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Primus Partners report highlights localizing rare earth magnet production to secure India's EV future

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Article Content:

India's push toward clean mobility, green energy, and advanced manufacturing is facing a hidden vulnerability: its near-total reliance on imported rare-earth magnets. A new report by **Primus Partners**, *From Extraction to Innovation: A Blueprint for Enhancing Rare Earth Magnet Ecosystem in India's EV Roadmap*, outlines a national strategy to address this gap and build a self-reliant, globally competitive ecosystem for neodymium–iron–boron (NdFeB) magnets.

The report underscores the urgent need to localise the rare earth magnet value chain, from upstream mining and separation to downstream magnet-making, if India is to meet its electric vehicle (EV) targets, safeguard strategic sectors, and emerge as a clean-tech leader.

A Five-Pillar Blueprint:

Market Assurance

Government-backed price guarantees and long-term offtake agreements with anchor buyers in auto, renewables, and defence to counter global price volatility, which has seen neodymium swing from US$50/kg to US$280/kg.

With demand set to rise to ~7,150 tonnes by 2030, stable pricing will unlock private investment.

Pilot Hubs and Champions

Set up pilot-scale clusters in mineral-rich states like Odisha, Andhra Pradesh, and Tamil Nadu, integrating mining, processing, and magnet-making.

Identify at least three industrial "champions" capable of rapid scale-up to tap into a global NdFeB magnet market projected at 131 kt by 2030.

Upstream Security

Expand IREL's 1,500-tonne/year NdPr oxide capacity and leverage India's 13.07 million tonnes of monazite reserves. Create a strategic magnet reserve to safeguard critical sectors from supply shocks, ensuring at least six months of domestic needs are covered.

Innovation Infrastructure

Launch a National Rare Earth Innovation Hub to advance R&D in process optimisation, recycling, and high-performance magnet grades.

Recycling alone could supply 35–40 kt of global demand by 2030, reducing reliance on primary mining.

Institutional Alignment

Form a Magnet Ecosystem Coordination Cell to align ministries, fast-track clearances, and monitor progress. With a 3-5 year window, to secure a global role, coordinated action is critical.

Some key insights:

- **Rising Demand, Zero Domestic Production**: With 30% EV penetration targeted by 2030, demand is expected to grow 7,150 tonnes annually. Despite significant monazite reserves, India currently manufactures no NdFeB magnets.
- **China Dependency and Strategic Risk**: Over 90% of India's magnet imports come from China, which controls 92% of global magnet manufacturing. Recent export restrictions and customs delays in China disrupted supply chains for over 20 Indian companies, including leading auto component makers.

- **Economic Opportunity**: The domestic market for NdFeB magnets is projected to reach ₹7,295 crore by 2030. Each EV uses 1–2 kg of NdFeB magnets, making this a linchpin for India's green industrial future.

Davinder Sandhu, Co-Founder and Chairperson of Primus Partners, said, "India has both the reserves and the demand. Yet despite holding the 5th largest rare earth reserves, we account for less than 1% of global magnet production. The INR 34,300 crore outlay under the Critical Minerals Mission is a strong start, but we can't afford to remain resource-rich and capacity-poor. China spent decades building its dominance; India doesn't have that luxury. We must compress that journey through bold investments in technology, fast-tracked clearances, and strong industry–research partnerships to scale extraction, processing, and recycling."

Nikhil Dhaka, Vice President, said, "The mines-to-magnet gap is real, but so is the opportunity. A single EV can have more than 25 components that rely on magnets, and India's two-wheeler EV segment alone will require between 20,500 and 44,000 tonnes by 2047. As the sustainable mobility sector accelerates, we need a national effort to de-risk EV manufacturing at its core. Without urgent localisation, technology innovation, faster approvals, and strong private-sector partnerships, every vehicle we build will carry the same import dependence we face today.

The Road Ahead

India holds the fifth-largest rare earth reserves globally and has already taken early steps through initiatives like the Critical Minerals Mission and PLI schemes.

However, the report argues that without urgent coordination, incentives, and private sector participation, India risks losing a critical opportunity to localise magnet production and secure supply chains for clean energy, defence, and electronics.