

Highlights of Achievement of CMPDI (2023-24)

- About 12 billion tonnes of coal resources are expected to be added to the Measured (Proved) category through Detailed Exploration covering an area of about 340 sq km through 19 Geological Reports.
- In addition to this, about 11 billion tonnes of new coal resources (in Indicated and Inferred categories) are expected to be added through Promotional (Regional) Exploration covering an area of about 261 sq km through 12 Geological Reports.
- For the first time, CMPDI ventured into non-coal exploration with preparation of 2 Geological Reports for Bauxite, adding about 16 million tonne of Aluminium Laterite and about 9.3 million tonne of Bauxite resources to the national inventory.
- Seismic survey activities reached new high, with CMPDI conducting 205 line km of 2D surveys through Departmental resources against MoU target of 190 line km, marking 26% growth over the previous year. In totality, CMPDI Carried out 234.57 line km of 2D/3D Seismic Survey, including 29.57 line km through outsourcing mode.
- CMPDI carried out about 8.625 lakh metre of drilling during the year against the target of 7.50 lakh metre with remarkable growth of 26%, including 1.74 lakh meter of drilling (116% of target) under Promotional Exploration Programme of MoC.
- In Non-CIL blocks, about 2.55 lakh metre of drilling was carried out during the year against the target of 2.00 lakh metre. About 7.6 Billion Tonnes of coal resources were added to the Measured category through Detailed Exploration in Non-CIL blocks covering an area of 241 sq km through 12 Geological Reports.
- About 1.72 lakh meter of Geophysical logging were carried out departmentally especially for complimenting non-coring drilling.
- CMPDI took up exploratory drilling in 79 blocks/mines under Detailed Exploration and about 46 blocks under Regional Exploration in Coal.
- 23 nos. of proposals for exploration (G2/G3/G4) in coal blocks have been approved by NMET. GR for 8 blocks have been submitted. Further, 3 proposals for exploration in Bauxite have been approved and work has commenced in all 3 blocks and of these 3 blocks, GR has been submitted for 2 blocks. One project for exploration in Base Metal (Cu, Pb & Zn) is under progress.

- In light of newly added accreditation of Hydrogeology Section of CMPDI as GWCO (QCI-NABET) and Groundwater Professionals (CGWA, New Delhi) for conducting Groundwater Modelling studies, 94 nos. of Comprehensive Hydrogeological Reports and 83 nos. of Groundwater Modelling Reports for NoC from CGWA, New Delhi were submitted to Ministry of Jal Shakti (CGWA) during FY 2023-24. This is statutory Report with effect from Sept'2020 by Gazette Notification of CGWA for Mining Sector.
- Comprehensive Hydrogeological Report with Groundwater Modelling studies for Uranium Corporation of India Ltd. was successfully submitted to CGWA, New Delhi for renewal of NoC for GW abstraction.
- 40 nos. of Hydrogeological studies for Damage Assessment Report / Piezometers / Geological Reports / Project Reports / Slope Stability reports / Water supply schemes were prepared during 2023-24.
- 37 nos. of Hydrogeological Reports of mining projects were submitted for preparation of EIA/EMP. CMPDI is also carrying out groundwater level and quality monitoring job with submission of Annual Report for compliance of MoEF&CC cleared projects of CIL (ECL, BCCL, CCL and NCL).
- A total of 40 Projects Reports were planned with capacity addition of 128.67 million tonne per year.
- Further, 29 nos. of Form-I (including Form-III, IV & VI) and 25 nos. of Draft EIA/EMPs//Addendum EMPs were also submitted for Mining Project with incremental EC of 27.03 Mty and for Washery Project with incremental EC of 3.00 Mty.
- CMPDI recorded its highest ever Net Sales of ₹1732.69 crores against ₹1386.09 crores achieved in Financial Year 22-23, with a substantial growth of 25%.
- Profit before Tax (excluding OCI), has soared by 100% to ₹732.84 crores compared to ₹366.95 crores in the preceding financial year.
- Additionally, CMPDI's Profit after Tax (PAT) experienced remarkable growth, standing at ₹503.23 crores, a substantial increase from ₹296.66 crores in financial year 2022-23, a growth of 70%.
- 17 nos. of reports on Scientific study for controlled blasting and vibration studies were conducted for different mines of CIL to protect the surrounding habitats/important structures and extraction of locked-up coal safely.

- Random sampling and testing of Bulk Explosives being used in the mines of CIL were carried out throughout the year and 119 reports were prepared in this regard. Additionally, random sampling and testing of Cartridge Explosives & Accessories being used in the mines of CIL were also carried out throughout the year and 81 Reports were prepared. 12 reports on scientific study relating to optimisation of blasting parameters/determination of Powder Factor were also prepared for different mines of CIL.
- Performance evaluation of explosives & accessories supplied by various manufacturers to the mines of outside clients were carried out and 10 reports were prepared in this regard.
- Report on guidelines for introduction of new technology in CIL was prepared and final report was circulated by CIL on 14.03.2024.
- GeM compatible NIT document for Highwall Mining was submitted to CIL on 14.06.2023 and approved by CIL Board on 19.07.2023. Further, GeM compatible Model MDO document for abandoned Mine, OC Mine, UG Mine and partially explored blocks prepared and approved by CIL FDs during the year 2023-24.
- CMPDI has been carrying **Land Reclamation Monitoring of CIL mines** on a regular basis based on high resolution satellite data. In the year 2023-24, Land Reclamation Monitoring of total 121 projects comprising of 76 Opencast Projects producing more than 5 Million Cubic Metre (Coal+OB) category and 45 mines / Clusters producing less than 5 Million Cubic Metre (Coal+OB) category under different subsidiaries of CIL has been completed.
- **Vegetation cover Mapping** of CIL Coalfields based on high resolution satellite data is being done regularly for assessment of impact of mining on land use/vegetation cover in the coalfield region. During FY 2023-24, Vegetation cover mapping of seven coalfields viz. Umrer, Pench-Kanhan-Tawa, Ib-valley, Mand Raigarh, Sohagpur, Raniganj and Rajmahal Coalfields has been completed.
- **Land Use / Cover Mapping of Core & Buffer Zone** of 21 projects under different subsidiaries of CIL based on satellite data has been completed during FY 2023-24.
- **DSS analysis work** for coal blocks considered for auctioning is carried out on as and when required basis. Through DSS analysis, the Environmental Status of the blocks with respect to their proximity to Wild Life Corridors, Sanctuaries, Eco-Sensitive Zones, etc. is assessed.

- **PM Gati Shakti Project (National Master Plan):**
 - ✓ CMPDI is coordinating and facilitating development of MoC page on PM Gati Shakti - National Master Plan Portal with Bhaskaracharya National Institute of Space Application & Geo Informatics, Gandhinagar (BISAG-N) for Ministry of Coal.
 - ✓ CMPDI, in coordination with BISAG-N, is also involved in development of DPR tools on PMGS-NMP Portal which can be used for various analytical purposes including Mine Planning and Mine Closure Planning.
 - ✓ CMPDI is also using PMGS-NMP Portal for analysis of upcoming and expansion projects and Project wise report(s) for 10 Projects of different subsidiaries have been prepared.
 - ✓ A comprehensive Information Document titled '**PM Gati Shakti - National Master Plan in Coal Sector**' was prepared containing details and guidelines for users. **The document was released by Hon'ble Minister of Coal, Shri Pralhad Joshi at New Delhi on 13.03.2024.**

- **Coal Mine Surveillance and Management System:** CMSMS web Portal and the associated Mobile App "Khanan Prahari" was updated with new Dashboard and features to make it more informative and user friendly.
- **Fire Mapping:** CMPDI was entrusted to locate and identify fire spots at Chirimiri OCM through Satellite Thermal Imagery on an annual basis for 5 years. The report based on Thermal Infrared Imagery of November 2023 has already been prepared and submitted.
- **Settlement Mapping:** CMPDI has carried out High Resolution Satellite Data based Settlement Mapping for identification of Structures in 9 villages as per Notification of Subhadra OCP, Subhadra Area, MCL. Reports have been submitted to MCL.
- CMPDI has fully operational Drone based capability for Topographical Mapping, Coal Mine Fire Mapping, Vegetation Cover Mapping, Settlement Mapping, Plantation Height Assessment and other activities related to mining.
- CMPDI has taken up the job of Drone based topographical survey for coal blocks to be auctioned to prepare Fly through Videos of the coal blocks under 8th/ 9th Tranche of auction as per the directive of Ministry of Coal. This will provide a bird's eye view of the entire block area to the prospective bidders for their better understanding of the area and planning for development of the block in the earliest

possible time. Drone Survey in 40 such Blocks in various states have already been completed and work on Drone Survey for additional 32 blocks is under progress.

- CMPDI has successfully conducted Gyroscopic Survey for Tunnel Alignment using GYROMAT 3000 in Sivoke-Rangpo Rail Link Project, West Bengal.
- OBR Measurement of all OC mines both outsourced and departmental producing more than 1 MTY and the annual measurement of OC mines producing less than 1 MTY (only hired patches) has been completed and reports submitted.
- Capex of about ₹32.89 crore has been achieved against the MoU target of ₹29 crore.
- To promote the concept of Make in India - Atmanirbhar Bharat, CMPDI has indigenously developed an optical fiber based instrument for measuring in-the-hole Velocity of Detonation [VOD] to analyze the performance of explosive in field condition and two more projects related to 'Indigenous Development of NIR spectroscope for instant prediction of Coal Quality Parameters' and 'Indigenous development of low cost methane detector for use in underground mines' are under implementation.
- To promote the concept of Clean energy, two projects related to 'Pilot implementation of Underground Coal Gasification', and 'Bi-facial perovskite module-leading to 4-T Perovskite-Si tandem structure' have been approved and are under implementation.
- To promote Pradhan Mantri Awas Yojana (PMAY), two projects related to 'Recycling Coal Mine Overburden to Reuse as a Value Added Building Material to Promote a Circular Economy' and 'Coal Mine Overburden Alkali-activated Composites (CMO AAC) for Pre-Fabricated 3D Volumetric Construction Elements & System thereof (3DVCES)' have been approved and are under implementation.
- To promote the concept of 5G application in coal mines, two projects related to 'Setting up a 5G Use Case Test lab in CMPDI for Coal Industry' and '5G captive non-public network for integrated voice, video & data communication in opencast coal mines' have been approved and are under implementation.
- Comprehensive washability report with viability of coking coal mines of CCL and BCCL were submitted in Aug.'23 and Feb.'24 respectively.
- A report to sort out issues related to coking coal demand was prepared by the Committee constituted by MoC under the joint chairmanship of

CMD, CMPDI and CMD, MECON and the report was submitted to MoC in Dec, 2023.

- CIL constituted a committee in April 2023 to identify mines in CIL subsidiaries for setting up of non-coking coal washery or deshaling plant to improve coal quality. CMPDI was involved in preparation of the report on setting up of deshaling plants in various subsidiaries of CIL. Based on the final report submitted in January 2024, 4 nos. of deshaling plants have been identified to be set up in various subsidiaries.
- **First Mile Connectivity (FMC) Projects:**
 - ✓ In first phase, 35 First Mile Connectivity (FMC) projects with a capacity of 415 MTY were taken up by CIL, in which CMPDI played a key role and submitted NIT for all the projects in record time. 14 projects have already been commissioned and remaining projects are at various stages of construction.
 - ✓ 9 FMC projects with a capacity of 57 MTY have been identified in FMC-II out of which final NIT has been submitted for 8 projects and final NIT for 1 project is under preparation.
 - ✓ 17 FMC projects with a capacity of 292 MTY have been identified in FMC-III, out of which CMPDI is playing a key role for preparation of NIT of 8 projects. Out of these, 1 project has been commissioned, final NIT has been submitted for 5 projects and NIT of 2 projects is under preparation.
 - ✓ In the fourth phase of FMC, 14 projects with a capacity of 74 MTY have been identified out of which, CMPDI will be preparing NIT for 9 projects. NITs for two projects have been submitted and others 7 will be prepared as per CIL timeline.
 - ✓ CMPDI has conducted third party quality Audit for 17 nos. under construction FMC projects as per directive of MOC and CIL and submitted its report to respective CIL subsidiaries.
- **Annual Diesel Benchmarking & NDT:**
 - ✓ CMPDI has successfully carried put Annual Diesel Benchmarking of 85 Opencast Mines of CIL subsidiaries and detail Diesel Audit and fixation of Equipment wise norm of Gevra & Kusmunda OCPs of SECL.
 - ✓ NDT jobs of HEMMs & CHPs of various mines of CCL & NCL and Haulage System of WCL were completed successfully for FY 2023-24.

- **Formulation and finalization of Model MDO Documents:**
 - ✓ CMPDI has been instrumental in formulation and finalization of model tender documents for MDO projects of opencast mines, underground mines, discontinued/abandoned mines and regionally explored opencast coal blocks.
 - ✓ Letter of Award has been issued for 13 green field projects (9 OC and 4 UG) having 140.43 MTY capacity and some projects are at various stages of progress.
 - ✓ 36 discontinued/abandoned mines of CIL were selected for MDO tenders on revenue sharing basis. Out of 36 mines, 19 mines having 30.845 MTY proposed capacity have been awarded and rest of the mines are at different stages of progress.

- **Auction of Coal Block for Commercial Mining:**

CMPDI has played an important role in the auction of Coal Blocks for Commercial Mining conducted by Ministry of Coal. In identification of Coal Blocks to be offered for auction, CMPDI has contributed significantly in study of surface constraints, geo-technical factors, collecting opinion of prospective bidders etc. Mine Dossiers and Mine Summaries were submitted by CMPDI for the coal blocks selected by MoC for different tranches of auction. Additionally, important input data for tendering purpose were also made available to MoC by CMPDI for all these coal blocks. 110 coal blocks have been successfully auctioned till 9th tranche of auction by Ministry of Coal.

- CMPDI has played a major role in formulation of 'UG Vision Plan of CIL' to produce 100 MT of coal from underground mines of CIL.

- **Environmental Services:**
 - ✓ Environmental monitoring of 299 projects/clusters/establishments of CIL (ECL-16, BCCL-17, CCL-72, WCL-84, SECL-69, NCL-13, and MCL-28) was carried out through eight environmental laboratories located at Asansol, Dhanbad, Nagpur, Bilaspur, Bhubaneswar, Hasdeo, Jayant, and Ranchi.
 - ✓ Soil Moisture Conservation (SMC) work plans to mitigate the impact of proposed mining activity on the local rivulets (nallah), Siarmal OC, MCL and for Chhal OC Seam-III Project, SECL were prepared. SMC study for Radhikapur East Coal Mine of Vedanta Enterprises Ltd. was also carried out. Detailed Project Report (DPR) for Soil Moisture Conservation (SMC) studies through LidAR survey technology for Naini Coal Mine, M/s SCCL was prepared.

- ✓ Conceptual Report of restoration of Mining affected land in the State of Meghalaya was prepared.
 - ✓ Status report on Environmental Sustainability (FY 2021-22) was submitted to CIL & MoC.
 - ✓ Further, report on Greening Initiatives of Coal/Lignite PSUs was also submitted to MoC which was released by Secretary, Ministry of Coal).
- **Coal Bed Methane (CBM) development in CIL:**
- ✓ CMPDI is the Principal Implementing Agency (PIA) for BCCL, ECL & SECL for Development of CBM in their Leasehold areas.
 - ✓ Jharia CBM Block-I, under BCCL leasehold area, has been awarded to M/s Prabha Energy Private Limited (PEPL), an Indian company selected through global tender. This block is currently in exploration phase. Statutory Clearances i.e. Environmental Clearance (EC), Consent to Establish (CTE) and Consent to Operate (CTO) has been granted by Govt. of Jharkhand in FY 2023-24. Drilling of 2 Exploratory coreholes has been completed and 3rd corehole is under progress.
 - ✓ CMPDI carried out an exercise to identify additional drillable area under Raniganj Coalfield for CBM development. As an outcome of the exercise, the area of Raniganj CBM Block is enhanced from 32 sq km to 40 sq km. Retendering of Raniganj CBM Block will be done for selection of CBM developer.
 - ✓ CMPDI has delineated Jharia CBM Block-II (Mohuda Basin) under BCCL leasehold area and submitted Project Feasibility Report of Jharia CBM Block-II to BCCL.
 - ✓ CMPDI is working jointly with IIT Mumbai on an S&T project "Reservoir characterisation and numerical modelling of Coal Bed Methane recovery and prospects for carbon sequestration". This project will study the feasibility of enhancement of CBM recovery through carbon dioxide injection.
 - ✓ A proposal for amendments in the CBM policy outlined in Gazette Notification dated 8th May, 2018 issued by MoP&NG allowing Coal India and its subsidiaries Exploration and Exploitation Rights for CBM for Coal Bearing areas/Coal Blocks held by CIL and its Subsidiaries has been submitted to MoC on 5th March, 2024.

- **Coal Gasification:**
 - ✓ CMPDI is exploring the possibility for establishing Underground Coal Gasification (UCG) technology in Indian Geo-Mining Condition. For this, CMPDI has taken up an R&D project to establish UCG through the pilot plant in Kasta west block of ECL and the same has been approved by R&D Board of CIL.
 - ✓ CMPDI is actively involved in Coal Gasification R&D projects to develop Indigenous gasification technology that will help in achieving India's coal gasification targets.

- **Lab Studies:**
 - ✓ **CBM Lab:** Under Promotional Exploration Programme, studies in 15 boreholes for CBM and 5 boreholes for Shale Gas completed against a proposed annual target of 8 boreholes in 2023-24.
 - ✓ **Coal Characterisation Lab:**
 - Chemical lab analysed 56599 nos. of samples (103% of target) and processed 17549.60 metre coal cores for sample preparation (110% of target).
 - Petrographic analysis was carried out on 27 nos. of Exploration Blocks covering 19 Coalfields. A Total of 960 samples were analysed for Petrographic studies, against the target of 955 nos. of samples from exploration Blocks, MLS, NMET, Washery and CBM.
 - Procurement of sample preparation units capable of preparing samples of Non-Coal origin (Hard rock) and ICP-MS (Integrated coupled plasma - Mass Spectroscopy) equipment for complete delineation of more than 75 nos. of elements in Ppt to Ppb levels including REE and trace elements are in process.
 - The lab possesses XRF (X-Ray Fluorescence) and XRD (X-Ray Diffractometer) for analysis of Free Silica in coal mine dust as well as determination of various mineral phases in non-coal ores.
 - ✓ MT Lab: Tests have been conducted for determination of Physico-Mechanical properties (PMP) on 4705 drill core samples during FY 2023-24.

- **Project Management Consultancy (PMC) Services:**
 - ✓ PMC and SQC for construction of new 100 bedded hostel at IICM valued at ₹12.00 crore is under progress.

- ✓ PMC for surveying, Geotechnical investigation and preparation of Detailed Project Reports for various projects of CCL having project cost of about ₹500 crore have been submitted.
 - ✓ PMC for surveying, Geotechnical investigation, preparation of Detailed Project Reports and SQC for various projects of MCL and SECL having project cost of about ₹1650 crore and ₹950 crore respectively have been submitted.
 - ✓ PMC for Concept to Commissioning of ETP/STPs at Gandhi Nagar Hospital and Naisarai Hospital, Ramgarh Completed. Construction of 3 Nos. of STPs at Barka Sayal Area is in progress.
 - ✓ PMC for surveying, Geotechnical investigation and preparation of Detailed Project Reports for Construction of new OPD building at Central Hospital, Dhanbad, BCCL having cost of about ₹15.00 crores has been undertaken.
 - ✓ Tender for 28.55 MW Solar Power Plant floated at CCL, against which 15.55 MW has been finalized and 13 MW is under finalization stage. Further, 5.02 MW solar power plant is under commissioning stage at CCL.
 - ✓ DPR for 10 MW (5 MW on OB dump & 5 MW Floating) and 1.5 MW Floating solar power plant for ECL and SECL respectively, prepared and submitted. Pre-feasibility Report (PFR) for 70 MW Solar Power Plant submitted to WCL.
- **Consultancy Services outside CIL:**
- ✓ CMPDI has made dedicated efforts towards diversification of its services and client base pertaining to outside clientele (including Private companies, State Govt., Central Govt., MOC, Public Sector Undertakings, Mine Developer and Operator, and Overseas Company) which has resulted in the highest ever work obtained in number and value terms i.e. 106 nos. of work order worth ₹101 crores during FY 2023-24. The list of clientele include NTPC, GMDC, Adani Enterprises Ltd., Vedanta Ltd., SCCL, GMPL, Tata Steel, JPL, THDC, UCIL, NLCIL, WBPDC, JSW Steel Ltd., IMPPL, MP Natural Resources Private Ltd., ICVL and various Commercial Coal Block Owners.
 - ✓ Presently, 83 outside CIL consultancy jobs are being executed by CMPDI for organizations like NTPC, NLCIL, THDC, NMDC, ICVL, SCCL, WBPDC, OMC, Hindalco, GMDC, KPCL, JPL, JSW Steel Ltd., Vedanta Ltd., Adani Group & other commercial miners, etc.

- ✓ 132 outside CIL consultancy jobs were successfully completed by CMPDI for organizations outside CIL. Some of the major clients were Adani Enterprises Ltd., SCCL, CESC, GMDC, APMDC, NTPC, NLCIL, WBPDC, THDC, etc.
- ✓ CMPDI completed an assignment from overseas in Mozambique for preparation of DPR (Mining, CHPP & coal logistics) for **Zambeze Coal Project** (greenfield), obtained through Global bidding process from M/s ICVL, which is a step forward in establishing CMPDI as a global leader in the stream of providing the best possible consultancy services. Final DPR submitted in March 2024. Further, the work of Tete East block has been taken up.
- ✓ CMPDI, for the first time, worked as Transactional Analyst for bidding in Critical minerals in non-coal sector.
- **ISO Consultancy work:**
 - ✓ Consultancy for implementation & certification of ISO/IEC 27001-Information Security Management System in NCL.
 - ✓ Post certification support work to CCL, NCL & MCL for maintaining Integrated Management System Certifications of the company.
 - ✓ Consultancy to CCL in establishing & maintaining of ISO 50001:2018 - Energy Management System in 5 units of CCL.
 - ✓ IMS Internal Auditor Training for CMPDI, NCL, MCL and NTPC.
- A National Coal Portal for MoC has been developed.
- A CSR portal for CIL for UPSC prelims qualified applicants has been generated. Further, a portal for intimating/sanction for movable/immovable property for Vigilance Dept. of CIL has also been developed.
- Online Quarter Allotment portal for CMPDI has been enhanced for system generated quarter applicant seniority.
- CMPDI has developed e-Auction platform in association with NIC. CMPDI has started Coal e-Auction on Single Window Mode Agnostic system for Subsidiaries of CIL from June 2023. The portal was formally inaugurated on 03.10.2023 by the Secretary, Ministry of Coal. Till March 2024, 5265 bidders have registered themselves in the Coal e-Auction portal. CMPDI has successfully conducted 87 e-Auctions for the Subsidiary Companies of CIL for more than 49 Million Tonne in FY 2023-24.
- NDT Lab of CMPDI, RI-VI has got NABL accreditation in accordance with ISO/IEC 17025: 2017 in the discipline of Non-destructive testing.

- **Showcasing of India's first Private 5G in Coal Mining at Indian Mobile Congress 2023:** CMPDI in collaboration with TCIL played a pivotal role in deployment of India's First Private 5G Network in Coal Mining. CMPDI successfully deployed India's first private 5G network at Coal India's Northern Coalfields Limited (NCL) Amlohri opencast project (OCP).

CMPDI showcased successful Live demonstration of 5G technology Use Cases in Amlohri Coal Mines of NCL at Indian Mobile Congress, 2023, New Delhi from 27-29th October, 2023. CMPDI conceptualized and played a critical role in deployment of India's first Private 5G Network in Amlohri Coal Mine's, NCL. In this Congress, 5G use cases of 5G enabled Drones, AI powered 5G camera, Vehicle Tracking System(VTS) and Mission Critical Voice and Video communications were demonstrated. This achievement marks a significant step forward in Coal India's digital transformation journey.

- **Hackathon on R&D:** CMPDI successfully organized "Hackathon on R&D" to promote/encourage start-ups in coal and lignite sector under "Make in India" initiatives for 5 identified problem statements. Felicitation Ceremony of the Hackathon was organized on 03.10.2023 in the presence of Secretary, Ministry of Coal, Chairman, CIL and other dignitaries. A panel of distinguished judges evaluated the proposals and presentations given by the participants. Top 3 winning teams of each of the problem statements were awarded for their outstanding conceptual solutions, which showcased the practical application of emerging technologies and innovative thinking suitable for the coal industry.
- **Smart India Hackathon 2023:** CMPDI participated and coordinated in Smart India Hackathon-23 wherein over 1500 ideas received for 9 problem statements were evaluated by experts. External Jury comprising experts from IIT-KGP, BIT-Mesra, RFRI-Jorhat, Komatsu, MECL, SCCL and Ministry of Railway and Internal jury members comprising experts from CMDPI, evaluated the proposed solutions at Bhopal and Mysuru centres during 19th to 23rd December 2023. **Hon'ble Prime Minister, while interacting with participants at 5 Nodal Centres on 19.12.2023, discussed the problem statements of MoC (A system of IoT Devices to prevent under-loading / overloading of Railway wagons) at Mysuru Centre.**
- **CMPDI received GRIHA 3 Star Rating Certificate at GRIHA SUMMIT:** CMPDI, RI-IV, Nagpur office building has successfully availed a GRIHA 3 Star Rating Certificate at 15th GRIHA summit. GRIHA is recognized as India's National & own Green Building Rating System. CMPDI through achieving this milestone has laid foundation stone for Green Rating Certification for the emerging Coal sector infrastructures. CMPDI

participated in 15th GRIHA summit at New Delhi and installed a stall exhibiting the diverse environmentally friendly.

- CMPDI, along with IIT-Kharagpur, received a Patent for Development of "An Improved and Highly Economical Instrument/Tool for measuring Velocity of Detonation of various types of Explosives and Initiators and Scattering/Delay timing of Accessories products and the method for the same (ACCUTIME)" on 13.12.2023 for a period of 20 years from the date of its filing i.e. 23.09.2013. Precise value of Velocity of Detonation (VoD) can be acquired by using the above tool. This instrument and method will help to achieve blast optimization for a given geo-mining conditions and to design blasts with large degree of certainty.
- CMPDI has secured copyright approval from the Copyright Office, Intellectual Property India, Government of India for the work "Report on Risk Assessment & Adequacy Study for Lightning and Earthing System at Saraipali OCP, Korba Area, SECL" on 03.01.2024. The report contains all the aspects of lightning protection with respect to Opencast Mines, which will enhance the safety of the establishments and manpower from lightning surges in the Opencast mines leading to lesser downtime during monsoon season.
- CMPDI has reached a noteworthy milestone with the preparation of a preliminary conceptual report on a Pumped Storage Plant (PSP), signifying their commitment to innovative energy solutions.
- Officials from British High Commission, Kolkata visited CMPDI on 22.02.2024 and had interaction for possible trade collaborations in various fields like Mining Technologies, Surface Coal Gasification and Renewables, Smart Mining & Safety, Fugitive Methane emissions and Rare and Critical Minerals.
- **USEPA and ARI representatives visit CMPDI:** Ms. Volha Roshchanka, Co-Chair, Global Methane Initiative (GMI), Environmental Protection Agency (USEPA) and Mr. Jon Kelafant, Vice President, Advanced Resources International (ARI), USA visited CMPDI, Ranchi on 11th July, 2023. CMPDI and USEPA have a long history of collaboration under the framework of GMI. Under this effort, CMPDI and EPA will focus on identifying opportunities for enhancing inventory estimates for opencast mines, reducing the uncertainty of estimates and greater reliance on existing measurements for inventory estimates under the UNFCCC framework.
- An MoU was signed with NML (NTPC Mining Ltd.) on 6th May, 2023 for providing reliable consultancy services to expanding mining operations of NML and other allied services.

- CMPDI participated in the National SC/ST Hub (NSSH) Mega conclave organised by Ministry of Micro, Small and Medium Enterprises, Govt. of India at Gumla, Jharkhand. Hon'ble MoS for MSMEs, Govt. of India visited the pavilion of CMPDI and was apprised about the initiatives of CMPDI for increasing participation of SC ST vendors in its tenders and about the recent award of some service contracts by CMPDI to the SC/ST entrepreneurs.
- Two Days workshop on Techno Commercial Upgradation & Modification in the Tender Document related to Engineering Service was organised successfully by CMPDI at its HQs, Ranchi on behalf of CIL from 28.11.2023 to 29.11.2023. The workshop was aimed at enhancing collaboration within the mining industry, insightful discussions on industry trends, technological advancements and sustainable practices.
- The 'Renovated Earth Science Museum' of Coal India Limited situated at CMPDI, Ranchi was inaugurated by Shri Amrit Lal Meena, Secretary, Ministry of Coal, Govt. of India on 3rd October 2023. The museum showcases AR/VR applications, holographic projections, unique and genuine samples of shells, fossils, and the famous "Gill Capsule" used by Shri Jaswant Singh Gill to rescue miners during the Raniganj coalfields mishap.
- Technical paper was presented by a two member team from CMPDI at International Rocscience Conference (RIC 2023), 24-26 April 2023, at Toronto, Canada.
- A special issue of Minetech on Opencast Mining was published by CMPDI. A film of some completed R&D project have been prepared and shared in social media (Facebook, WhatsApp, Twitter etc.) for replication of the outcome.
- Out of total procurement (goods & services combined) value of ₹160.89 crore during 2023-24, procurements from MSEs were ₹130.25 crore (80.95% of total). The % of procurement from MSEs is well above the mandated target.
- The MoU target of 100 percent procurement from GeM as per approved procurement plan for FY 2023-24 was achieved.
- **CSR (Corporate Social Responsibility):** Target of statutory provision of 2% of the average net profits of the preceding three years i.e. ₹7.66 crore, has been met. As per guidelines of DPE and CIL, major focus was given on 'Healthcare & Nutrition' and 'Skill Development' in FY 2023-24. Some of the major projects include:

✓ **Projects in Healthcare and Nutrition for improving facilities:**

- Facilitating Cancer patients for early detection and treatment thereof by providing high end Fully automated equipment at Acharya Harihar Post Graduate Institute of (AHPGIC), Cuttack;
- Extending support to socio-economic underprivileged at Ranchi Cancer Hospital and Research Centre (RCHRC), Ranchi for detection of cancer being implemented by TATA CANCER CARE FOUNDATION (TCCF);
- Promoting Healthy Menstrual Hygiene practices through trainings and access to sanitary napkins with easy disposal to students of 50 Govt. schools, Ranchi, Jharkhand.
- Providing comprehensive primary eye care services through Mobile Eye Care Van in remote villages of Ranchi, Ramgarh and Hazaribagh district of Jharkhand towards making avoidable blindness free Jharkhand.
- Supporting for improving nutritional level of children by providing six number of food distribution vehicles to provide mid-day meal to Govt. school students of Hazaribagh, Jharkhand.

✓ **Skill Development for support to youths in earning livelihood:**

- Conducting job oriented six month skill development training to 270 underprivileged/unemployed/underemployed youths in Machine Operator, Jharkhand and Chhattisgarh.
 - Sponsoring 40 youths for Govt. recognized 2 years diploma course in Ophthalmic Assistant at Lok Nayak Jai Prakash Para Medical Institute, Chauparan, Hazaribagh.
- **In-House Training:** Approx. 1130 employees have been trained in-house against the target of 590 employees on different technical and non-technical subjects.
- **Apprenticeship Training:** Total 166 apprentices engaged in different disciplines consisting of 41 Engineering Graduates, 4 Non-Engineering Graduates, 115 Diploma holders and 6 Fresher apprentices for FY 2023-24.

Sports:

- CMPDI Carrom Team became Champion in CIL Inter Company Carrom Tournament, held at NCL, Jayant Area, from 8th to 10th March, 2024.
- CIL Inter Company Chess Tournament 2023-24 was successfully hosted by CMPDI from 29.02.2024 to 02.03.2024 at CMPDI HQ, Ranchi.