# AI Global Trends:
# Navigating AI Development
# Toward Shared Progress

# 01

Introduction

Artificial Intelligence (AI), the simulation of human intelligence by machines, is redefining how societies innovate, govern, and deploy technology at scale. Capable of understanding language, analysing data, recognising patterns, and making autonomous decisions, AI is rapidly transforming economies, industries, and public-sector decision-making[1]. It is increasingly compared to electricity or the internet for its potential to disrupt and elevate existing systems, making it central to both economic innovation and human prosperity.

As nations and corporations accelerate AI development, differences are emerging across three core fronts: capacity, governance, and regulatory approach. Countries are advancing not only in development and deployment, but also in how they interpret responsibility, safety, and long-term societal impact, leading to varied frameworks for AI governance. With the United States, China, and the European Union championing fundamentally different approaches—market-driven, state-led, and value-centric, respectively[2]— AI governance has emerged as a key area of policy development.

This paper examines the emerging global trends in AI, starting with a comparative analysis of the three dominant governance models. It then explores trends shaping AI development pathways, cloud infrastructure evolution, and China–U.S. technology dynamics. The paper concludes that amid growing variety in approach and emphasis, there might still be a silver lining for cooperation.

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1 O'Reilly, Tim. "Data Is the New Sand." The Information, February 24, 2021. https://www.theinformation.com/articles/data-is-the-new-sand?curator=TechREDEF

2 Bradford, Anu. Digital Empires. Oxford University Press eBooks, 2023. https://doi.org/10.1093/oso/9780197649268.001.0001.

## Comparative AI Governance Frameworks

## The European Union: A Value-Centric Regulatory Framework

The EU has positioned itself as a leading actor in global AI regulation through its landmark 2024 AI Act. Grounded in digital humanism principles, the EU's model emphasises the protection of fundamental rights while ensuring consumer safety. Nevertheless, this model is the outcome of multiple cumulative processes that happened over the last decade.

Initially, the EU had limited awareness of the implications of AI development, as reflected in the 2015–2017 period, when legislative efforts were vague and sometimes controversial, such as the proposal to grant "electronic personhood" to robots[3]. Despite its initial passivity on the topic, by 2018, the European Commission had entered a reflective "listening phase," establishing the High-Level Expert Group on AI (HLEG), which introduced the concept of trustworthy AI.

The HLEG's Ethics Guidelines laid the groundwork for what would become the AI Act[4], identifying seven key requirements: human agency and oversight, technical robustness, privacy and data governance, transparency, diversity and fairness, societal well-being, and accountability. These principles transitioned into legislation with a full proposal released in 2021.

There, AI applications were categorised by risk, with a focus on regulating applications rather than AI technology itself. Providers—defined as entities placing AI systems into the market—bear the regulatory burden under a product-safety model. The risk-based classification model marks a notable shift in how new technologies are governed. It aligns closely with the precautionary principle embedded in other EU legislation. Systems like social scoring, biometric categorisation, and real-time facial recognition in public spaces are among those that were considered unacceptable, while applications in critical infrastructure or education still face stringent oversight.

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3  European Parliament. Artificial intelligence and Legal Liabiliity, 2020. https://www.europarl.europa.eu/RegData/etudes/STUD/2020/621926/IPOL_STU(2020)621926_EN.pdf

4  European Union. Regulation EU 2024/1689 AI Act.  https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401689#cpt_XI

Figure 1: The risk pyramid in the AI Act. Unacceptable-risk AI tools are prohibited use cases because of the potential harm that they could cause.
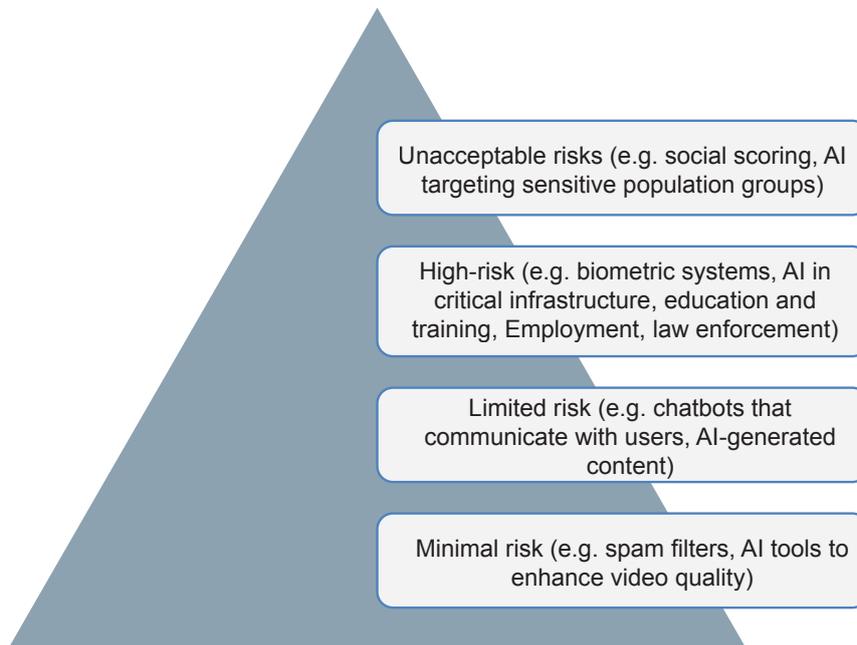


However, the EU's framework faces conceptual and practical limitations. Many AI harms—bias, manipulation, and psychological impact—are diffuse, emergent, and difficult to quantify. These harms resist the engineering metrics demanded by compliance testing. Critics argue the legislation, while comprehensive on paper, may be slow to keep up with the pace of innovation.

Despite its pioneering role, Europe continues to struggle with its "ecosystem of excellence." Geographic fragmentation into 27 Member States, weak diffusion of research, and poor retention of AI talent—many of whom migrate to the U.S.— hinder the scaling and diffusion of AI innovation. Measures such as the AI Innovation Package, AI Factories, and the GenAI4EU initiative seek to address these weaknesses. Nevertheless, EU regulatory norms continue to be reflected in international frameworks. Its norms are echoed in multilateral frameworks such as the UN's Global Digital Compact, which stresses "governing AI for humanity." The Compact also draws on EU-proposed language around transparency, accountability, and risk mitigation, reflecting Brussels' ability to shape global discourse even if implementation lags behind.

## The United States: Market-Driven Innovation

The United States remains the global leader in AI innovation, home to major actors like OpenAI, Google DeepMind, Microsoft, and Meta. This dominance is underpinned by world-class research institutions, a thriving venture capital ecosystem, and an entrepreneurial culture.

While the United States has adopted a more market-oriented assessment, the EU has been building its own consumer and safety-centric AI regulations. As the global leaders in AI development, following a model driven by private interests and market self-regulation, the U.S. and its big tech companies tend to oppose and lobby against regulations at home and abroad. This has become particularly true since the beginning of the current presidential mandate. While the new administration has simultaneously been cutting previous regulations at home, it has made market self-regulation its key approach to AI policy.

The U.S. AI governance model is fundamentally decentralised and market-driven. Historically, Washington has preferred industry self-regulation, fearing that heavy-handed laws could stifle innovation. However, this laissez-faire stance is not without risks, particularly as private firms deploy increasingly powerful models with limited oversight.

Under the current U.S. federal direction, the U.S. has opened a period of deregulation that has impacted AI development dimensions. First, the revocation of the past administration's executive orders on AI ethics and risk assessment, which effectively removes federal oversight mechanisms. [5]

Second, through close collaboration with private-sector firms in developing roadmaps to boost AI development, rather than relying on regulation or top-down federal guidelines. The new 2025 AI Action Plan[6] is an example of the latter. The Plan shifted focus toward boosting domestic R&D, securing chip supply chains, and addressing regulatory pressures affecting U.S. firms from foreign regulatory pressure, instead of creating a harmonised framework to frame AI innovation within trust benchmarks.

Despite federal retrenchment, several U.S. states[7] have enacted their own AI rules. This has led to a patchwork regulatory landscape where the federal deregulatory push can be seen as a response to the pace and scale of global AI development that is developing as fast as ever.

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5  Shepardson, David. "Trump revokes Biden executive order on addressing AI risks", Reuters, January 21, 2025. https://www.reuters.com/technology/artificial-intelligence/trump-revokes-biden-executive-order-addressing-ai-risks-2025-01-21

6  White House. Winning the Race: America's AI Action Plan. July 2025 https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf

7  Anderson, Hope. "From California to Kentucky: Tracking the Rise of State AI Laws in 2025", May 26, 2025. https://www.whitecase.com/insight-alert/california-kentucky-tracking-rise-state-ai-laws-2025

## China: Institutional AI Development Model

China's AI development model represents a fusion of centralised state planning, governance, and techno-industrial ambition. Driven by the "Made in China 2025" and the "New Generation Artificial Intelligence Development Plan," China's national strategy integrates civil, security, and commercial objectives within a unified policy framework.

China approaches economic development and national policy objectives as closely interconnected. "Made in China 2025" functions both as a proactive framework to incentivise innovation and expand industrial capacity, and as a means of strengthening domestic industries and embedding them more deeply within global supply chains.[8]

Beijing has invested heavily in AI infrastructure, including supercomputers, national data centres, and talent development hubs. China's scale advantages stem from its massive population and digital platforms, which generate unparalleled data volumes—vital for training large-scale AI models.

The 2025 debut of DeepSeek, an open-source alternative to ChatGPT built under chip sanctions, is a symbolic milestone. DeepSeek achieved impressive results while consuming significantly less energy and capital, challenging Western assumptions about the link between hardware supremacy and AI leadership[9]. The model's global diffusion, especially among Global South nations, signals the emergence of additional AI development ecosystems rooted in state-led values and opens the door to the development of high-end models outside of the U.S. technology sphere.

8  Gill, Bates. "China's quest for greater technological self-reliance", Melbourne Asia Review, 2021. https://www.melbourneasiareview.edu.au/chinas-quest-for-greater-technological-self-relian-ce/?print=pdf

9  Kummerfeld, Jonathan K. "Why DeepSeek's AI lead only puts China in front for now", January 31, 2025. https://www.sydney.edu.au/news-opinion/news/2025/01/31/why-deepseeks-ai-leap-only-puts-china-in-front-for-now.html

Figure 2: Major governance initiatives of Chinese AI governance developed by Carnegie[10]



| Real-world Roots | Xi Jinping and CCP Ideology | "World of Ideas" | Party and Government Bureaucracy | FINAL REGULATION | Implementation | Impact Within China | Impact in Technologically Developing Countries | Impact in Technologically Advanced Countries | Impact on the Trajectory of AI Research and Development Globally |

China's domestic AI governance is marked by compulsory algorithm registration, mandatory security assessments, and content filtering[11]. Models with the potential to influence public opinion must share their training parameters with the Cyberspace Administration of China (CAC). Such controls aim to preserve political stability and project ideological alignment across China's digital exports. China's approach appeals to governments seeking fast, affordable AI tools without U.S. export control constraints.

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10 Sheehan, Matt. "China's AI Regulations and How They Get Made", Carnegie Endowment for International Peace, July 10, 2023. https://carnegieendowment.org/research/2023/07/chinas-ai-regulations-and-how-they-get-made?lang=en

11 Deng, Zhisong, "Charting a course with AI regulation", China Business Law Journal, March 28, 2025. https://law.asia/ai-regulation-asia-generative-models-misuse/

# 02

Two trends shaping
up AI development
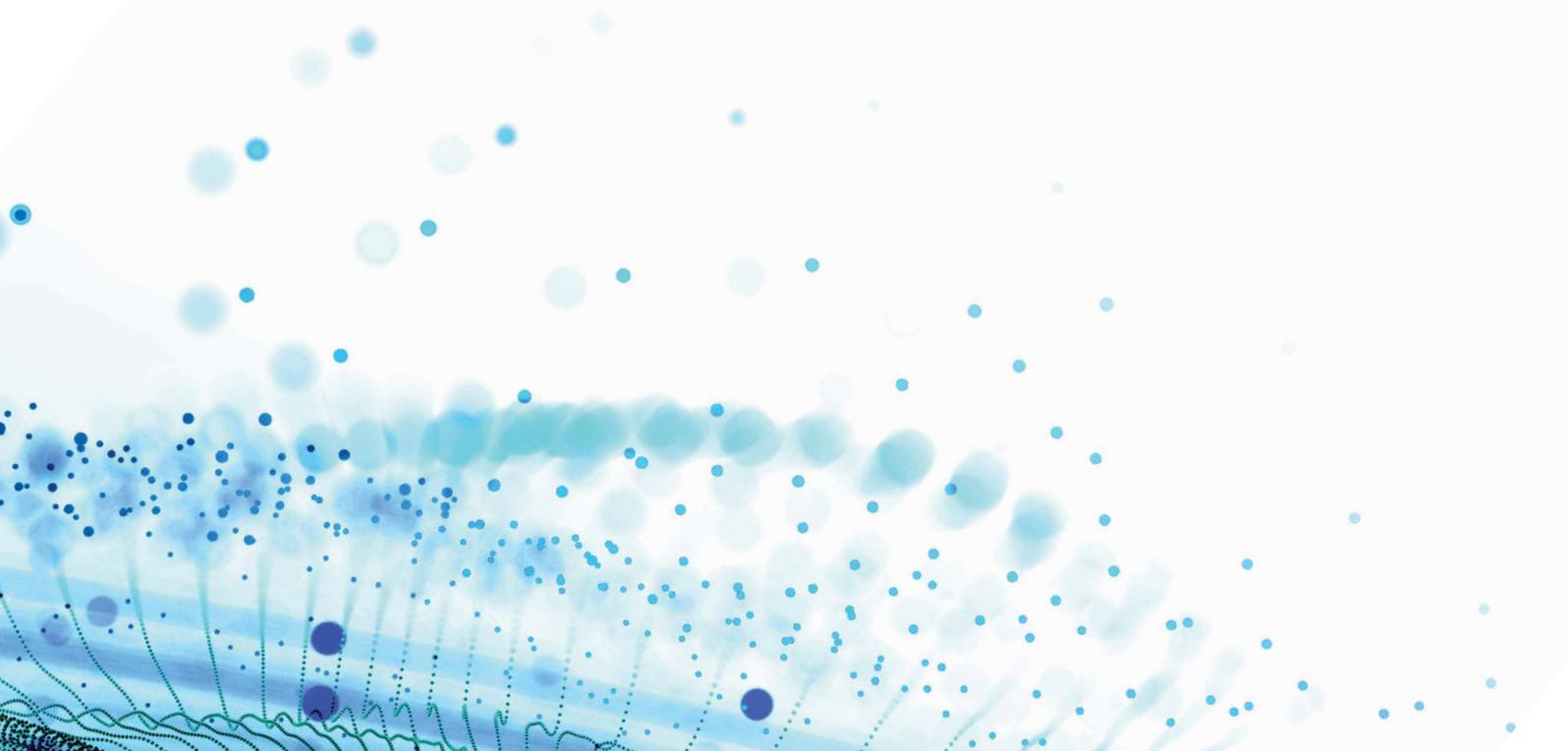
## Cloud Infrastructure innovation

Cloud computing infrastructure underpins the modern AI ecosystem. From training large language models to deploying AI in logistics and commerce, cloud access determines scalability. Access to and governance of cloud infrastructure play a central role in determining how AI systems are developed and deployed globally.

The U.S. hosts several of the world's leading cloud service providers, including Amazon Web Services (AWS), Microsoft Azure, and Google Cloud. These platforms host the majority of foundational AI models, including those used by European startups and Asian developers. This reliance shapes how AI systems are accessed and scaled, particularly for developers operating across jurisdictions. China has prioritised the expansion of its domestic cloud and chip ecosystems to support national AI capacity. Firms like Alibaba Cloud and Tencent Cloud have grown rapidly, targeting emerging regions, such as the Middle East, Southeast Asia, Africa, and Latin America. Beijing also backs national champions like Huawei in building "sovereign cloud" frameworks that allow client states to operate under alternative governance conditions.

The EU, meanwhile, has launched the GAIA-X project—a federated cloud initiative aimed at reclaiming digital sovereignty. However, GAIA-X struggles with limited adoption, high costs, and intra-EU fragmentation. Not to mention that the initiative remains seen as a Franco-German adventure, leading other EU countries to pursue their own initiatives. Without native cloud capacity, European firms often remain reliant on U.S. providers, raising concerns about digital dependency.

As AI systems increasingly run on proprietary infrastructure, cloud regulation has become an under-appreciated dimension of coordination and interoperability across AI ecosystems. Future AI governance must incorporate not only ethical principles but also the infrastructural realities that shape access, scalability, and deployment of AI globally.

## Technology Policy Developments in China and the United States

The 2016 US-China trade negotitions unveiled the complex relationship of interdependence and cooperation between both countries when it comes to technology development [12]. Cooperation in the early 2010s—marked by joint research publications and academic exchange—has given way to skepticism and reduced integration. This transition was catalysed by events such as the AlphaGo victory (2016)[13], Huawei's global expansion, and the U.S. imposition of chip export bans.

DeepSeek's release in early 2025 triggered what many called a "Second Sputnik moment"[14]. Despite operating under hardware constraints, it matched or outperformed Western systems in several benchmarks. This forced U.S. analysts to reassess the value of efficiency, software optimisation, and algorithmic ingenuity.

Subsequent policy responses included new export controls on AI chips and software tools followed, along with diplomatic overtures to allies for coordinated restrictions[15]. Meanwhile, China doubled down on open-source diffusion, presenting DeepSeek as a public good for the Global South.

In the wake of China's AI rise, U.S. policies have sought to manage access to advanced semiconductors and computing power amid national security concerns and the need to address intellectual property concerns. Higher tariffs for Chinese exports, though deemed a potential negative strain at first, have ultimately benefited Beijing by accelerating its own production capacities and driving efforts toward technological self-sufficiency.

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12  Nardon, Laurence and Velliet, Mathilde. The US-China Trade War: What is the Outcome after the Trump Presidency? Institut Français des Relations Internationales (IFRI), Novembre 19, 2020. https://www.ifri.org/en/papers/us-china-trade-war-what-outcome-after-trump-presidency

13  Huang, Echo. "China got a wake-up call on AI when a Western machine beat the best Asian players at Go". Quartz, July 20, 2022. https://qz.com/1035313/china-got-a-wake-up-call-on-ai-when-a-western-machine-beat-the-best-asian-players-at-go

14  Hawkins, Amy. "Who is behind DeepSeek and how did it achieve its AI 'Sputnik moment'", The Guardian, January 25, 2025. https://www.theguardian.com/technology/2025/jan/28/who-is-behind-deepseek-and-how-did-it-achieve-its-ai-sputnik-moment

15  Metz, Cade and Tobin, Meaghan. "How Chinese AI Start-up DeepSeek is Competing with Silicon Valley Giants", The New York Times, January 27, 2025. https://www.nytimes.com/2025/01/23/technology/deepseek-china-ai-chips.html

Figure 4 US-China AI Research Collaborations (2010–2021), based on trends from Stanford University's AI Index Report 2023[16].

**United States and China Collaborations in AI Publications, 2010–21**
Source: Center for Security and Emerging Technology, 2022 | Chart: 2023 AI Index Report
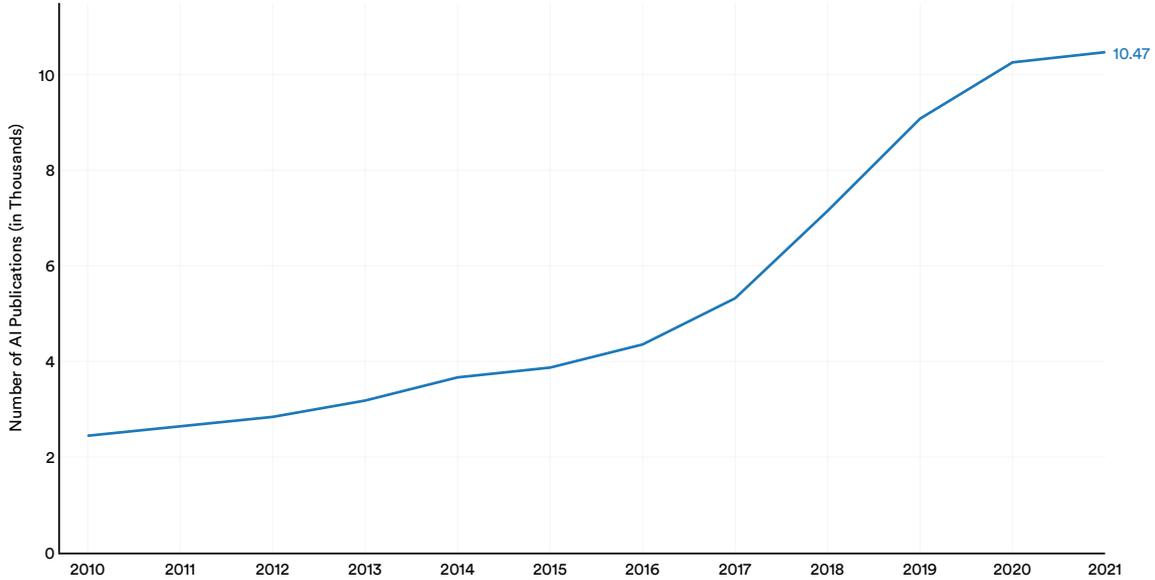


This parallel development risks adding more complexity to the AI ecosystem. Scientific exchange has declined and open-source collaboration is under pressure. Regions may soon be facing compatibility challenges between parallel digital ecosystems—with implications for global standards, interoperability, and governance.

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16  Nestor Maslej. "2023 AI Index A Year of Technical Achievement, Newfound Public Scrutiny" April 3, 2023 https://hai.stanford.edu/news/2023-ai-index-year-technical-achievement-newfound-public-scrutiny

# 03

Conclusion
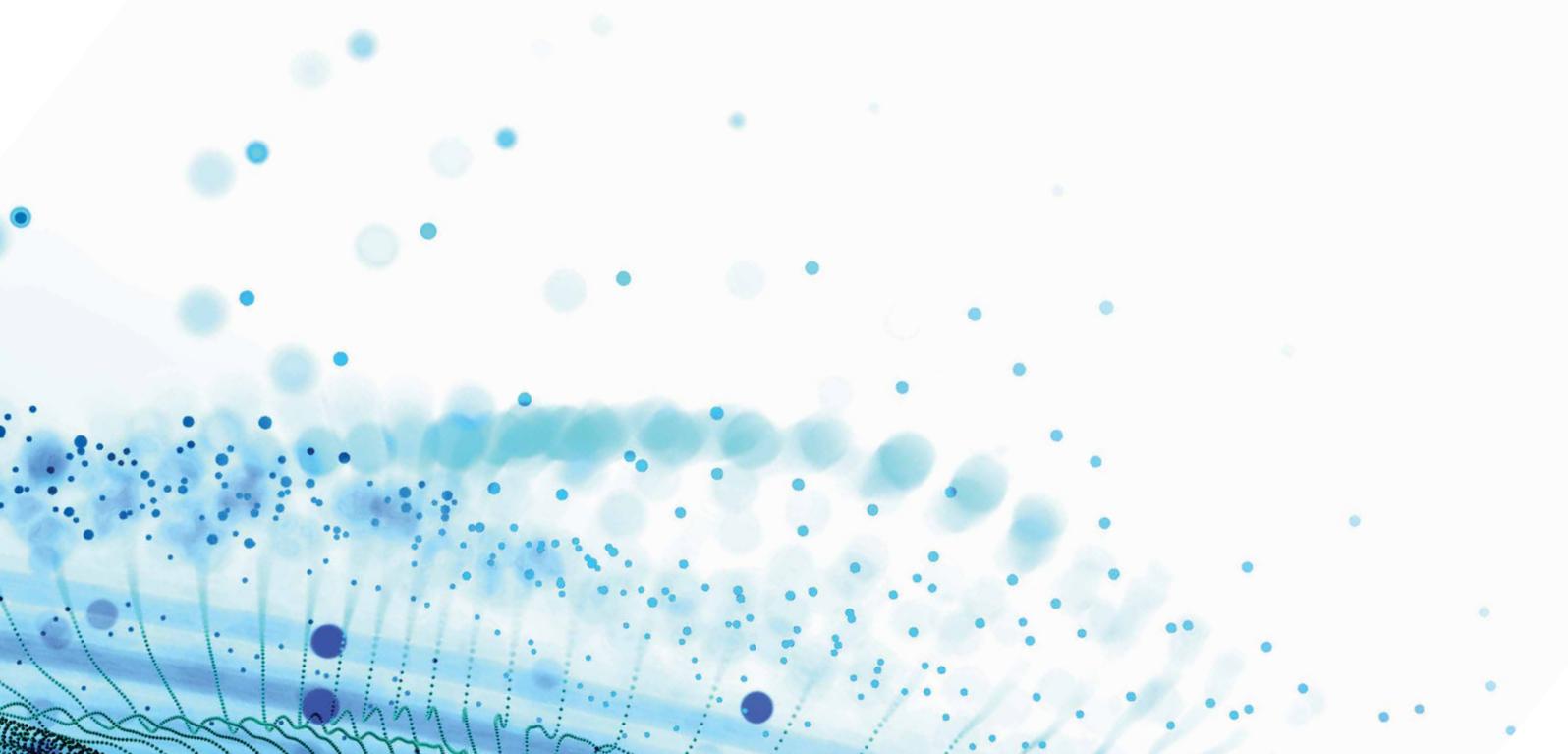
Artificial intelligence is increasingly shaping how societies innovate, govern, and cooperate across borders. What began as rapid technological advancement has evolved into a diversity of approaches to development, regulation, and deployment, reflecting different societal priorities and institutional models. The United States, China, and the European Union each hold a different vision of how AI should shape society, and these visions are shaping the global system along different development pathways. This is not only a discussion about leadership the next industrial revolution; it is also about rules, ethics, and the ability to set a model that works in driving global innovation forward, potentially setting the foundations of future collaboration in the realm of deep technologies.

The challenge is to ensure that this diversity of approaches strengthens cooperation rather than deepening global fragmentation. AI systems thrive on connectivity—on shared data, open research, and global exchanges of knowledge. Yet the very forces driving AI innovation are now building walls: export controls, closed ecosystems, and incompatible standards. If this trend continues, AI could deepen global fragmentation rather than serve as a common driver of human progress and the fulfilment of the human right to the use of science for prosperity.

And yet, cooperation still lingers as a possibility. AI's biggest challenges do not respect national borders. No single country or company can contain these risks alone. Even amid increasing divergence in policy approaches, there are glimpses of collective effort: the shared research communities and the push for transparency.

What this moment demands is a kind of double vision: to see AI both as a societal asset and as a shared responsibility. The question is not whether differences in approach will persist, but whether they can be balanced with a minimal consensus about the boundaries we dare not cross. The story of AI governance and global positioning is not finished, and the outcome is not predetermined. It will be shaped by whether nations, companies, and societies can look beyond fragmented approaches and recognise that some challenges are too vast to be owned by anyone alone.

عالم الذكاء الاصطناعي

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