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Great power rivalry and the battle to shape key business standards

By Angelo Katsoras

Introduction

"He who owns the standards, owns the market"[1] (19th-century German industrialist Werner von Siemens).

"Third tier companies make products; second tier companies make technology; first tier companies make standards"[2] (popular Chinese saying).

The strategic rivalry between the United States and China extends beyond the military and economic spheres into the crucial yet frequently overlooked competition to determine global standards in key emerging industries. When a country's companies succeed in setting standards in a particular sector, their rivals are compelled to align with specifications tailored to those technologies, products and services. This gives the standard-setters a long-lasting competitive advantage.

These companies can thus reap substantial financial rewards through licensing fees and intellectual property rights. Historically, firms from the United States, Germany and Japan led the way in standard setting and profited accordingly. For instance, IBM, which holds over 100,000 patents, earned $366 million last year from IP licensing.[3]

However, as this report will show, China is challenging this dominance more and more.

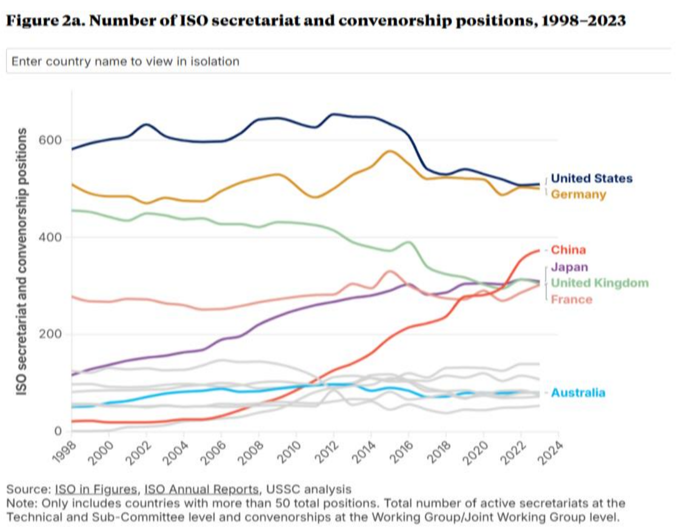
Inside the Fight for Control of Standards Setting Organizations

Until recently, U.S. policymakers and companies assumed that America's dominance of international standards setting bodies was secure. For a long time, however, this complacency blinded them to the fact that China was steadily increasing its influence within these organizations by getting its experts appointed to senior roles on committees and encouraging its firms to file an increasing number of patents. These efforts are part of China's "China Standards 2035" strategy, which aims to establish the country as a global leader in the development of emerging-technology standards.

Recognizing this mounting threat, the Trump administration included a section in its 2025 AI Action Plan dedicated to the matter, titled "Chinese Influence in International Governance Bodies". The initiative aims to counter China's growing influence in global standards setting organizations by using U.S. economic and geopolitical power to align standards more closely with American interests.[4]

The International Organization for Standardization (ISO), which is headquartered in Geneva, Switzerland, has become a focal point in the geopolitical tug of war between China and the United States. With over 160 member countries, the ISO develops standards across a wide range of sectors, including automotive technology, data security, software, and telecommunications.

China's influence within the ISO has grown significantly over the past two decades. In 1998, Chinese representatives held just 21 leadership positions, known as secretariats and convenorships. By 2023, they held 373, making China the third-largest holder of these leadership positions, surpassing countries such as Japan, France, and the United Kingdom.[5]



Source: "Standards Development Organisations in an era of strategic competition," The United States Studies Centre, December 10, 2024

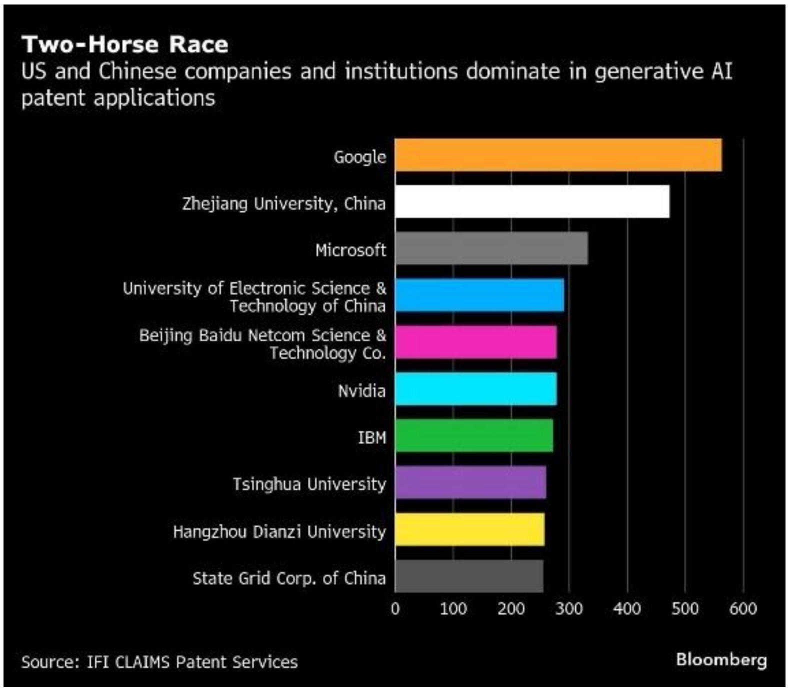
[1] "The hidden standards battle: inside China's push to rewire global manufacturing," South China Morning Post, September 17, 2025
[2] "Securing Global Standards for Innovation and Growth," Center for Strategic and International Studies, January 27, 2022
[3] "China is writing the world's technology rules," The Economist, October 10, 2024
[4] "China's next big AI plan," Politico, November 5, 2024
[5] "Standards Development Organisations in an era of strategic competition," The United States Studies Centre, December 10, 2024

Another organization at the heart of the competition between the United States and China is the International Telecommunication Union (ITU), a specialized agency of the United Nations. Like the ISO, it is headquartered in Geneva, Switzerland. The ITU comprises all 193 UN member states, as well as corporations such as AT&T, China Unicom, and Sony. It develops international standards ranging from radio frequencies and broadband to emerging technologies such as 6G mobile networks and artificial intelligence.

Attesting to China's leadership in communications infrastructure and its growing influence within the ITU, three new technical standards were approved in September 2024 for 6G technology integration. Developed by the Chinese Academy of Sciences and China Telecom, two state-affiliated entities, the standards serve to integrate artificial intelligence in networks and to enable virtual reality applications.[6]

In 2022, the United States and China competed to appoint their preferred candidate to lead the ITU. China backed Rashid Ismailov, a former Russian telecoms minister, while the United States endorsed Doreen Bogdan-Martin, an American, who ultimately won. Washington has since signalled it supports Bogdan-Martin's bid for a second term in the 2026 election.[7]

The following chart shows that China and the United States are the overwhelming leaders in AI patent applications—often a critical first step in shaping technological standards.



"The AI showdown: How the US and China stack up," Bloomberg, November 8, 2025

AI: Is the search for the most advanced model the enemy of "good enough"?

*"The No. 1 factor that will define whether the U.S. or China wins this [AI] race is whose technology is most broadly adopted in the rest of the world. […] whoever gets there first will be difficult to supplant."[8] (**Microsoft President Brad Smith, May 8, 2025)***

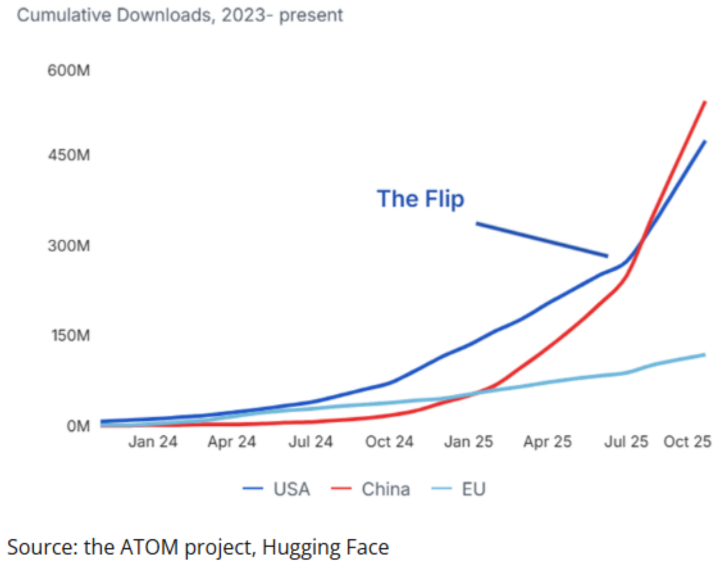
Until recently, most American firms focused on developing increasingly advanced AI models locked behind proprietary systems. By contrast, Chinese companies have prioritised the development of open-source AI systems designed to promote global adoption, particularly in developing countries, even if it means sacrificing short-term profits. These models can be downloaded for free and adapted easily for many government and business-related activities. This approach reflects the view that the most advanced AI is not required for most applications, and that more affordable, 'good enough' solutions are often sufficient.

China's long-term goal is to transform the specifications of its leading open source AI models into global industry standards, much like Google's Android operating system. Widespread adoption of Android has funneled billions of users into Google's broader ecosystem of services, which include search, email and maps.

Although ChatGPT remains the world's leading consumer AI chatbot with some 910 million downloads worldwide as of July 2025 compared to DeepSeek's 125 million,[9] China has now overtaken the United States in terms of the total number of downloads of open-source AI models. As the following chart shows, Chinese-developed open-source models surpassed their U.S. counterparts around mid-2025 and have extended their lead since.

[6] "China is writing the world's technology rules," The Economist, October 10, 2024
[7] "The global AI contest hits the UN," Politico, April 8, 2025
[8] U.S. Senate hearing, May 8, 2025
[9] "China is Quickly Eroding America's Lead in the Global AI Race," Wall Street Journal, July 12, 2025

China Surpasses U.S. in Open-Source AI Model Downloads



Sources: "State of AI 2025: five key charts for Europeans," Science Business, October 16, 2025

This success on the open source front has forced some American AI firms to shift strategy. OpenAI, for example, released an open-source version of ChatGPT last August. "It was clear that if we didn't do it, the world was going to head to be mostly built on Chinese open-source models," stated OpenAI CEO Sam Altman.[10]

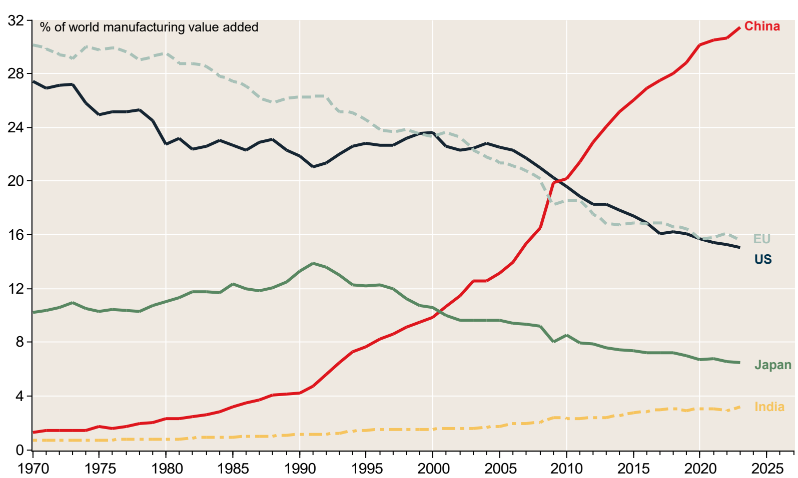
China has an advantage in providing the infrastructure needed to build up AI

China is not only developing open-source AI models, it is also supplying the physical and digital infrastructure needed to support them, primarily through companies such as Huawei and ZTE. After making deep inroads in the telecommunications field, these firms have now become major suppliers of data centre equipment, 5G wireless systems, and fibre-optic cables, particularly in the developing regions of the world, such as Africa. Their products are often offered at significantly lower prices than are those of Western competitors.[11]

This infrastructure advantage also extends to the manufacture of ever-more AI-integrated robots. In 2024, China became the world's largest producer of industrial robots with 33% of the global market share, up from 25% in 2023. Japan—the previous leader in robot manufacturing—saw its share decline from 38% to 29% over this period.[12]

A huge factor underlying all of this is the fact that China produces about one-third of the world's manufactured goods—which is more than the output of the United States and the European Union combined (see chart).

World: China's dominance in manufacturing production
Manufacturing value added as a share of world total in constant 2015 $USD



NBC Economics and Strategy (data via UN Trade and Development)

[10] "OpenAI's Altman warns the U.S. is underestimating China's next-gen AI threat," CNBC, August 18, 2025
[11] "China's DeepSeek Is Beating Out OpenAI and Google in Africa," Bloomberg, October 23, 2025
[12] "There Are More Robots Working in China Than the Rest of the World Combined," New York Times, September 25, 2025

Overview

Setting the next generation of global technology standards is not just a technical contest; it is also a strategic battle with significant geopolitical ramifications. The country that comes out on top will gain disproportionate influence over how key emerging technologies are governed, effectively compelling other nations to follow their lead in these sectors for many years to come.

Historically, the United States has enjoyed significant advantages from its dominance in setting global technology standards, particularly in the fields of IT and industrial products. By setting the standards, U.S. companies secured a significant global market share, dictated technical requirements, and generated billions in licensing revenues. This dominance also created substantial barriers to entry for foreign competitors.

Today, China is aiming to become the architect of the next generation of global standards, including those relating to AI, robotics and telecommunications. As mentioned earlier, China is presently in the lead when it comes to the adoption of open-source AI models.

Finally, complicating matters is the fact that many industries have traditionally operated under unified global standards. However, mounting geopolitical tensions are now creating fragmentation, with separate standards emerging across regions. For instance, some countries have banned Chinese mobile network technologies and electric vehicles. DeepSeek is encountering similar restrictions. Consequently, more and more, the standards a country adopts and the products to which it grants market access are being dictated by its geopolitical alignment—whether with China or the United States.

Bottom Line: China's growing technological capabilities, coupled with the fragmentation of global supply chains and mounting geopolitical tensions, have enabled it to exert a greater influence over the standards shaping next-generation technologies. This is a role that has traditionally been held by the United States and other Western countries.

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