

**Press Information Bureau  
Government of India**

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**A. Policy Initiatives:**

**(a) MMDR Amendment Act, 2025**

The Mines and Minerals (Development and Regulation) Act, 1957 [MMDR Act] has been amended through MMDR Amendment Act, 2025. Following amendments have been introduced through the aforesaid amendment:

- i. The scope and territorial domain of the National Mineral Exploration Trust has been widened to enable use of the funds accrued to the Trust within India, including the offshore areas, and outside India for the purposes of exploration and development of mines and minerals. The National Mineral Exploration Trust has been renamed as 'National Mineral Exploration and Development Trust' to reflect its enlarged scope. The amount of payment to the Trust by the lessees has been increased from present 2% of the royalty payable to 3% of the royalty payable.
- ii. Provision has been made in the Act for inclusion of any new mineral in a mining lease. Any major mineral can also be included in a minor mineral mining lease, subject to the conditions prescribed by the Central Government. For inclusion of minerals, additional amount payable is specified in new eighth Schedule to the Act. No additional amount is applicable on inclusion of critical and strategic minerals specified in the Part-D of First Schedule to the Act or minerals specified in the Seventh Schedule to the Act to incentivize production of these minerals which are found in small quantity and are difficult to mine and process.
- iii. One-time extension of the area under a mining lease (ML) or composite licence (CL) has been allowed by the State Government to include a contiguous area on additional payment prescribed by the Central Government. In case of ML, the contiguous area shall not exceed 10% and in case of CL, the contiguous area shall not exceed 30% of the existing area under the lease or licence. This will promote optimal mining of deep-seated minerals, which are locked up in contiguous areas and may not be economically viable to be extracted under a separate lease or licence.
- iv. The Central Government has been empowered to promote development of market, including trading, of minerals, its concentrate or its processed forms (including metals) through mineral exchanges. Setting up of mineral exchanges will help miners and end-users of minerals in determining fair and transparent market prices based on supply and demand dynamics, stabilize markets and aid in budgeting and planning.
- v. The limit on sale of minerals from the captive mines has been removed. The miners can now sell minerals after meeting the requirement of the end use plant linked with the mine and on payment of additional amount specified in the Act. Further, the miners have been allowed to sell dumps which have been stacked up to such date as may be specified by the Central Government in captive leases which cannot be captively utilized. This will enable the miners to ensure optimal mining of mineral resources, reduce environment hazards and increase safety in mine workings, increase

production and supply of minerals in the market and provide additional revenue to the States.

- vi. Further, the requirement of prior approval of the Central Government for auction of mineral blocks of notified minerals i.e., bauxite, iron ore, limestone and manganese for grant of composite has been removed to expedite auctions.

#### **(b) Amendment of Rules framed under MMDR Act, 1957**

The following Rules have been framed and notified in pursuance of the MMDR Act:

- i. The Mineral Conservation and Development (Amendment) Rules, 2025 were notified vide G.S.R. 232(E) dated 16.04.2025 for amendment of definition of calibrated lump ore and corresponding changes in the formats for monthly and annual returns.
- ii. The Mineral (Auction) Amendment Rules, 2025, were notified vide G.S.R. 255(E) dated 23.04.2025 to allow the consideration of the net worth of the holding company of the subsidiary company for the purpose of net worth criteria for participating in auction of mineral blocks, irrespective of whether the holding company is incorporated in India or outside India.
- iii. The Minerals (Evidence of Mineral Contents) Amendment Rules, 2025 were notified vide G.S.R. 382(E) dated 12.06.2025 to include exploration norms for different types of Rare Metal and Rare Earth Elements (REE) deposits such as REE occurring in pegmatites, reefs, veins and other alkali igneous rocks of tabular and lenticular habits under the exploration norms for different type of deposits in G4 / G3 / G2 stage in the Rules.
- iv. The Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession (Amendment) Rules, 2025 were notified vide G.S.R. 486(E) dated 21.07.2025 to specify the manner of computation of ASP of minerals Caesium, Zirconium & Rubidium.

#### **(c) Other reforms**

- i. In exercise of the powers conferred in clause (e) of section 3 of the MMDR Act, the Central Government omitted the minerals Barytes, Felspar, Mica and Quartz from the list of minor minerals vide S.O. 924 (E) dated 20.02.2025. These minerals are found in association with other critical minerals and have important industrial uses.
- ii. Ministry of Mines issued order dated 01.05.2025 under Section 20A of the MMDR Act to facilitate the transition of existing mining leases of Barytes, Felspar, Mica and Quartz from minor minerals to major minerals category.
- iii. The Central Government has amended following Rules to implement the provisions of MMDR Amendment Act, 2025:
  - a. The National Mineral Exploration Trust Rules, 2015 vide Notification No. G.S.R. 780(E) dated 23.10.2025.
  - b. The Mineral (Auction) Rules, 2015 vide Notification No. G.S.R. 776(E) dated 22.10.2025.

- iv. The Central Government has amended the Mineral (Auction) Rules, 2015 vide Notification No. G.S.R. 764(E) dated 17.10.2025 to introduce intermediary timelines to fast-track the operationalization of auctioned mines. The intermediary timelines provide a mechanism to monitor progress of operationalization of auctioned mines across various stages from issuance of the letter of intent till execution of the mining lease. Following are the salient features of the timelines:
  - a. The amended Rules prescribe various milestones and timelines thereof from issue of letter of intent till execution of lease/licence deed for blocks auctioned for mining lease/ composite licence.
  - b. For delay beyond the prescribed timelines which is attributable to the bidder, 1% of the performance security will be appropriated for delay of each month or a part of month. However, if the final milestone is achieved within the stipulated timeframe, any penalties incurred for earlier delays will be adjusted against the auction premium payable.
  - c. Similarly, in case the State Government does not issue the letter of intent to the preferred bidder within the stipulated time, the amount of second instalment of the upfront payment shall reduce by 5% for the delay of each month or a part of month.
  - d. In case of delay/ non-compliance of timelines, a committee headed by Director, Mines and Geology (DMG) of the State Government with members from State's Revenue Dept., State's Forest & Environment Dept. and IBM shall take decision, after giving reasonable opportunity of hearing to the preferred bidder. Only where delay is attributable to the bidder, penalty will be imposed.
  - e. Further, an incentive has been provided for early commencement of production from the auctioned mines. The lessee is required to pay only 50% of the auction premium for the mineral produced, within five years from the date of issue of letter of intent for grant of mining lease or within seven years from the date of issue of letter of intent for grant of composite licence.
- v. The Central Government has amended the Notification No. G.S.R. 786(E) dated 23<sup>rd</sup> August, 1989 vide Notification No. G.S.R. 751(E) dated 10.10.2025 to classify limestone as a major mineral.
- vi. The Central Government has appointed the Indian Bureau of Mines as the authority to register and regulate mineral exchanges for minerals other than those specified in Part A and Part B of the First Schedule to the MMDR Act, vide Notification No. S.O. 4570(E) dated 07.10.2025.
- vii. The Central Government has vide order dated 16.10.2025 extended the validity of Letters of Intent (LoI) for the following five auctioned mineral blocks:
  - i. Guguldoh Manganese Ore Block (ML)
  - ii. Parshivni/Parseoni Manganese Block
  - iii. Humdara-Ghodepaipwadi Bauxite Block
  - iv. Lohardongri Iron Ore Block
  - v. Surjagad-3 Iron Ore Block
- viii. The Central Government has amended the Second Schedule of the Mines and Minerals (Development and Regulation) Act, 1957 with effect from 20.11.2025

whereby royalty rates of minerals Caesium, Graphite, Rubidium, and Zirconium have been specified. The details are given below:

Sl. No.	Minerals	Rates of Royalty
1	Caesium	Two per cent. of the average sale price of Caesium metal chargeable on the Caesium metal contained in the ore produced.
2	Graphite:  (i) With eighty per cent. or more fixed carbon  (ii) With less than eighty per cent. Fixed carbon	Two per cent. of average sale price on <i>ad valorem</i> basis.  Four per cent. of average sale price on <i>ad valorem</i> basis.
3	Rubidium	Two per cent. of the average sale price of Rubidium metal chargeable on the Rubidium metal contained in the ore produced.
4	Zirconium	One per cent. of the average sale price of Zirconium metal chargeable on the Zirconium metal contained in the ore produced.

#### **(d) Offshore Areas Mineral (Development and Regulation) Amendment Act, 2023**

i) Article 297 of the Constitution of India vests all minerals in the offshore area in the Union. The Parliament enacted the OAMDR Act, 2002 to provide for development and regulation of mineral resources in the offshore areas which include the territorial waters, continental shelf, exclusive economic zone and other maritime zones of India.

ii) The OAMDR Act provides for development and regulation of mineral resources in the territorial waters, continental shelf, exclusive economic zone and other maritime zones of India and to provide for matters connected therewith or incidental thereto.

iii) The OAMDR Act, 2002 was amended through the OAMDR Amendment Act, 2023, with effect from 17.08.2023. Through the said amendment, *inter-alia* a provision was made for grant of production lease for minerals other than atomic minerals to private sector only through auction by competitive bidding.

#### **(e) Status of framing of subordinate legislation/rules under OAMDR Act**

The following Rules have been framed and notified in pursuance of the OAMDR Act in 2025:

- i. **The Offshore Areas Mineral (Auction) Amendment Rules, 2025** have been notified vide G.S.R. 311(E) dated 14.05.2025 to allow the consideration of the net

worth of the holding company of the subsidiary company for the purpose of net worth criteria for participating in auction of mineral blocks, irrespective of whether the holding company is incorporated in India or outside India.

- ii. **The Offshore Areas Atomic Minerals Operating Right Rules, 2025** have been notified vide G.S.R. 468(E) dated 14.07.2025. This rules provide the procedure for the grant of operating rights to the Government, a Government company or a corporation, in respect of atomic minerals.

## **B. Status of Auction and District Mineral Fund (DMF) :**

### **Status of Auction & Operationalization:**

- (i) Since the introduction of auction regime in 2015, 585 mineral blocks have been successfully auctioned in the country. Of these, 368 blocks have been auctioned for mining lease (ML) and 217 blocks have been auctioned for composite licence (CL). Further, mining leases have been executed for 94 blocks, of which 79 are operational. Composite licence deeds have been executed for 84 blocks.
- (ii) In 2025, the Ministry achieved a major milestone in accelerating mineral resource development. A total of 141 mineral blocks were successfully auctioned by 05.12.2025. This included 79 blocks auctioned for Mining Lease (ML) and 62 blocks awarded as Composite Licence (CL). It is the highest number of blocks auctioned in a single year since the auction regime began in 2015, reflecting faster processes and stronger participation from states and the industry. Notably, Assam and Uttarakhand have auctioned mineral blocks for the very first time during this period, marking their presence into the auction map of India.
- (iii) During the calendar year 2025 to date, Madhya Pradesh and Rajasthan have auctioned the highest number of blocks, with figures of 33 and 22, respectively. Among the minerals, Limestone accounted for the largest number of auctions (41), followed by Iron Ore (32) and Bauxite (22). A State-wise summary of the auctioned blocks is provided below.

<b>State</b>	<b>No. of Mineral Blocks Auctioned*</b>
<b>Madhya Pradesh</b>	<b>32</b>
<b>Rajasthan</b>	<b>22</b>
<b>Chhattisgarh</b>	<b>18</b>
<b>Gujarat</b>	<b>18</b>
<b>Karnataka</b>	<b>12</b>
<b>Andhra Pradesh</b>	<b>8</b>
<b>Odisha</b>	<b>8</b>
<b>Assam</b>	<b>7</b>

<b>Telangana</b>	<b>2</b>
<b>Uttar Pradesh</b>	<b>2</b>
<b>Uttarakhand</b>	<b>1</b>
<b>Goa</b>	<b>1</b>
<b>Central Government</b>	<b>10</b>
<b>Total</b>	<b>141</b>

*\*Till 05.12.2025*

(iv) During the calendar year 2025 till date, 24 auctioned blocks have been brought into operation. In 2025, the Ministry placed strong emphasis on accelerating the operationalization of auctioned mineral blocks, introducing several measures to strengthen and speed up the process. Key steps include:

**PRAGATI Meeting:** Auction and operationalization is being reviewed at the highest level under PRAGATI; States have been categorized (A/B/C) for targeted interventions. Reviews were held under Principal Secretary to PM on 03.04.2025 and 17.11.2025.

**Monthly Review by Secretary (Mines):** Secretary (Mines) has initiated monthly review meetings with Category-A States to closely monitor the progress of operationalization of auctioned blocks and to address key issues impeding overall progress.

**Project Management Unit (PMU):** A dedicated PMU has been set up in the Ministry with effect from 15.01.2025 to expedite operationalization of mineral blocks. The PMU, inter alia, carries out tasks of liaising with various departments of Central and State governments to streamline the approval process for the operationalization of mineral blocks, maintaining near real-time status of clearances, assisting the successful bidder in obtaining necessary clearances, coordinating meetings with Government agencies, and facilitating the early processing of pending applications.

**Individual Review Meetings:** High-level review meetings are regularly convened at the State and Central levels and are chaired by the Union Minister or Secretary (Mines), involving all key stakeholders. Till date, 13 review meetings have been conducted across various states.

**Launch of Mining Dashboard:** A Mining Dashboard has been launched on 04.06.2025 to enable near real-time tracking of auctioned mineral blocks, associated clearances, and delays. The Dashboard serves as a critical tool to fast-track the operationalization of mineral blocks by monitoring key milestones such as issuance of LoI, execution of lease deeds, and grant of statutory clearances (EC/FC). With both public and private access modes, it enhances transparency and accountability while enabling close oversight by State and Central Governments. The Dashboard is also being upgraded into an integrated web portal to further streamline data access and monitoring. This data-driven approach is expected to proactively identify bottlenecks, facilitate timely interventions, and significantly accelerate the operationalization of mineral blocks across States.

## **DISTRICT MINERAL FOUNDATION (DMF)**

- a. In 2015, Mines & Minerals (Development & Regulation) Act, 1957 was amended, which, inter-alia introduced a new section 9B which provides for establishment of District Mineral Foundation (DMF) in all districts affected by mining operations. The object of DMF is to work for the interest and benefit of persons, and areas affected by mining related operations in such manner as may be prescribed by the State Government. DMFs are funded by statutory contributions from mining lease holders.
- b. In September 2015, the Central Government framed the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) to be implemented by DMFs and, it, in the national interest, exercising powers conferred under Section 20A of the MMDR Act, 1957, directed the State Governments concerned to incorporate the PMKKKY into the rules framed by them for the DMF and implement the said scheme.
- c. The Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) is being implemented by the District Mineral Foundations (DMFs) of the respective districts using the funds accruing to the DMF. The overall objectives of PMKKKY Scheme are (a) to implement various developmental and welfare projects/programs in mining affected areas, and these projects/programs will be complementing the existing ongoing schemes/projects of State and Central Government; (b) to minimize/mitigate the adverse impacts, during and after mining, on the environment, health and socio-economics of people in mining districts; and (c) to ensure long-term sustainable livelihoods for the affected people in mining areas.
- d. DMF has now been established in 656 districts across 23 states, up from the earlier figure of 646 districts, marking significant expansion and outreach.
- e. The second National District Mineral Foundation (DMF) Workshop was held on July 9, 2025, with the primary objective of fostering cross-learning among States and Districts, enhancing the capacity of officers responsible for implementation, and promoting the effective execution of the revised Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) Guidelines. The workshop witnessed participation from over 300 individuals, including representatives from Central and State line ministries, officials from the Comptroller and Auditor General (C&AG), State Nodal Officers, District Collectors from major DMF districts, and non-profit organizations, with deliberations centered on the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) and District Mineral Foundation (DMF), and discussions on strategies for effective implementation at state and district levels.
  - i. The seminar was successfully conducted with inaugural addresses delivered by the Hon'ble Union Minister of Coal and Mines, Shri G. Kishan Reddy, and the Hon'ble Minister of State for Coal and Mines, Shri Satish Chandra Dubey. The operational guidelines for the Aspirational DMF Programme were launched, marking a significant step by the Ministry of Mines to promote growth and holistic development in aspirational blocks through targeted DMF interventions. A Coffee Table Book highlighting best practices across DMFs was also unveiled.
  - ii. As part of the workshop, an exhibition of DMF-supported Self-Help Groups (SHGs) was organized at Handloom Haat, Janpath, Delhi. The event highlighted diverse handmade products and provided SHGs with an opportunity to showcase their creativity, connect with visitors, and identify potential market linkages.

f. DMF-supported Self-Help Groups showcased their handmade products at dedicated stalls within the Mining Pavilion during the India International Trade Fair (IITF) 2025. The display highlighted the creativity and entrepreneurial spirit of SHGs from mining-affected regions, offering them an opportunity to connect with visitors, promote their crafts, and explore new market linkages. From November 14 to 27, 2025, 23 DMF-supported SHGs, representing 13 districts across 7 mining-affected states, showcased the authentic flavors, crafts, and artistry of India's mineral-rich regions on the national stage.

g. Till October 2025, a total of Rs.120602 Cr. has been collected under DMF out of which Rs.100911 Cr. has been allocated for various projects under PMKKKY and Rs.64426 Cr. stands utilized. A total of 421072 projects have been sanctioned under the Scheme, out of which 251296 projects have been completed so far.

### **C. National Critical Mineral Mission**

The Union Cabinet has approved the setting up of the National Critical Mineral Mission (NCMM) on 29 January, 2025 with a financial outlay of ₹16,300 crore and expected investment of 18,000 crore from PSUs and others. The Mission aims to secure a long-term sustainable supply of critical minerals and strengthen India's critical mineral value chains encompassing all stages from mineral exploration and mining to beneficiation, processing, and recovery from end-of-life products.

The NCMM will be implemented under the Ministry of Mines for a period of seven years from FY 2024-25 to 2030-31 with the following vision-

*“As India embarks on the journey of Viksit Bharat 2047, minerals will continue to play an important role for the nation's progress. The National Critical Mineral Mission (NCMM) envisions securing a long-term sustainable supply of critical minerals and strengthen India's critical mineral value chains encompassing all stages from mineral exploration and mining to beneficiation, processing, and recovery from end-of-life products. The NCMM seeks to develop a holistic action plan through strategic interventions in the form of policy reforms, financial support, infrastructure facilities, human resource development, technological advancements and international collaboration. The Government's aim is to build a globally competitive and resilient critical mineral ecosystem for India.”*

Significant steps to strengthen the Critical Mineral Sector have been taken under Mission which inter-alia includes:

- i. Geological Survey of India (GSI) intensified exploration of critical and strategic minerals. GSI has taken up 230 critical mineral exploration projects in 2025–26 across the country. Additionally, NMEDT has sanctioned 36 projects for exploration of critical minerals during 2025-26 (till date).
- ii. The Mines and Mineral Development Act (MMDR), 1957 Act amended to expand the scope of NMEDT for supporting critical mineral exploration and mining overseas.
- iii. 34 blocks of critical minerals successfully auctioned by Ministry of Mines.
- iv. The Ministry has successfully auctioned 7 blocks of Exploration License, out of which, three are of critical minerals.



- v. The Union Cabinet approved a ₹1,500 crore Incentive Scheme to develop recycling capacity for the separation and production of critical minerals from secondary sources. The Scheme Guidelines were issued by the Ministry on 02.10.2025 and scheme rolled out.
- vi. Guidelines for funding Pilot Projects for Recovery of Critical Minerals from overburden/tailings/fly ash/ Red mud etc. issued on 14 Nov 2025.
- vii. Ministry of Mines has recognised nine premier institutes as Centres of Excellence (CoEs) under the NCMM to carry out Research & Development (R&D) and strengthen domestic capabilities in critical mineral processing. Each CoE operates as a consortium, on a Hub & Spoke model, to leverage the core competence of constituent industry and academic spokes.

## **Other Activities**

### **Critical Mineral Processing Seminar**

The ‘Critical Minerals Processing Seminar’ was organised by the Ministry of Mines, Government of India on 6 June 2025, as part of the ongoing efforts under the National Critical Minerals Mission (NCMM).



The seminar convened senior representatives from government, industry, academia, and research institutions to foster collaboration, share technical knowledge, and catalyse innovation in the processing and recycling of critical minerals such as lithium, cobalt, graphite, and rare earth elements (REEs). Through focused discussions on domestic processing technologies, the role of state governments, industry-led innovation, and financing strategies, the seminar aimed to advance India's capabilities across the critical minerals value chain and support the country's transition toward a secure, self-reliant, and globally competitive CRM sector.

### **Launch of National Critical Mineral Mission Outreach Forum**

The NCMM Outreach Forum was launched by Union Minister Shri G. Kishan Reddy as a collaborative platform to strengthen cooperation among government agencies, industry, academia, research institutions, and private sector players.



The forum aims to facilitate policy dialogue, research, investment, and industry growth, highlighting the critical minerals sector's vital role in national security, food security, and employment generation. Shri Reddy called on all stakeholders, including PSUs and private companies, to actively invest, innovate, and engage in building a resilient and sustainable critical minerals ecosystem in India.

Led by the Ministry of Mines and Shakti Sustainable Energy Foundation, the forum supports India's vision of self-reliance in critical minerals and reinforces the commitment to sustainable and strategic development of the mining sector.

#### **Inter-Ministerial Group (IMG) on Critical Minerals**



The fourth meeting of the Inter-Ministerial Group (IMG) on "Critical Minerals for formulating overall coordinated approach for formation of a holistic strategy for critical minerals and action plan to support the same" was held on March 20, 2025, under the chairmanship of Shri V. L. Kantha Rao, Secretary, Ministry of Mines. The meeting brought together participants from Public Sector Undertakings (PSUs), state governments, ministries, private companies, and research institutions to collaborate in strengthening India's critical minerals value chain.

## **Minerals Security Partnership (MSP)**

Minerals Security Partnership is an ambitious new US-led multilateral partnership to secure supply chains of critical minerals, aimed at reducing dependency on China. In June 2023, India became newest partner (14th member country) in MSP, to accelerate the development of diverse and sustainable critical energy minerals supply chains globally while agreeing to the principles of the MSP including environmental, social and governance standards. A list of 40 projects has been shared by MSP Team in November 2025. Ministry of Mines recommended an Indian project (by Altmin) for Setting up Lithium refinery in Brazil to the Mineral Security Partnership. The project has now been included in under the MSP project list. This will help securing minerals for Indian Industries.

## **Cooperation with International Organisations**

On 4 December 2025, Shri Piyush Goyal, IAS, Secretary, Ministry of Mines, held discussions with Ms. Mary Warlick, Deputy Executive Director, IEA, on strengthening cooperation in the critical minerals value chain, enhancing data-driven collaboration, and exploring joint opportunities to support India's clean energy ecosystem.



## **Conferences/Workshops/Seminars**

The Confederation of Indian Industry (CII) in collaboration with the Ministry of External Affairs and Ministry of Mines, Government of India organized the 15th "Energy Security Conference" on 13 November 2025. Shri Vivek Kumar Bajpai, Joint Secretary, Ministry of Mines, led the Special Session on Critical Minerals. The Key objective of the Conference is to facilitate a wider discussion on specific strategies for ensuring India's energy security as well as to secure a sustainable and low carbon future.

#### **D. National Mineral Exploration and Development Trust (NMEDT)**

- In exercise of powers conferred by Section 9C of the Mines and Minerals (Development & Regulation) Act, 1957, the Central Government established the National Mineral Exploration Trust (NMET) by Gazette notification dated 14th August, 2015 and framed the National Mineral Exploration Trust Rules, 2015, to boost regional and detailed exploration of minerals and related activities.
- Recently, The Mines and Minerals (Development and Regulation) Amendment Act, 2025, has introduced significant reforms in NMET. The Trust has now been renamed as the National Mineral Exploration and Development Trust (NMEDT) to reflect its expanded mandate beyond exploration to include mine and mineral development both within India & overseas.
- Under the amended provisions of Section 9C of MMDR Act, the scope of the Trust has been widened to include funding exploration in offshore areas within India and for regional and detailed exploration and development of mines and minerals within India and overseas in the prescribed manner.
- The amendment has also increased the lessee contribution from 2% to 3% of royalty, enhancing the financial capacity of the Trust to support larger and more advanced exploration initiatives.
- These changes align with the objectives of the National Critical Mineral Mission, to strengthen India's resource security and reduce import dependence.

#### **Achievements**

- The NMEDT contribution received is ₹855.31 Cr.
- NMEDT has approved 156 projects with sanctioned cost of Rs. 560.56 Cr, out of which 130 projects are of mineral exploration, 08 projects of procurement, 17 projects of S & T Prism and 01 project pertaining to special studies for undertaking geo-chemical analysis of mine samples by IBM.
- Out of 130 mineral exploration projects, 57 projects have been sanctioned to Notified Private Exploration Agencies (NPEAs), of which 31 pertain to critical minerals and 26 to non-critical minerals.
- NMEDT has provided financial assistance amounting to ₹ 182.79 Cr. to States and Central agencies/PSUs for 08 projects for procurement of machinery equipment to strengthen their capacity.
- 14 blocks explored with NMEDT funding were successfully auctioned.
- SMET was set up in 08 States i.e. Assam, Gujarat, Mizoram, Tripura, Uttarakhand, Kerala, Punjab and Sikkim. This will give further impetus to exploration of minor minerals in the respective States.
- Incentive of ₹ 7.0 Cr. was provided to 7 States (Rajasthan, Madhya Pradesh, Bihar, Goa, Telangana, Assam and Chhattisgarh) for successful auction of mineral blocks during the year 2025.

- NMEDT provides funding support to Start-ups and MSMEs under the S&T PRISM scheme of Ministry of Mines to support R&D projects. During the above period, NMEDT has funded 17 Projects under the S&T Prism scheme of Ministry of Mines with approved cost of ₹23.56 Cr.
- To enhance the pace of mineral exploration and infrastructure strengthening of Directorates of Mining & Geology in the North-Eastern Region, financial support of Rs. 10 Cr. to each NER State was introduced during FY 2025-26 for carrying out systematic exploration.
- NMEDT has funded a special study of ₹12.80 crore for geochemical analysis of samples from mine faces, mineral stacks, dumps, tailings, process materials and smelter slags across the country to develop a reliable national-level geochemical database and assess the potential for critical minerals in mine waste.
- Guidelines for Pilot Projects for Recovery of critical minerals from overburden/tailings/fly ash/Red mud, etc were introduced on 14.11.2025 with the objective to promote recovery of critical minerals from mine tailing, dumps, etc., encourage optimum recovery of critical minerals from secondary sources, develop and commercialize innovative technologies for mineral recovery and promoting technologies such as hydrometallurgy, solvent extraction, electrochemical bio-hydrometallurgy, advanced separation techniques etc. for low grade complex ore.
- Seven RMT project proposals were handed over to the NPEAs by the Hon'ble Union Minister of Mines on 4th March, 2025 during the 175th-anniversary celebration of GSI in Kolkata. Out of these seven blocks, five Regional Mineral Targeting blocks have been sanctioned to various NPEAs with an approved cost of ₹ 39.62 Cr. This would result in creation of more exploration blocks of critical minerals.

#### **E. Brief Activities on International Cooperation**

##### **Memorandum of Understanding/Cooperation and Agreement assigned and exchanged:**

- (i) A Memorandum of Understanding between MECL and Province of Catamarca was signed and exchanged on 19.2.2025 in New Delhi. The objective of this MoU is to establish a framework for cooperation for the identification and execution of mineral exploration projects in Catamarca, Argentina.
- (ii) A Memorandum of Cooperation (MoC) between Ministry of Mines, Government of India and Ministry of Economy, Trade and Industry (METI), Japan in the field of Mineral Resources was signed on 28.08.2025. The MoC was exchanged in Tokyo, Japan on 29.08.2025.
- (iii) A Memorandum of Understanding (MoU) between Ministry of Mines, Government of India and the Ministry of Industry and Mineral Resources, Mongolia, on "Cooperation in the Field of Geology and Mineral Resources" was signed and exchanged on 14.10.2025 in India.
- (iv) The Protocol of Extension of the MoU between Ministry of Mines, Government of India and the Government of Plurinational state of Bolivia in the Field of Geology & Mineral Resources, was signed on 24.10.2025 in Bolivia.

### **Joint Working Group meetings:-**

The 1st Joint Working Committee (JWC) meeting between India and Argentina under the MoU on Cooperation in the field of Geology and Mineral Resources was held in Buenos Aires, Argentina, from 28.01.2025 to 30.01.2025. The Indian delegation was led by Shri V. L. Kantha Rao, Secretary, Ministry of Mines.

### **Bilateral meetings:**

(i) A bilateral meeting was held between Shri G. Kishan Reddy, Hon'ble Union Minister of Mines & Coal and H.E Mr. Bandar Alkhorayef, Minister of Industry and Mineral Resources, Kingdom of Saudi Arabia on 04.02.2025 in New Delhi. During discussions, the Saudi Side expressed positive intent of their Ministry for finalization of the proposed MoU between GSI and the Saudi Geological Survey and also for designating GSITI as a Centre of Excellence. Discussions also explored cooperation in adopting advanced mining technologies for sustainable mineral exploration and extraction.

(ii) Shri Satish Chandra Dubey, Hon'ble Minister of State of Coal & Mines held a meeting with Shri Sunil Handunnetti, Hon'ble Minister of Industry and Entrepreneurship Development, Govt. of Sri Lanka on 15.02.2025 in New Delhi. Discussions were held on potential exploration and mining activities of graphite, beach sand, etc that can be carried out by Indian entities in Sri Lanka.

(iii) Shri G. Kishan Reddy, Hon'ble Union Minister of Coal & Mines, had a meeting with H.E Mr. Raul Jalil, Governor of Catamarca, Argentina on 19.2.2025 in New Delhi. The discussions focused on expanding cooperation in the mining sector, particularly in lithium exploration and investment opportunities.

(iv) A virtual meeting was held between Secretary, Ministry of Mines, Govt. of India and Ms. J.M. Thilaka Jayasundara, Secretary, Ministry of Industry & Entrepreneurship Development, Govt. of Sri Lanka on 10.03.2025. The key areas of discussion included opportunities for India in exploration and mining of graphite, Rare Earth Elements, beach sands & phosphate and the possibility of signing a Memorandum of Understanding between India and Sri Lanka on cooperation in the field of geology and mineral sector.

(v) Secretary, Ministry of Mines had a meeting with Australian High Commissioner to India, H.E Philip Green on 20.03.2025 and discussions were held on opportunities for exploration and mining of critical minerals in Australia, the KABIL -CMO MoU, etc.

(vi) Shri G. Kishan Reddy, Hon'ble Union Minister of Coal & Mines, had a meeting with the Chilean delegation led by H.E. Ms. Aurora Williams, Minister of Mines, Chile on 01.04.2025 in New Delhi during the India-Chile Mining Industry Round Table. Discussions were held for deepening cooperation between the two nations in the mining sector.

(vii) A meeting was held between Secretary, Ministry of Mines, Government of India, and H.E. Mr. Javier Paulinich, Ambassador of Peru to India on 05.06.2025 in New Delhi to discuss ways to strengthen cooperation between the two countries in the mining sector. The Ambassador shared that Peru has good potential for minerals such as molybdenum, copper, iron ore, and rock phosphate. Also, the Ambassador invited the Indian delegation, along

with representatives from Indian industries, to participate in Peru min — amaj or mining event scheduled from 22nd- 26<sup>th</sup> September, 2025 in Peru.

(viii) A meeting between Secretary, Ministry of Mines and a delegation led by Dr. Ken Zikhale Ng'oma, Hon'ble Minister of Mines, Malawi was held on 28.08.2025 in New Delhi to discuss ways to strengthen cooperation between the two countries in the mining sector and also the revision of MoU between the two sides.

(ix) A meeting was held between Secretary, Ministry of Mines, Government of India and Mr. Alexey Gruzdev, Deputy Minister of Trade and Industry of Russian Federation on 13.11.2025 in New Delhi. The discussions focused on strengthening collaboration between the two countries in the critical mineral sector.

(x) A meeting was held between Secretary, Ministry of Mines, Government of India with Ms. Yvette van Eechoud, Secretary Trade and Economic Security, Ministry of Foreign Affairs of the Kingdom of the Netherlands and Ms. Marisa Gerards, Ambassador of the Kingdom of the Netherlands to India on 17.11.2025 in New Delhi. The discussions focused on strategic cooperation on Critical Raw Materials for building a sustainable and resilient mineral value chain including processing, recycling, stockpiling etc.

(xi) A meeting was held under chairmanship of Hon'ble Union Minister of Coal and Mines on 26.11.2025, to discuss the possibilities of collaboration in the mining sector between India and Canada. The Canadian delegation was led by Mr. Christopher Cooter, High Commissioner of Canada. The discussions focused on initiating collaboration between the two countries in the critical minerals sector, including opportunities across the value-chain.

#### **Exploration activities carried out in various countries:**

(i) A delegation consisting of geoscientists from Geological Survey of India carried out mineral exploration related activities in Somaliland from 03.03.2025 to 07.03.2025. The analysis of samples collected has revealed that the area is geologically fertile and has potential for gold, lithium and associated mineralization.

(ii) A team comprising geoscientists from Geological Survey of India and Mineral Exploration and Consultancy Limited visited Zambia from 25.06.2025 to 29.06.2025 to carry out reconnaissance traverses and from 15.9.25 to 31.10.25 to carry out geological mapping related activities in Kasempa Province of Zambia.

#### **Participation in International Groups**

(i) A Government of India delegation led by Sh. V. L. Kantha Rao, Secretary, Ministry of Mines participated in the International Lead and Zinc Study Group (ILZSG) and the International Copper Study Group (ICSG) 2025 meetings held from 24th to 25th April, 2025 in Lisbon, Portugal. India is a member of both ICSG & ILZSG. Every year, these groups hold meetings at international level for discussing/sharing technology developments, key areas of industry, case studies etc.

(ii) India joined the International Nickel Study Group (INSG) as a member country in June, 2025. The International Nickel Study Group (INSG) is an autonomous, inter-



governmental organization established in 1990 and located in Lisbon, Portugal. INSG members are governments of nickel producing, consuming and trading countries or other inter-governmental organizations responsible for implementing international agreements.

**Participation in the International Mining events to showcase India's capabilities, interest and opportunities in mining sector::**

- (i) An Indian delegation, led by Shri. G. Kishan Reddy, Hon'ble Union Minister of Mines & Coal, visited Saudi Arabia to participate in the 'Future Mineral Forum' organized at Riyadh, Saudi Arabia from 14.01.2025 to 16.01.2025.
- (ii) An Indian delegation led by Shri Sanjay Lohiya, Additional Secretary, Ministry of Mines participated in the Prospectors and Developers Association of Canada (PDAC), the world's premier mineral exploration & mining convention, a leading event for people, companies and organizations connected to mineral exploration, in Toronto, Canada from 2.03.2025 to 5.03.2025.

**F. Science and Technology Programme of Ministry of Mines**

- (i) Recognizing the paramount importance of safety, economy, speed and the efficiency in extraction of mineral resources and in its convergence into viable economic alloys and metals, National Mineral Policy has accorded higher priority to Research and Development (R&D) programmes. The Ministry of Mines, Government of India has been funding research and development projects (R&D projects) in mining and metallurgy sector through its Science and Technology (S&T) Programme.
- (ii) During the period from 01.01.2025 to 31.12.2025, the Ministry of Mines invited proposals once from Academic institutions, universities, national institutes and R&D institutions under R&D Component of Science and Technology Programme of Ministry of Mines. A total of 221 project proposals were received on the SATYABHAMA portal, out of which 42 projects from premier institutions such as IITs, IISc, NITs, ISM, CSIR laboratories, JNARDDC, JNU and others have been selected for funding amounting to ₹22.65 crore. These proposals span Proof of Concept (PoC) and Technology Readiness Levels (TRL) 3 to 7, and their successful outcomes are expected to address key bottlenecks faced by the mining sector in areas such as extraction of strategic critical minerals, rare earth elements, metals, geoscience and exploration, decarbonization and will promote circular economy and recycling in non-ferrous segment by effective utilization of industrial waste. Out of 42 projects, 13 are for PoC projects without industry participation, each with a ceiling of ₹10 lakh. In the remaining 29 projects, user industries are associated and have provided a financial commitment of ₹3.87 crore to ensure better outcomes from these R&D efforts.
- (iii) Further, period from 01.01.2025 to 31.12.2025, the Ministry of Mines invited proposals once from Startups / MSMEs and Individual Innovators under S&T-PRISM Component of Science and Technology Programme of Ministry of Mines. A total 6 projects have been selected for funding an amount of Rs. 7.58 crore out of 57 projects were received were received through the Satyabhama portal.



## **Centres of Excellence (CoEs) under NCMM**

- (i) The National Critical Mineral Mission (NCMM) was approved by the Union Cabinet on 29<sup>th</sup> January 2025 as a strategic initiative aimed at developing domestic capacity and building supply chain resilience to achieve India's self-reliance in the critical minerals sector. The guideline for Centre of Excellence under NCMM was issued on 16th April 2025. Pursuant to this, a call for application from eligible institutes was made on 28th April 2025.
- (ii) After following the due process of evaluation and approval, the Ministry of Mines has recognized 9 institutes – 4 IITs (IIT Bombay, IIT Hyderabad, IIT-ISM Dhanbad, IIT Roorkee), IISc Bangalore and 4 R&D Labs (CSIR – IMMT Bhubneshwar, CSIR – NML Jamshedpur, NFTDC, Hyderabad and C-Met, Hyderabad) as Centres of Excellence under NCMM. Each CoE functions on a Hub and Spoke model, bringing together industry partners and R&D/academic institutions to drive end-to-end solutions across the critical mineral value chain.

## **G. National Aluminium Company limited(NALCO)**

NALCO has achieved stellar business performance in FY 2024-25, which are outlined below:

### **(a). Performance Highlights for FY 2024-25:**

#### **(I) Financial Highlights:**

- NALCO has posted revenue of Rs.16,788 Cr.
- NALCO has recorded net profit of Rs 5,325 Cr in the year, registering an increase of 158% w.r.t FY 2023-24.
- The Company continues to retain its position of lowest cost producer in Bauxite and Alumina production in the World in 2024.

#### **(II) Production Highlights:**

- Panchpatmali Bauxite Mines has achieved highest ever annual Bauxite excavation of 76,48,220 MT in the FY 2024-25 since inception, surpassing the previous best of 76,00,230 MT achieved in FY 23-24.
- Smelter Plant achieved the installed Capacity of 4,60,000 MT Cast Metal production in FY 24-25 consecutively 4<sup>th</sup> time since FY 21-22.
- Captive Power Plant (CPP) has achieved highest ever net power generation of 6,641 MU surpassing the previous highest of 6,607 MU achieved in FY 10-11



### **(III) Sales Highlights:**

- Achieved highest ever cumulative domestic metal sale of 4,54,600 MT in the FY 2024-25 since inception, surpassing the previous highest of 4,38,876 MT in FY 2022-23.

### **(b). Performance Highlights for FY 2025-26:**

#### **(I) Financial Highlights upto H1:**

- Revenue from Operations increased to ₹8,099 Crore in H1 FY 2025-26 from ₹6,858 Crore in H1 FY 2024-25, reflecting a growth of 18.1%.
- Profit Before Tax (PBT) surged to ₹3,325 Crore, up 47.5% from ₹2,254 Crore recorded in the same period last year.
- Profit After Tax (PAT) stood at ₹2,497 Crore, marking a robust growth of 50.2% over ₹1,663 Crore achieved in H1 FY 2024-25 — the highest-ever H1 PAT for the Company.

#### **(II) Production Highlights upto Oct'25:**

- Alumina Refinery has achieved highest ever cumulative Alumina Hydrate production of 13,30,000 MT upto the month of Oct'25 since inception, surpassing the previous highest of 12,21,000 MT in the FY 2021-22.
- Alumina Refinery has achieved highest ever cumulative Calcined Alumina production of 13,51,000 MT upto the month of Oct'25 since inception, surpassing the previous highest of 12,24,000 MT in the FY 2021-22.
- Smelter has achieved highest ever cumulative cast metal production of 2,74,730 MT upto the month of October'25 since inception, surpassing the previous highest of 2,69,396 MT in the FY 2022-23.
- Captive Power Plant (CPP) has achieved highest ever cumulative net generation of power of 4,018 MU upto the month of October'25 since inception, surpassing the previous highest of 3,825 MU in the FY 2017-18.
- CPP has achieved highest ever cumulative gross generation of 4,528 MU upto the month of October'25 since inception, surpassing the previous best of 4,321 MU in FY 2017-18.

### **(III) Sales Highlights upto Oct'25:**

- Achieved highest ever cumulative Alumina sales of 8,34,789 MT upto the month of October'25 since inception, surpassing the previous best of 7,40,513 MT achieved in the FY 2018-19.

- Achieved highest ever cumulative domestic metal sale of 2,59,936 MT upto the month of October'25 since inception, surpassing the previous best of 2,59,549 MT achieved in the FY 2024-25, up to the month of Oct'24.

**(c) Major Awards & Accolades:**

- Panchpatmali Bauxite Mine Central & North Block and South Block Mines have been awarded with prestigious 5 Star Rating for the year 2023-24 from Indian Bureau of Mines (IBM),
- Alumina Refinery, M&R Complex, has won the Greentech Quality and Innovation Award 2025, instituted by the Greentech Foundation, New Delhi. The award was presented on 7<sup>th</sup> October 2025 in New Delhi, in recognition of the refinery's outstanding performance and dedication to quality.
- Captive Power Plant has been honoured with the Environment Excellence Award 2025 by the Mission Energy Foundation in the <250 MW Coal-Based category on 12<sup>th</sup> June 2025.
- NALCO won the prestigious "Equipment Times-Mining & Mineral Excellence Award 2025" and the "Best PSU of the Year" Award at the 11<sup>th</sup> Asian Mining Congress held at Kolkata on 30<sup>th</sup> October 2025.

**H. HINDUSTAN COPPER LIMITED (HCL)**

Hindustan Copper Limited (HCL) signed a historical Memorandum of Understanding with Codelco (Corporacion Nacional del Cobre), the State-owned Copper Mining Company of Chile, on 1<sup>st</sup> April, 2025, for sharing of knowledge and best practices to facilitate exploration, mining and mineral beneficiation as well as for training employees. The MoU was signed by Mr Sanjiv Kumar Singh, CMD, on behalf of HCL, and Mr Ruben Alvarado Vigar, CEO, on behalf of Codelco.

**Hindustan Copper Limited H1 results soar by 48%**

The Board of Hindustan Copper Limited (HCL) in its meeting held in Kolkata today has approved the Financial Results for the second quarter ending September 2025 of the current fiscal year 2025-26.

HCL, a Miniratna Category-1 CPSE under the Ministry of Mines, Government of India, has posted an impressive 83.72% growth in Profit Before Tax (PBT) for the quarter ended September 2025 at Rs 248.63 crore, compared to Rs 135.33 crore, achieved during the corresponding period of the previous year. The total revenue from operations during the quarter stood at Rs 718.04 crore, registering a growth of 38.57% over Q2 of FY 24-25. The Profit After Tax (PAT) of the Q2 FY 26 quarter stood at Rs 186.02 crore, a whopping increase of 82.95% growth over similar quarter of FY 24-25.

During the first half of the current financial year 2025-26, HCL has continued its strong performance with a 47.86% growth in PBT which has soared to Rs 427.99 crore as against Rs 289.46 crore for the corresponding period of the previous year. Similarly, the Profit After Tax (PAT) in H1 FY 26 achieved was Rs 320.30 crore, from Rs 215.09 crore, a huge increase of

48.91% over corresponding H1 of FY 2024-25. The Revenue from operations during H1 was Rs 1234.41 crore compared to Rs 1011.79 crore achieved in H1 of FY 24-25, a substantial increase of 22%.

The EBITDA achieved was Rs 515.32 crore in H1 FY 26. The EBITDA margin achieved has been a robust 41.75% in H1 FY 25-26 compared to 37.45% in H1 of FY 24-25.

Shri Sanjiv Kumar Singh Chairman-cum-Managing Director, HCL stated that the Q2 and H1 results stand as a testament to the hard work and commitment of all employees and unwavering support of all stakeholders. The Profit has been achieved through operational excellence, sustained productivity, supported by higher volume and metal prices as compared to immediately preceding June 25 Q1 FY 26 quarter.

India is taking decisive steps to secure supply of critical minerals that power our microchips, batteries, electric vehicles, drive clean energy, AI systems, semiconductor, AI technologies. However, these are mostly locked up in rocks that need specialized mineral processing for extraction. With its unique expertise in hard rock mining, Hindustan Copper Limited (HCL) is one of the few companies ideally placed to make a foray in the critical mineral sector and provide valuable service to our nation. In line with this vision, HCL is looking beyond the frontiers. The Company has collaborated with leading PSUs and Codelco, the state-owned world's largest copper miner in Chile. HCL is also scouting for critical and strategic mineral assets abroad.

### **Hindustan Copper Limited PBT of FY 2024-25 soars by 54%**

The Profit Before Tax (PBT) of Hindustan Copper Limited (HCL), a Miniratna CPSE under the Ministry of Mines, Government of India, has surged by 54% to Rs 633.51 crore in FY 2024-25 from Rs 410.43 crore in FY 2023-24.

According to the audited financial results approved by the Board of Directors at its meeting held in Kolkata on 27.05.2025, HCL has recorded its highest ever Revenue from Operation of Rs 2070.97 crore in FY 2024-25, reflecting a robust year-on-year (YoY) increase by 21% percent from Rs 1717.00 crore in FY 2023-24. The Company has clocked an increase in Profit After Tax (PAT) by 42% to Rs 468.53 crore from Rs 295.41 crore in FY 2023-24.

In FY 2024-25, Malanjkhand Copper Project, the flagship Unit of the Company in Madhya Pradesh, has produced 2.73 Million Tonne of Copper ore from the underground mine, which is highest ever copper ore production since inception from this mine.

The EBITDA margin achieved has been a healthy 38% in FY 2024-25 as compared to 34% in the previous year, showing an increase of 4 bps.

As the global economy evolves towards renewable energy and electric vehicles, powered by AI and decarbonization policies, Copper demand is expected to surge in the coming years making it extremely crucial for driving growth.

### **Kendadih Mining Lease deed was formally executed on 04.10.2025**

In a significant milestone for the copper mining sector, the Kendadih Mining Lease deed was formally executed on 04.10.2025.

This development reaffirms the Government of Jharkhand's focus on promoting investment in mining and allied industries, thereby reinforcing Jharkhand's position as a hub of mineral resources in the country.

### **Rakha Mining Lease deed formally executed**

In a significant milestone for the Copper mining sector, the Rakha Mining Lease deed was formally executed on *19<sup>th</sup> September 2025*.



The Rakha Copper Mine project is expected to significantly contribute to employment generation, infrastructural development and local economic growth while strengthening India's self-reliance in the copper sector.

Commenting on the development, the District Commissioner, East Singhbhum, stated that the execution of the Rakha Mining Lease deed reflects the Government of Jharkhand's commitment to promote responsible mining, ensuring compliance with environmental safeguards and creating new opportunities for the people of the region. This project will play a vital role in driving inclusive growth and sustainable development in East Singhbhum district, Mr Satyarthi opined.

This development reflects the emphasis of the Government of Jharkhand on promoting investment in mining and allied industries, thereby reinforcing Jharkhand's position as a hub of mineral resources in the country.

### **Copper ore transportation Kendadih Mine to Mosaboni Concentrator Plant**





Copper ore transportation from Kendadih Mine to Mosaboni Concentrate Plant commenced from 20.10.2025. After the religious ceremonies, the event was flagged off by Mr Shyam Sunder Sethi, Executive Director and Unit Head of Indian Copper Project, Unit of Hindustan Copper Limited at Jharkhand in presence of GM (Project)-Mech.

### **Mine Development Contract of Surda Mine awarded to M/s R K Earth Resources Pvt Ltd**

The Mine Operation and Development Contract of Surda Mine of ICC, HCL's Unit in Jharkhand, has been awarded to M/s R K Earth Resources Pvt Ltd. On 05.02.2025, the party has taken over the site from the previous Contractor.

### **HCL graded as “Excellent” for FY 2023-24**

Hindustan Copper graded as “Excellent” for FY 2023-24 Kolkata, 06.02.2025 Hindustan Copper Limited (HCL) has achieved “Excellent” rating by the Department of Public Enterprises (DPE) for FY 2023-24 in terms of Performance as per MoU parameters. After posting losses in FY 2019-20, HCL has been consistently making Profit Before Tax of approximately Rs 400 crore in the last three years. The Company has been bestowed with this achievement by DPE after a span of 12 years.

### **Hindustan Copper hosts Global seminar on Critical Minerals Security**

India is taking decisive steps to secure supply of critical minerals that power our microchips, batteries, electric vehicles, drive clean energy, AI systems, semiconductor, AI technologies. However, these are mostly locked up in rocks that need specialized mineral processing for extraction. With its unique expertise in hard rock mining, Hindustan Copper Limited (HCL) is one of the few companies ideally placed to make a foray in the critical mineral sector and provide valuable service to our nation. In line with this vision, HCL is looking beyond the frontiers.



In tune, HCL organized an International Seminar on Critical and Strategic Minerals for Viksit Bharat @ 2047, in Kolkata on 9th November, 2025, to celebrate its 59th Foundation Day. The event was graced by the presence of a host of foreign dignitaries, diplomats, mining stalwarts and delegates.

Shri G. Kishan Reddy, Hon'ble Minister for Coal and Mines, Government of India, in his virtual keynote address emphasized the urgency for mineral security for the nation and urged

HCL to play a meaningful role in this endeavour. Shri Satish Chandra Dubey, Hon'ble Minister of State for Coal and Mines, Government of India, lauded HCL for organizing the international seminar enriched with deliberations and technical papers from global experts. The seminar will open up possibilities for collaboration between Indian mining players and their overseas counterparts.

### **Whatsapp video call established beneath depth of 400 m surface at KCC Mine**

A WhatsApp Video Call was established through centre for Development of Telematics (C-DOT) from the depth of 400 m beneath the surface at HCL's Khetri Underground Mine in Rajasthan. Mr Sanjiv Kumar Singh, Chairman and Managing Director, Hindustan Copper Ltd (HCL), had a conversation with the officials of HCL and C-DOT present at 400 m depth in Khetri Mine. Dr Rajkumar Upadhyay, CEO, C-DOT, and Mr Hari Prasad S V, Scientist 'G', 5G RAN Coordinator, C-DOT, were also connected in the WhatsApp Conference Call.

A seven-member team from C-DOT headed by Mr Laxmaiah P was present in Khetri Underground Mine, along with HCL Systems and Mining Officials from Khetri and Head office to help this project come to fruition. Taken up as a pilot project as a part of Research & Development to get internet access inside the underground mine, HCL merged 5G private network with existing network on surface. Internet access inside underground mines is becoming increasingly crucial for enhanced communication, safety, and productivity.

### **HCL launches online payment portal for streamlining revenue collection at KCC**

Mr Sanjiv Kumar Singh, Chairman and Managing Director, Hindustan Copper Ltd. (HCL), in the presence of Dr Sanjeev Kumar Sinha, Director (Operations) and Director (Mining) – Addl. Charge, Mr Harsimran Singh, Chief Vigilance Office, inaugurated an online payment portal developed with the assistance of Axis Bank (a consortium banker of HCL) for streamlining revenue collection from lease-based quarters and shops of Khetri Copper Complex (HCL's unit in Rajasthan). Apart from Mr Ravi Kumar Gupta, ED (Finance), HCL, Mr G D Gupta, ED and Unit Head, KCC, Mr Sitendu Dash, AGM (Systems), HCL, the event was also graced by Mr Ankit Jain, Sr. Vice President and Regional Head, East - PSU Business, Axis Bank. Aligned with the vision of Digital India, this is a step towards making transactions easier, faster, secure and transparent.

### **HCL signs MoU with WCL**

Memorandum of Understanding (MoU) was signed on 03.11.2025 between Western Coalfields Limited (WCL) and Hindustan Copper Limited (HCL) for providing Rescue cover, rescue affiliation from Mines Rescue station, Nagpur (MRS Nagpur) to Underground Mines of Khetri Copper Complex (KCC) Unit, Rajasthan & Malanjkhand Copper Project (MCP) Unit, MP.

### **Kolihan Mines Rescue Team felicitated**

Dr Sanjeev Kumar Sinha, Director (Operation) & Director (Mining) - Addl. Charge met all Rescue Trained Persons (RTP) of Khetri Copper Complex on 02/04/2025. He was accompanied by Mr Ghanshyam Das Gupta, ED & Unit Head, KCC, Mr Purshottam Das Bohra, GM (Mines) and other Senior Officers of KCC. A briefing on the actual rescue operations conducted during Kolihan Mines accident which occurred on 14.05.2024 and also on achievement of HCL rescue team in 53rd All India Mines Rescue Competition at BCCL,

Dhanbad was given by Mr G D Gupta, Mr Purshottam Das Bohra, Ms Sujita Vishwanathan, HoD KCC Hospital, Mr Abdul Taslim Alam, Incharge Rescue Room, Mr Sunil Kumar Katewa, Chief Safety Officer & RTP's Mr Sivlal Suthar, Mr Mohar Singh and Mr Ram Swaroop Legha. It was a significant event organised to emphasize the importance of Mine safety and rescue operations.

The Kolihan Mines accident and the achievements of the team at the 53rd All India Mines Rescue Competition was the core of discussion. Dr Sanjeev Kumar Sinha acknowledged the tireless efforts of the Rescue Trained persons and expressed his appreciation by handing over certificates and prizes to the participants of the 53rd All India Mines Rescue Competition. His visit to KCC and meeting with the rescue trained persons have further boosted the morale of the team and will be fondly remembered.

#### **Awards to Khetri and Kolihan Mine**

The awards won by Kolihan and Khetri Rescue Teams of Khetri Copper Complex, Unit of Hindustan Copper Limited at Rajasthan in the 11th Intra Zonal Rescue Competition - 2025 held from 11th to 13th October at Rampura Agucha Mines, HZL. 1. 1st in Rescue relay to Kolihan Team 2. 2nd in FAB to Kolihan Team 3. 3rd in Over-all to Kolihan Team 4. 2nd in Rescue & Recovery to Khetri Team 5. Best member to Rishi Yadav from Khetri Team

#### **Award to MCP rescue team**

The Rescue Team from Malanjkhand Copper Project (MCP), Unit of Hindustan Copper Limited at Madhya Pradesh secured the Second Prize in the Turnout Drill event. The rescue team had demonstrated outstanding skill, discipline, and teamwork at the 54th Zonal Mine Rescue Competition, organized by MOIL under the aegis of DGMS, organised during 12th to 15th October 2025 at Mansar Mine.

#### **Award for MCP Mine**

MCP mines won the following prizes in the 2nd Metalliferous Mines Safety Week Celebration 2024: 1. Overall -1st 2. Storage Transport and Use of Explosive -1st 3. Plant & Machinery - 1st 4. Electrical Equipment & Installations - 1st The final day function and prize distribution ceremony under the aegis of DGMS Parasia Region was held on 14.02.25 at Chhindwara.

#### **Prize for Kendadih Copper Mine of ICC Unit**

In the 62nd Annual Metalliferous Mines Safety Week Celebration 2024-25, under the aegis of Directorate General of Mines Safety, Chaibasa region, Chaibasa, Kendadih Copper Mine of Indian Copper Complex, HCL's Unit in Jharkhand, has won Four prizes (Group- A3-B) in different categories as under: 1st Prize - Winding /underground machineries, garage, plant & equipment maintenance 2nd prize in VTC Training facilities/First Aids 2nd Prize in Statutory Manpower, provision and records(departmental) 2nd Prize in Fire fighting, emergency preparedness, mock drills

#### **Awards for Surda and Kendadih Mine of ICC Unit**



In the 31st Mines Environment and Mineral Conservation Week, Ranchi Region, Surda and Kendadih Mine of Indian Copper Complex, HCL's Unit in Jharkhand, have won the following awards. Surda Mine: 1. Overall 1st prize winner 2. Winner: Systematic and Scientific Development 3. Winner: Mineral Conservation 4. Winner: Waste Dump Management 5. Winner: Publicity & Propaganda Kendadih Mine: 1. Winner: Sustainable Development

### **Augmentation of 132 KV Sub Station at MCP**

Augmentation of 132 KV Sub Station Work's Bhoomi Poojan was performed at Malanjkhand Copper Project, HCL's Unit in Madhya Pradesh, by ED & Unit Head, Shri Nagesh Shenoy.

Awards were presented in the august presence of Mr R R Mishra, Director of Mines Safety, DGMS, Chaibasa Region and other DGMS officials from Chaibasa Region & Ranchi Zone, along with Mr Shyam Sunder Sethi, Executive Director & Unit Head (ICC) and Mr Deepak Srivastava, General Manager (Projects), ICC.

### **Prize to Khetri Copper Mine**

HCL's Khetri Copper Mine in Rajasthan won the 3rd Prize in Overall Performance in Fully Mechanised Mine (Underground) Category along with following three prizes in the 35th Mines Environment & Mineral Conservation Week 2024-25 Final day Celebrations held on 27th April 2025 at Ajmer under the aegis of IBM, Ajmer Region. (1) Mineral Beneficiation- 2nd Prize (2) Waste Dump Management- 2nd Prize (3) Sustainable Development- 3rd Prize HCL's Kolihan Copper Mine also won the following prizes:- (1) Environmental Monitoring- 1st Prize (2) Waste Dump Management- 3rd Prize The program was attended by Mr G D Gupta, Executive Director & Unit Head/KCC, Mr Manish Gavai, DGM (Civil)& Env., Mr Nagesh Rajpurohit, Chief Manager (Exploration), Mr Sanjay Kumar, Senior Manager (Mines) and Mr Narendra Pruseth, Manager (Mines).

### **Consolidation of 29 Central Labour Laws into 4 Codes**

The government has consolidated 29 Central Labour Laws into 4 Codes to create a simpler, more modern, and worker-centric framework. This change is designed to enhance social security, simplify wage laws, and boost workplace safety for every employee.

An effort was made to sensitize all the employees of Malanjkhand Copper Project (MCP) , Unit of Hindustan Copper Limited at Madhya Pradesh , on this New Labour codes, as per directions of Mr Nagesh Shenoy, ED and Unit Head, MCP and facilitated by Mr D R Patle , Union President, through distribution of pamphlets and other social media platforms.

### **Conventional Thickener resumes at MCP**

Conventional thickener started at MCP Concentrator Plant after Repair and maintenance. A puja was offered by MCP Unit Head, Shri Nagesh Shenoy, seeking divine blessings.

### **KCC Unit felicitated with 5-star rating**

Khetri Copper Complex (KCC), HCL's Unit in Rajasthan, has been felicitated with 5-star Rating for the year 2023-24 by Hon'ble Union Minister of Coal & Mines, Mr G. Kishan Reddy, in a grand event hosted by Indian Bureau of Mines on 07.07.2025 in Jaipur. Team

HCL (Hindustan Copper Ltd) was led by Mr Sanjiv Kumar Singh, Chairman and Managing Director, HCL, Dr Sanjeev Kumar Sinha, Director (Operations) and Direct (Mining) - Addl. Charge, Mr G D Gupta, ED and Unit Head, KCC, and other senior officials.

### **MCP felicitated with 5-star rating**

Malanjkhand Copper Project, HCL's Unit in Madhya Pradesh, has been felicitated with 5-star Rating for the year 2023-24 by Hon'ble Union Minister of Coal & Mines, Mr G. Kishan Reddy, in a grand event hosted by Indian Bureau of Mines on 07.07.2025 in Jaipur. Team HCL (Hindustan Copper Ltd) was led by Mr Sanjiv Kumar Singh, Chairman and Managing Director, HCL, Dr Sanjeev Kumar Sinha, Director (Operations) and Direct (Mining) - Addl. Charge, Mr Nagesh Shenoy, ED and Unit Head, MCP, and other senior officials.



### **HCL launches e-Office**

Hindustan Copper Limited launched e-Office on 07.10.2025, marking a step forward in digital governance and paperless operations. Mr Sanjiv Kumar Singh, Chairman and Managing Director, Hindustan Copper Limited (HCL), inaugurated the e-Office in presence of Dr Sanjeev Kumar Sinha, Director (Operations) and Director (Mining) – Addl. Charge, HCL, Mr R V N Vishweshwar, Director (Finance), HCL, Mr Harsimran Singh, Chief Vigilance Officer, HCL and other senior officials at HCL Corporate Office, Kolkata.

Unit Heads and e-Office core members from HCL Units and Offices, team from e-Office of National Informatics Centre (NIC), Cloud services from Common Service Centre Special Purpose Vehicle (CSC SPV) data center across India joined through Video Conference.

e-Office implementation will enhance office operations by providing increased transparency, accountability, and efficiency through a digital, paperless workflow. Key benefits include faster decision-making, assured data security, improved collaboration, reduced physical movement of files and a more positive transformation of work culture.

### **BIS association with HCL**

Bureau of Indian Standards is privileged to be associated with HCL as Esteemed Licensee for Quality Management System as per IS/ISO 9001 : 2015 and has presented a memento to HCL on the occasion of their 78th Foundation day celebration.

### **Distribution of machines and material for the production of Dona Patta at ICC**

On 13/03/2025, under the Corporate Social Responsibility of Hindustan Copper Limited's unit Indian Copper Complex, for the financial year 2024 - 2025, distribution of machines and material for the production of Dona Patta and Mudi among 6 women self-help groups of Musabani block for the purpose of women empowerment was distributed by Executive Director cum Unit Head Mr. Shyam Sundar Sethi.

### **HCL Stall at DMF Exhibition in the premises of Konark Sun Temple**

Shri G Kishan Reddy, Union Minister for Coal and Mines, Govt. of India, Ms Farida M. Naik, Joint Secretary, Ministry of Mines, Govt. of India, Shri Sanjiv Kumar Singh, Chairman and Managing Director, HCL and Team HCL were present at HCL Stall at DMF Exhibition in the premises of Konark Sun Temple. Also present were the representative of HCL Self Help Groups. Products of women-driven Self Help Groups (supported by HCL) like dokra artworks, wooden handicraft, jute bags, freshly ground masala, food items, etc. had been spread out for sale.



### **HCL at Bharat Parv 2025**

On the inauguration day of BharatParv2025, Smt. Farida M. Naik, Joint Secretary, Ministry of Mines, inaugurated the Ministry's pavilion. The pavilion showcases India's rich mineral heritage and the contributions of GSI, HCL, MECL, and NALCO. Smt. Naik commended the efforts of officials in highlighting milestones achieved through mining in nation-building.

### **HCL booth at GSI campus**

Hon'ble Union Minister of Coal and Mines, Shri G Kishan Reddy, was warmly welcomed by Shri Sanjiv Kumar Singh, Chairman and Managing Director, HCL Shri Ghanshyam Sharma, Director (Finance), HCL in Kolkata on the occasion of 175th year of geoscientific legacy of Geological Survey of India (GSI). HCL had set up a stall on this occasion, at GSI campus.







### **HCL at Mining Indaba 2025**

India's High Commissioner to South Africa, Shri Prabhat Kumar, inaugurated India Pavillion at Mining Indaba 2025 on 03.02.2025 in Cape Town in the presence of Shri Vivek Kumar Bajpai, Joint Secretary (Ministry of Mines), along with representatives from PSUs and other Ministries.



### **HCL pavilion at Pashu Mela**

In the Ministry of Mines pavilion at the world-famous Sonapur Pashu Mela organized at Harihar Kshetra in Saran district of Bihar, Shri Satish Chandra Dubey, Hon'ble Minister of State for Coal and Mines, Govt. of India, was apprised on 23.11.2025 about the recent achievements of the Ministry of Mines, the schemes and initiatives adopted for social welfare and its colossal role in nation building.

The Ministry of Mines pavilion at Sonapur Mela helps spread awareness about the country's mineral resources and government initiatives in the mining sector. It strengthens public engagement, builds trust and highlights the sector's role in inclusive growth.



### **HCL signs MoU with R K HIV & AIDS Research & Care Centre**

A Memorandum of Understanding was signed between Hindustan Copper Limited and R K HIV & AIDS Research & Care Centre as a CSR initiative for 'health', in line with Corporate CSR policy, for organizing a mega medical camp. Mr Sanjiv Kumar Singh, Chairman and Managing Director, HCL, Mr Ghanshyam Sharma, Director (Finance), HCL, Mr Sanjeev Kumar Sinha, Director (Operations) and other senior officials were present during the signing of the document.

### **Inauguration of new oxygen pipeline at MCP**

A new oxygen pipeline has been inaugurated at Malanjkhand Copper Project Hospital by Shri Nagesh Shenoy, Executive Director, MCP. This initiative strengthens our commitment to providing enhanced medical facilities for our employees and the local community. With this upgrade, HCL takes another step towards ensuring accessible and reliable healthcare for all.

### **HCL signs MoU with Xavier Institute of Social Service, Ranchi**

A Memorandum of Understanding was signed 21.03.2025 between Hindustan Copper Limited and Xavier Institute of Social Service, Ranchi, with a commitment to foster academic-industry synergy, collaborative growth, innovation, and development. As a responsible corporate entity, HCL values the power of knowledge-sharing, skill enhancement, and sustainable development. As a testament to the power of partnership, this MoU signifies the commitment of HCL to Corporate Social Responsibility, industry-academia collaboration, and capacity-building initiatives.

### **Launch of SOP Diary at ICC Unit**

The Safety Department of Surda Copper Mine has successfully launched a Pocket SOP Diary on 01.04.2025 under the leadership of Mr S S Sethi, ED and Unit Head, ICC. This initiative aims to enhance safety practices across the mine. Following the launch, the Pocket SOP Diary was distributed to supervisors, operators, and other mining personnel, ensuring easy access to essential safety procedures. This step is expected to strengthen workplace safety and improve operational efficiency.

### **HCL organizes Annual Plan meeting for FY 2025-26 and 2026-27**

Annual Plan Meeting for the Financial Years 2025-26 and 2026-27, a two-day brainstorming workshop, is being held in HCL Corporate Office on May 2-3, 2025, graced by Mr Sanjiv Kumar Singh, Chairman and Managing Director, HCL, Mr Ghanshyam Sharma, Director

(Finance), Dr Sanjeev Kumar Sinha, Director (Operations) and Director (Mining) - Addl. Charge, Mr Harsimran Singh, Chief Vigilance Officer, Unit Heads and other senior executives. All the key executives from HCL's Units across the country are also connected with the meeting on VC. The purpose of the meeting is strategic alignment of the actions and initiatives of HCL with the Corporate vision. In service to the nation since 1967, Hindustan Copper Ltd is committed to the mission of sustainable mining of Copper.

### **MoU between HCL and RITES Ltd**

During the Critical Mineral Processing Seminar organized by the Ministry of Mines, Govt. of India, at India Habitat Centre, New Delhi, Mr Sanjiv Kumar Singh, CMD, HCL, and Mr Rahul Mithal, CMD, RITES Ltd. signed an MoU to secure a rapid, reliable and sustainable supply chain of metals and minerals, including critical minerals. The partnership will focus on joint exploration, extraction, refining and production activities in India and overseas, leveraging their complementary technical and financial strengths to fulfil the strategic goals outlined in the aforesaid MoU.

### **HCL signs MoU with CIL**

Hindustan Copper Ltd (HCL) signed a Memorandum of Understanding (MoU) with Coal India Limited (CIL) in Kolkata on 30.06.2025 to collaborate on exploration and exploitation of Copper and critical mineral deposits in India and abroad apart from mineral beneficiation, technology sharing, knowledge exchange and other value adding activities.

### **HCL organises Workshop on “Cyber Hygiene and Security”**

As Digital India turned 10, Hindustan Copper Ltd. (HCL) organized a workshop on “Cyber Hygiene and Security” in its Corporate Office in Kolkata, attended by all the Units and offices across the country to underscore the need for robust cybersecurity measures to protect the citizens and the systems from cyber threats and to ensure a secure digital transformation, as India's digital landscape expands.

### **CVO, HCL graces training program organised for Eastern India Organisations**

Training and interaction with Vigilance Officers of Central Organizations of Eastern India was organized on 18th July, 2025, in Kolkata. Hon'ble CVC and VC along with Secretary, CTE, JS and Advisor from the Central Vigilance Commission graced the programme.

### **HCL launches online payment portal for streamlining revenue collection at KCC**

Mr Sanjiv Kumar Singh, Chairman and Managing Director, Hindustan Copper Ltd. (HCL), in the presence of Dr Sanjeev Kumar Sinha, Director (Operations) and Director (Mining) – Addl. Charge, Mr Harsimran Singh, Chief Vigilance Office, inaugurated an online payment portal developed with the assistance of Axis Bank (a consortium banker of HCL) for streamlining revenue collection from lease-based quarters and shops of Khetri Copper Complex (HCL's unit in Rajasthan). Apart from Mr Ravi Kumar Gupta, ED (Finance), HCL, Mr G D Gupta, ED and Unit Head, KCC, Mr Sitendu Dash, AGM (Systems), HCL, the event was also graced by Mr Ankit Jain, Sr. Vice President and Regional Head, East - PSU Business, Axis Bank. Aligned with the vision of Digital India, this is a step towards making transactions easier, faster, secure and transparent.

### **HCL receives CSR Excellence Award**

Shri Ghanshyam Sharma, Director (Finance), HCL, received the "CSR Excellence Award" for consistent contribution to CSR in Eastern India for Nation Building in CSR Conclave 2024 organised by CIL at Taj Taal Kutir, Kolkata.

### **National seminar of Nagar Official Language Implementation Committee**

Shri Sanjiv Kumar Singh, Chairman and Managing Director, HCL, participated in the review meeting cum national seminar of Nagar Official Language Implementation Committee (Undertaking), Kolkata organized on 22-01-2025. Heads of offices and other senior officials of almost all the Central Government undertakings located in Kolkata and representatives of regional offices of the Official Language Department of the Government of India also participated in it.

On this occasion, Hindustan Copper Limited was honored with the Participation Award for active cooperation.

### **Training Programme on Systematic Support Rule**

A Training Programme on Systematic Support Rule was conducted on 08.01.2025 at the Training centre of Malanjkhand Copper Project, HCL's Unit in Madhya Pradesh. A total of 47 bottomline statutory supervisors attended the programme. The training session has been facilitated by Shri Ashish Daharwal, Safety Officer.

### **CMD, HCL at EMBT 2025**

At the inaugural ceremony of Emerging Trends in Mineral Beneficiation Technologies (EMBT) 2025 hosted by CSIR-NML on 23rd July 2025 at Jamshedpur, Shri Sanjiv Kumar Singh, Chairman and Managing Director, Hindustan Copper Limited (HCL) graced the occasion as Chief Guest along with ED & Unit Head, ICC. In his address to the gathering, he focused on importance of innovation and collaboration in mineral beneficiation technologies.

### **Strategic meeting between Hindustan Copper and Normet Global Board**

As part of their India visit, the Normet Group Oy Board engaged in a strategic conversation with the Mr Sanjiv Kumar Singh, Chairman and Managing Director of Hindustan Copper Limited (HCL) in New Delhi on 05.09.2025.

The strategic discussions between the distinguished Normet Group Board members and the CMD, HCL, reflected synergies and shared visions, between Normet and Hindustan copper Ltd. With Hindustan Copper's bold expansion vision and Normet's underground expertise, the meeting set the stage for a high-impact partnership. Together, Normet and HCL aim to drive innovation, enhance productivity and support India's mining ambitions through smart, future-ready solutions.

It was inspiring to witness the exchange of insights and engaging Q&A between the Normet Group Board led by Mr Aaro Cantell, Normet's Global CEO, Mr Ed Santamaria, Normet India & ME MD, Mr Subhasis Mohanty, and HCL's Chairman, Mr Sanjiv Singh.

As copper demand surges in the AI-driven era, deep-seated mining emerges as the only viable solution — bringing with it significant challenges. Ensuring safety, productivity and cost-effective production will rely on innovation, automation and future-ready smart mining where Normet stands committed to partner with Hindustan Copper. Through collaborative projects, Normet will be supporting Hindustan Copper in realizing its vision and paving the way for its ambitious two-phase production expansion plans.

### **Program on 5S System organised at HCL Corporate Office**

A Program on 5S System was organised in HCL on 21.03.2025 in the presence of Mr Sanjiv Kumar Singh, Chairman and Managing Director, HCL, Mr Ghanshyam Sharma, Director (Finance), Mr Sanjeev Kumar Sinha, Director (Operations) and other senior officials. The session was conducted by Dr Amit Chakladar, Professor, NSHM Knowledge Campus, a life member of All India Management Association (AIMA) and National Institute of Personnel Management (NIPM). This session was attended by Executives from all the Units and Offices of HCL.

### **Training Program on Project Management organised at HCL Corporate Office**

A training program on Project Management was organised in Hindustan Copper Limited on 28.02.2025 in the presence of Shri Ghanshyam Sharma, Director (Finance), HCL and other Senior officials. The session was facilitated by Mr. Anirban Dutta, Founder & CEO PIMECAS Engineering Solutions, Accredited Chartered Engineer & Corporate Member- The Institute of Engineers (India) & Member, ISTD and was attended by Executives across from all the Units and Offices.

### **HCL signs MoU with CIL**

Hindustan Copper Ltd (HCL) signed a Memorandum of Understanding (MoU) with Coal India Limited (CIL) in Kolkata on 30.06.2025 to collaborate on exploration and exploitation of Copper and critical mineral deposits in India and abroad apart from mineral beneficiation, technology sharing, knowledge exchange and other value adding activities. The MoU was signed in the august presence of Mr. P M Prasad, Chairman cum Managing Director, CIL, Mr Sanjiv Kumar Singh, Chairman and Managing Director and Director (Finance) - Addl. Charge, HCL, Mr Mukesh Choudhary Director (Marketing) & Director (Business), CIL, and Dr Sanjeev Kumar Sinha, Director (Operations) and Director (Mining) - Addl. Charge, HCL, and other senior officials of HCL and CIL.

### **HCL organizes Workshop on “Cyber Hygiene and Security”**

As Digital India turned 10, Hindustan Copper Ltd. (HCL) organized a workshop on “Cyber Hygiene and Security” in its Corporate Office in Kolkata, attended by all the Units and offices across the country to underscore the need for robust cybersecurity measures to protect the citizens and the systems from cyber threats and to ensure a secure digital transformation, as India's digital landscape expands.

### **Copper Vision document unveiled at Hyderabad**

Union Minister of Coal & Mines, Shri G. Kishan Reddy, unveiled the Copper Vision Document at the International Conference on Sustainable & Responsible Mining in Hyderabad. Shri V. L. Kantha Rao, Secretary (Mines), Smt. Rupinder Brar, Add. Secretary (Coal) , Shri Vivek Kumar Bajpai, JS (Mines), Shri P. M. Prasad, CMD, CIL, Shri Sanjiv Kumar Singh (CMD, HCL) and key stakeholders were also present during the occasion. Facilitated by HCL on behalf of the Ministry of Mines, the document outlines a comprehensive roadmap for the domestic copper industry, aligning with global trends and highlighting strategies to achieve self-reliance in copper metal and minerals.



### **Technical session on the topic of Rock mechanics at KCC Unit**

A technical session on the topic of 'Rock mechanics for strata control in stope mining, roof supports and instrumentation' was organised at Khetri Copper Complex (KCC), HCL's Unit at Rajasthan on 12.07.2025. The session was facilitated by Professor Dr. Debasis Deb, IIT Kharagpur, at KCC Training center. Mr P D Bohra, GM (Mines), Mr B Sahu, AGM (Mines) including engineers, geologists and contractor engineers participated. During the concluding session Mr G D Gupta, ED & Unit Head, KCC in his closing remarks reiterated the role of mining engineer which was important for safe underground mining.

## **I. Mineral Exploration and Consultancy Ltd. (MECL)**

### **Overview**

**MECL's vision is "to be the mineral explorer to the nation and beyond."**

Mineral Exploration and Consultancy Limited (MECL), a Miniratna-I CPSE under the Ministry of Mines, stands as India's foremost mineral exploration agency, delivering end-to-end solutions across the entire mineral value chain. In addition to regional and detailed exploration, MECL offers advanced geological and geophysical surveys, core drilling, resource evaluation, technical consultancy, and geochemical and geophysical analysis to support mineral block auctions. With proven expertise across energy minerals, ferrous and non-ferrous metals, industrial and fertilizer minerals, precious and rare minerals, as well as critical minerals, MECL serves both public and private sector clients, driving innovation, operational excellence, and sustainable mineral development in India.

MECL is also at the forefront of supporting emerging sectors such as EV battery minerals, lithium, rare earth elements (REEs), graphite, and PGEs through cutting-edge exploration strategies aligned with national priorities. Leveraging state-of-the-art technologies, in-house R&D, advanced instrumentation, and manufacturing capabilities, MECL delivers tailored, high-precision, and cost-effective solutions to government agencies, PSUs, and industrial stakeholders. The following sections highlight the key achievements of MECL for FY 2025-26 up to 30th November 2025.

### **Performance during FY 2025-26**

#### **1. Exploration Activities and Performance**

Up to November, 2025, MECL achieved exploratory drilling of 2,78,436 meters, registering a 3.80% increase over the 2,68,235 meters drilled during the corresponding period of the previous fiscal year. The exploration covered a wide array of minerals, including energy minerals, ferrous and non-ferrous metals, industrial and fertilizer minerals, precious and rare minerals, as well as critical minerals reflecting MECL's extensive contribution to India's mineral inventory, especially for strategic and high-demand minerals.

#### **2. Financial Performance and Revenue Growth**

In the period from April to November 2024, MECL recorded a cumulative revenue of ₹234.06 crore, The company also achieved a significant net profit of ₹37.39 crore, a 13.08% increase with respect to same duration of previous financial years.resource management.

### **3. Geological Reports and National Mineral Inventory**

MECL continues to play a key role in enhancing the National Mineral Inventory. As of November, 2025, the company has submitted 29 Reports, including 15 for NMET, 2 contractual, 9 for energy minerals and 3 for Geophysical investigation under NGPM. These contributions have added valuable resources to the national inventory.

### **4. Project Approvals and Ongoing Work**

As of November, 2025, MECL has successfully secured 23 project approvals from NMET, totalling ₹72.69 crore including 14 critical mineral blocks. Currently Regional and detailed exploration activities is in progress in 54 blocks which include 33 critical mineral blocks covering 20 commodities and 13 states focusing on G-3 and G-4 level exploratory assignments.

### **5. Capacity Augmentation:**

MECL strengthened its technical infrastructure through the induction of a state-of-the-art LIBS Core Scanner, significantly enhancing its advanced core-scanning capabilities. The Company further upgraded its geophysical capacity with the addition of Gamma Ray Spectrometers for rare metal and REE exploration, a modern borehole geophysical logging system, and a Multi-Electrode Resistivity Imaging System equipped with 120 electrodes. MECL also augmented its manufacturing centre and chemical laboratories with advanced machinery, reinforcing its ability to deliver high-precision, in-house analytical and fabrication support for exploration projects.

### **6. Mineral block auction Consultancy**

During the current financial year, MECL, provided technical consultancy for six tranches of critical mineral auctions. Technical inputs were rendered for 23 blocks, all of which were successfully launched.

In addition, MECL extended technical consultancy to the Union Territory of Jammu & Kashmir for its first-ever auction of limestone blocks. Technical inputs were provided for seven limestone blocks, all of which were successfully launched.

### **7. Important Exploration Initiatives:**

MECL launched several strategic exploration programmes during the year, including the commencement of Rare Earth Elements (REE) exploration in

Kachchh and Banaskantha districts of Gujarat, strengthening India's pursuit of critical minerals. The Company also initiated lignite exploration at the Nichahom Block in Kupwara, UT of Jammu & Kashmir—marking a significant step towards supporting the region's energy diversification efforts. Additionally, MECL commenced exploration of fertilizer minerals in Bikaner, Rajasthan, further contributing to national priorities in agricultural resource security.

#### **8. Quality Certifications:**

MECL strengthened its institutional excellence by securing internationally recognized certifications—ISO 9001:2015 for Quality Management, ISO 14001:2015 for Environmental Management, and ISO 45001:2018 for Occupational Health & Safety. These certifications reflect MECL's commitment to quality-driven operations, environmental stewardship and ensuring a safe and compliant workplace across all exploration and support activities.

#### **9. International Collaboration:**

During FY 2025–26, MECL further advanced its international engagement strategy to support India's access to critical minerals and deepen global geoscientific partnerships. The Company continued its active role in Khanij Bidesh India Limited (KABIL), contributing technical expertise for overseas mineral evaluation, project assessments and due-diligence studies in priority geographies. MECL also supported ongoing cooperation with the Government of Catamarca Province, Argentina, under existing MoUs for the exploration and development of lithium and other strategic minerals. Additionally, in collaboration with the Geological Survey of India (GSI), MECL did joint field investigations for geological mapping in Zambia, expanding India's geoscientific footprint in Africa and fostering long-term opportunities for knowledge exchange and resource development.

#### **10. Business Development and Commercial Partnerships**

Through its business development initiatives, MECL has effectively leveraged its technical expertise, innovation and strategic collaborations to expand its footprint across India's mineral sector and international domains. By integrating advanced exploration technologies with competitive techno-commercial solutions, the Company has strengthened its position as a trusted partner for both public and private sector organizations. As of 31 October 2025, MECL's work portfolio stands at a provisional value of ₹564.24 crore, comprising projects for leading clients including Government organization, State DGMs/DMGs CPSEs, and private exploration & mining companies. MECL's strategic engagement framework is supported by a robust network of ongoing MoUs with OMECL, CMPDIL, DMG Goa, DGM Madhya Pradesh and MPSMCL, DGM Assam with RITES Ltd., HCL and NMDC. Strengthening its collaborative ecosystem further, MECL entered into new MoUs and agreements with the Provincial Government of Catamarca, Argentina for executing mineral exploration projects; Oil India Limited for critical mineral exploration; GSI (NR, CR & ER) for gravity and

magnetic surveys and associated reporting; NLCIL through a supplementary framework for additional exploration support; IIT Bombay for technical collaboration in mining and exploration; IBM for development of SOPs on geochemical analysis and quality management; MECON Ltd. for cooperation in the mining and mineral sector; and CSIR–NML for beneficiation and processing of coal and other mineral resources. Together, these partnerships reflect MECL’s growing influence and strengthened role in advancing national and global mineral development priorities.

## **11. Strategic Diversification and Consultancy Services**

MECL continued to broaden its service portfolio through diversified technical, analytical and advisory interventions, strengthening its role as a multi-disciplinary geoscientific organisation. Under its long-term MoU with the Geological Survey of India, MECL is undertaking NGPM surveys to generate critical baseline geochemical data for future exploration and resource development. The Company provided comprehensive support to the Government in preparing and executing forthcoming critical mineral auctions, while extending technical assistance to various State DMGs in strengthening their mineral auction frameworks. MECL’s geophysical capabilities were further demonstrated through ground surveys for fault delineation at opencast coal mine of WCL.

As a QCI-recognised referee laboratory, MECL is carrying out chemical analysis for government and private agencies, reinforcing its leadership in analytical and quality assurance services.

The Company also expanded its engineering and instrumentation services by providing rig-repair support to other exploration PSUs, offering specialised equipment services including repair and calibration of geophysical loggers for exploration companies, and supplying drilling accessories to various agencies, thereby strengthening operational efficiency across the exploration industry.

## **12. Corporate Social Responsibility (CSR) Initiatives**

MECL has consistently prioritized the welfare of communities around its project areas, implementing CSR initiatives that promote sustainable development, health, education, and environmental stewardship. In FY 2024–25, with an expenditure of ₹106.74 lakhs, the Company focused on improving healthcare, supporting vulnerable groups, and advancing education and environmental sustainability through measures such as portable water purification units, wheelchairs, and healthcare and educational programs across Chhattisgarh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha, and Rajasthan. Building on this, during FY 2025–26, MECL enhanced its CSR efforts with an allocation of ₹160.50 lakhs, including the installation of 30 portable water purification systems, distribution of 55 wheelchairs to government hospitals, procurement of 3 ECG machines in Chhattisgarh, and financial support for socially impactful programs such as free cervical cancer vaccination drives by Swasthya Vriksha Foundation, pediatric surgical care under Bal Shalya Kriya Mission, and HPLC testing for

students by the Thalassemia and Sickle Cell Society, Nagpur. These sustained and need-based interventions reflect MECL's strategic, community-focused approach, ensuring meaningful impact on healthcare, education, and social welfare, while reinforcing its commitment to inclusive growth and responsible corporate citizenship.

### **13. Contributions to National Mineral Inventory**

MECL's exploration activities have contributed significantly to the National Mineral Inventory, adding around 7133 million tonnes of mineral reserves. These include key minerals such as coal, lignite, iron ore, limestone, manganese, copper, graphite, potash and rock phosphate, solidifying MECL's position as a major contributor to India's mineral resources.

### **14. Dividend**

A final dividend of ₹212 per equity share amounting to ₹25.34 crore—30% of PAT—was remitted to the Government of India, underscoring MECL's commitment as a profitable and responsible CPSE.

### **15. Digital Transformation: MECL E-Office Inauguration**

During FY 2025–26, MECL's key IT achievements included seamless functioning and preventive maintenance of enterprise systems and geological data platforms, enhanced digital infrastructure and cybersecurity, development of BG & EMD Tracking and Referee Sample Tracking portals to streamline financial and sample management processes, and ongoing digitization initiatives such as a GIGW 3.0-compliant website revamp and evaluation of an advanced EPF Trust Management Application, significantly improving operational efficiency, transparency, and business continuity.

### **16. Industry Engagement and Workshops**

MECL actively engaged with the industry in 2025 through a series of workshops and events:

- **64th CGPB Meeting, Bhubaneswar (19 Jan 2025)**
  - Showcased critical mineral samples and handheld XRF technology.
- **Bharat Parv, New Delhi (26–31 Jan 2025)**
  - Highlighted MECL's contributions to India's mineral heritage and sustainable development.
- **NextGen Geophysics, GSITI Hyderabad (09–10 Jun 2025)**
  - Live demonstration of gamma ray spectrophotometer technology.
- **2nd Northeast Mining Ministers' Conclave, Guwahati (27–28 Jun 2025)**
  - Showcased North East mineral potential.
- **IITF-2025, New Delhi**

- Demonstrated advanced exploration technologies, critical mineral core samples, precision mapping, and analytical instruments.
- Highlighted MECL's pivotal role in India's mineral resource development and support for the Atmanirbhar Bharat mission.

## 17: Award and recognition

- The internal Hindi magazine "Khanij Pravah" was awarded the Third Prize by NARAKAS, recognizing its excellence in promoting Hindi among PSUs.
- Dr. Deepti Rahangdale, Manager (Chemical) at MECL, was honored with the Women's Achiever Award for her outstanding expertise in advanced mineral and coal analysis at the "Celebrating Women in Mining" program, underscoring MECL's commitment to empowering women in the mining sector.

MECL's performance in FY 2025–26, up to 30th November 2025, underscores its role as a strategic and industry-centric partner in India's mineral sector. Beyond achieving strong exploration and financial results, MECL has expanded its diversified services portfolio—including geological and geophysical surveys, core drilling, resource evaluation, technical consultancy, geochemical and geophysical analysis, rig repair and instrumentation support—catering to the evolving needs of both public and private sector clients. By combining cutting-edge technologies with innovative solutions, MECL supports sustainable mineral development, facilitates critical mineral auctions, strengthens national and international collaborations, and delivers high-value, customized services that enhance operational efficiency across the mining and exploration ecosystem.



Exploratory Drilling activity in Coal Field, Dhandab



Annual Project Manager Meet -2025



Training for Gamma Ray Spectrometer



MECL has been awarded for securing 1st position in the National Learning Week for achieving the "Minimum 4-Hour Learning Goal.



Induction of LIBS Core Scanner



	<p>Exploration for Lignite in Jammu &amp; Kashmir</p>
	<p>Hon,ble Union Minister, Shri Arjun Ram Meghwal visited Bikaner potash Exploration Site</p>
	
<p>MoU with Catamarca Province, Argentina</p>	<p>MoA with GSI</p>
	
<p>MoU with OIL</p>	<p>MoU with NML -CSIR</p>

## J. Indian Bureau of Mines (IBM)

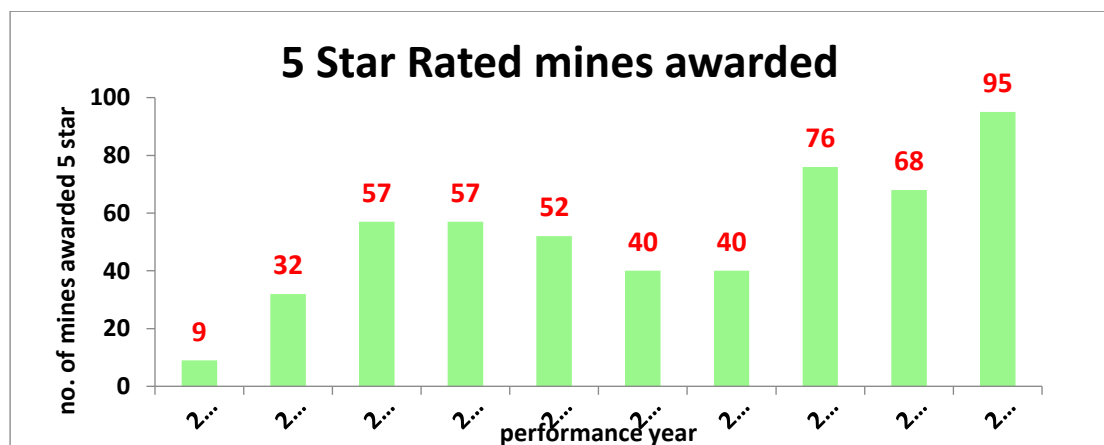


Besides IBM's core charter of functions, i.e. carrying out various field inspections, Ore Dressing investigations, some of the major achievements are:

### 1. Implementation of the Sustainable Development Framework (SDF) through online evaluation system of Star Rating of Mines:

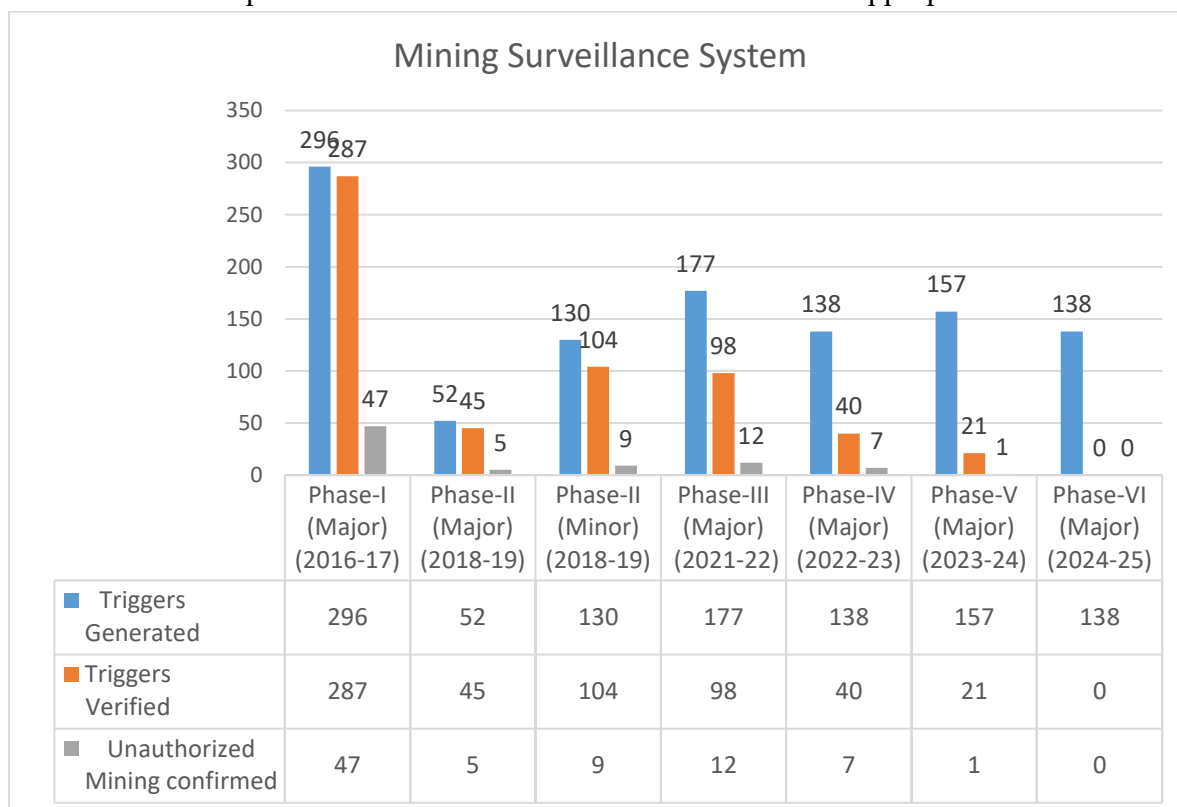
- For the performance year 2023-24, 95 five-star rated mines were felicitated on 7th July, 2025 at Jaipur. The ceremony was graced by Shri G. Kishan Reddy, Hon'ble Minister of Coal & Mines, along with Shri Bhajanlal Sharma, Hon'ble Chief Minister of Rajasthan and Shri Satish Chandra Dubey, Hon'ble Minister of State for Coal and Mines.
- 3 mines out of 95 five-star rated mines were awarded seven-star rating for exceptional performance in 'Green Mining'. The theme for this year, **"Green Mining"**, focused on critical areas such as **carbon footprint reduction, renewable energy usage, green mining practices, sustainable logistics, and ecological restoration**. This initiative not only raises performance standards across the sector but also reinforces India's leadership in integrating **economic development with environmental stewardship**.

The year wise 5 Star Rated mines since inception of Star Rating System are given below:



Felicitation of five star rated mines on 7.7.2025 at Jaipur

2. **Mining Surveillance System (MSS)** is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology. Using the Mining Surveillance System, during 4<sup>th</sup> phase in 2022-23, 138 triggers are generated for major minerals. So far, 40 triggers have been verified and 07 cases of unauthorized mining have been detected. During the 5<sup>th</sup> Phase after the approval accorded by competent authority i.e. Ministry of Mines for uploading the 157 triggers generated during 2023-24 on MSS portal, the same were forwarded to the respective State Governments for verification and appropriate action.



### 3. Mining Tenement System

- Mining Tenement system (MTS) is a flagship project of Indian Bureau of Mines and it's a unique application, first of its kind in the world which is a digital transformation of Mineral Concession life cycle. With MTS, IBM envisions digitizing of entire processes of the core modules which in turn can induct a workflow-based system to increase the efficiency, and service delivery and transparency in its charter of functions.
- As part of this project, IBM also envisions conducting enhancements, wherever applicable. The following modules were launched /upgraded.
  - (i) **Notices/ Reports:** - Launched on 20/01/2025 at 3<sup>rd</sup> National Mining Ministers' Conference 2025, Konark, Odisha
  - (ii) **Revision** - Launched on 20/01/2025 at 3<sup>rd</sup> National Mining Ministers' Conference 2025, Konark, Odisha
  - (iii) **Mineral Processing** - Launched on 20/01/2025 at 3<sup>rd</sup> National Mining Ministers' Conference 2025, Konark, Odisha, which address the vision of National critical Mineral Mission.

- (iv) **Inspection** - Launched on 20/01/2025 at 3<sup>rd</sup> National Mining Ministers' Conference 2025, Konark, Odisha



#### **Launch of MTS Modules at the 3rd National Mines Ministers' Conference**

- **Prestigious Gold Award** – Gold award under the category Government Process Re-engineering by use of Technology for Digital Transformation at the National Award for e-Governance (NAeG) 2025, Presented by the Department of Administrative Reforms and Public Grievances (DARPG), Government of India.



#### **MTS (IBM) awarded Gold award at the National Award for e-Governance (NAeG) 2025**

- **Other Benefits accrued**
  - (i) Reduction in the compliance burden & Ease of Doing Business to various stakeholders.
  - (ii) Reduction in Carbon footprint as now entire process is paperless. Eg. Mining Plan earlier were a bulky paper book/ Plans is now paperless work.
  - (iii) Facilitate Quartz, Felspar, Mica, Berytes mining lease holder by simplification in registration Modules for them.
  - (iv) Development of Hon'ble Minister's Dashboard.
  - (v) Upgradation and Dashboard of Drone Data Management System.
  - (vi) Upgradation in MIDPAS Module facilitated virtual Inspections.
  - (vii) Mineral processing module aligning with National Critical Mineral Mission by facilitating sample reports uploaded online by all Ro's, RMPL Labs, JNRDC and GMRDC.



(viii) Development of registration module for Offshore Minerals.

(ix) API with PM Gati Shakti (WIP).

(x) API with Unified Portal of Mining (WIP).

4. **UAV survey related activities:** IBM issued Standard Operating Procedures under sub rule (5) of rule 34A of MCDR, 2017 for carrying out drone survey and submission of Digital Aerial Images of Mining areas to IBM. A register of receipt of drone/ satellite data submitted by the lessees under rule 34A of MCDR 2017 is being maintained at IBM. IBM at its Headquarters has recently commissioned its largest Data Centers with capacity of 131 Terabytes. During the year 2025, Digital Aerial (Drone and Satellite) Images of 1326 mines have been received online in Drone Data Management System (DDMS) portal of IBM under Rule 34A of MCDR 2017.

Indian Bureau of Mines

Drone Data Management System

Welcome to the Admin Dashboard - MTS Project

Home

Change Password

Display Record

Download Manual

Logout

Search records

Show

10

entries

Excel

Copy

CSV

Print

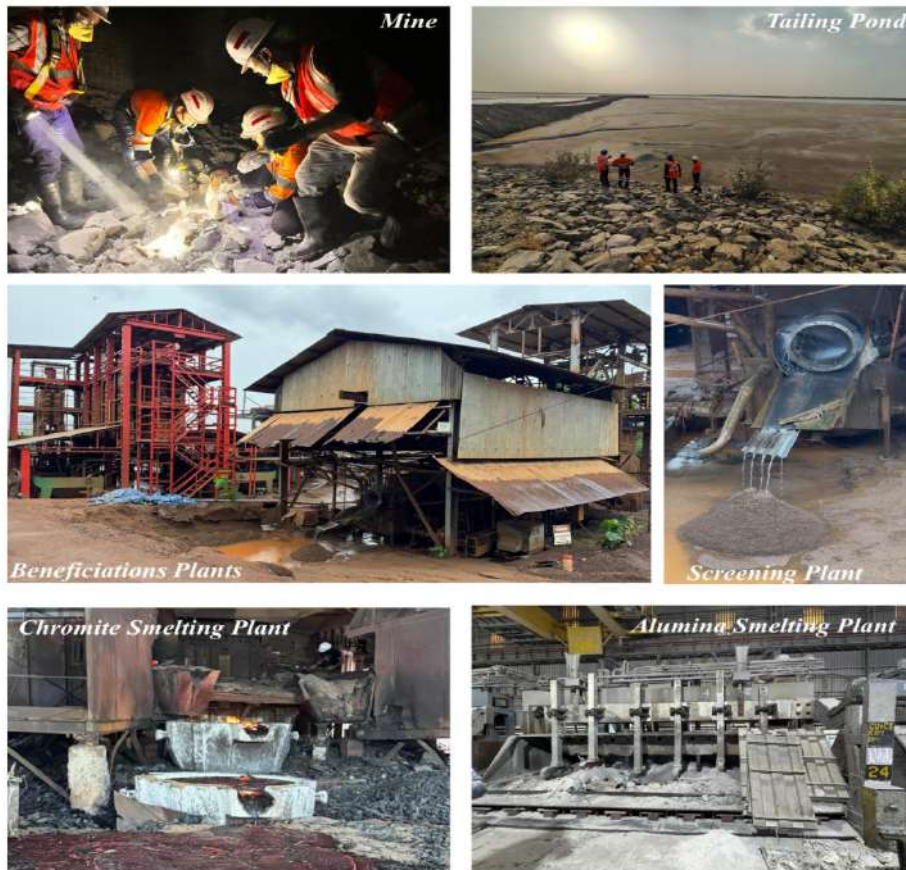
Sr. No.	Mine Code	Region Name	State Name	Version of Submission	Submission DateTime	File Size	Download Action	Period of Data	Total Production (in Million Tons)	Total Excavation (in Million Tons)	Total Area (in Hectares)	Submission Type	Data Type	Documents Type	HQ Comment Action	HQ Comment
1	38MEG03014	Guwahati	Meghalaya	38MEG03014Y2023-2	2024-12-10 12:28:26	2.17GB	Download	2023	0	0	4.00	Annual Submission	satellite	.rar file	Comment	
2	38MEG03014	Guwahati	Meghalaya	38MEG03014Y2022-1	2024-12-09 15:42:19	2.17GB	Download	2022	0	0	4	Mining Plan Submission	satellite	Drone Data ( DSM, DTM, Orthomosaic, HTML, CSV,	Comment	
3	38GUJ08021	Gandhinagar	Gujarat	38GUJ08021Y2023-2	2024-12-09 15:04:32	1.24GB	Download	2023	73.53	119.00	24.2811	Annual Submission	drone	.zip doc, pdf, xls, shp	Comment	
4	38GUJ21095	Gandhinagar	Gujarat	38GUJ21095Y2023-2	2024-12-07 14:57:22	5.48GB	Download	2023	0.2813	0.2813	101.17	Annual Submission	drone	TIF, jpg, Shp, CSV, pdf, excel doc	Comment	
5	38APR14039	Hyderabad	Telangana	38APR14039Y2023-3	2024-12-07 14:05:39	13.63GB	Download	2023	0.99	0.99	42.6	Annual Submission	satellite	38APR14039Y2023.zip	Comment	
6	38APR14039	Hyderabad	Telangana	38APR14039Y2023-2	2024-12-07 13:53:23	5.29GB	Download	2023	0.99	0.99	42.6	Annual Submission	satellite	38APR14039Y2023.zip	Comment	
7	38CHG01016	Raipur	Chhattisgarh	38CHG01016Y2023-1	2024-12-06	1.10GB	Download	2023	0.0001	0	15.9	Annual	satellite	38CHG01016Y2023	Comment	



Analysis of drone data imageries in MIDPAS Portal

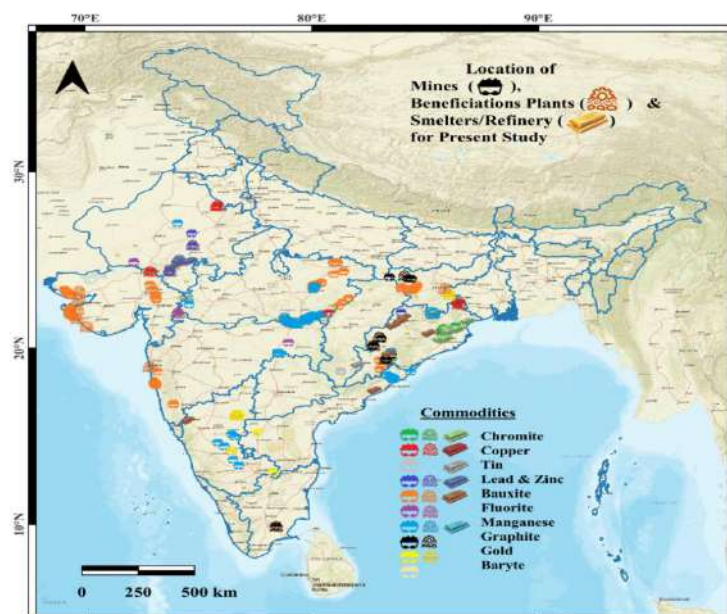
5. **National Geochemical database of Mines and Potential of Critical Minerals from Legacy Dumps, Tailings & Process Wastes**

With the vision of *Viksit Bharat*, the Government of India has strengthened its national agenda on critical and strategic minerals, placing special focus on tapping secondary resources from legacy dumps, tailings, and processing wastes such as smelter slags. Recognising this potential, the Ministry of Mines entrusted the Indian Bureau of Mines (IBM) with a nationwide assessment of waste dump, mine tailings and process wastes generated across the entire mining value chain to ascertain the presence of critical mineral and possibility of recovering the critical minerals from mine dumps and tailings.



Under this initiative, Indian Bureau of Mines undertook a preliminary scoping study covering ten primary commodities consisting of Chromite, Copper, Tin, Lead & Zinc, Bauxite, Fluorite, Manganese, Graphite, Gold and Baryte. A total of 2,383 samples were collected from 311 mines, 32 beneficiation and 27 Smelting and refinery plants across the country and analysed for various radicals.





Based on the promising findings of critical minerals across various waste streams such as Nickel, Cobalt, and Platinum Group of Elements (PGEs) from chromite waste dumps; Gallium, Vanadium, and Rare Earths Elements (REEs) from bauxite mines; Molybdenum, Selenium, Tellurium, and Platinum Group of Elements (PGEs) from copper smelters; Cadmium, Antimony, and Bismuth from lead–zinc smelters; Niobium and Tantalum from tin slag; and Rare Earths Elements (REEs) from fluorite mines and beneficiation plants detailed discussions were held with stakeholders to take up further detailed work for the feasibility of recovering the critical minerals available from these critical minerals hotspots.

A national seminar on “Critical Minerals’ Extraction from Mine Tailings & Waste: Opportunities and Challenges”, was also organised as a part of this initiative, jointly by the Indian Bureau of Mines (IBM) and National Mineral Development Corporations Limited in Nagpur on 09 May 2025.



#### **6. Visit of Hon'ble Union Minister of State for Coal & Mines Shri Satish Chandra Dubey to IBM Headquarters in Nagpur**

In his first visit to Indian Bureau of Mines' Headquarters in Nagpur, Hon'ble Union Minister of State for Coal & Mines Shri Satish Chandra Dubey planted a sapling as part of the "Ek Ped Maa ke Naam" campaign. He was accompanied by Senior Officers of Indian Bureau of Mines.

During his visit to the IBM Headquarters, Shri Satish Chandra Dubey, Union Minister of State for Coal & Mines, was taken round IBM's Geographic Information System (GIS) laboratory. The lab plays a crucial role in the monitoring of mining areas and management of mineral resources. Shri S.K. Adhikari, Chief Mining Geologist, and Shri T.K. Sonarkar, RMG, briefed the Minister on functioning of the GIS lab. The Minister also visited IBM's Mining Tenement System cell where Controller of Mines (MTS) Shri Pushpendra Gaur explained to him various aspects of the flagship project that ensures ease of doing business in the Mining Sector with streamlined approvals, digital compliance and greater transparency.

The Honourable Minister of State for Coal & Mines, chaired a comprehensive review meeting with Senior Officers of the Indian Bureau of Mines at its Headquarters in Nagpur on 28th November 2025. Shri Pankaj Kulshrestha, Controller General (I/c) briefed the Minister on various functional facets of IBM, its achievements and the key role it plays in the Mining Sector. During the meeting, the Minister stressed the need for securing self-reliance in Critical Minerals, which are essential for survival.



**Shri Satish Chandra Dubey, Union Minister of State for Coal & Mines, at IBM HQ at Nagpur**

#### **7. Average Sale Price (ASP) :**

IBM has recently made a giant leap forward with the advancements of its MTS Project by launching the New Average Sale Price (ASP) Module. Hon'ble Minister of Mines Shri Pralhad Joshi on 23.01.2024 at State Mining Ministers' Conference launched the Average Sale Price (ASP) module, an online platform where the real-time data of submitted returns was automatically fetched from the returns module ([ibmreturns.gov.in](http://ibmreturns.gov.in)). Overall, this system facilitated the ease of doing business & cut down the time requirement to generate the ASP. This New ASP Module enables IBM to bridge the time gap in the release of the Average Sale price of minerals. During the current year 2025, the Average Sale Price (ASP) for Minerals and Metals up to September, 2025 has been hosted on IBM website.





8. IBM brought out important publications like Indian Minerals Year Book 2023 (Volumes I to III), the Annual Bulletin of Mining Leases, Composite Licences, Exploration Licences and Auctions – 2024, which have been released and uploaded on the IBM website, and Monthly Statistics of Mineral Production (MSMP) up to September, 2025 issue to disseminate the technical data for interest of all stakeholders.
9. **Human Resources Development: Human Resources Development:** As part of the capacity building of human resources, in the year 2025 (upto November 2025), IBM has conducted 24 training programmes in which 847 IBM employees, 834 Industry personnel and 65 State DGM Officials participated and revenue of Rs. 25,77,728/- (Rupees Twenty-Five Lakhs Seventy-Seven Thousand Seven-Hundred Twenty-Eight only) was generated.
10. Two officers of IBM were felicitated by Hon'ble Union Minister of Coal and Mines Shri G Kishan Reddy and Hon'ble Minister of State Coal and Mines Shri Satish Chandra Dubey during the "Celebrating Women in Mining Sector" event held in Hyderabad on 06.03.2025. Smt. Jyoti Shrivastava, Suptdg, Chemist and Smt. Preeti Mishra, Dy. Ore Dressing Officer from Modern Mineral Processing Laboratory (MMPL) and Pilot Plant, Mineral Processing Division (MPD) Nagpur were felicitated for their exceptional contribution.
11. Indian Bureau of Mines in commemoration of its 78<sup>th</sup> Foundation Day on 1<sup>st</sup> March 2025 observed the Day as Khanij Diwas. To mark the occasion a bunch of events was conducted and a grand function was organised at its Headquarters in Nagpur as well as at all zonal/regional offices and ore dressing laboratories on 1<sup>st</sup> March 2025. Ahead of Khanij Diwas celebrations, a voluntary blood donation camp was organised on 28.02.2025 at IBM (HQ). In line with the initiative at the IBM (HQ), the Jabalpur Regional Office also organised a Blood Donation Camp ahead of Foundation Day. IBM family participated enthusiastically and employees donated blood in this camp. All the donors were felicitated with certificate of appreciation.

## K. Geological Survey of India (GSI)

- (i) During the FS 2024–25, 1,156 projects have been implemented, comprising 300 under M-I (Baseline Geoscience Data Generation), 435 under M-II (Mineral Exploration), 67 in M-III

(Geoinformatics), 165 in M-IV (Fundamental & Multidisciplinary Geoscience Research), and 189 in M-V (Training and Capacity Building).

(ii) In the current FS 2025-26, GSI has taken up 1,122 projects comprising 243 in M-I (Baseline Geoscience Data Generation), 468 in M-II (Mineral Exploration), 75 in M-III (Geoinformatics), 176 in M-IV (Fundamental & Multidisciplinary Geoscience Research), and 160 in M-V (Training and Capacity Building). The project execution is in progress.

(iii) Under **Baseline Geoscience Data Generation (Mission-I)**, GSI has completed the following surveys during January 2025 to November 2025:

- a) Specialized Thematic Mapping-29,964 sq. km (on 1:25,000 scale) out of the target of 22,800 sq. km.
- b) National Geochemical Mapping and Geochemical Assessment of Core Deccan Trap-65,072 sq. km (on 1:50,000 scale) out of the target of 58,000 sq. km.
- c) National Geophysical Mapping-1,63,922 sq. km (on 1:50,000 scale) out of the target of 1,28,000 sq. km through in-house resources. In addition, 2,02,484 sq. km area completed through outsourcing.
- d) National Aero-Geophysical Mapping Programme (NAGMP), a flagship program of GSI to acquire uniform aero-geophysical data over the pre-identified geological potential area. During January 2025 to November 2025, around 86,107 sq. km have been covered through NAGMP survey for identifying potential areas for further survey & exploration.

(iv) Under **Natural Resource Assessment (Mission-II)**, GSI has completed the following during January 2025 to November 2025:

- a) Large Scale Mapping-18549.40 sq. km (on 1:10,000/12,500 scale) out of the total target of 17,725 sq. km.
- b) To give impetus to exploration for Critical and Strategic Minerals (CSM), 195 CSM projects executed during FS 2024-25 and 230 CSM projects are under execution in the current field season 2025-26 which also includes 93 exploration programmes on Rare Earth Elements (REEs) of FS 2025-26. The state-wise break-up of REEs exploration programme are as follows: 17- Rajasthan, 11-Jharkhand, 10-West Bengal, 6 each in Karnataka, Meghalaya, and Bihar, 5 each in Telangana and Odisha, 4 each in Andhra Pradesh, Assam, Chhattisgarh, and Maharashtra, 3 each in Gujarat, Madhya Pradesh, and Tamil Nadu, and one each in Tripura and Kerala.
- c) To encourage participation of private and other exploration agencies for exploration of larger areas, GSI has provided 7 Regional Mineral Targeting (RMT) blocks to the National Mineral Exploration and Development Trust (NMEDT) for exploration by Notified Private Exploration Agencies (NPEAs) for implementation with the support of NMEDT fund. Out of these, 5 blocks have already been taken up by NPEAs. GSI has also carved out and handed over 15-G3 mineral blocks in Siwana Ring Complex, Rajasthan to NMEDT for exploration by NPEAs for expediting exploration of an identified large mineral deposit.
- d) In January 2025, GSI has handed over a total of 63 nos. of Geological Reports (G2/G3) to the Ministry of Mines (MoM) and State Government. Out of 63

Geological Reports (GR), 39 GR (22-limestone, 05-iron ore, 04-copper, 04-manganese, 03-gold, and 1-gypsum) were handed over to the respective state governments and 24 GR of critical minerals (6-Vanadium, 6-REE, 4-graphite, 4-potash, and 1 each of cobalt and molybdenum) were handed over to MoM. Simultaneously, GSI handed over 19 nos. Geological Memorandums (GM/G4) to the state government and MoM. Out of 19 nos. GM, 8 were handed over to the respective state government (3-bauxite ore, and 1-each of copper, iron ore, lead, limestone and aluminous laterite) and 11 GM were handed over to MoM (4-vanadium, 2-graphite and 1-each of cobalt, molybdenum, nickel, potash and REEs). In the month of November 2025, another 7 GR (3-vanadium and 1-each of glauconite, nickel, REE and tungsten) and 1 GM (titanium) was handed over to MoM.

- e) GSI has also handed over 04 resource-bearing coal blocks to Ministry of Coal in the month of January, 2025.
- f) In addition, GSI has also handed over 11 Exploration License (EL) Blocks in the month of October 2025.
- g) GSI has discovered natural hydrogen resource in the Andaman and Nicobar Islands, marking India's first finding of naturally occurring hydrogen in the month of February 2025.

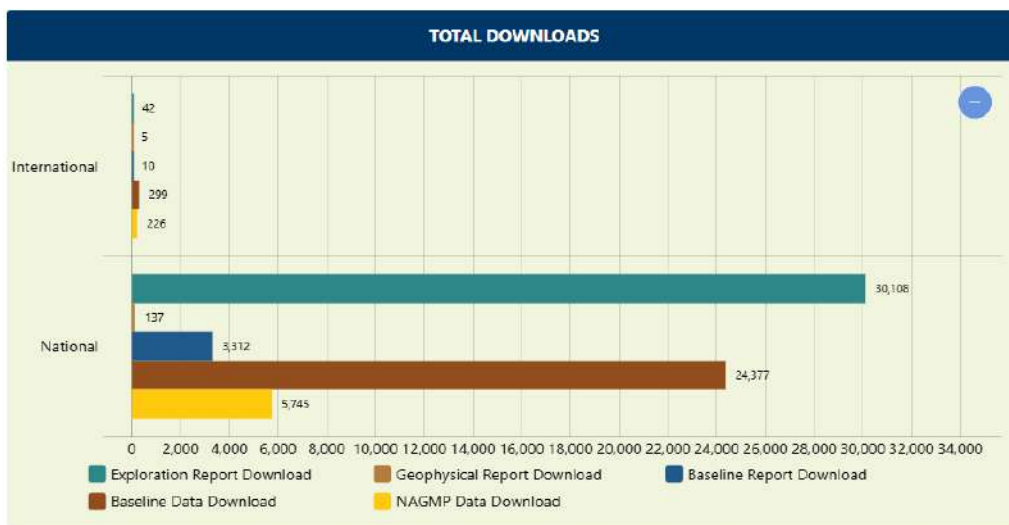


**Gas bubbles coming out through fracture planes within thrust zone over the ultramafic and mafic rocks of Ophiolite Group, detects upto 75 % LEL (30000 ppm) H<sub>2</sub>, Kodyaghat area, South Andaman.**

- (v) Under **Geoinformatics (Mission-III)**, the following work has been completed or are under progress during January 2025 to November 2025:
  - a) GSI is developing Next Generation Portal (Portal-NG), which will be user-friendly, having a simplified approach and will have the facility for integration of app-based services and upgradable as per user demands (National and International).
  - b) National Geoscience Data Repository (NGDR) has seen significant growth, with the uploading of 5,290 reports (GSI: 3330, Stakeholder: 1960) during the

year 2025, bringing the total number of geoscientific reports presently available on the NGDR portal to 15,741 nos. (GSI: 12732, Stakeholder: 3009). During this period, 22 new stakeholders also registered under NGDR portal to share reports to upload in the NGDR portal. Both these Geospatial portals (NGDR & BHUKOSH) of GSI serve public for downloading, accessing and interpreting the data as per their requirement without any restriction and in every month almost 9000 users are downloading the data from these portals.

- c) GSI in collaboration with NRSC-ISRO, integrated Bhoonidhi App data into NGDR through API, providing free access to LISS-3 & LISS-4 data for all seasons. The API for free data access was inaugurated on 16.01.2025.
- d) The special issue '175 Years of GSI' volume-79 (i) of the in-house scientific journal 'Indian Journal of Geosciences' was released in August, 2025 by Shri Asit Saha, Director General, GSI.
- e) GSI published 25 major publications during the period, viz. Indian Journal of Geosciences, Gondwana Basin of India, Status of Gold Exploration in Jharkhand etc.
- f) GSI released 17 maps during the period, viz. 1:2M scale Metallogenic Map of India, 1:250K districts map etc. and also release Quaternary Geological Map of India on 1:5M scale

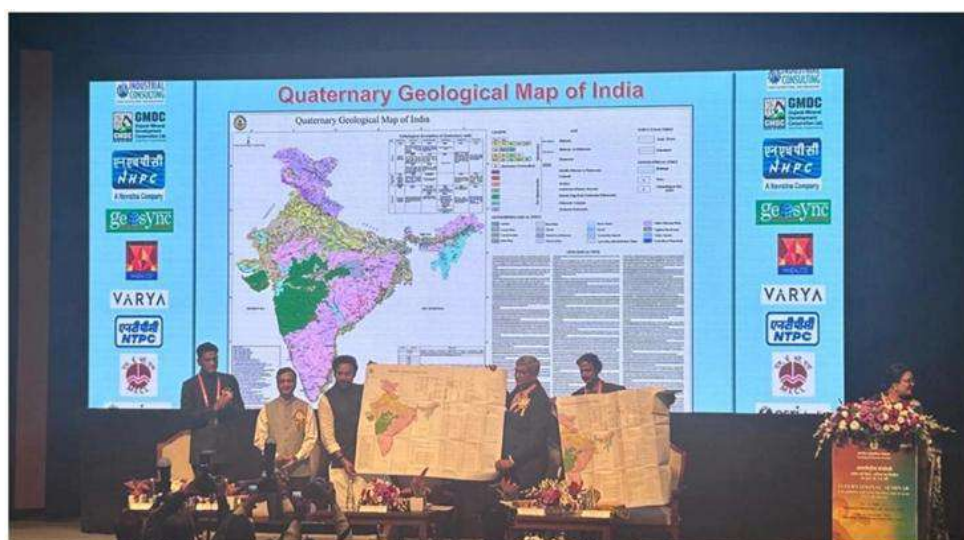


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ALS Golspot, Canada		National University of Rosario		Argentina
Queen's University, Canada		University of Western Australia		Australia
Tim Archer, Natural Resource Consulting, United Kingdom		RadiXplore		Australia
University of Western Australia		Queensland University of Technology		Australia
RadiXplore, Australia		Fortescue Metals Group		Australia
Lombardi Group, Switzerland		Sibelco		Belgium
Bell Geospace, USA		UnilaSalle		France
Bandung Institute of Technology, Indonesia		CAU Kiel		Germany
Ivan Portnov, Russia		Beak Consultants GmbH		Germany
Universite de Poitiers, France		Bandung Institute of Technology		Indonesia
University of the Free State, Bloemfontein, South Africa		Mineral exploration corporation limited		Iran
		Adeph minerals as		Norway
		Universite de Poitiers		Ukraine
		Reid Geophysics Limited		United Kingdom
		Natural Resource Consulting		United Kingdom
		Getech		United Kingdom
		University of Exeter		United Kingdom
		University of California		United States
		SLB		United States
		Stanford		United States
		University of Maryland College Park		United States
		CSM		United States
		LithoAys LLC		United States

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### Release of Quaternary Geological Map by Hon'ble Union Minister, Coal and Mines

(vi) Under **Fundamental & Multidisciplinary Science (Mission-IV)**, GSI carry out public good geosciences and research projects across the country as well as in polar region (viz. Antarctica). In FS 2024-25, GSI has successfully completed 83 projects under geotechnical and geohazard management, 33 projects of climate change and ecosystems studies and 49 fundamental geoscience and research projects. These works are spread across hydropower and irrigation projects, landslide and slope stability assessments, seismic hazard evaluation, groundwater and geo environmental studies, critical mineral exploration, paleontology, sedimentology, and environmental reconstructions, enabling informed decisions for infrastructure development, hazard mitigation, and resource management. In FS 2025-26, GSI undertook 181 projects across the country. Over 130 of these projects directly benefit society through work on landslide dynamics, GLOF, groundwater contamination and environmental studies, while 26 projects supported R&D in Critical mineral exploration, demonstrating GSI's continued commitment to geoscience innovation and national development. The following has been achieved during January 2025 to November 2025:

- Advancing Disaster Risk Reduction through Strategic International & National Partnerships: GSI signed key MoUs with the Central Water Commission (CWC) and the National Water Informatics Centre (NWIC) for real-time sharing of hydrological and rainfall data to enhance glaciological, hydrological, GLOF and landslide studies. Through the MoU with CNR-IRPI, Italy, GSI's LEWS model received international

recognition, including appreciation from the World Food Programme and MINEMA (Rwanda), strengthening India's global leadership in landslide forecasting science.

- b) Supporting Strategic National Infrastructure with Geotechnical Expertise: GSI played a central role in strengthening road and tunnel infrastructure across strategic corridors by reviewing DPRs for major tunnel projects in Jammu & Kashmir (Chenani–Nashri, Vailoo), Ladakh (Fotu La), Assam, and the Varanasi–Kolkata corridor. GSI also undertook 28 geotechnical investigations for hydropower, road, rail, and water-resource projects and signed collaboration frameworks with NHAI and MoRTH to provide continuous geotechnical support for national infrastructure.
- c) National Landslide Forecasting Centre (NLFC) Expansion & Strengthening of India's Landslide Early Warning System (LEWS): India's first National Landslide Forecasting Centre, established by GSI in 2024, expanded its coverage from 16 to 21 districts across 11 states in the year 2025, issuing real-time operational and experimental bulletins through the Bhusanket Portal and Bhooskhalan Mobile App. To strengthen forecasting, GSI signed MoUs with the Central Water Commission, National Water Informatics Centre, Nagaland and Uttarakhand SDMA, the Indian Institute of Tropical Meteorology, and Italy's CNR IRPI, integrating real time rainfall data and advanced prediction models.
- d) Strengthening India's Clean Energy Transition through Geological Support to Pumped Storage Projects (PSPs): GSI played a vital role in accelerating renewable energy integration by providing timely geological and geotechnical appraisal for 8 Pumped Storage Projects (PSPs) with a total capacity of 10,000 MW concurred by CEA in 2025. These appraisals enabled faster clearances and robust DPRs. With 13 more PSPs (22 GW) in the pipeline for 2025–26, GSI continues to support India's energy security and storage infrastructure.
- e) Seismotectonic and seismic hazard studies were advanced in fragile zones of the Northeast and Himalayan belt. Active fault mapping, paleoseismic assessments, and GPS strain monitoring were undertaken in the Teesta basin, Narmada Valley, and Cambay Basin. Seismic microzonation was carried out in Kolasib (Mizoram), Udaipur (Tripura), and Ongole (Andhra Pradesh), while micro earthquake monitoring was carried out in Nagpur, Maharashtra.
- f) Groundwater pollution studies focused on fluoride, arsenic, uranium, and heavy metals were undertaken in Bihar, Jharkhand, West Bengal, Odisha, Assam, Uttar Pradesh, Punjab, Haryana, Madhya Pradesh, and Andhra Pradesh. The contamination sources were identified as both geogenic and anthropogenic, providing critical insights for environmental management and public health.
- g) Coastal studies in Andaman, Konkan, and Odisha examined morphodynamics, erosion–accretion patterns, and beach placer composition. Glacial research in Antarctica (Nivlisen, Larsemann Hills, Lomonosov Mountains) assessed ice mass balance, retreat, and orogeny extension. Himalayan studies reconstructed Late Quaternary glaciation, moraines, ice wedge pseudomorphs, and paleo permafrost evidence in Arunachal Pradesh.
- h) Critical mineral studies for the identification and characterization of mineralization in various rock suites such as pegmatites, granites, carbonatites, and ultramafic were attempted in North Andaman, Maharashtra, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, Meghalaya, Karnataka, Andhra Pradesh, and Tamil Nadu. Search for REE-enriched zones was attempted in Kutch, Meghalaya, and the



Western Dharwar Craton. Other important fundamental research included planetary science studies for characterisation of meteorite fallen in Indian territory, paleontological studies in Rajasthan, Gujarat, Madhya Pradesh, Assam, Odisha, Tamil Nadu, Karnataka, and West Bengal, focusing on documentation of fossils, paleoenvironment, biostratigraphy, and paleoclimate reconstructions. Sedimentological and geochemical reconstructions were attempted in Central, Western, Southern, and Coastal India, while Sahyadri basalts were studied for CO<sub>2</sub> sequestration potential. These efforts produced several national and international publications in leading journals.

	
<p><b>Visit of British High Commissioner to the National Meteorite Repository, CHQ, Kolkata</b></p>	<p><b>Visit of delegates from British Geological Survey to the National Meteorite Repository, CHQ, Kolkata</b></p>

- (vii) Under **Training & Capacity Building (Mission-V)**, GSI Training Institute (GSITI) successfully conducted 144 training programmes across diverse thematic areas, benefiting 2,911 participants from GSI, various State DGMs, and other external organizations during January 2025 to November 2025. In addition to these training initiatives, 47 workshops/seminars/lectures were organized with a total participation of 2,206 attendees. As part of the 175th Year Celebrations of GSI, GSITI hosted the Conference on “Next-Gen Geophysics: 2025 – Unlocking Earth’s Hidden Treasures”, which witnessed the participation of 326 national and international delegates. Further, under the ITEC initiative of the Ministry of External Affairs, GSITI successfully conducted three international courses, training 61 participants from 47 countries. Under the national initiative of Rashtriya Karmayogi – Large Scale Jan Seva Programme, 50 programmes were conducted with 1,374 employees trained. GSITI also organized a Workshop on Regional Mineral Targeting for NPEAs, which was attended by 24 participants.

During the period, GSI Training Institute organized Indian Technical and Economic Cooperation (ITEC) sponsored training program on “Remote Sensing and Digital Image Processing for Geoscientists” under the Ministry of External Affairs, Government of India fostering global cooperation, knowledge exchange & advancing geospatial skills and the same was inaugurated on 27.11.2025 at GSI Training Institute, Hyderabad. The program includes 20 participants from 19 countries including Mongolia, Ghana, Ethiopia, Fiji, Venezuela, Egypt, Zimbabwe, Tanzania, Kingdom of Eswatini, Uzbekistan, Nigeria, Nepal, Kenya, Cambodia, Vietnam, Mauritius, Sri Lanka, Myanmar and South Sudan.

GSI Training Institute has achieved a significant milestone by earning the “उत्कृष्ट/Very Good” accreditation from the National Accreditation Board for Education and Training (NABET) under the Capacity Building Commission’s National Standards — an upgrade from its earlier “अतिउत्तम” rating on 18.11.2025.



GSI received certificate of accreditation “उत्कृष्ट/Very Good” from the National Accreditation Board for Education and Training (NABET) under the Capacity Building Commission’s National Standards — an upgrade from its earlier “अतिउत्तम” rating on 18.11.2025.

- (viii) During the period January 2025 to November 2025, Total 33 nos. of **national level MoUs** have been signed out of which 30 nos. are new MoUs and 3 nos. were extension of MoU. The MoU with different organisations and institutes includes IIT (ISM); MoRTH, CES&HS; NCS; Indian Navy; NGRI; Assam SDMA; Water Resource Dept. (WRD), MP; NEEPCO; CGWB; DDMR, Mizoram; Meghalaya SDMA; WRD, Tamil Nadu; Dibrugarh University; TDMA, Tripura; SDMA, Arunachal Pradesh; SDMA, Manipur; PDEU; Narmada Valley Development Authority (NVDA); VMF Technology; IIT Bombay; NPCIL; IITM, Pune and IIT KGP etc.



**Hon'ble Minister of Coal and Mines Shri G. Kishan Reddy at the Next-Gen Geophysics: 2025 conference at GSI Training Institute, Hyderabad.**

- (ix) **Establishment of Data processing Interpretation and Integration Cell (DPIIC) by GSI at Bengaluru:** The DPIIC is being established as a national-level geoscientific hub by GSI at Bengaluru to accelerate mineral deposit discovery including concealed and deep-seated mineralization through computer aided classical and advanced AI/ML/DL methodologies. The centre will serve as a one-stop facility for the systematic ingestion, processing, AI/ML/DL-assisted interpretation, integration, and dissemination of multidisciplinary geoscientific datasets and technical reports. Currently, the DPR is under approval.
- (x) **Drone Surveys:** GSI launched its first drone-based magnetic survey in two sectors: (a) Ladera, Devpura, and Sakhun villages of the Dudu region, Rajasthan and (b) Madanasahi-Kesharpur-Dudhiasol sector, Mayurbhanj District, Odisha, during February 2025. GSI also launched a drone-based magnetic survey in the Mahakoshal Belt in October 2025.
- (xi) **Internal Resource Generation:** During the period, total Rs 1,83,53,629/- has been generated as Internal Resource and Rs. 28,14,972/- collected as GST by way of undertaking various commercial activities such as sponsored commercial geotechnical works; multidisciplinary & fundamental research; sale of maps, unpublished reports; providing analyses of samples (petrological/ chemical/ mineral physics/ geotechnical Labs.), EPMA studies and gem testing etc.
- (xii) **Hackathon:** GSI participated in the inauguration ceremony of the ongoing Hackathon "Mineral Targeting using Artificial Intelligence" organized by MoM in association with India-AI Mission and Digital India Corporation, MeitY. Honourable Minister of Coal & Mines, Shri G. Kishan Reddy and Honourable Chief Minister of Goa, Dr. Pramod Sawant inaugurated the Hackathon 2025 on 13.03.2025 in the presence of Secretary, Ministry of Mines Shri V.L. Kantha Rao.

Two GSI teams including one All Women Team have secured two prizes in the India AI Hackathon 2025 organized under the Applications Development Pillar of the IndiaAI Mission, in collaboration with GSI, Ministry of Mines. The winners were announced on

06.11.2025 and felicitated in presence of Prof. Ajay Kumar Sood, Principal Scientific Advisor to the Govt. of India, Shri S.Krishnan, Secretary, MeitY and other distinguished guests.

(xiii) **Celebration of 175 Year of foundation of GSI:**

1. On the occasion of the 175-year celebration, Honourable Minister of Coal & Mines, Shri G. Kishan Reddy launched the following mobile apps on 4<sup>th</sup> March, 2025, the foundation day of GSI:
  - a. Field Data Acquisition (FDA)
  - b. Bhuvirasat
  - c. Bhooskhalan
2. As part of GSI's 175 years, GSI successfully conducted an International Seminar” Unearthing the Past, Shaping the Future” at Jaipur on 20.11.2025-21.11.2025. The seminar was inaugurated by Honourable Minister of Coal & Mines, Shri G. Kishan Reddy.
3. As part of its 175 years of celebration, GSI has organised following landmark national workshops involving all the stakeholders from DGM, Private Exploration agencies, NEAs, Govt. institute and universities:
  - (i) Advances in Geosciences: New Insights and Sustainable Solutions for Safe Living in Mountainous Regions” (AG-ISM 2025) at the State Convention Centre, Shillong on 08.04.2025.
  - (ii) Next-Gen Geophysics 2025: Unlocking Earth’s Hidden Treasures’ on 09th and 10th June 2025 at the Geological Survey of India Training Institute (GSITI), Hyderabad.
  - (iii) Critical Minerals on August 7th and 8th, 2025, in Jabalpur, Madhya Pradesh

(xiv) **Geoheritage sites in the Tentative List of UNESCO World Heritage Sites (Natural Category):** In a landmark development, 7 geologically significant sites from India—popularly referred to as Geoheritage sites—have been included in the Tentative List of UNESCO World Heritage Sites (Natural Category) on 27 August 2025. The seven sites are i) Naga Hill Ophiolite Nagaland, ii) Deccan Traps at Panchgani and Mahabaleshwar, Maharashtra, iii) Geological Heritage of St. Mary’s Cluster, Karnataka, iv) Meghalayan Age Caves, Meghalaya, v) Erra Matti Dibbalu (Red Sand Dunes), Andhra Pradesh, vi) Tirumala Hills, Andhra Pradesh, vii) Varkala Cliff, Kerala. This milestone has been made possible through sustained efforts in the field of Geoheritage conservation by the GSI and Ministry of Mines (MoM).

(xv) **Inauguration of GSI Geoscience Museum, Gwalior:** The GSI Geoscience Museum in Gwalior was inaugurated on 15th December, 2024 by Hon’ble Vice President Shri Jagdeep Dhankhar in the august presence of several distinguished dignitaries, including Shri Mangubhai Patel, Governor of Madhya Pradesh, Dr. Mohan Yadav, Chief Minister of Madhya Pradesh, Shri Jyotiraditya M. Scindia, Union Minister of Communications and Development of North Eastern Region, Shri Satish Chandra Dubey, Minister of State for Coal and Mines, Shri Narendra Singh Tomar, Speaker of the Madhya Pradesh Legislative Assembly, Shri Bharat Singh Kushwah, Member of Parliament, Gwalior. The Geoscience



Museum was developed in coordination with the Municipal Corporation, Gwalior, Madhya Pradesh and National Council of Science Museums (NCSM), Ministry of Culture. The setting-up of this museum reflects GSI's commitment to advancing geoscience awareness and sparking curiosity about the Earth and its resources.



**Inauguration of GSI Geoscience Museum, Gwalior**

(xvi) The **international activities of GSI** continued by way of interaction with numerous international scientific organisations/ bodies and foreign agencies through active involvement in collaborative programmes and scientific projects including participation in seminars/ symposia/ workshops/meetings, etc. During Jan-Dec. 2025, 49 officers from GSI participated in such international activity. Geological Survey of India being the premier earth science organization in the country has been collaborating with other countries for knowledge sharing and technology upgradation. Glimpse of activities during 2025 is given below:

**A glimpse of MoU/MoA signed with International Organization/Institute during the year (Jan-Dec 2025)**

1.	<b>Glimpse of virtual signing of MoU and Implementing Arrangement with the Research Institute for Geo-Hydrological Protection of the National Research Council (CNR-IRPI), Italy</b>	
		

	 
2.	<b>Glimpse of virtual signing of extension of MoU b/w Geological Survey of India, Ministry of Mines, Republic of India and the British Geological Survey of the Natural Environment Research Council of UK, a component of the United Kingdom research and innovation</b>
	 

**Major highlights of the PR initiatives undertaken by Geological Survey of India in the year 2025 are listed below:**

- The 64th Central Geological Programming Board Meeting was held in Bhubaneswar on 19 January 2025 to deliberate and finalize the Field Season Programme of GSI for 2025–26 and to chart out new initiatives for the upcoming year.
- The Geological Survey of India organized a Walkathon on 2nd March 2025 across all its offices nationwide to commemorate 175 years of GSI's rich geoscientific legacy.
- Hon'ble Union Minister of Coal & Mines, Shri G. Kishan Reddy, inaugurated the 175th Foundation Day Ceremony of GSI at Kolkata on 4th March 2025.
- National Conference on “Advances in Geosciences: New Insights and Sustainable Solutions for Safe Living in Mountainous Regions” (AG-ISM 2025) was organised in Shillong on 8th April 2025.
- Hon'ble Union Minister of Coal & Mines, Shri G. Kishan Reddy, inaugurated the Next-Gen Geophysics seminar at GSI Training Institute, Hyderabad on 9th June 2025.
- GSI Celebrated 1st Anniversary of National Landslide Forecasting Centre at Kolkata on 18th July 2025.
- National Conference on Critical Minerals was held at Jabalpur on 7th August 2025 commemorating 175 years of GSI.
- GSI released the Operational Landslide Forecast Bulletin for Rudraprayag district, Uttarakhand on 04 September 2025.



- UNESCO added seven Geoheritage sites of India to its World Heritage Tentative List on 27th August 2025, marking a major milestone in GSI's nationwide mandate to identify, document, and conserve geological treasures.
- Geological Survey of India and the Geological, Mining and Metallurgical Institute (INGEMMET), Republic of Peru, signs a Memorandum of Understanding and Inter-institutional Cooperation Agreement on 23.09.2025 at Arequipa, Peru for the collaborative studies and knowledge exchange in the fields of regional geology, mineral and energy resources, environmental geology, geological hazards, laboratory study and other advanced technologies.
- Shri G. Kishan Reddy, Hon'ble Union Minister of Coal & Mines, participated in the Swachhata Hi Seva 2025 campaign of GSI in Hyderabad.
- The Geological Survey of India organized an International Seminar on "Unearthing the Past, Shaping the Future: 175 Years of GSI" at the Rajasthan International Centre, Jaipur, on 20–21 November 2025. The event was inaugurated by the Hon'ble Union Minister of Coal and Mines, Shri G. Kishan Reddy, and featured thought-provoking plenary sessions and guest lectures by distinguished national and international experts.



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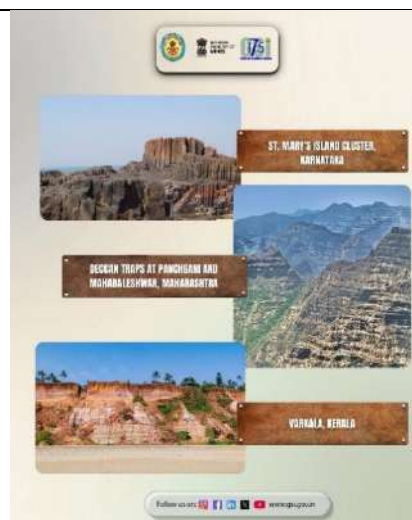
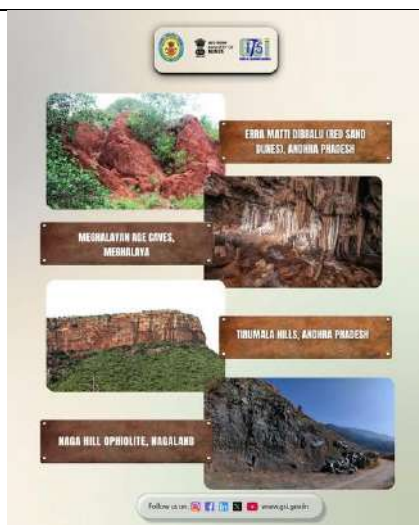


**GSI Celebrated 1<sup>st</sup> Anniversary of the National Landslide Forecasting Centre at Kolkata on 18<sup>th</sup> July 2025.**





**The National Conference on Critical Minerals was held at Jabalpur on 7<sup>th</sup> August 2025, commemorating 175 years of GSI.**



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## **L. Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC), Nagpur**

### **Major activities:**

The Centre successfully completed six projects, and 19 R&D projects are currently in progress for various government and non-government organizations. JNARDDC has also been empanelled as a BIS-recognized laboratory under the Laboratory Recognition Scheme (LRS), enabling the Institute to offer accredited testing services in alignment with forthcoming QCO requirements.

The previous year marked a major national milestone with the Union Budget announcement establishing the National Critical Mineral Mission (NCMM). The Mission—approved by the Union Cabinet on 29.01.2025 with an outlay of ₹16,300 crore and ₹18,000 crore expected investments by PSUs which aims to build a resilient critical mineral value chain essential for green technologies. JNARDDC is playing a key role in NCMM through setting up of pilot plants for critical mineral recovery, REE and critical mineral characterization, and strategic support to IBM and GSI. The Centre is also serving as a “Spoke” to two national Centres of

Excellence, CoEs viz IIT Hyderabad and IISc Bangalore.

### **Key assignments for Ministry of Mines (MoM) –**

- Metal Recycling Authority (MRA) - to carry out the functions earmarked for MRA as stipulated in the “National Non-Ferrous Metal Scrap Recycling Framework 2020.”
- EPR for aluminium scrap
- Implementing agency for promoting startups and MSMEs through S&T- PRISM program.
- Project Management Agency (PMA) for implementation of incentive scheme on critical mineral recycling.
- Project Management Agency for Ministry of Mines’ Scheme titled “Pilot Projects for Recovery of Critical Minerals from Overburdens / tailings/ fly ash / red mud etc.”

### **JNARDDC as PMA for Incentive Scheme on critical mineral recycling**

Following the approval by the Union Cabinet on 29.01.2025, the National Critical Mineral Mission (NCMM) has been set up, comprising several key components such as increasing exploration and auction of critical mineral blocks to increase domestic production, acquisition of critical mineral assets abroad, recycling, skilling, research & development, etc. Specifically, as per the NCMM, an incentive scheme for the recycling of critical minerals, with the quantum of incentive pegged at ₹1,500 crore, has been envisaged with JNARDDC as the Project Monitoring Agency (PMA). The Scheme will provide financial incentives to the industry to develop recycling capacity for critical materials in the country for the separation and production of critical minerals from secondary sources through recycling. The objective of the scheme is to foster economic resilience in critical minerals through increased domestic capacity and reduced import dependence; and to address recycling capacity shortfalls amidst increasing availability of feedstock. The scheme was rolled out on 2<sup>nd</sup> Oct 2025.

### **Implementation of S&T- PRISM Scheme for Startups & MSMEs**

Under PRISM 4.0 the Ministry of Mines sanctioned funds to the following six agencies (i) Spectrum Industries, Mangalore, Karnataka (ii) K2BJN Industries LLP; Srirangam, Tamil Nadu (iii) Fonsmet Materials Private Limited, Raigad, Maharashtra (iv) NiLiCo Green Technologies Pvt Ltd; Bengaluru (v) Bhagyanagar magnesium Pvt Ltd, Hyderabad, Telangana and (vi) Aegion Aerospace Private Limited, Sonipat, Haryana. JNARDDC successfully carried out technical and financial due diligence of these entities before release of funds. The funding is positioned to act as a bridge between development and commercialization of innovative technologies/products/services in a relatively hassle free manner. JNARDDC played the pivotal role as the implementing agency by evaluating the proposals to the final award of the project with Director, JNARDDC as the chairman of the Technical Evaluation Committee. It underscores the Ministry’s focus on innovation-driven growth through Startups and MSMEs.

### **Patent:**



“A Process for Producing Pilot Scale Extrusion Billets and Extrudates From Machining Swarf”. Appl. No. 202521042386, Date: 01-05-2025 (Filed)

### Transfer of Technology:

- i. Transfer of SPL detoxification technology/process for safe handling, treatment, and detoxification of hazardous SPL (first cut) generated from Aluminium smelters, particularly in the state of Odisha and its further utilization to following agencies:
  - ARCANE Minerals Trading, AMT, Cuttack
  - A3 Minerals and Metal Export Private Limited Cuttack
  - Evolve Karbons Private Ltd. Bhubaneswar
- ii. Transfer of Technology of “Process for Producing Pilot-Scale Extrusion Billets and Extrudates from Aluminium Machining Swarf” to:-
  - Greenmetalix, Kalmeshwar, Nagpur

### Setting up of Recycling Promotion Division to promote circular economy

The following activities were undertaken for implementation of the National Non-Ferrous Metal Scrap Recycling Framework 2020.

- JNARDDC is setting up a state of art Centre of Excellence for Non-Ferrous Metal Recycling (Demonstration, Research & Skill Development Unit).
- Launch of the Non-Ferrous Metal Recycling Website & Stakeholders' Portal ([nfmrecycling.jnarddc.gov.in](http://nfmrecycling.jnarddc.gov.in)) as a national database and facilitation platform by Shri G Kishan Reddy, Hon'ble Minister of Coal and Mines on 7<sup>th</sup> May 2025.
- Over 600 recycling industries are registered.



- Stakeholder consultations were held under the supervision of Ministry of Mines for deliberations on the draft guideline documents prepared by JNARDDC:
  - Process standards for scrap recycling Products
  - Laying down Minimum Infrastructure requirement for recycling units
  - Develop performance indicators and a mechanism for ranking and evaluation of units in coordination with MoEF&CC and other stakeholders
- Vision document for Circular Economy for Non-Ferrous Metals (NFM) in India through PwC: Facilitated stakeholder consultations to support the development of the inception



report and Module 1 prepared by PwC. The drafts of Module 1 and Module 2 are currently under review by JNARDDC.

### **International Collaborations**

During the year, JNARDDC expanded its global footprint by initiating meaningful negotiations for collaborations that strengthen India's capabilities in critical minerals, recycling, and advanced materials.

- **Blacksmith Institute dba Pure Earth Lab, New York, USA:** Ongoing project for lead contamination in recycled aluminium cookware-Identifying sources and developing strategies for lead removal.
- **Ma'aden Bauxite and Alumina Company, Saudi Arabia:** Project commenced on study on effect of addition of dust suppression chemicals in bauxite processing.
- **JSC Titanium Institute, Ukraine** – Collaboration for indigenization and pilot-scale demonstration plant for gallium extraction (1000 litre capacity) from Bayer liquor, including technology transfer and pilot plant engineering.
- **Daiki Aluminium Industry Co., Ltd., Japan** – Technical cooperation on aluminium recycling, alloy development (ADC12/LM24), and best practices in circularity, feeding into the Centre of Excellence for Non-Ferrous Recycling. Ongoing project for utilization of aluminium dross in synthetic slag preparation for secondary steel making
- **RUSAL & Russian institutes (MiSIS)** – Knowledge exchange on red mud processing, iron recovery, alumina refining improvements, and sustainable metallurgical technologies.
- **Arabian Extrusions Factory L.L.C, Umm Al Quwain, U.A.E.** – JNARDDC having NABL ISO-17034:2016 accreditation exported certified reference materials, CRMs which will be used as stands for calibration and other commercial purposes.

### **Awards / Recognition**

JNARDDC has been recognized among the **Top Five Innovative Research Institutions** in the country for the year 2025 by the **Confederation of Indian Industry (CII), New Delhi**. Dr Anupam Agnihotri Director JNARDDC was formally felicitated during the CII Innovation Award Ceremony 2025.



## Review of JNARDDC by Shri Satish Dubey, Hon'ble Minister of State for Coal & Mines

Shri Satish Dubey ji, Hon'ble Minister of State for Coal and Mines, Government of India, and Member of Rajya Sabha, visited JNARDDC on 27 November 2025 to review the Centre's ongoing R&D programs. During the visit, he inaugurated the new XRF Laboratory—an important addition that substantially strengthens JNARDDC's analytical and testing capabilities. The laboratory will serve key stakeholders such as the Geological Survey of India (GSI), Indian Bureau of Mines (IBM), Odisha Mining Corporation (OMC), and various other public and private agencies. It holds particular significance for critical mineral assessment, offering enhanced capabilities for analyzing fluorine, cobalt, rare earth elements, and other strategic or high-value minerals vital to India's expanding mineral sector.



## Special Campaign 5.0

JNARDDC spearheaded the nationwide domestic e-waste recycling initiative under special campaign 5.0 of Ministry of Mines. Implemented across 58 locations in the country, the

campaign successfully collected 9.02 tons of e-waste through authorized recyclers such as ATTERO Recycling and MRAI, with over ₹11 lakhs disbursed. The initiative aimed to raise awareness about responsible e-waste management and recycling, promoting sustainable practices among employees and partner organizations.

### **Pioneering Role in the National Critical Minerals Mission**

1. JNARDDC has emerged as an implementing arm of the National Critical Minerals Mission (NCMM). A series of pilot and demonstration plants—conceptualized, designed, and are being established to recover strategic elements and convert industrial wastes into high-value products. These projects collectively aim to strengthen India's position in the global clean-energy and circular-economy value chain.

#### **1.1 Pilot and Demonstration Plants for Strategic Elements**

- **Gallium Extraction from Bayer Liquor** : Undertaken in collaboration with **JSC Titanium Institute (Ukraine)**, a 1,000-litre pilot-cum-demonstration plant is being set up at JNARDDC — India's first such facility. It will produce 4N-purity gallium for use in semiconductors, LEDs, and defence electronics.
- **Scandium Recovery from Red Mud and Titanium Residues (Final stage of negotiation)**: Initiated under his direction in collaboration with RUSAL (Russia) and Indian partners, this project will utilise India's vast red-mud resources for the recovery of scandium which is critical to aerospace and energy applications.
- **Nickel recovery from pharmaceutical waste (Ongoing)**: This project targets recovery of nickel and cobalt from pharmaceutical spent sludge, helping India secure essential materials for the EV and battery-manufacturing ecosystem.
- **Nickel and chromium recovery from secondary steel industry (Ongoing)**: This project targets recovery of nickel from secondary steel recycling industries, helping India secure essential materials.
- **Tantalum and Niobium Recovery from Tin Slag (Ongoing)**: JNARDDC has initiated a novel process in association with BHU using triazine-derived g-C<sub>3</sub>N<sub>4</sub>-based separation to recover niobium and tantalum from tin-slag deposits in Chhattisgarh. These metals are critical for high-temperature alloys, capacitors, and defence technologies.
- **Gallium Recovery from TiO<sub>2</sub> pigment industry waste (Ongoing)**: A new project in collaboration with CSIR-NIIST aims at developing an -efficient process for recovering Gallium from paint/pigment industry waste to support India's strategic industries.
- **Potash Recovery from rock dust (Granitic Gneiss) (Ongoing)**: A new project in collaboration with CSIR-NIIST aims at developing an -efficient process for recovering potash from rock dust (granitic) to support India's strategic industries.

#### **1.2 Waste-to-Wealth and Circular-Economy Demonstration Projects**

- **Red Mud to Bricks (NALCO Damanjodi) (To commence in Dec 2025)**: A demo-cum-pilot facility is being established in partnership with M/s Manishri Ceramics & Refractories Ltd. to convert red-mud into construction bricks, enabling large-scale utilisation of this major waste stream.

- **Red Mud to Pigments for Paint Industry:** Another pilot-scale facility is under development to convert red-mud into pigment-grade material for use in paints, with active participation from domestic paint manufacturers as industry partners.
- **High-Purity 3N Alumina and Zeolite from Extrusion Plant Waste:** A pilot-scale plant is being established to convert aluminium-extrusion sludge into 3N-grade alumina powder and zeolite (for detergent and catalyst industries). This project exemplifies sustainable value addition to industrial waste.
- **Salt Dross to Reusable Flux for Recycling Industry:** A 100 kg pilot-scale facility is being commissioned to transform salt dross into reusable fluxing material, achieving a zero-waste process in aluminium recycling.
- **Recycling of Multi-Layer Packaging Materials (MLP):** A 1 TPD pilot plant is being set up for mechanical and chemical disengagement of plastics, metals, and polymers in MLP waste to produce recyclable and value-added products.

## M. National Institute of Rock Mechanics (NIRM)

### National Institute of Rock Mechanics (NIRM) and key areas of work

NIRM has been in the service of the nation for 35 years combining industry specific applied research activities in enabling scientific and engineering solutions through site characterisation, design and excavation of underground structures, advanced monitoring of rock mass and testing services.

Key area of NIRM activities are :

1. **Site Characterisation**– NIRM has capability to characterise various project sites like mining, tunnel, dam, power plants and critical infrastructures based on engineering geological, seismotectonic, engineering geophysical, engineering seismological and in-situ geotechnical tests of rockmass.
2. **Design and Excavation** – surface and underground mine design, excavation engineering, controlled blasting, numerical modelling, design of hill slopes
3. **Advanced Monitoring** – microseismic monitoring, slope stability monitoring, conventional instrumentation monitoring
4. **Testing Services** - laboratory testing of rock samples & wire ropes and in-situ testing of various mining accessories using NDT technique

### NIRM Performance and Projections

Work Completed Projects during 01 January 2025 till 30 November 2025: 28

Cost of Work Completed Projects ₹9.90 crores.

Projects in pipeline: 33, Cost of Projects in pipeline: 11.15 Cr

Expected Cash Flow till March 31, 2026: ₹13 Cr.

Projects Awaiting Closure: ₹20Cr.(tentative)



The cashflow of work at NIRM is dependent on industry requirements and duration of projects running at national and state level which is always variable. During this period, NIRM has 75% of annual cash flow target.

NIRM is striving to meet industry demands through its workforce and resources with augmented scientific instrumentation and upgraded facilities. As the institute is pursuing self-sustenance model based on earnings from projects, for financial sustainability, to continue high-quality services under challenging and variable industry trends, NIRM needs strong support in terms of skilled young human resources, strong administrative framework, and healthy financial outlay for sustainability and growth. NIRM aims to strengthen its workforce and improve its resources through effective planning and the support of Ministry of Mines, Govt. of India. With this support NIRM looks forward to gear up its activities to reach better its performance by reaching out to various industries and global organisations.

**In order to meet the demands and challenges of the industry, skills and awareness of industry trends are prime for the scientific workforce.** The scientists and scientific staff of the institute are self-motivated to give their best for the challenges provided through work enquiries and provide efficient solutions that are site specific. NIRM scientists have been members of various expert Committees in providing their professional services for BIS, ISRM, ISEG, MEAI, KSDC, KSDMA, IGS, IGU, ISET, and ISRMTT. To engage young minds and budding engineers and scientists from academics, students are engaged in dissertation and internship programmes from time to time.

#### **MoU**

NIRM has so far signed MoU with GSI, MoRTH, NHIDCL, NPCIL, SCT (NSW) and different mining technology and services companies for augmenting its services in various sectors.

### **NIRM Achievements: Advancing Safety, Innovation, and Reliability, in Mining and Tunnelling Infrastructure**

#### **Engineering Geological Investigations for Railway Tunnels**



(i) The Engineering Geology Scientists teamed up for remapping (on 1:100 scale) at Tarapur Atomic Power Project Units 1, 2, 3, and 4 in Maharashtra to evaluate foundation parameters for the Onsite Emergency Support Centre (OESC). Mapping of all the critical discontinuities in the rock mass, the assessment of RMR for basaltic rock masses, led to vital recommendations for the treatment of the foundation. See here is the bird's-eye view of the OSEC Building foundation, the grids are being marked for geomapping



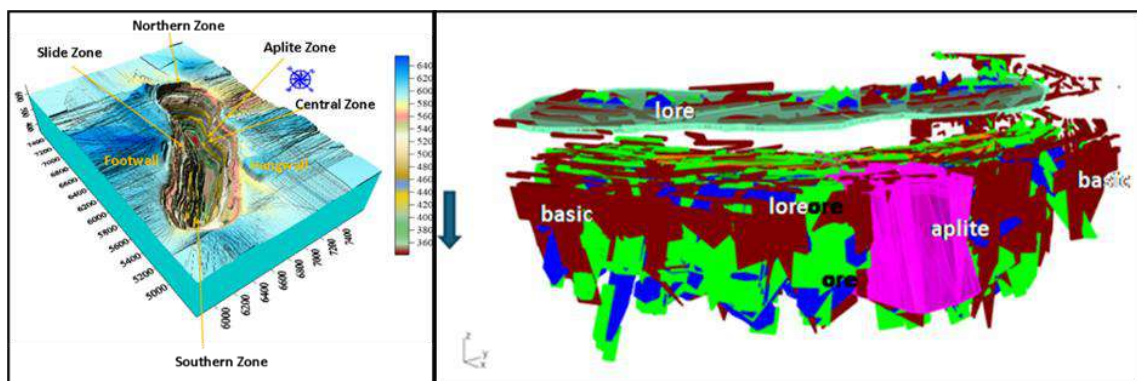
(ii) A new railway broad gauge line is being constructed between Dhansiri to Zubza by Northeast Frontier Railway (NFR) to meet its future rail connectivity needs for both passenger and freight traffic. The project includes the construction of 14 tunnels in total. Northeast Frontier Railway (NFR) management approached NIRM for carrying out the design review and audit of under construction railway tunnels (Tunnel No. 1, 4, 6, 7 and 10) in Dimapur-Kohima railway line, Nagaland. NIRM scientists worked at the site and provided comprehensive engineering geological investigation report recommending excavation method for safety and durability.

(iii) Northeast Frontier Railway is constructing the Jiribam-Imphal Railway Project and is facing significant geotechnical challenges at critical locations, including slope stability and tunnel alignment in complex geological conditions. These challenges were address by detailed study by NIRM scientists at the site particularly at Portal-1 of Tunnel No.8 (chainage km 34/111), Tupul Yard (chainage km 96.040 to km 97.958), and Noney Yard (chainage km 87.400 to 88.502). Stability analysis was carried out for the identification of vulnerable/risky zones, recommended for mitigation measures enabling safe tunnels for transport.

(iv) NIRMcarried out engineering geological investigations and mapping for the 1.2 km twin tunnels (NH150A) during the construction stage at Kurnool, Andhra Pradesh. The shape of a tunnel is half semi-circular, and the maximum excavated width & height are 18.50 m and 10.95 m. As this area is situated near the contact between Kurnool and Cuddapah formations. Due to mixed ground conditions and wide variations in physical, mechanical, and structural characteristics of different litho-units, anisotropic and inhomogeneous behaviour of tunnel media is observed all along the tunnel periphery. The work helped the tunnelling work to address the challenges at the site during excavation and provided timely solution for progress.

### **Numerical Modelling and Analysis for subsurface excavation for tunnels**

(i) The Open pit mine of Malanjkhanda Copper Project (MCP), Hindustan Copper Limited (HCL), has reached its ultimate pit limit. Moreover, a large slide has occurred in the mine site, resulting in the redistribution of stress regimes and the destruction of planned benches. NIRM scientists worked on geological and mine development details and provided vital inputs through 3D geological model of the mine that enabled insights into the stability of the underground mine during excavation in places such as the footwall drive, sub-footwall drive, ore drive, and junctions



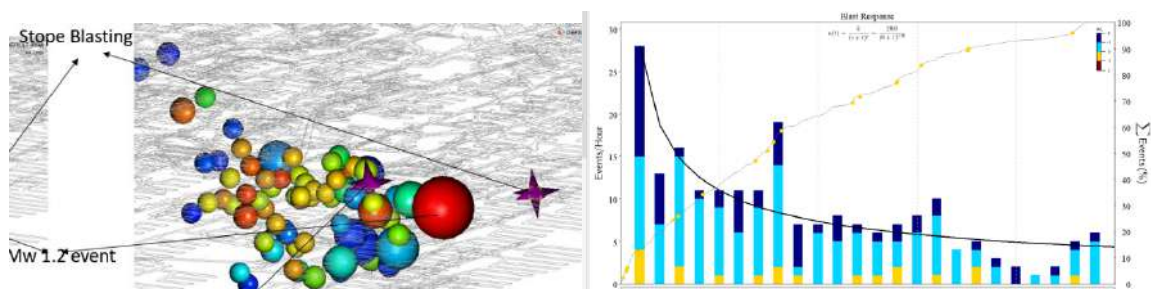
*Digital Elevation Model of the open pit (left) and 3D Geological model of the pit (right)*

(ii) The Kadipani opencast fluorspar and Kadipani expansion project of GMDC spanning over 252 hectares is one of the significant mines in Gujarat for their fluorspar deposits. The processed fluorspar is a key raw material for manufacturing hydrofluoric acid, refrigerant

gases, and as a flux in metallurgical industries. NIRM worked on critical mine parameters through 3D numerical modelling, kinematic analysis and stability analysis of the ultimate pit slope and its design. The work of NIRM had facilitated safety and sustained productivity at the mines.

### **Microseismic monitoring of seismic hazard in underground mines**

(i) NIRM scientists provided support through guidance on Underground mine induced seismicity analysis and continuously evaluated seismic hazard and probability of major disturbances in the form of rockbursts and anomalous stress zones in the Rampura Augha underground mines. This real-time monitoring for the deep mine that is working at 1000 m depth with increased mining-induced seismicity led to crucial analysis for support of stope design and that of workings. The trigger action response plan was refined leading to better management of underground hazard and sustained production.



### **Controlled Blasting for additional units of turbine at NPCIL Kaiga site**

(i) NIRM technically guided critical excavation in the area of NPCIL power plant at Kaiga using controlled blasting. Hard rock must be excavated by drilling and blasting methods at additional turbine building units 5 & 6 locations, which are closer to the structures of units 1



to 4. Based on the study of ground vibration, air overpressure and specific site predictor equation designed safe excavation for different structures. The adopted blast designs ensured that the monitored ground vibrations and air overpressure levels near the critical structures were well within the

permissible limits. In total more than 1400 blasts were carried out close to the operating unit of nuclear power plant as close as 20m to 300m.

### **Landslide site restoration and further mitigative recommendations**

Detailed studies by NIRM scientists carried out at the landslide affected areas along the highway section of NH-66 CH. 148.000 (14.603554°N / 74.371219°E) of NH-66, in Shirur village, Ankola Taluk, Uttara Kannada District, Karnataka. Vulnerable/risky zones were identified and recommendations for mitigation measures to prevent further landslides were done in record short duration. This helped the highway authorities restore the highway for public transport. One of the worst landslide scene in the recent history of highway slopes.

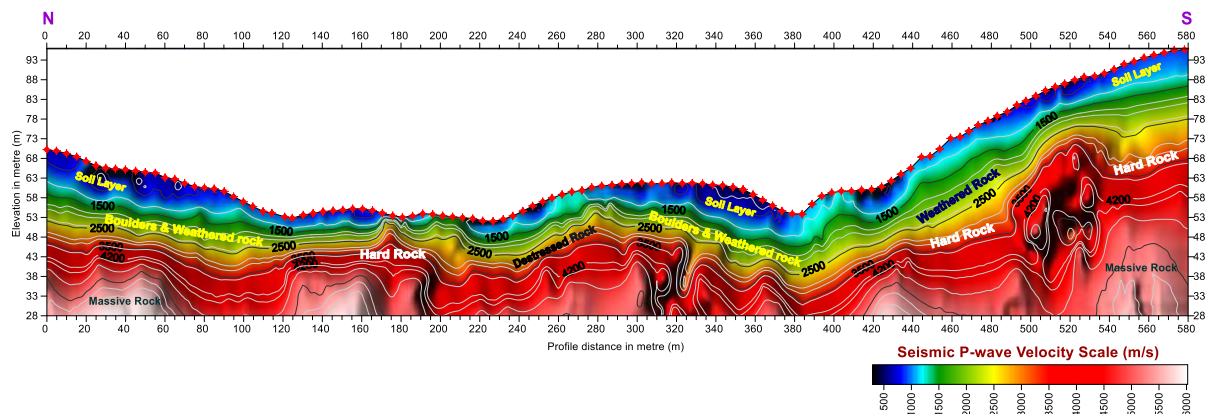
## NIRM excavation design at the Chennai Airport



For the expansion of Terminal 3 at Chennai airport adjacent to the operating terminal buildings, flight parking area, and critical blasting was carried out as part the excavation activities. All the blasts conducted during the field investigation close to the existing public

infrastructure were safe and unaffected by the excavation work owing to NIRM skill.

## NIRM geophysical investigations quantifies rock resources for the Vadhvan Port Project, Navi Mumbai



As per the estimate, the quantum of required for the project is more than 65 MMt. For the quantum of armour rocks and aggregates requirement for the Vadhvan Port Project, Navi Mumbai, Navi Mumbai, from the three quarry sites in the Palghar District, geophysical imaging of the subsurface rock conditions proved significant for the optimal utilisation of the resource up to 40 m depth, unearthing the estimated weathered rock/ boulders/ destressed rock layer, and hard rock that was useful for the construction.

## Slope Stability Studies for Left Bank Slope/Abutment of Concrete Dam of Subansiri Lower Hydroelectric Project (2000 MW) NM2307C

NHPC Ltd reached out to the National Institute of Rock Mechanics (NIRM) for a comprehensive analysis of the slopes, requesting both continuum and discontinuum analysis. The slope stability analyses were performed through continuum modelling using FLAC3D and discontinuum modelling, utilising the 3DEC software. The modelling approach focused on the representation of critical joint sets and geological structures, for assessing the stability conditions of the left bank slopes. NIRM has recommended the stabilisation measures based on the outcome of the numerical modelling results. Final Report submitted in September 2025

## Analysis of Instrumentation Data of Powerhouse Complex of Phuentsangchhu-II Hydroelectric Project, Bhutan (January 2025 to February 2026) (NM2404C)

The Punatsangchhu-II Hydroelectric Project in Bhutan was instrumented by NIRM with MPBX, anchor load cells, instrumented rock bolts, piezometers, strain gauges, and borehole stress meters installed across major underground caverns. NIRM has been monitoring, and analysing the data analysing the data and periodically recommended measures for stabilising

deformations and loads at most locations. NIRM scientists inspect to validate the analysis and the outcome.

### **Advanced Training Program to Industry**

#### **(i) Druk Green Employees at Thimphu, Bhutan. HR-2501**

NIRM conducted a five-day training program for Druk Green employees (20 officials) on RocScience Software at Thimphu, Bhutan. The training program was conducted from 23-06-2025 to 27-06-2025. The training program covered Rocscience software, namely RS2, RS3, Dips, Unwedge, Slide2D and Slide 3D.

**(ii) Numerical Modelling Department scientists attended ‘Advanced software training program on Itasca codes from 21<sup>st</sup> July to 31<sup>st</sup> July 2025 at Itasca Minneapolis office, Minnesota, USA.** The training program conducted by Itasca was designed to provide comprehensive coverage of both fundamental and advanced aspects of 3D modeling, equipping the participating Scientists with the expertise to address complex 3D stress analysis problems in rock mechanics and rock engineering using Itasca’s 3DEC and FLAC3D codes. The program covered a wide range of software applications in rock mechanics and engineering modelling including IMAT software. The Scientists visited Itasca Denver office related to MINEDW Itasca software and Colorado School of Mines, Denver for discussions and future .

NIRM scientists attending software training program at Itasca Office, Minneapolis

and interacting/discussion with Itasca Officials during the training programme

**NIRM Scientific Publications:** In addition to providing timely solutions to industries, NIRM has published 12 technical papers through national and international conferences, symposium, peer reviewed journals and other technical publications.

### **NIRM Participation in IITF2025 and Awareness Activities**

During November 14-27, 2025, NIRM participated in the annual event at the Pragati Maidan New Delhi as part of the Ministry of Mines Pavilion at the IITF2025 to showcase its activities and capabilities in providing solutions to various mining and infrastructural sectors. The integrated pavilion had digital displays and models related to various mining projects, NIRM’s role in mining and tunnelling and infrastructure projects. The deep sense of involvement of scientists presents at the venue kindled widespread interest among children, men and women and various dignitaries from government organisations and private sector.





*Honorable Minister of Mines Shri G. Kishan Reddy visited NIRM Stall in the Mining Pavillion, at IITF 2025 in New Delhi, accompanied by Shri Piyush Goyal, IAS, Secretary, Ministry of Mines and Ministry of Mines Joint Secretary Smt. Farida M Naik. Director NIRM (addl charge) Dr Sripad R Naik seen explaining the displays and activities.*

#### **N. Miscellaneous:-**

##### **India International Trade Fair (IITF) 2025**

- (i) The Ministry of Mines Pavilion won the **Silver Medal** (Second Prize) for excellence in display under the Central Ministries & Government Departments Pavilion Category at IITF 2025. Aligned with the theme “Ek Bharat, Shreshtha Bharat,” the pavilion attracted over one lakh visitors and showcased India’s mineral wealth, technological innovation, sustainability efforts, cultural heritage, and community empowerment.
- (ii) The core highlight of the pavilion was community empowerment. District Mineral Foundation (DMF) -supported Self-Help Groups (SHGs) from different states displaying bamboo crafts, handmade goods, and regional speciality products. The Pavilion successfully brought together technology, innovation, sustainability, cultural heritage, and community engagement, establishing a new benchmark for public interaction and sectoral showcasing at IITF 2025.

##### **Special Campaign 5.0:-**

The Ministry of Mines, along with its attached and subordinate offices, CPSEs, and autonomous bodies, successfully concluded Special Campaign 5.0, aimed at strengthening record management, reducing pendency of references from MPs, PMO, IMC and State Governments, addressing public grievances, and ensuring effective scrap disposal. Building on the momentum of earlier campaigns, the Ministry achieved 100% of its targets during the campaign.

During the campaign, 578 cleanliness drives were conducted resulting in the disposal of scrap worth about ₹97 lakh and freeing nearly 48,000 square feet of office space. Over 6,700 files were weeded out, significantly enhancing record management and



workspace optimization. All references and grievances were disposed of within stipulated timelines, and 11 rules were simplified to promote ease of doing. A notable highlight was the nationwide domestic e-waste recycling drive coordinated by JNARDDC across 58 locations, which collected 9.02 tonnes of e-waste through authorized recyclers, generating over ₹11 lakh and reinforcing sustainable, environmentally responsible practices.

### **Swachhata Hi Seva (SHS) Campaign 2025**

The Ministry of Mines, along with its field organisations, actively participated in Swachhata Hi Seva (SHS) Campaign 2025, adopting a Whole of Government approach to promote cleanliness and sustainability. The campaign saw participation of 5,853 officials and the successful transformation of 98 Cleanliness Target Units (CTUs). Piyush Goyal, Secretary, Ministry of Mines, administered the Swachhata Pledge at Khanij Kaksh, Shastri Bhawan, while senior officers and staff also formed a human chain from India Gate to Shastri Bhawan, reinforcing the message of collective responsibility. Under the call of “Ek Din, Ek Ghanta, Ek Saath”, senior officials participated in a cleanliness drive at Shastri Bhawan, New Delhi.

As part of the campaign, the Ministry organised a felicitation programme to honour Safai Mitras, recognising their vital contribution to cleanliness. Sanitation workers were felicitated by senior officials, shoes were distributed as a mark of appreciation, and a health camp was organised for Safai Mitras and Ministry employees. Further strengthening the Waste to Wealth narrative, G. Kishan Reddy, Union Minister of Coal & Mines, inaugurated Waste to Wealth Models at the Geological Survey of India, Southern Region, Hyderabad, and distributed sanitation kits.

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**Prajith Kumar**