

## TCS's Integrated Mine Operations Solution

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### Summary

Operating a mine involves specific requirements and business processes that are unique to that industry. Typically, the mining industry supply chain is not fully integrated. Instead, global mining companies use various independent applications. These include mine planning, truck dispatch, plant automation, production recording, and other systems. Consequently, implementing an enterprise resource planning and management system (ERP) can be expensive and risky.

Mining has a unique set of business processes. TCS built its Integrated Mine Operations management solution on Oracle E-Business Suite. The complete solution has been successfully implemented at a large copper mining company in India.

As ARC Advisory Services learned in a recent briefing, Tata Consultancy Services (TCS) has developed a complete mining solution on the Oracle E-Business Suite (EBS) designed to integrate the mining supply chain. According to the company, the solution combines the robustness of a proven ERP suite with mining-specific functions, software modules, and configurations. TCS has implemented the complete solution at a large copper mining company in India.

### Mine Operations Management

According to TCS, mining companies use its Integrated Mine Operations solution to manage their combined mining processes, integrate various point solutions into the enterprise application, and improve overall performance.

### Mine Operations

In conjunction with various integrated point solutions, TCS' Integrated Mine Operations solution covers the end-to-end mining value chain, from locating the ore to the refinery. It covers mine exploration, extraction, safety, dispatch, processing, delivery to the concentrator, and billing. Specific functions include:

- Mine and deposit configuration
- Scheduling exploration and production drilling



- Recording data related to drilling, blasting, and excavation
- Recording data for tramming, hauling, and hoisting
- Recording data for other mining-allied services including mineral processing, dewatering, ventilation, and others
- Finance, projects, cost management, payroll, inventory management, asset management, process manufacturing, and more using modules of Oracle EBS
- A business intelligence (BI) application provides analysis and reporting for operational and financial key performance indicators (KPIs)

### **TCS-Developed Applications for Mining**

TCS has developed several modules in Oracle EBS and other applications that provide specific functionality for the mining value chain. These functions can be delivered independently or as part of a comprehensive solution. The modules are:

- Crystal mine planning software
- Dynamine truck dispatch system
- Drilling, blasting, excavation, and mineral processing modules in the Integrated Mine Operations using Oracle eAM and OPM

### **Built on Oracle E-Business Suite**

TCS built its Integrated Mine Operations solution on Oracle E-Business Suite. This allows mining operations to be extended to an enterprise-wide platform. For example, TCS's equipment identification function is integrated with Oracle's enterprise asset management module, providing extensive maintenance management capability. Also, the company configured Oracle's financial module specifically for the mining industry.

### **Benefits for Mining Companies**

Some key benefits that contribute to better operations include:

- Improved execution through integrated planning and operations
- Visibility with integrated dispatch and production recording
- Improved planning and detailed scheduling per capacity constraints
- Integrated view of operations across mines using comprehensive analytics and reporting
- Financial integration from the beginning of a mining project
- Reduced IT maintenance costs for multiple legacy applications

## Conclusion

Mining has unique business processes. Consequently, ERP implementations require considerable industry-specific functionality obtained through considerable time and effort. Apparently, TCS has done its homework in this respect.

TCS built its Integrated Mine Operations solution on Oracle EBS and extended its functionality by integrating other applications to fit industry-specific needs and reduce risks for mining companies. According to the company, the individual TCS-developed functions and software modules been implemented multiple times. The more complete, fully integrated solution built on Oracle EBS has been implemented for a major copper miner in India.

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