

Testimony of Jonathan Rowntree

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“Predatory pricing: How the Chinese Communist Party manipulates global mineral prices to maintain its dominance”

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Chairman Moolenaar, Ranking Member Krishnamoorthi, and distinguished members of the Committee, thank you for inviting me to testify today.

My name is Jonathan Rowntree, and I serve as the chief executive officer of Niron Magnetics, a Minnesota-based company that manufactures the world's first commercially viable high-powered permanent magnets free of any rare earth elements. And today we are already producing made-in-America permanent magnets for commercial clients at the ton-scale.

I am grateful for the strong bipartisan interest and support within Congress and the administration regarding the strategic value of superior, domestically manufactured magnets that eliminate foreign dependencies while strengthening American industrial capacity.

Over the last 30 years, Chinese companies have exported low-priced rare-earth magnets to the rest of the world, benefiting from subsidies and China's non-market economy cost structure. Exports rapidly increased, causing Western production capacity to collapse. Once competitors exited, China consolidated control over 90 percent of global rare-earth processing and magnet manufacturing. This consolidated control rises to over 98 percent for the most strategic heavy rare-earths. The Chinese government has methodically pursued control of the permanent magnet market over the course of multiple decades as a strategic industry to gain leverage over global markets.

I commend the Committee for its timely focus on securing America's rare earths and permanent magnet supply chains, a pair of interconnected commodities markets that impact virtually every manufacturing sector. Decades of anticompetitive pricing have created a U.S. supply chain vulnerability that demands robust industrial policy course corrections and diversification. But distortions in global prices create vulnerabilities for America's geopolitical competitors as well.

In the United States, extreme challenges lead to innovation, and the downward price pressures that marginalized the domestic rare-earth magnet industry created economic

incentives to invest in disruptive alternatives that now enable America to reclaim lost market share.

The 2010 dispute between China and Japan, in which Japan's access to rare-earth magnets was severely restricted, was the catalyst that led a team of American engineers to invent in 2011 a new, highly stable permanent magnet without any rare-earth inputs.

Unlike the conventional neodymium-based permanent magnets used in most commercial applications today, iron nitride magnets are manufactured with secure, domestically abundant U.S. resources—iron and nitrogen, the most common element in our atmosphere. **Iron nitride is a new magnet for a new century that no foreign power can monopolize or restrict.** But we recognize that we are only one among many alternative solutions, including tailings and post-consumer recycling, and all should be explored and supported as the U.S. works to build a more resilient domestic supply chain.

American manufacturers need secure and sustained access to permanent magnets. U.S. industries consume roughly 50,000 tons of rare-earth permanent magnets annually, with demand projected to grow substantially as electric vehicle production accelerates, data center construction increases, renewable energy installations expand, and aerospace and defense systems modernize. Nearly all of this supply currently originates from Chinese manufacturers that benefit from decades of state subsidies and artificially suppressed regulatory compliance costs.

This import dependency extends throughout the American economy, touching virtually every congressional district. Consumer electronics (smartphones, laptops, headphones, speakers) each contain multiple magnets. Medical devices, including MRI machines and surgical robots, depend entirely on high-performance permanent magnets. Advanced weapons systems, guided munitions, radar arrays, and electronic warfare equipment cannot function without these materials.

When China's Ministry of Commerce restricted magnet exports in April 2025, the disruptions rippled across industrial supply chains from Michigan automotive plants to California technology campuses and Texas defense contractors.

The vulnerability persists because rebuilding rare-earth processing capacity faces the same challenge that enabled China to establish dominance. Rare earth magnet production requires five distinct processing stages: mining, separation, metallization, alloy production, and magnet manufacturing. Each stage represents a capital-intensive chokepoint with complex technical requirements and significant regulatory considerations. Western companies attempting to reenter this market must compete with Chinese manufacturers that can benefit from China's non-market economic structure, operate at a loss, and are subsidized by state resources that treat rare-earth dominance as a matter of national strategy rather than commercial profitability.

Iron nitride technology transforms this supply chain entirely. Manufacturing permanent magnets from iron and nitrogen reduces the need for rare earth mining, chemical separation facilities, and complex metallurgical processing. A single integrated facility transforms commodity iron ore and atmospheric nitrogen into finished magnets that automotive powertrains, headphones, and refrigerators need to operate. This iron ore-to-OEM pipeline exists entirely within America's borders.

The performance characteristics of iron nitride magnets validate commercial viability. This stands to enable rare-earth-free performance in the overwhelming majority of current permanent magnet applications. Already, thermal performance of rare-earth-free iron nitride magnets exceeds that of rare-earth magnets at operating temperatures. The alternative chemistry of iron nitride magnet properties are ideal for motor designs that improve electrical efficiency by measurable margins, and a higher maximum saturation magnetization can enable more compact designs without sacrificing magnetic field strength. Third-party and customer end-user testing confirms superior thermal stability, competitive magnetic flux density, and electrical efficiency advantages over 20th-century rare earth magnets in key applications.

Major American manufacturers recognized this potential. Institutional investors and commercial partners, including Allison Transmission, General Motors, Stellantis, Samsung, and Western Transmission, have invested over \$300 million in scaling the technology. Iron nitride is not a science experiment—it is the key to eliminating foreign dependence within America's manufacturing sector.

China's strategic pricing model succeeded because rare earth magnet production requires complex, multi-stage processing that takes decades to establish. Beijing spent those decades consolidating control while Western governments assumed market forces would maintain adequate supply.

But iron nitride manufacturing requires no rare earth processing infrastructure. This eliminates processing bottlenecks and geopolitical chokepoints. Our manufacturing costs are driven by commodity inputs and American labor, not by the complexity of rare-earth processing and shipping. Anticompetitive pricing of rare earth magnets cannot undercut materials that foreign powers do not control.

Building domestic magnet capacity creates enormous, measurable economic benefits. Niron broke ground in September 2025 on a state-of-the-art facility that will begin producing up to 1,500 tons of permanent magnets in 2027, and we are actively evaluating sites across the United States for a second, 10,000-ton-per-year facility, building significant domestic production capacity that is critical for insulating U.S. firms and the U.S. permanent magnet supply chain from anticompetitive trade actions. This new and expanded domestic production capacity serves American automotive manufacturers, technology companies, defense contractors, and energy firms with a reliable supply.

Niron's Sartell facility will create hundreds of skilled manufacturing jobs in Minnesota. Our second 10,000-ton facility would multiply these opportunities while establishing American leadership in advanced magnet manufacturing. These jobs represent the kind of high-value industrial employment that built the middle class and can do so again if federal policy supports domestic production over continued dependence on Chinese imports.

Federal procurement preferences for American-made permanent magnets can accelerate this transition while strengthening both rare-earth and rare-earth-free domestic supply chains. When the Pentagon, the Department of Energy, and other federal agencies prioritize domestically manufactured magnets for new weapons systems, renewable energy installations, and civilian applications, they create immediate demand that validates technical performance for private-sector buyers. These procurement commitments signal to manufacturers that investing in American magnet production delivers reliable customers, encouraging the substantial capital investments required to scale domestic capacity. A procurement preference strategy benefits the entire domestic magnet ecosystem by supporting rare-earth processing initiatives alongside breakthrough alternatives such as iron nitride. The result is a diversified, resilient supply chain that reliably serves American industry.

The Defense Production Act Title III program has recently supported several rare-earth processing initiatives, including those of my fellow witnesses testifying alongside me today. Those investments strengthen one critical link in a vulnerable chain. Iron nitride eliminates the chain entirely. Extending DPA Title III support to alternative magnet technologies would accelerate diversification and shorten the timeline for American manufacturers to access a secure domestic supply.

All three companies before this Committee today will have critical roles to play in strengthening, securing, and scaling U.S. domestic supply of inputs essential to U.S. economic security, energy security, and national security.

Tax incentives for domestic magnet production, including alternate chemistries like iron nitride, would accelerate commercial scaling and supply chain resilience. When manufacturers can offset the higher initial costs of domestic supply with tax benefits, it narrows the price difference between established foreign supply and emerging American capacity. This approach does not pick winners among rare earth processors and alternative technologies; it levels the playing field for domestic U.S. producers and disruptors.

As this Committee has reported, Beijing spent billions establishing dominance in rare earths because controlling permanent magnets means controlling automotive production, alternative energy manufacturing, consumer electronics assembly, and aerospace and defense systems production. That same strategic logic should inform American industrial policy. But the timeline for action is narrowing. Supporting technologies that eliminate potential foreign leverage deliver greater security than investments that reduce dependence. Rare-earth processing initiatives remain vulnerable to predatory pricing,

whereas alternative breakthrough technologies using abundant domestic materials face no such vulnerability. Nevertheless, both rare-earth processing initiatives and alternative technologies must be deployed together to overcome the challenge before us.

A one-year diplomatic truce for future export curbs or new licensure requirements is not a long-term solution. The United States already has everything needed to build a secure, resilient, and diversified magnet supply chain. What we need is the strategic will to support technologies and alternative solutions that eliminate rather than merely reduce Chinese leverage.

We must support innovations that leapfrog current technologies with superior performance and a greater range of commercial applications. Iron nitride technology exists today, has been validated by third-party and end-user customer testing, and is backed by major American manufacturers and institutional investors. Commercial production at scale will begin in 2027.

The question is whether America will capitalize on this breakthrough before the next supply chain crisis forces another round of factory shutdowns and emergency diplomatic interventions. Your investigation correctly identifies the threat and the challenge. American industry and innovation have produced solutions. Federal policy must now align with strategic necessity.

Recommendations

To accelerate domestic magnet production and secure critical industrial supply chains, I respectfully urge Congress and the administration to consider the following policy actions:

1. Establish federal procurement preferences for domestically manufactured permanent magnets of both conventional and alternative chemistries across defense, energy, and civilian applications, creating immediate demand that validates American magnet technologies and encourages private sector adoption.
2. Extend Defense Production Act Title III and similar investment authorities to support alternative magnet technologies alongside rare earth processing initiatives, recognizing that diversification through breakthrough materials strengthens supply chain resilience.
3. Create tax incentives for domestic magnet production that level the playing field distorted by decades of predatory pricing and state subsidies, making American manufacturing economically competitive without picking winners among competing technologies.
4. Direct federal agencies to prioritize supply chain security and long-term resilience over short-term cost considerations when sourcing permanent magnets,

acknowledging that dependence on foreign-origin materials creates risks that exceed any procurement savings.

5. Support import tariff exemptions for manufacturing equipment purchased from allied trading partners (e.g., Germany, Japan, and South Korea).

These actions would benefit the entire domestic magnet ecosystem, supporting both rare-earth processing development and breakthrough alternatives. The result would be a diversified, resilient supply chain that protects American manufacturers and workers—and advances U.S. economic security, energy security, and national security interests—through reliable and diversified domestic production.

I thank the Committee for its time and attention in addressing this urgent challenge.