



**Department
of Steel & Mines**
Government of Odisha



Integrated Mines & Minerals Management System (i3MS), Odisha

End to End Automation
of Mining Administration

CSM Technologies

Department of Steel & Mines,
Govt. of Odisha

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In a bid to introduce complete transparency & efficiency in mining administration, Govt. of Odisha partnered with CSM to implement i3MS, a single window ICT platform connecting all stakeholders of the major mines & minerals ecosystem. i3MS has proved critical in enhancing revenue collection, expediting permit processes & plugging leakages across the mining value chain.



Introduction

Odisha is one of the richest mineral bearing states in India. The state is endowed with large reserves of bauxite, china clay, chromite, coal, dolomite, fireclay, graphite, gemstones, iron ore, limestone, manganese ore, mineral sand, nickel ore, pyrophyllite and quartz. Contributing to more than 11% in the State Value Added Output per annum, the mining sector has scripted a turnaround in the state economy & attract large scale private investments.

Mining in Odisha is administered by the Steel & Mines Department, Govt. of Odisha in association with Mines & Geology Directorates. There are 14 mining circles administering mineral resources in 30 districts in the state. These mining circles process mineral concession applications, collect mineral revenue, prevent and control illegal mining.

They also enforce all statutory provisions for exploration of minerals and peripheral development of mining areas and regulation of activities of traders & end user industries. Automation of such processes create opportunities for enhancing transparency & efficiency of the mining value chain. Factoring the multitude of stakeholders involved in the mining processes, IT interventions can prove to be great enablers for due diligence done by concerned authorities.



Challenge

There are a large number of regulatory & statutory compliances (with respect to extraction, environmental safeguards et.al) required for conducting mining operations. Prior to automation, the lack of adequate, usable information on multiple aspects of mining operations limited the regulators' capacity to enforce compliances & check malpractices. Since there was no transparency in the issue of transit passes & permits for ore, leakages in the chain led to revenue losses to the state exchequer. Also the multitude of stakeholders involved in the mining processes aggravated risks & demanded time for conducting satisfactory due diligence.

Solution

Integrated Mines & Mineral Management System (i3MS) implemented in Odisha is one of its kind robust software application piloted by the Steel & Mines Department where all transactions of the mining lessee & licensee of Odisha are made online. Examples of automated transactions include application and issuance of Mineral Due Clearance Certificate, Weigh Bridge Approval, Grant/ Renew of Licensee, transit permit, updating of Vehicle Seizure and filling of Online Returns to Govt. of India.

The software work as a single window to all kind of stakeholders attached with the mining sector of the state such as the Steel & Mines Department, Directorate of Mines & Geology, 14 Mines Circle offices, Department of Commerce of Transport, Indian Railway, Ports, Mines Owners, Traders, Industrial Units, NIC, Government Check gates & Law Enforcement agencies.

To ground this project, massive overhauling of the existing rules & regulations had to be done by plugging in new rules on the lessee & licensee. The complex and outdated mining rule were simplified by plugging in IT tools which avoided duplicity. It was also decided to open all transaction of Minerals from Mines to the end users and citizens for transparency. The project was first tested as a pilot at Joda circle. Due to its success, it is now being implemented in all the 14 circles of the state. The project has been very widely accepted by the Lessees, Licensees and Government alike. This software created a standard operating procedure for all Government officers dealing with Mineral of the State to avoid delay & favouritism to mine producers and the end users.

Major Components of this Solution include:

- ▣ **Clearances:** Identification & Codification of Existing Leases, New Lessees & Licensees, Digitization of Basic Details & Statutory Clearances, Transporters' & Consumers' (Small & Large) Registration
- ▣ **Production:** Verification of Clearances, Validity & Returns, Online Updation of Daily Production, Calculation of Royalty and Demand Assessment, Online Generation of e-Transit Permit

- ▣ **Dispatch:** System Generated e-Transit Pass, Uniquely Bar-coded with Date/Time Stamp, Information Auto-Populated from the Permit, Auto-Check of Dispatch against Permitted Quantity
- ▣ **Verification:** Bar Code Scanners at Check Gates on Identified Routes, En-Route Verification through Mobile Application, Vehicle Tracking System, Integration with Surveillance Devices, Authentication through Digital Signature
- ▣ **Receipt:** System Update at Receiver's end, Real Time Reporting of Production & Dispatch, Reports on Excavation and Stock, Report on Royalty Due and Collection
- ▣ **Integration:** Validation & Integration of Weigh-Bridges, RTO Integration for Authentication of Carriers, Integration with Railway, Port etc., Integration with e-mail, SMS, Payment Gateway, Departments (Forest, SPCB, IBM, Commercial Tax)
- ▣ **Auction:** Buyer Seller Registration, Live Competitive Bidding, Automatic Base Price Determination, Fair & Transparent System

Other Ancillary Developments include:

- ▣ Development of **Audit Compliance Management System** to maintain different audit trails conducted at Directorate level.
- ▣ Inclusion of **permit and pass process for Decorative Mineral Mines**
- ▣ Development of NERP (**Non-exclusive Reconnaissance Permits**) approval process
- ▣ **Automation of License Surrender process** for licensees and transporters.
- ▣ **Automation of Surface Rent and Dead Rent Calculation process**
- ▣ Development of data capture screen for **NEERI Compliances**

The site is user friendly and easy to navigate. User Help manuals have been uploaded to provide assistance to the users during registration. The forms are applied online and can be printed by downloading after approval. As all the applications, grants, monitoring, calculations and tracking are done online, the process is completely transparent and accountable. Subsequently RFID Cards & e-Passes have been introduced to ensure end to end transparency in transport of minerals and ores. This is aimed at tracking down illegal trafficking of minerals and counterfeit registration of mineral carriers plying in the state. The track down has furthered the movement of the vehicle carrying the minerals. GPS System has been installed in each permitted truck which is monitored by the officials of Mining Department. The system is scalable to accommodate any number of mining offices. Implementation of the system at the Mines Area, Check gate or Railway siding, requires minimal hardware and man power. This makes the system ascendable.

Impact

Current Scale of Implementation (as on Jan 2020)

- ▣ This system is used by **87,688** unique users which include licensees, lessees, traders, truck owners & multiple government officials.
- ▣ By integrating with **Vahan database**, validation of around **1.2 lakh trucks** registered with photographs has been successfully achieved. Approval of 436 Electronic Weigh bridges in 140 mines and 300 in 260 Licensee has been done online through this system
- ▣ Using this system, around **7.59 lakh e-permits, 6.42 Cr trip sheets, 7870 dealer licenses and 8088 clearance certificates** have been issued online.
- ▣ **46.2k Cr INR worth of royalty, dead and surface rent** has been processed through the system. Also around **275 Cr INR** has been collected against user and application fees.
- ▣ Drastic reduction in time taken in issuance of licenses and clearances.

Process	Existing	Post Implementation
Permit Issuance	30 days	7 Days
Mineral Due Clearance certificate issuance	15 Days or More	Same Day
New License Issuance	120 Days	3 Days
License Renewal	30 Days	10 Days

To summarize, the implementation of the Integrated Mines & Minerals Management System has:

- ▣ Enhanced transparency & accountability in mining processes
- ▣ Curbed illegal mining and boosted revenue collection
- ▣ Reduced turn-around time for statutory clearances, permits & pass processing
- ▣ Expanded digital outreach even to remote mining areas (online offline architecture) & integrated multiple stakeholders & processes on a single window system

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CSM Technologies
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