

# Critical mineral explorations on rise, but hurdles persist

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The Geological Survey of India (GSI) has undertaken 195 mineral exploration projects for critical and strategic minerals in the financial year 2024-25 (until November), a significant leap from the previous year.

This represents a 53 per cent increase compared to the 127 projects seen in 2023-24, according to the mines ministry's year-end report.

This year, the ministry not only accelerated exploration activities but also made strides in auctions. It concluded 2024 with the auctioning of 24 — 48.98 per cent — critical mineral blocks out of the 49 it has offered for bidding so far. These include key resources like lithium, graphite, phosphorite, and glauconite, spread across various regions of India.

“Out of 48 blocks put to e-auction, 24 have been successfully auctioned, including four mining lease (ML) and 20



composite licence (CL) blocks,” the mines ministry had said in November.

One of its tungsten blocks in Tamil Nadu is entangled in a legal dispute between the state and the Centre.

The ministry has also notified 28 private exploration agencies for exploration without a prospecting licence. The government is also providing funding to eligible private

exploration agencies through the National Mineral Exploration Trust (NMET). During 2024-25, NMET has funded 40 projects of critical minerals through various exploration agencies.

The government had released its first list of critical minerals in July 2023, underscoring its focus on resources like rare earth elements (REE), lithium, molybdenum, potash, tungsten,

and graphite.

This year's intensified exploration efforts align with its strategy to reduce import dependence and strengthen domestic supply chains for these essential materials.

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## STEPPING UP

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the nation's self-reliance in key sectors like energy storage, electronics, and defense.

However, lack of clarity regarding the resources in 49 blocks has cast a shadow on the country's ambitions for critical mineral self-sufficiency.

About 10 per cent of the total mineral blocks are designated for mining leases, typically auctioned at the G2 level, which provides detailed resource information and enables the successful bidder to commence mining directly.

According to the United Nations Framework for Classification of Resources, the exploration of minerals is divided into four stages — G4 (reconnaissance), G3 (prospecting), G2 (general exploration), and G1 (detailed exploration).

The G4 stage entails estimating quantity with grade through regional assessments and limited subsurface sampling, resulting in low-confidence estimates.