Tomorrow's Affairs
Analysis of today
Assessment of tomorrow

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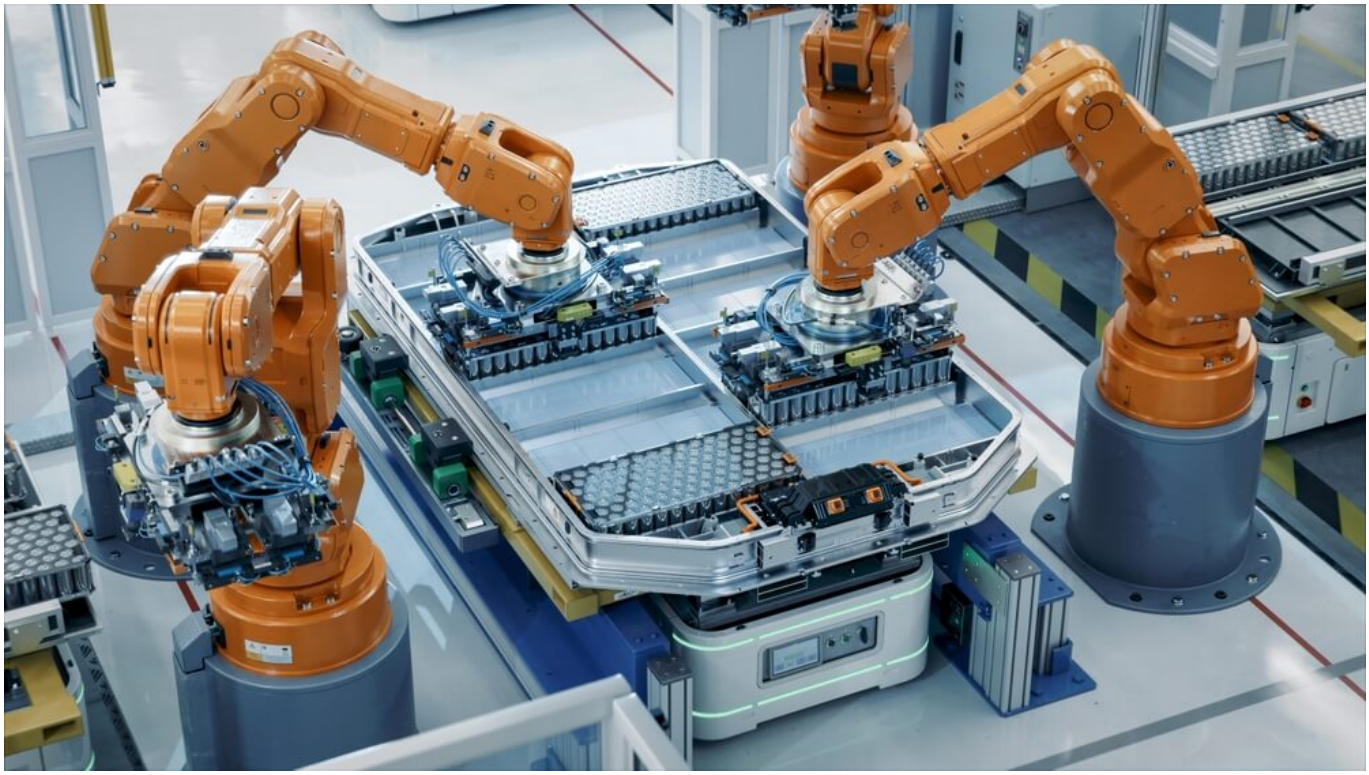
How to respond to China's weaponization of rare earths?



China's weaponization of rare earths has emerged as a major flash point in US-China trade negotiations.

These critical materials, especially the high-performance magnets they make possible, are vital components in electric vehicles (EVs), wind turbines, industrial robotics, and advanced defense systems.

In response to China's strict rare-earths export controls, the United States has quietly lowered tariffs, relaxed export controls on AI chips, and even softened visa restrictions for Chinese students.

At the same time, the US is scrambling to secure alternative supplies.

In July, the Department of Defense announced a landmark multi-billion-dollar investment package to boost MP Materials, the company behind America's flagship rare-earths project.

But what if, despite massive subsidies and years of effort, the US still can't escape its dependence on Chinese rare earths?

Japan offers a cautionary tale. In 2010, following a maritime standoff over the Senkaku Islands, China abruptly cut off rare-earths exports to Japan.

In response, the Japanese government pursued a series of strategic measures: investing in Lynas Rare Earths, an Australian producer; boosting domestic research and development in recycling and substitution; forging its own commercial partnerships with Chinese magnet manufacturers; and building strategic stockpiles to cushion future supply shocks.

More than a decade later, Japan still sources over 70% of its rare-earths imports from China.

China's dominance wasn't built overnight

China's rare-earths dominance wasn't built overnight, and it won't be easily eroded. Its strength does not lie in hoarding raw materials, but in the industrial capacity to refine, process, and produce at scale.

Today, China controls between 85% and 90% of global rare-earths refining capacity, and produces roughly 90% of the world's high-performance rare-earths magnets.

It is the only country with a fully vertically integrated rare-earths supply chain – from mining to chemical separation to magnet fabrication.

China's manufacturing edge has given it not only an industrial lead, but also a technological moat.

> China's lax environmental regulation has given its firms a powerful advantage over their Western competitors

Between 1950 and 2018, China filed more than 25,000 rare earths-related patents, more than twice the number filed in the US.

Decades of hands-on experience in the complex chemistry and metallurgy of rare-earths processing have yielded a depth of expertise that Western firms cannot easily replicate.

Moreover, in December 2023, China's government moved to cement its lead, imposing sweeping export bans on the technologies behind rare-earths extraction, separation, and magnet production.

China's lax environmental regulation has also given its firms a powerful advantage over their Western competitors.

In 2002, the Mountain Pass Rare Earth Mine in California was forced to halt refining operations after a toxic waste spill. By contrast, China's more permissive regulatory environment has allowed rare-earths production to expand rapidly, with fewer

delays and far lower costs.

Rare-earths chokepoints evolve with technology

Importantly, rare-earths chokepoints are not fixed; they evolve with technology.

China understood this, waiting patiently as Western dependence on rare-earths magnets increased exponentially with the global green transition, which created massive demand for EVs and wind turbines.

Even if the West succeeds in building a parallel supply chain for today's rare-earths needs, tomorrow's chokepoints may lie elsewhere.

Quantum computing, for example, increasingly depends on rare isotopes like ytterbium-171, as well as on elements such as erbium and yttrium.

> China's dominance in rare earths is likely to endure for the foreseeable future

These emerging applications could become the next pressure points, leaving the US and its allies once again racing to catch up.

The US therefore must confront an uncomfortable truth: China's dominance in rare earths is likely to endure for the foreseeable future.

Defensive strategies like supply-chain diversification may address some vulnerabilities, but true resilience demands an offensive strategy that enhances American leverage.

A smarter form of de-risking

The US still holds many valuable cards. As long as it retains control over technologies or infrastructure that China cannot live without – be it advanced chips, frontier AI models, and access to the dollar-based financial system – China has a strong incentive to keep rare earths flowing.

For years, though, the US has pursued the opposite course: gradually decoupling and restricting key technology flows to China.

Since the first Trump administration, the US playbook has been to blacklist leading Chinese tech firms and tighten export controls on cutting-edge chips.

If you are Nvidia, losing access to the Chinese market means losing influence over the most important AI ecosystem for developers outside the US

While these measures initially hobbled Chinese firms such as Huawei and ZTE, slowing the country's AI development, they have proved difficult to enforce. Riddled with loopholes, they created opportunities for enforcement arbitrage.

As outgoing US Commerce Secretary Gina Raimondo conceded in December 2024, "Trying to hold China back is a fool's errand."

At the same time, US export controls have galvanized efforts in China to build indigenous alternatives, effectively accelerating the rise of national champions like Huawei.

Far from strengthening American leverage over China, US policy is steadily eroding it.

If you are Nvidia, losing access to the Chinese market doesn't just mean forfeiting billions in revenue. It means losing influence over the most important AI ecosystem for developers

outside the US.

Recent policy shifts suggest that this realization is starting to take hold. The Trump administration's decision to relax restrictions on sales of Nvidia's H20 chips to China signals a move away from blanket bans and toward more calibrated engagement.

Counterintuitively, such engagement may be a smarter form of de-risking. The more that China relies on American technology, the more deeply the two sides' supply chains will become entangled, and the harder it will become for China to weaponize its own strategic assets, including rare earths.

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