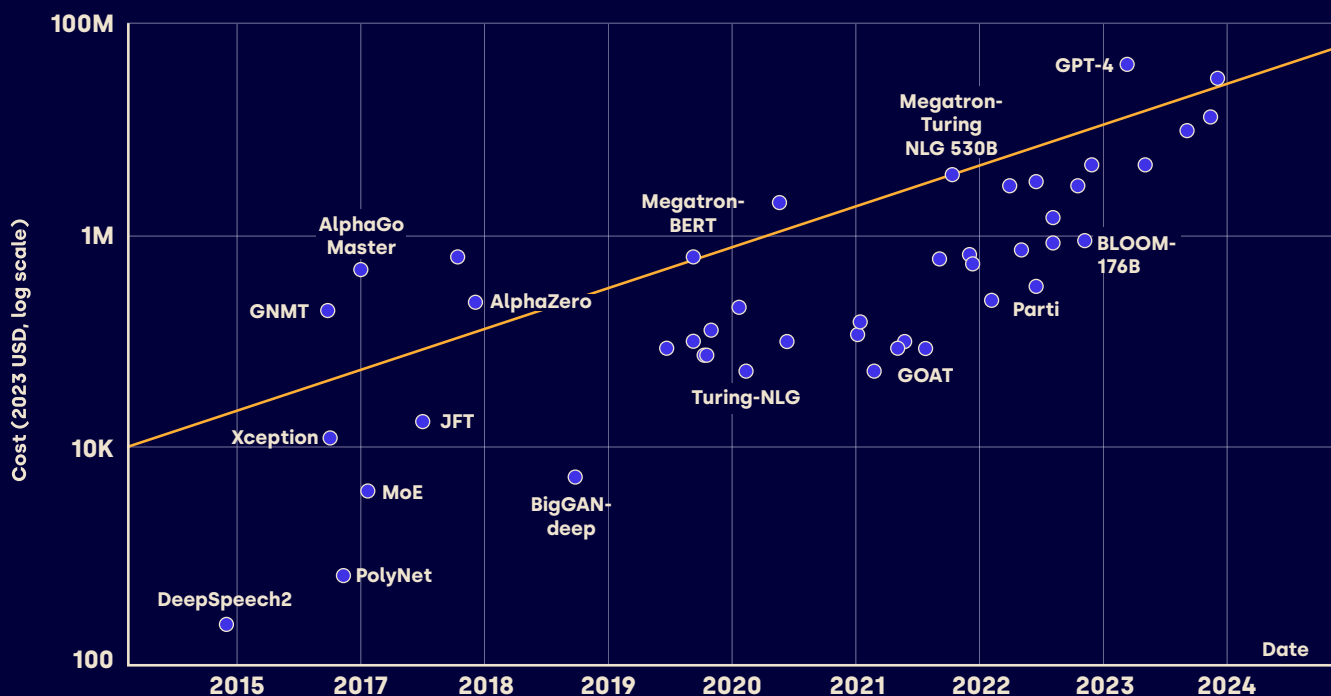
This issue gained attention in early 2025 when a Tesla Cybertruck exploded outside the Trump Hotel in Las Vegas. Las Vegas police later reported that the suspect had allegedly used AI tools, including ChatGPT, to gather information for planning the attack, such as details about explosives. Policymakers, many of whom are still trying to understand generative AI and single-model applications, face an ever-steeper learning curve. AI agents, along with multi-agent and multi-model applications, add another layer of complexity, operating independently and potentially making decisions with real-world ramifications. Current safety frameworks focus solely on single models. In 2025, regulators will need to adopt a more expansive approach to keep up with the next era of AI technology and application development.

Bigger Still Means Better: Hyperscalers Reign as AI's Kingmakers

As companies pursuing frontier AI models face soaring compute, energy demands, and costs, a handful of hyperscalers—large technology firms with scalable cloud infrastructure—will become even more indispensable in 2025. Both in the U.S. and globally, Amazon, Google, and Microsoft provide much of the cloud infrastructure, software, and expertise needed to train and deploy increasingly complex models, cementing their position as the backbone of the AI ecosystem. The new Project Stargate, launched in late January by OpenAI, Oracle, and Softbank, will eventually include up to \$500 billion in investment. It highlights the stakes, with rival ecosystems from Amazon and Google likely to also see substantial new injections of capital in 2025.

With the cost of Nvidia's flagship Blackwell GPU-based servers remaining high and availability limited, the "hyper" in hyperscaler will become even more critical in 2025. As governments engage directly with cloud and hardware leaders, these technology conglomerates are increasingly resembling corporate nation-states. In 2025, the reign of hyperscalers as AI kingmakers will mark a new era in the relationship between technology companies and governments.

Cloud compute cost to train frontier AI models over time



In late 2024, a well-funded Chinese AI startup, DeepSeek, threw down a challenge on the hardware scaling issue by releasing an open-source LLM that performed comparably to ChatGPT-4. DeepSeek claimed the model was trained on a cluster of 2,048 Nvidia H800 GPUs and 2.8 million GPU hours. In comparison, leading models such as ChatGPT 4 and Llama 3 required tens of millions of hours to pre-train.

Chinese firms, restricted from accessing the most advanced AI hardware by U.S. export controls, will continue to innovate in 2025 with optimized hardware and software combinations to address the looming compute gap. As a result, Chinese models built on inferior hardware will remain close to the state of the art.

Trend: Training frontier AI systems requires enormous volumes of compute power, data storage, and specialized hardware, all of which are concentrated in a handful of deep-pocketed American technology firms.

As AI's inputs and infrastructure needs continue to grow in 2025, it will cement the vital role of these corporate giants in driving technological progress. Expanding intersections between AI, economic power, and national security will empower these firms as key players on the geopolitical stage. As such, more than ever before, governments will increasingly need to forge partnerships with hyperscalers and their key suppliers to support sovereign compute and create ecosystems where domestic companies remain competitive in the global AI race.

Trend: Smaller AI hardware and software startups will remain relevant in 2025 by carving out critical niches and partnering with hyperscalers.

These partnerships will allow startups to leverage hyperscalers' infrastructure while innovating in targeted areas such as specialized semiconductors for inference, optimized algorithms, or user interfaces. The survival of smaller players in 2025 will hinge on their ability to plug into long-term trends, secure access to compute and energy resources, and create clear value – such as facilitating deployment and easing the cost of inference.

Challenge: In the U.S., the prominence of Silicon Valley figures in President Trump's orbit in 2025 will profoundly shape the AI and broader tech landscape in unpredictable ways, including potentially favoring some firms over others.

Elon Musk, Vice President J.D. Vance, Director of the Office of Science and Technology Policy Michael Kratsios, and "AI-Cryptocurrency Czar" David Sacks will undoubtedly weigh in on regulatory issues, including antitrust and deregulation of the energy grid. As they seek to advance their own business interests, juggle broader industry preferences, and account for the impact of U.S. policy on Chinese technological advancements, these trade-offs will become particularly salient in 2025.

Challenge: Recent years have seen a wave of antitrust lawsuits and investigations targeting technology conglomerates in the U.S., EU, Canada, and U.K. With a few global technology companies foundational to AI development, governments of all political leanings in 2025 will need to rethink their approach to antitrust towards the industry.

Seen in this light, hyperscalers' and suppliers' market dominance may appear less as a threat and more as a necessary pillar for technological advancement. The Trump administration, under the influence of some conservative Silicon Valley figures, will be more inclined to recast American technology leaders as national champions that require fewer regulatory obstacles to maintain leadership in the face of Chinese competition.

“The power that a number of the tech companies assembled, put them in a jumpstart position to now also become successful AI companies.”

– Marietje Schaake
Former Member of European Parliament

Applied Science Leverages AI: AI Applications in Science Will Outshine Business Use Cases

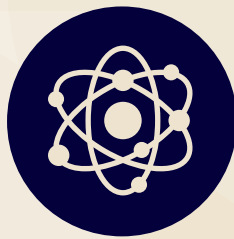
In 2025, AI firms will achieve real-world breakthroughs in scientific discovery, overshadowing, to some extent, the growing uptake of AI business applications. Nobel Prize-winning breakthroughs have underscored the technology's transformative applications in biotechnology, fulfilling promises to enhance quality of life. As convergent AI applications in biotechnology, quantum computing, and climate forecasting gain prominence, issues of access – particularly hardware and energy – will become more salient in 2025. These advancements will highlight AI's potential applications well beyond chatbots, coding, and corporate efficiency.

AI Applications Across Scientific Fields



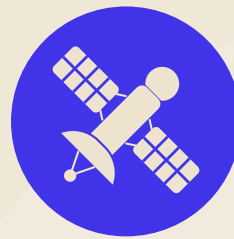
Biotech

- Drug Discovery
- Personalized Medicine
- Protein Engineering
- Medical Diagnostics



Quantum

- Quantum ML
- Quantum Error Correction
- Quantum Algorithm Optimization



Space Tech

- Satellite Data Analysis
- Predictive Maintenance
- Autonomous Navigation



Clean Energy

- Renewable Energy Forecasting
- Energy Efficiency Design
- Climate Modeling

Trend: In 2025, AI research aimed at solving complex real-world scientific problems, particularly in biotechnology and healthcare, will make significant progress.

More applications will touch people's daily lives, increasing public awareness of AI's broad positive influence. By analyzing complex biological data, AI tools are expediting drug discovery, enabling personalized treatments, and lowering the costs to developing treatments for rare diseases. Beyond healthcare, AI is playing a growing role in climate science, modeling weather patterns with unprecedented accuracy and guiding environmental policies. In 2025, these advancements will illuminate the potential of AI-driven applications to address global issues like pandemics and climate change, putting countries with advanced AI capabilities at a strategic advantage.

Challenge: Governments with robust AI and scientific ecosystems will gain leverage in health and environmental advancements, potentially exacerbating global divides.

Countries leading in AI-powered drug development will increasingly dominate patents and pharmaceutical supply chains, controlling access to life-saving treatments. Conversely, nations lacking advanced AI infrastructure may find themselves increasingly reliant on global tech giants or more AI-advanced countries. AI introduces a fourth factor of production to the traditional formula for economic growth – alongside land, labor, capital – favoring nations with abundant AI resources.

Challenge: As AI accelerates the development of diagnostic tools and treatments, regulators face the challenge of integrating AI into testing and approval processes without compromising public health and safety.

The COVID-19 pandemic exposed vaccine skepticism and public distrust of health officials, and the adoption of more "black box" AI systems in healthcare risks exacerbating these issues. In 2025, mistrust in AI could hinder adoption, both domestically and in international collaborations where transparency is vital. To build public confidence, governments and companies will need to implement rigorous testing, establish ethical guidelines, and clearly communicate the limitations and benefits of AI-powered healthcare.

“Can we actually envision a world that is good, that people want to live in? And what are the specific things that will get better? And what are the challenges around them? ... bit by bit – we're going to unravel this complexity that we couldn't deal with before.”

– Dario Amodei
CEO Anthropic

The Oil of the AI Age: Governments and Industry Invest in Advanced Semiconductors

Supply chain anxieties and shortages of advanced AI hardware have driven government support for domestic semiconductor manufacturing, a trend that will persist in 2025. However, even generous financial support cannot bridge significant technological gaps. Smaller players, especially in inference hardware, will make inroads against dominant players like Nvidia and AMD. Meanwhile, struggles at Intel and Samsung will further solidify global foundry leader TSMC's dominance in front-end manufacturing and advanced packaging. U.S. efforts to control exports of AI servers with advanced GPUs will expand in 2025 but encounter geopolitical and industry headwinds.

Government Semiconductor Manufacturing Programs



CHIPS and Science Act
\$280 Billion



**Canadian Sovereign AI
Compute Strategy**
\$1.4 Billion



Industry Support Package
\$65 Billion



**Semiconductor Ecosystem
Support Package**
\$1.25 Billion



EU Chips Act
\$23.6 Billion

Trend: Major U.S. tech companies, including Google, Meta, and Amazon, will continue to invest in in-house semiconductor design to develop application-specific integrated circuits (ASICs) optimized for their own models and development environments.

However, these expensive, multi-year initiatives aimed at reducing reliance on Nvidia will not shift the market significantly in 2025. While company specific hardware will continue to occupy an important niche position, Nvidia's Blackwell systems will maintain dominance in GPU system design. Hardware startups focused on inference, like Groq, Cerebras, and Samba Nova Systems, will gain market share as the hardware landscape diversifies, fostering innovation.

Trend: Compute power's role in AI leadership has made it a cornerstone of government-backed initiatives to onshore advanced semiconductor manufacturing.

TSMC's dominance in production is expected to grow in 2025, given ongoing challenges at Intel and Samsung. Governments – including those in the U.S., Japan, South Korea, the EU, the UAE, and Saudi Arabia – will push forward with securing semiconductor supply chains and expanding data center infrastructure. Smaller countries like Malaysia, Vietnam, and Mexico, will struggle to access advanced compute resources, widening divides.

Challenge: Policymakers have grappled with controlling access to advanced U.S. hardware abroad, and last-minute rulemaking under the Biden administration reflects this struggle.

A final rule tightening licensing requirements for AI server exports has been perceived by some as an American techno-nationalist strategy to exert control over foreign economic and technological development. The Trump administration will inherit these regulatory complexities. Further attempts to regulate global GPU shipments in 2025 will require careful negotiations with nations like Saudi Arabia and the UAE, which aim to become AI hubs.

Challenge: Data center construction in the U.S. will benefit from deregulation under Trump, though state and local variations in grid and environmental policies will complicate development.

While these buildouts will accelerate AI innovation and adoption, ongoing hardware shortages could invite favoritism in Washington, creating resentment and incentivizing Silicon Valley to cultivate ties with Trump's Valley emissaries. Globally, U.S. hardware controls will drive the emergence of new AI data center hubs in countries aligned with U.S. policies.

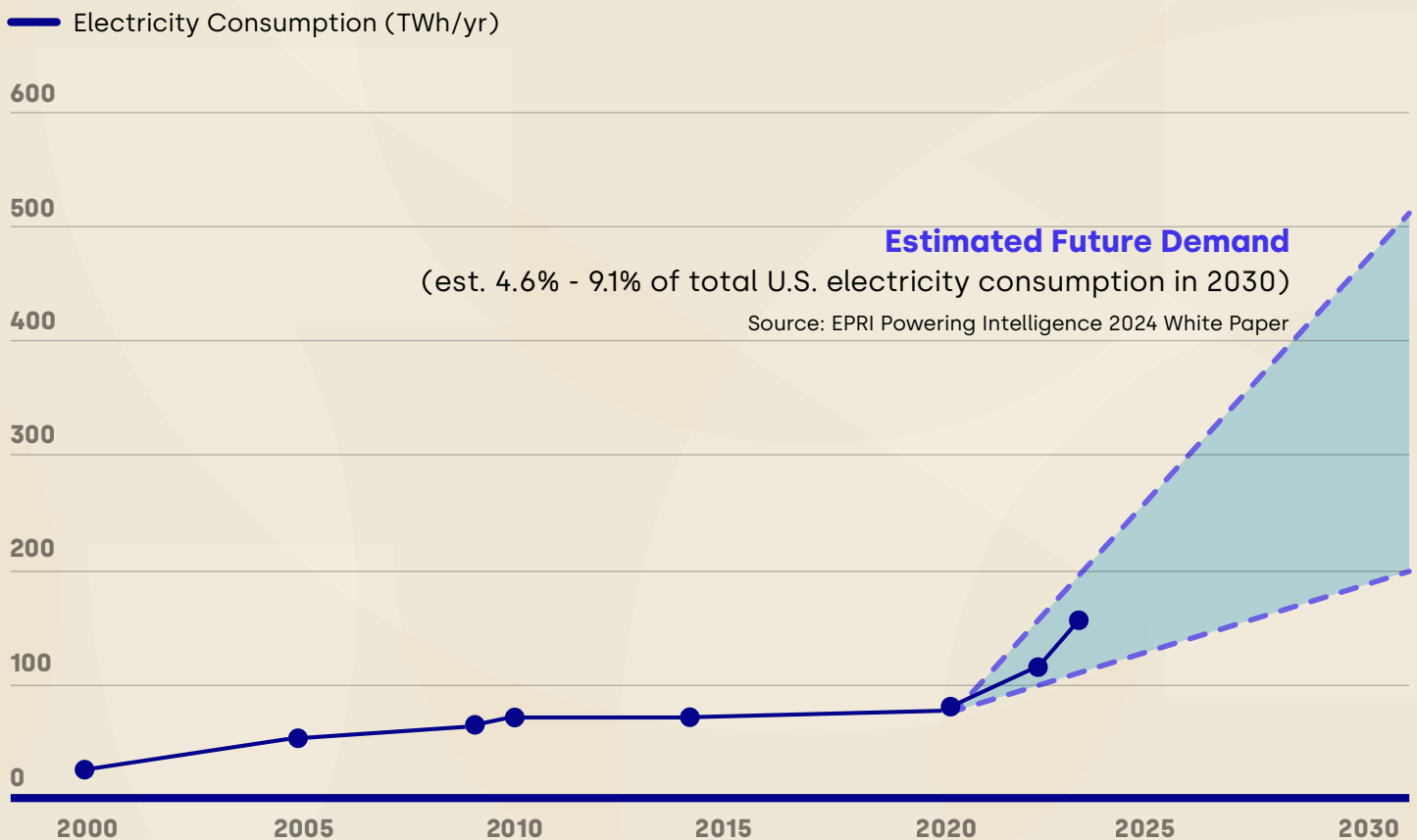
“The shortage of Nvidia products is making customers emotional and things are tense ... the demand for Nvidia's products is so high because everyone wants to get them first – and they want a lot.”

– Jensen Huang
Nvidia CEO

AI Stresses Energy Grids: Reliable—Ideally Renewable —Power Becomes the Hottest Commodity

U.S. energy demand has been slowing since the 1980s and has declined since the mid-2000s. However, AI compute requirements for training and inference on energy-intensive advanced GPU systems are set to reverse this trend. Estimates of AI's energy demand vary significantly, but interest in off-the-grid power generation and novel technologies will continue to accelerate in 2025 as AI developers race to secure adequate energy supplies.

Estimated U.S. Data Center Energy Consumption



Trend: As AI applications continue to permeate everyday digital life, model inference will account for a growing share of AI energy use in 2025.

Advances in inference-optimized semiconductors will drive competition among established chip developers and new entrants, with energy efficiency becoming a key differentiator. Meanwhile, hyperscalers and data center operators will innovate to reduce energy and water usage, striving to meet operational and environmental goals.

Trend: Nuclear power will continue to attract strong interest from AI developers in 2025 due to its reliability and low emissions.

This makes it ideal for data centers, especially large-scale hyperscalers with predictable and consistent power needs. Frontier model developers such as Microsoft and Amazon will invest heavily in emerging energy technologies, including small modular reactors (SMRs), but regulatory timelines and technical challenges mean nuclear power will not be a major factor in the energy mix in 2025—largescale U.S. projects, such as Stargate, are likely to primarily use natural gas driven power facilities. This “energy gold rush” will also draw new entrants into the energy infrastructure market, ranging from financiers to traditional oil and gas companies.

Challenge: Governments aiming to reduce carbon emissions will face difficult choices in addressing the energy demands of large-scale AI models.

Technology companies in 2025 will struggle to align with self-imposed climate goals, balancing clean energy sourcing with the use of carbon credits—an approach often criticized by climate activists as superficial.

U.S. President Trump's energy priorities, including appointing AI/crypto and energy czars, signal deregulation and aggressive energy infrastructure buildouts to support AI development. His administration is expected to set aside the environmental balancing act of his predecessor. In countries deprioritizing climate goals in 2025, activists and concerned citizens will seek to influence state and local energy regulators, private sector builders, and power customers. However, activists will face competing incentives: while nuclear energy is the cleanest option available, its expansion will reignite historical safety concerns amid the urgency of climate action.

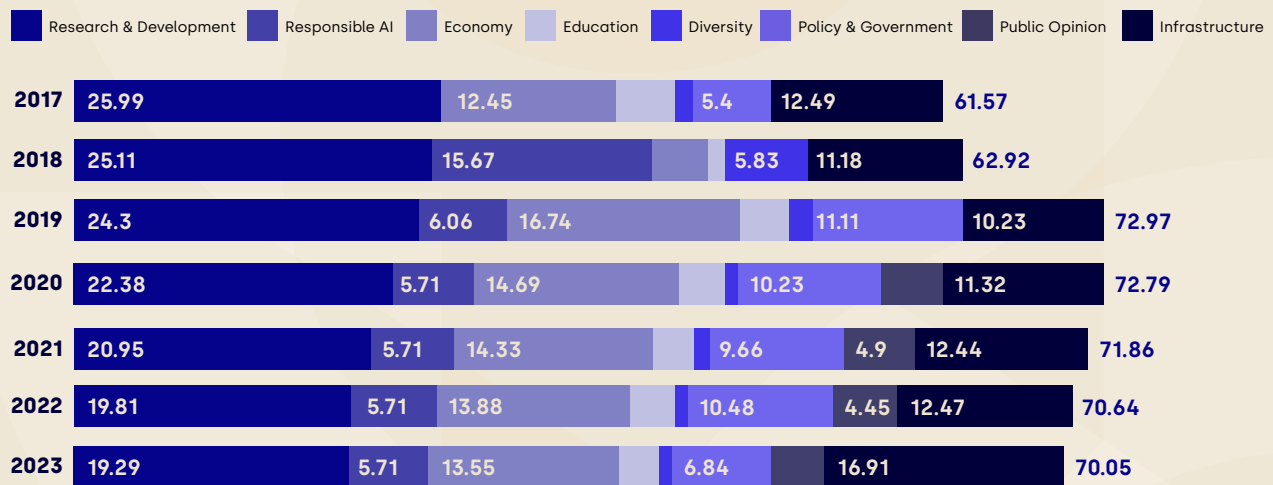
“We will restore US energy dominance, revitalize our auto industry to bring back American jobs, and make the US the global leader of AI.”

– Trump nominee for EPA Administrator
Lee Zeldin

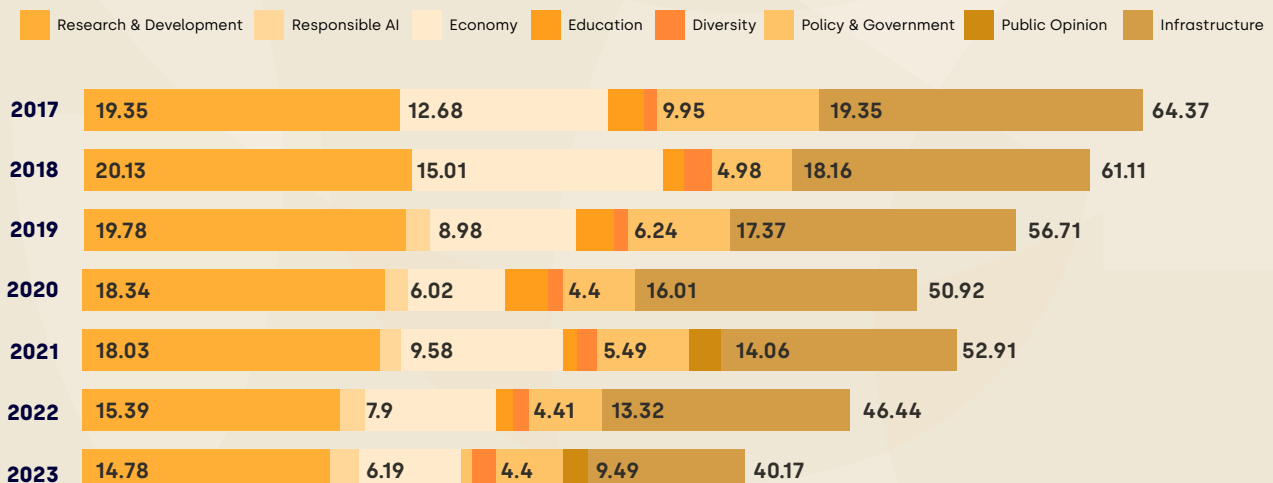
U.S.-China AI Cold War: AI Becomes Full-Fledged Competition

In November, Presidents Biden and Xi reached an agreement to prohibit the use of AI in nuclear command and control decisions, marking a rare instance of U.S.-China cooperation on AI. However, the broader landscape remains defined by fierce competition for global technological leadership, set against the backdrop of intensifying U.S.-China strategic rivalry. With key figures in the Trump administration advocating for economic decoupling from China, tentative Biden efforts to establish sustained discussions on AI risks and governance with China are likely to give way to full-blown competition in 2025.

US AI Vibrancy



China AI Vibrancy



Trend: The Trump administration is expected to abandon meaningful efforts to engage China on AI governance and will actively oppose Chinese government and corporate participation in multilateral AI governance efforts in 2025.

While Track 2 and academic dialogues may continue, prospects for formal bilateral AI safety engagements will be among the first casualties of deteriorating bilateral relations. The twin effect of the AI Diffusion rule and Project Stargate will also harden Beijing's willingness to cooperate, as it views these as efforts to constrain China's economic and technological development and exclude China from global AI development.

Trend: Both the U.S. and China remain technical leaders in AI development, with Chinese platforms and some startups rapidly gaining ground — despite U.S. efforts to stifle progress through expanded hardware controls.

In 2025, leading Chinese AI companies, including Baidu, ByteDance, Alibaba, and Huawei, will intensify efforts to develop frontier AI models using existing Western hardware stockpiles. Concurrently, Chinese hardware firms will collaborate closely with Beijing's industrial policy planners to accelerate the development of a domestic AI supply chain. However, Chinese tech firms will face significant challenges: limited access to Western hardware, high switching costs to domestic alternatives, and a domestic hardware market not yet fully competitive with Western capabilities. Smuggling and black-market trade in advanced GPUs diverted to China are expected to escalate further in 2025.

Challenge: The U.S. withdrawal from bilateral AI discussions will coincide with reduced support for multilateral efforts aimed at cross-border AI model interoperability, affecting companies seeking to deploy models internationally.

For its part, in 2025 Beijing is expected to impose stricter requirements on foreign technology firms operating in China, including limitations on domestic model usage. Over time, without broader international agreements, U.S. technology controls may hinder American firms from maintaining comparable performance levels for products relying on Chinese-developed models trained on less advanced hardware. Furthermore, in 2025, open-source and open-weight AI model development and availability in China will likely come under increasing U.S. regulatory scrutiny.

“I would take an unregulated or less-than-ideally-regulated Western-developed AI rather than a Chinese Communist Party techno-dictatorship-developed AI that has the potential to dominate both militarily and economically – if those are our two bad choices.”

– President Trump's National Security Advisor Mike Waltz

Regulation on Standby: Fragmentation of Existing National AI Regulatory Efforts

Implementation of the EU AI Act will gain some momentum in 2025, but other countries with domestic AI industries will hesitate to follow suit fearing they will lose out in the new AI economy. In 2024, the consequences of European AI regulation began to take shape, with OpenAI, Google, Apple, and Meta delaying the rollout of AI products in the EU citing regulatory compliance timelines. Even in Brussels, legislators are beginning to openly discuss the trade-offs and tension between regulation and economic competitiveness.

As AI models become much more capable and widely used in 2025, the need for a widely accepted risk assessment process will become more salient – and a priority for regulators. Despite ongoing disagreements, we expect another major push in 2025 for a baseline level of regulation around AI model development, requiring that companies maintain a minimum level of internal safety resources and adopt best-practice risk management processes, such as the Anthropic Responsible Scaling Policy¹.

In the U.S., the absence of federal AI safety regulation will prompt increased action at the state level. This fragmented regulatory environment threatens to increase costs, slow adoption, and erode public trust. As companies seek to deploy new AI applications across borders in 2025, the need for international and domestic coordination will become increasingly clear. However, coordination, even among a small number of like-minded governments, will remain challenging.

¹ Anthropic's Responsible Scaling Policy outlines a multi-tier system for model development that escalates safeguards at each level of model capability. Model capabilities are rated from Level 1 to Level 4, with each level involving progressively more rigorous safety testing, collaborative oversight, and external review, with the aim of systematically addressing potential risks.

Trend: Amid fears of U.S.-led economic protectionism, policymakers will struggle with the perceived trade-offs between safety and economic competitiveness, leading to uneven regulatory developments in 2025.

Harmonizing national regulations will be further complicated by varying national capabilities in AI risk testing and safety metrics, with the U.K. currently leading and the U.S. close behind. Others, including India and China, will develop more robust capabilities in 2025.

Challenge: In 2024, many AI bills were proposed at the U.S. state level, but excluding Colorado's SB 205, none passed into law.

Anticipating a hands-off, deregulatory approach from Washington, AI safety advocates and legislators will redouble their state-level efforts in 2025, with Connecticut, Virginia, Texas, and California all considering broad AI regulatory bills. Where the compliance burden falls will depend on whether state legislation adopts a model-based or application-based approach. The former would impact companies developing AI, while the latter would implicate their customers. Beyond the risk of conflicting standards and reporting requirements between states, multinational corporations operating in both the U.S. and EU will encounter an even greater burden, as they juggle fragmented state regulations alongside Europe's unified but stringent framework.

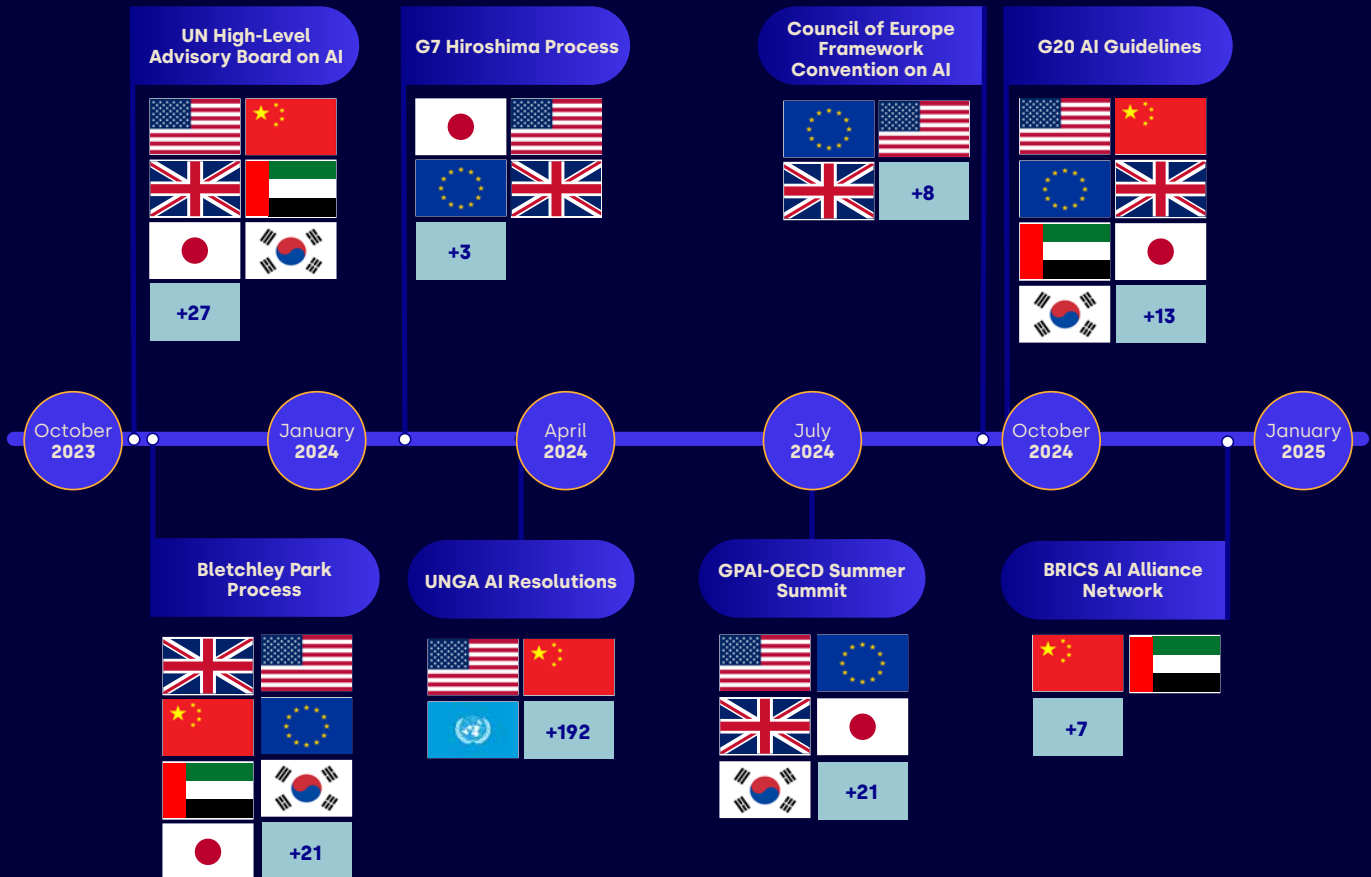
Challenge: As national AI regulatory frameworks increasingly diverge in 2025, the consequences will become evident.

The absence of harmonized rules could undermine trust in AI systems, as states and countries adopt inconsistent standards for transparency, accountability, and safety. Additionally, businesses may face legal uncertainty when deploying AI across borders, potentially slowing adoption and stifling innovation in the long term.

The growing bifurcation of the AI stack and its regulatory framework will present significant challenges for multinational corporations. Companies operating across borders are finding it increasingly difficult to deploy AI models that comply with divergent regulatory requirements. These differences will continue to create friction for businesses that must adapt their AI solutions to meet local requirements, increasing costs and complicating global operations.

Choosing Sides: Multilateral AI Conversations Lose Steam

With the Trump administration less inclined toward alliances, downplaying AI safety, and embracing deregulation, promising Western initiatives on AI governance will stall or fragment in 2025. On one hand, efforts to establish leadership on AI governance have grown increasingly crowded: the UN has sought to claim preeminence, while the G20 and G7 have both initiated processes heavy on principle-laden statements but relatively light on substance. The OECD was an early leader and, in 2024, merged forces with the Global Partnership for AI (GPAI), gaining significant technical capacity. The Bletchley Park process is the only standalone effort not anchored to a preexisting regional or multilateral body, and thus has sought more inclusive participation. However, China increasingly views Bletchley as a guise for Western powers and will actively explore alternative mechanisms in 2025.



Trend: The November 2024 gathering of international AI Safety Institutes (AISIs) in San Francisco marked a tentative step toward operationalizing international coordination on AI risk assessment, measurement, and testing, laying the groundwork for cross-border, interoperable model testing.

The Trump administration will support the AISI process and voluntary collaboration with industry, at least initially, but chances for a global mandatory testing regime in 2025 are near zero. The international AISI effort will struggle to stay clear of geopolitics, but 2025 will feature further incremental joint model testing exercises and the emergence of more capable regional AI Safety Institutes in Singapore and China, building a foundation for future collaboration.

When officials gather in Paris for the AI Action Summit less than one month after Trump's inauguration, divergent regulatory approaches between the U.S. and Europe will generate tension within transatlantic relations. The EU AI Act's prescriptive approach will increasingly clash with the Trump administration's pro-growth and innovation agenda. U.S. attendees in Paris, potentially including AI Czar David Sacks and xAI CEO Elon Musk, will push back against attempts to bolster government interference, vetoing any incipient mandatory-sounding frameworks that might slow the pace of innovation. Differing perspectives on the participation of Chinese regulators, AI safety entities, and leading AI firms in the Bletchley Park process will drive a further wedge between the Trump team on one side and the U.K. and France on the other. This will complicate planning for the next AI Summit, with Singapore and Morocco, both likely to support Beijing's engagement, being considered as potential hosts.

Amid likely antipathy from the Trump White House, instability in the French government, and a 2024 change of government in the U.K., multilateral efforts on AI safety face substantial headwinds in 2025.

Challenge: Any delay of Western-led multilateral AI safety efforts will put the onus on national and subnational governments to implement controls, risking a proliferation of uncoordinated efforts.

The nascent and still fragile AISI progress will not be sufficiently robust to deter this trend. Informal collaborative efforts, such as the Government AI Coalition, will continue, but many national and subnational governments will likely find themselves insufficiently resourced and staffed to monitor and enforce AI regulations. Independent organizations that certify 'trustworthy' AI, akin to the B Lab nonprofit that certifies B Corporations (B Corps), will begin to emerge in 2025 to 'accredit' AI and earn user trust. Absent a global governance AI framework, large AI players and startups will attempt to distinguish themselves from competitors with proactive transparency around AI use and testing, and industry best practices such as red teaming.

Beijing Stakes its Claim: China Organizes for AI Leadership Role

In 2025, China is poised to assert itself as the leading advocate for the Global South in the AI governance debate, leveraging a narrative of greater inclusivity. Trump's hostility toward multilateralism will provide China with an opening, building on longstanding disillusionment with U.S. and Western-led governance bodies. As China's influence grows, the global AI governance landscape will become more polarized, with developing nations caught in the middle – and many leaning towards Beijing's leadership. How these dynamics unfold in 2025 will shape not only the adoption of AI in the Global South but also the broader balance of power in technology governance worldwide.

Trend: By championing an alternative AI governance model and offering Chinese-built AI solutions tailored to the needs of the Global South, Beijing aims to reshape the global AI landscape to its advantage in 2025.

Despite efforts by the OECD, G7, and G20 to promote inclusivity in AI governance, developing nations see these efforts as devoting insufficient attention to their needs. In 2025, Beijing will strengthen its position with the Global South by offering localized AI tools and infrastructure, with use cases in agriculture, public health, and education. These efforts are often tied to broader Belt and Road Initiative (BRI) projects, which integrate AI-driven technologies into China's global development partnerships.

Challenge: Countries in the Global South face a delicate balancing act.

Pressured by the U.S. and its allies to align with "democratic" AI, many nations remain hesitant to fully align with either camp. Instead, they are hedging their bets by engaging with both American and Chinese AI companies and hardware suppliers, while supporting multilateral initiatives focused on development uses for AI. These dynamics echo the 20th-century nonaligned movement, with nations like Saudi Arabia, the UAE, and Singapore taking leading roles in prototyping a flexible, multipolar approach to AI adoption. These countries will leverage their strategic positions to attract investments and expertise from both sides in 2025, aiming to avoid reliance on a single technological superpower.

“The key thing is that Malaysia wants to have the best ... To have that, we have to make sure that, number one, we stay neutral. Not aligned, without any constraints or hesitation, invite, attract and collaborate with any country.”

– Wong Siew Hai,
President of Malaysia
Semiconductor Industry Association

Industry Wild Card: AI Cold War Gets Hot

The year 2025 will unearth unexpected black swan and tail risk developments in the AI world. By definition, these are low-probability events—such as the misuse of an AI model or system with catastrophic results—the potential for such an event in 2025 will tick upward, given the broad application of advanced AI models and the availability of powerful open weight versions that malicious actors can exploit. Given that models will have limited access to the physical world in 2025, we view this as unlikely, but as models become more widely deployed, it becomes a rising, non-zero risk.

The state of the U.S.-China bilateral relationship sits at the heart of emerging technology and is especially crucial for the AI sector. The two nations are undisputed leaders in AI development, but their competitive relationship has grown increasingly confrontational. Taiwan, always looming in the background, will be a key flashpoint in U.S.-China relations in 2025.

Taiwan-based global foundry leader TSMC will become, if possible, even more central to AI development in 2025. Despite government initiatives, notably the U.S. CHIPS & Science Act, aimed at diversifying the geographic concentration of advanced GPU manufacturing, the bulk of advanced-node AI semiconductors will still be built in Taiwan, just 100 miles off the Chinese mainland. The notion that Western powers can race ahead in AI development while keeping China cut off from Taiwan and TSMC will become increasingly problematic. The emergence of the AI Diffusion rule and Stargate in early 2025 make the dynamic with respect to Taiwan even more precarious—Taiwan itself is a trusted Tier 1 country under the AI Diffusion rule, while the thrust of the rule is to cut off global access to advanced AI development environments for Chinese firms under China's status as a Tier 3 "adversary nation." At the same time, the hardware foundation for Project Stargate, essentially a U.S. sovereign compute project that will attempt to keep much of the global capacity for training the most advanced AI models on U.S. soil, lies just miles off the coast of China, in Taiwan.

As the U.S. pushes to decouple from China's technological ecosystem, seize control of global AI development, and encourages U.S. AI leaders to seek partnerships that drive the development of underlying infrastructure for the most advanced AI models – all with the explicit goal of gaining technological dominance over China – the odds of conflict over Taiwan grow. Direct conflict remains a low probability event in 2025, but firms heavily dependent on TSMC will face a growing realization that this low-probability, high-impact risk must be incorporated into crisis management planning, implicating virtually all players in the AI stack.

We see two high-level scenarios at play in 2025:

Scenario 1

China presents a tech alternative to the U.S. without provoking direct confrontation:

As the U.S. seeks increasing control over the global AI stack, Beijing works methodically to position its companies and global governance approach as the leading alternative. While avoiding direct confrontation with U.S. hardware manufacturers, Chinese competitors continue to refine technical capabilities with the support of government subsidies, public-private partnerships, and mandates for industry to use Chinese-made hardware. At the same time, Beijing, while increasingly concerned by U.S. efforts to cut off its companies from Taiwan hardware suppliers, refrains from escalating tensions across the Taiwan Strait.

Scenario 2

China meets hostility, escalation follows in kind:

The Trump administration comes out with strong measures aimed at Beijing, escalating tensions by imposing sanctions on Chinese firms. Beijing responds to U.S. sanctions with retaliatory measures, building on the critical mineral restrictions imposed in December in response to new U.S. technology controls, leading to an escalating tit-for-tat dynamic.

At the same time, strong advocates for Taiwan in the administration prevail over Trump's own more transactional tendencies, causing the U.S. to make moves Beijing views as supportive of Taiwan's independence. This trend could include anything from sending a destroyer to dock at a Taiwanese port or echoing language from independence-minded Taiwanese President Lai Ching-te. These actions significantly increase the risk of nonmilitary actions by Beijing, such as an economic blockade, as well as military escalation, such as seizing offshore islands in the Taiwan Strait. Either a blockade or an offshore island grab would generate a major crisis and threaten to disrupt AI hardware supply chains centered on Taiwan and TSMC.

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DGA Group is a global advisory firm that helps clients protect – and grow – what they have built in today's complex business environment. We understand the challenges and opportunities in an increasingly regulated and interconnected world. Leveraging the expertise and experience of our team at **Albright Stonebridge Group**, a leader in global strategy and commercial diplomacy, and a deep bench of communications, public affairs, government relations and business intelligence consultants, we help clients navigate and shape global policy, reputational and financial issues.

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