Armed with Capital and Technology, Ucore Emerges as the West's Command Center in the Rare Earth Race

written by Tracy Hughes | November 3, 2025

Ucore Rare Metals, armed with novel separation technology, clinched deals with German and U.S. magnet makers, secured government funding for a Canadian refinery, and lined up Australian feedstock – all in a week. The flurry of moves underscores a broader push to curb China's dominance in processing critical minerals.

In the span of a few days, a Canadian company has positioned itself as a central player in the West's bid to redraw the global rare earth supply map. Ucore Rare Metals Inc. (TSXV: UCU | OTCQX: UURAF), a firm headquartered in Halifax, announced a string of agreements and support that tie together key pieces of a rare earth element (REE) supply chain stretching from Australian mines to North American processing plants to European magnet factories. Each announcement – an alliance with major magnet manufacturers, a government funding package, a feedstock sourcing pact, and a G7 policy endorsement – speaks to the urgent geopolitical choreography underway to reduce reliance on China's chokehold over these critical materials.

Forging an Alliance from Mine to Magnet

The week's most consequential announcement was Ucore's strategic alliance with Germany's Vacuumschmelze (VAC), one of Europe's

leading producers of high-performance permanent magnets, and its U.S.-based affiliate, eVAC Magnetics. Under a newly signed memorandum of understanding, Ucore will supply both VAC and eVAC with separated rare earth oxides produced at its forthcoming facilities in Alexandria, Louisiana, and Kingston, Ontario. The supply agreement includes the “core four” magnet materials of neodymium (Nd), praseodymium (Pr), dysprosium (Dy), and terbium (Tb) – all essential to NdFeB (neodymium-iron-boron) magnets – as well as samarium (Sm) and gadolinium (Gd), which are key to samarium-cobalt (SmCo) magnet technologies.



At Toronto's recent G7 Energy and Environment Ministers' Meeting, Ucore's Chief Executive Pat Ryan (seated, right) signs a memorandum with VAC CEO Dr. Erik Eschen (seated, left) to supply rare earth oxides for permanent magnet production. The alliance links Ucore's planned North American refineries with VAC's new magnet plant in South Carolina and its European facilities.

The VAC agreement signals a move beyond simply extracting rare earths toward rebuilding a **"mine-to-magnet" supply chain in allied nations**. VAC is opening a new magnet plant in South Carolina this fall – a venture supported by the U.S. government with a $111.9 million advanced energy tax credit and Defense Production Act funding. In Europe, VAC's factories also require steady streams of rare earth oxides for their magnet product lines. By teaming up with Ucore, VAC is effectively securing a future domestic source of these oxides, coordinated with Ucore's planned production ramp-up in the U.S. and Canada. *"NdFeB permanent magnet solutions are critical to automotive, industrial automation and renewable energy applications, while samarium-cobalt magnets are essential to defense systems,"* Ucore noted, emphasizing that VAC's expertise and Ucore's refining technology are complementary pieces of a stable Western supply network. The memorandum was inked on the sidelines of the G7 ministers' summit in Toronto, a backdrop that underlines how strategically charged the issue of rare earths has become. European and North American officials literally stood behind the CEOs as they signed, a tableau of policy meeting commerce in the quest for supply chain security.

Ottawa Backs a First-of-its-Kind

Refinery in Ontario

Ucore's value to Western allies isn't only in forming partnerships – it's also building infrastructure. This week the company **won conditional approval for C$36.3 million (US$26.5 million) in Canadian federal funding** to develop a rare earth processing facility in Kingston, Ontario. The planned plant would be North America's first dedicated to producing samarium and gadolinium oxides, materials for which the supply gap is especially glaring. *"Once approved, this funding will address a critical gap in the North American defense and technology supply chains,"* Ucore stated. The Kingston facility, to be built around Ucore's proprietary RapidSX™ separation technology, targets those two elements in part because **China moved to restrict their export earlier this year**. Both Sm and Gd were added to Beijing's export control list amid rising Sino-Western tensions. China's motive was clear: these substances are integral to military applications – from the high-performance magnets in fighter jet radars to control rods in reactors – and Beijing aims to leverage its dominance for strategic advantage.

Canadian officials are framing the Kingston investment as a direct response to that leverage. *"As we move swiftly to reduce dependence on concentrated supply chains, our collective commitment is clear. Every delay is a concession of economic and national security interests,"* Canada's energy minister Tim Hodgson said at the G7 meeting in Toronto. The funding for Ucore's project comes through Natural Resources Canada and a federal regional development agency, under the umbrella of a new **G7 Critical Minerals Production Alliance**. That alliance's first batch of projects – announced Friday – is meant to counterweight China's dominance in minerals processing. Indeed, China today accounts for roughly 90% of global rare earth refining, including an even more overwhelming share of the heavy rare

earths like dysprosium and terbium used in magnets. By funding Ucore's refinery (alongside other projects like a Quebec graphite mine and a Norwegian battery materials plant), Canada hopes to anchor more of the value-added processing at home and with trusted partners.

Ucore's Kingston facility is billed not just as an industrial plant but as a proof of concept for closing a perilous supply gap. *"Samarium and gadolinium are among the rare earths added by China to its export controls… These elements are vital to next-generation technologies, including high-performance SmCo magnets for defense systems… advanced medical imaging and nuclear reactors,"* the company noted in its project brief. If all goes to plan, the Kingston plant would produce those oxides for downstream use in North America's defense and clean energy sectors – becoming the first domestic source of Sm and Gd in a market long entirely dependent on Chinese refineries. Canadian leaders portrayed the move as part of a broader strategy of "*deploying sovereign tools, mobilizing investments and securing offtake arrangements*" to build secure supply chains with allies. In practice, that means combining public funding (like the grant to Ucore) with guaranteed purchase agreements and stockpiling – measures designed to give fledgling producers the confidence and customers they need to scale up.

Linking Australian Minerals to American Metals

The Western push to diversify supply chains also extends to closer resource ties among allies. Ucore's third major announcement of the week was a *Heads of Agreement* with two Australian firms – *Wyloo Metals and Hastings Technology Metals* – to secure a long-term supply of rare earth concentrate from Australia's upcoming Yangibana mine in Western Australia. Under

this preliminary offtake deal, Ucore could receive up to *37,000 tonnes per year of enriched rare earth concentrate* from the Yangibana joint venture once the mine is operational. In turn, Ucore and its Australian partners will evaluate building a new processing plant in Louisiana to refine that concentrate into mixed rare earth carbonate, an intermediary product that Ucore's Louisiana refinery (the "Strategic Metals Complex" in Alexandria) could then separate into individual oxides. By siting a hydrometallurgical plant in the United States, the agreement aims to keep more of the value chain within U.S. borders — aligning with the U.S. government's own push to onshore critical mineral refining.

This three-way collaboration, too, was catalyzed by geopolitics. It explicitly dovetails with a U.S.–Australia government-to-government framework announced on October 20 to support "ready to go" critical mineral projects across allied nations. Both Washington and Canberra have been encouraging such partnerships as they seek to underwrite non-Chinese sources of key minerals. *"This HoA represents another key step in building the mine-to-oxide pathway between allied nations,"* said Mr. Ryan of Ucore, noting that tying Australian feedstock to U.S. processing fulfills the spirit of recent critical minerals pacts. From the Australian perspective, Hastings CEO Vince Catania called the deal *"a major step forward in de-risking the Yangibana Project by securing a pathway to a long-term offtake partner in the key North American market"*. In other words, having Ucore as a committed buyer (and co-investor in processing) could help the Australian mine finance its development — a mutual insurance policy against the volatility of rare earth markets.

Notably, Yangibana is rich in neodymium and praseodymium (NdPr), which comprise a high percentage of its rare earth content. Those are the marquee "Core Four" magnet elements for EVs and wind turbines, and expanding ex-China sources of NdPr is a top

priority for Western governments. The Ucore-Australia agreement, if finalized, would bolster non-Chinese supplies of NdPr as well as important secondary elements like dysprosium, terbium, samarium and gadolinium. It also underscores how interdependent the new supply chain will be: Ucore's Louisiana plant is partly funded by the U.S. Department of Defense, yet it may rely on Australian ore; Australia in turn is looking to U.S. processing capacity because China currently processes most of Australia's rare earth output. In effect, cross-continental alliances are emerging to replicate within North America and its allies what China has built at home – an end-to-end rare earth pipeline. The backdrop is a classic resource security strategy: China still controls about 91% of global REE refining and has lately used that position to tighten export limits and send a "not-so-subtle message" to the West about its dependence. Deals like Ucore's are meant to ensure that in a few years' time, Beijing's rare earth lever will be far less potent.

RapidSX and the Road Ahead

Central to Ucore's appeal – and its execution risk – is its proprietary RapidSX™ separation technology. This is the innovation Ucore is betting on to outpace China's conventional processing. RapidSX is essentially an upgraded form of solvent extraction (the standard method for refining rare earths) but redesigned for speed and efficiency. Instead of acres of slow, solvent-filled settling tanks, Ucore's system uses computerized columns and an array of sensors to drastically accelerate the separation process. Independent tests indicate RapidSX can separate rare earth elements *nearly ten times faster* than traditional methods, while using a plant footprint about one-third the size of a typical Chinese refinery. Ucore claims this will translate into lower capital and operating costs – a crucial advantage given that Chinese producers have kept costs

low in part through sheer scale and lax environmental standards. Moreover, a faster, modular process means new Western facilities might ramp up more quickly and adjust output to market needs. If it works as advertised, RapidSX could be a game-changer, allowing North American and allied refineries to be competitive despite higher input costs. It has impressed some heavyweights already: the U.S. Department of Defense has put over $18 million into Ucore's Louisiana plant to help prove out the technology.

Yet significant hurdles remain before Ucore's vision becomes reality. The company is targeting 2026 to begin production in Louisiana – an aggressive timeline to build and commission a complex chemical separation facility. It must finalize binding agreements: the deals with VAC/eVAC and the Australian joint venture are MOUs and Heads of Agreement, not yet definitive contracts. The Canadian funding, while approved in principle, is conditional on due diligence and final agreements that are still to be negotiated. Any delays in engineering, financing or permitting could push back Ucore's deployment and give rival projects (or Chinese incumbents) room to maneuver. Global market conditions are another wildcard – rare earth prices can swing wildly, and projects become hard to finance if prices fall.

For Western policymakers, however, the calculus is not purely economic. It's also geopolitical urgency. Each of Ucore's announcements this week fed into a narrative of collective action: Allies are pooling resources, sharing risks, and *buying down* the cost of establishing a non-Chinese supply chain. Government initiatives are explicitly designed to cushion these projects – through purchase commitments, subsidies, or stockpiles – against the market volatility that has scuttled past rare earth ventures. *"Long-term offtake agreements with price supports, strategic stockpiling, and targeted public financing"* were highlighted as necessary tools coming out of the G7 meetings in Toronto. Ucore itself, fresh from rubbing

shoulders with ministers, applauded such measures, noting they could *“improve project bankability and revenue visibility”* and help fast-track the qualification of high-purity rare earth oxides by Western end-users. In plainer terms, consistent policies and allied coordination might determine whether companies like Ucore succeed in building a secure rare earth pipeline in time.

As Ucore’s whirlwind week shows, progress is being made on multiple fronts – technological, financial, and diplomatic – to loosen China’s decades-long grip on rare earth elements. The coming years will test whether these efforts can coalesce into a self-sustaining supply network. Ucore now finds itself at the center of this test. It has the attention of governments and industry partners, a war chest of public and private funds, and a flagship technology promising a better way. The challenge will be *delivering* on those promises before geopolitical patience or investor enthusiasm runs out. In the high-stakes race for rare earth independence, the West has placed their bet on Ucore – and the clock is ticking.