

Patenting Push under NCMM: Government Supports Innovation in Critical Minerals

Over 1,000 Patents Targeted by 2031 Under National Critical Mineral Mission

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As part of the strategic effort to achieve self-reliance in critical minerals, the Government of India is actively promoting patent filings under the National Critical Mineral Mission (NCMM). This initiative follows the approval of the Mission by the Union Cabinet on 29 January 2025, with a vision to strengthen India's critical mineral value chain across exploration, mining, beneficiation, processing, and recycling.

One of the National Critical Mineral Mission's key deliverables is to support and track the filing of 1,000 patents across the critical minerals value chain by FY 2030–31, encouraging innovation and commercialization of indigenous technologies.

21 patents in May 2025 and 41 patents in June 2025, aligning with the critical mineral value chain were filed in India. During May 2025, 2 patents on critical mineral related areas were granted, and during June 2025, 8 more such patents were granted. These filings reflect increased momentum in R&D activities focused on exploration, extraction, processing, and application of critical minerals essential for India's green energy transition and strategic sectors.

Some examples of areas where are patents granted are:

1. Ytterbium-doped Metal Oxide Nanoparticles and Method for Preparing the same
2. Anode and Secondary Battery Comprising the Anode
3. A Method for Producing a Tungsten-Polymer Composite Mold
4. Nickel Vanadate Thin Film on Conducting Substrate and Method for the Same
5. Tantalum-Doped NASICON Solid-State Electrolyte for Sodium-Ion Batteries

These patents represent just a sample of the growing innovation footprint supported under NCMM, covering minerals such as Lithium, Nickel, Titanium, Tungsten, Vanadium, Ytterbium, and Tantalum—all of which are crucial to clean energy, electronics, and strategic technologies.

The Government remains committed to positioning India as a global hub for innovation in critical mineral technologies, ensuring strategic autonomy in this emerging domain.

Shuhaib T

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