

A Landmark Moment: U.S. Dept. of Defense Makes Bold Moves in Rare Earth Magnet Manufacturing

written by Jack Lifton | September 20, 2023

The world of rare earth permanent magnet manufacturing just received a jolt of excitement. A new announcement from the Department of Defense has revealed a significant investment in a domestic manufacturing plant, a move that holds implications not just for defense, but also for the wider commercial sphere.

For context, it's worth noting that for years, the German company Vacuumschmelze (VAC) had a sales office in Kentucky via a company named E-VAC Magnetics, LLC (E-VAC). Primarily a marketing office, E-VAC was linked with home building projects but was also known for marketing VAC's magnet products. And now, in a surprising twist, the Department of Defense has [invested a whopping \\$94.1 million](#) in E-VAC to bring to life a rare earth permanent magnet manufacturing plant right here in the U.S.

But there's more to this story.

It's customary for the Department of Defense's grants to predominantly target American-owned and operated businesses. Enter [Lynas Rare Earths Ltd.](#) (ASX: LYC), an Australian company currently producing rare earths, which applied for a grant to build a heavy rare earths' separation plant along with American company Blue Line Chemicals, a processor of rare earth products, in Texas. The dynamics of this partnership and grant allocation remain somewhat enigmatic. The essential detail here is that a non-manufacturing entity like E-VAC has secured this grant, and

behind the curtain orchestrating the moves is VAC, a reputable manufacturer of these rare earth permanent magnets vital for automotive EVs.

A telling point is the recent order from General Motors (NYSE: GM) to VAC: a requirement for 1000 tons of magnets per year to be delivered beginning mid-2025. This order aligns intriguingly with the announcement that the new E-VAC manufacturing facility, bankrolled by the Department of Defense, is set to be operational by 2025. Given that the factory's projected capacity is 1500 tons annually, it's compelling to infer that General Motors might source its order from this very plant.

Still, there's a broader implication to this move.

Defense doesn't invest in consumer markets. Its core mandate is national security. The F-35 fighter jet, for instance, is believed to use substantial quantities of rare earth permanent magnets. This means the primary output from the E-VAC facility might be earmarked for defense purposes, with consumer needs taking second place. The scenario painted here is a deliberate strategy by the Department of Defense to ensure a domestic supply chain that meets both defense and commercial requirements.

However, a pressing question arises: where will the raw materials for these magnets come from? As of now, no U.S. entity manufactures these in quantities that a 1500-ton factory would demand. The primary Western supplier today is LCM of England, but its output is a mere fraction of this requirement.

This move by the Department of Defense is historic. It represents the first significant announcement of a large scale commercial rare earth permanent magnet factory in North America, since Magnequench was sold and moved to China nearly 25 years ago. But as this initiative takes shape, stakeholders will be

keenly watching to determine the origins of the raw materials and the supply chain dynamics that this factory will engender.