



# Natural resources

Mining the way ahead

mining



## Mining the way ahead

For a long period, the operating model of mining industry has been stagnant due to no compelling reason to evolve. But now, due to fluctuating commodity prices, onerous statutory reporting, high cost bases, a need to provide safer working conditions and lack of general certainty in future, there is a growing need to evolve. Further, there is a growing pressure from the investors to have better control over operations and to extract maximum value out of the ore-body, resulting in a long term sustainable investment with predictable returns. This means that the new operating model for the mining industry must be significantly more cost efficient and safer than today. Companies that embrace this are more likely to be successful in the years to come while the companies that don't, may find themselves in an adapt or die situation.

## Digital mining

Transforming the mining organization to this new world is called 'digital mining'. This term is a collective statement referring to the much needed revolution about how to run a mining company. A 'digital mining' enterprise defines a company that relentlessly embraces every available option at their disposal – people, processes, structures, technology, etc. – to be the most cost efficient and safest organization in their sector irrespective of the volumes. It ignores how businesses were run in the past and looks into the future mining operating models that are rigorously defined, constantly improving and simply managed. As a result of this digital transformation, many new and different skills will be required in the mining industry, but CEOs can ensure that this skill development happens in a managed way. In our opinion, presently, there are no complete digital mining enterprises but many have identified the necessity for the transformation journey.



## Wipro's offerings on mining

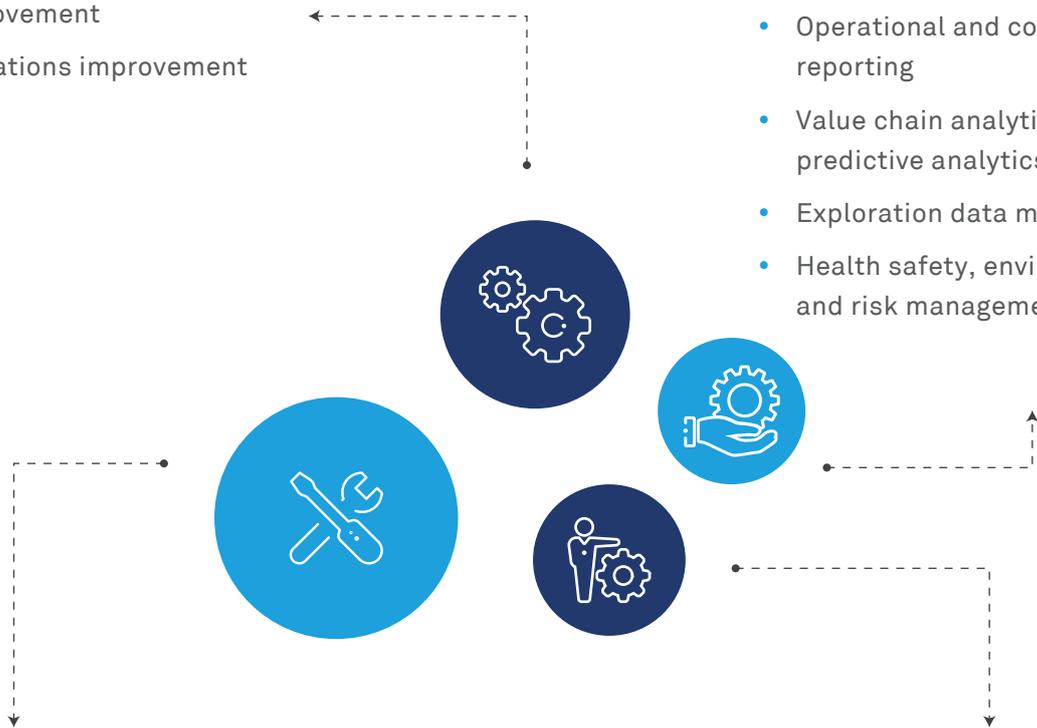
A full-spectrum mining service division run by mining executives

### Mining Advisory Services (MAS)

- Digital Mining Strategy and Rapid Site Assessment
- Business process improvement
- Operations improvement

### Mining Business Services (MBS)

- Wipro Agile Mining Solution on SAP
- Mobility application services
- Operational and corporate reporting
- Value chain analytics & predictive analytics
- Exploration data management
- Health safety, environment and risk management services



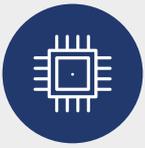
### Mining Technical Services (MTS)

- Mining and plant execution systems (Data historians, process information management systems, and manufacturing execution systems)
- Mine-to-market services for planning, scheduling, optimization, material tracking, and production logistics
- Asset tracking and IoT services
- Integrated operations and collaborative decision environments

### Manage IT

- Managed IT and infrastructural services used through ServiceNXT management
- Testing services and enterprise integration services
- Process automation and analytics with Apps + Infra + BPO
- Business process services
- Data center hosting and operations

## Solutions



### Integrated Operations

- IO assessment framework
- IO solution for mining
- Collaborative Decision Environment for mine and process plants



### Mining Technical Solutions

- Mining MES strategy framework
- Downtime management solution for asset utilization
- CBM, production reporting, quality management and enhanced maintenance
- Material traceability and genealogy
- Metal accounting
- Work Execution Management



### Exploration Data Management

- Enterprise GIS framework assessment tool-kit
- Geospatial data consolidation and exploration portal solution
- Mine Model and file management solution



### ERP Mining Solutions

- Mining ERP strategy and business process architecture
- Data quality assessment framework
- Pre-built mobility applications for mining
- Wipro Agile Mining Solution (WAM) on cloud or on premise
- Ellipse managed support



### Health Safety Security and Environment

- SAP EHSM mining solution
- Secure Mine Spidernet solution for site security



### Mine-to-Market Solutions

- Mining supply chain optimization (Integrated planning and scheduling)
- Production logistics solution for pit to port
- RFID and GPS based material tracking from pit to port
- IoT solution for Underground and Open Cast Mines



### Analytics

- Mine value chain analytics for open cast and underground mines
- Real-time dashboards for mining performance

## Integrated service offerings

Wipro's core offerings span across the engineering and IT landscape

### IT Consulting

- ⊗ Business transformation services
- ⊗ Functional excellence
- ⊗ Process excellence
- ⊗ IT planning and governance
- ⊗ Enterprise architecture

### Infrastructure

- ⊗ Data center services
- ⊗ End-user services
- ⊗ Service desk
- ⊗ Network services
- ⊗ Cloud services
- ⊗ Managed security services
- ⊗ System integration services
- ⊗ Open source services
- ⊗ Infrastructure engineering services

### Applications

- ⊗ Application architecture
- ⊗ Enterprise applications
- ⊗ Connected enterprise services
- ⊗ Testing services
- ⊗ Security services
- ⊗ Business application solutions

### BPO

- ⊗ Asset data management
- ⊗ Energy trading and risk management
- ⊗ Regulatory reporting & EHS
- ⊗ Managed services, FAO & HRO
- ⊗ SCM, billing & collections
- ⊗ Remote monitoring
- ⊗ Legal services

#### ServiceNXT™: Next generation managed services across apps, infra, security & cloud

- ServiceNXT is the new way of managing IT services **that provides 30% to 70% cost elimination and agility** to run the business
- Productivity improvement through automation
- Predictive and prescriptive analytics
- Single pane of glass dashboards
- Insignitix for rationalization



### **MES implementation for an aluminum producer**

We designed and implemented an integrated environment that incorporated solutions at three business system levels: real-time communications infrastructure, control systems, and data historian at level 2 and MES at level 3 with integration to level 4 (SAP). This enabled a single repository of contextualized business data for downtime, inventory, quality and production. We helped the client improve profits due to efficiency and enabled production improvements by USD 0.5 million per month.



### **Implementation of SAP ERP and integration with mine operational systems for one of the largest producers of zinc**

Strategic business change program spanning 13 months, comprising alignment of the organization to 8 core process areas and implementation of SAP as a business system with minimal customization across the enterprise. System design factored future technology and business direction to enable remote mine management, optimization and efficiency of operations through a unified business platform.



### **Integrated operations for an underground miner in Chile**

We designed a new platform for working with a remote operations center to manage multiple underground mine sites. The platform identified deficiencies and provided a mathematical model to understand deviations from plan, causal reasons and levers to achieve the plan using best practices in operational intelligence and advanced analytical techniques.



### **Scaling operational efficiency for a global coal miner**

We engaged in a one-of-a-kind technology partnership with one of the largest coal miners in the world to realize efficiency in operations. We set-up an integrated system to track the location of mobile equipment such as dumpers, shovels, etc. Our technology enabled them to report real-time location information for equipment tracking and automatic dispatching and increased the overall efficiency of operations.



### **Mining major implements SAP-certified Wipro Agile Mining (WAM) Platform to gain visibility over people and mobile fleet**

We implemented a Cloud-based WAM platform wherein the client was billed on a monthly basis, with practically no upfront capital required for the implementation. In addition, implementation costs were further reduced due to pre-configured processes supported by offshore resources. The client has signed a 6-year agreement with Wipro to implement and support WAM. Within three months of going live, the project went cashflow positive and was declared a success by the client.

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