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# 5 business drivers for adopting digital operations and fleet management in mining

- Is your mining cycle, recovery and other KPI reporting ironed out, trusted, and used?
- Are your shift schedules realistic and practical to ensure the processing plant is fed at the planned rate?
- Are you leveraging data to meet quality mixing constraints and minimize stock handling?
- How efficient are your work execution and maintenance in an unpredictable mining environment?
- Are you getting the most from your existing resources to drive down cost per ton?

**The answers to all of these questions and more are readily available to the companies using ABB Ability™ Operations Management System for mining (OMS) - including mine fleet management system (FMS) and process information management system (PIMS).**



## Understanding ABB Ability™ OMS and why it matters

Realizing your business strategies and long-term goals depends on your ability to translate them into realistic operational plans and to adapt to changing conditions during the execution. The day-to-day operations focus on more detailed performance objectives and coordination of vast number of interdependent activities that require full visibility of mine operation state and real-time decision support.

That's where ABB's portfolio of software applications plays a central role, unifying departments, eliminating data silos and improving the information flow between planning, execution and analytics tools. Our mine fleet management and operations management across the entire value chain provide necessary governance, automation and interoperability to orchestrate and dynamically optimize operations from mine to port. ABB solution is specifically built for the mining industry to **plan and control** day-to-day activities; **monitor and manage** operational performance objectives in real time – while ensuring seamless alignment with strategic decisions. This scalable solution is accessible to companies operating underground and surface mines, processing plants and minerals terminals of any size, and using any vendor equipment. It is particularly suitable for mining companies with mixed fleets still relying on paper, spreadsheets, and verbal commands to coordinate people, assets, and tasks, and struggling to collect and use accurate data to improve performance.

Our proposal focuses on leveraging ABB Ability™ Operations Management System for mining to enhance operational excellence across five critical business drivers: speed, flexibility, dependability, quality and costs.

## 1. Speed
Produce an automated daily plan in compliance with weekly targets, forecasted state of production, maintenance needs, HSE and other constraints (typically leading to up to 25% reduction of scheduling time). Help planners, supervisors and managers streamline processes, reduce unproductive activities, significantly accelerating mining cycles and overall project timelines. When more data is aggregated into a single integrated ecosystem, this will enable faster decisions for more roles (geologists, engineers, etc)

> *ABB helped Boliden in Sweden to replace paper, manual data entries and spreadsheets with an integrated process control system for automated production scheduling. Mine operators can monitor and review mining activities based on targets, metrics and KPIs. Any deviations from plan are highlighted, speeding up appropriate actions.*

## 2. Flexibility
When workforce, activities, vehicles, fixed equipment and sensors are connected in real time, operators can report disturbances directly from the on-board tablet or in combination with the automated data collection. Thanks to the dynamic, digitalized resource allocation and dispatch with paperless work guidance and tracking, operations can be swiftly adjusted to the evolving requirements without compromising on safety.

> *ABB helps Gold Fields in Australia to solve a broad range of planning and operational challenges in hard-to-predict environments. Mine planners informed about disturbances in real time, can evaluate multiple "what-if" scenarios for optimal resource utilization and replan, also reducing HSE risks and production variability.*

## 3. Dependability
Combine CMMS connectivity with maintenance forecast reports, on-event notifications, access OEE, downtime and other KPIs. Provide a robust framework for enforcing pre-defined plans, increasing machine availability and reducing unplanned downtime. This reliability extends to the overall dependability of the supply chain, ensuring material movement tracking and optimized flow of required quantities and qualities.

> *ABB supported a mining company based in India to get 11 sites (digitalized mines and concentrators) connected and integrated with business information (ERP). Besides improving maintenance practices, reliability and logistics, the company is continuously enhancing safety, material recovery and quality management.*

## 4. Quality
The proposed solution relies on automated processes, with better coordination between dispatchers, processing plant control room operators, quality engineers and process analysts. With access to quality data from Laboratory Information Management System (LIMS), process trends, alarms history, emissions, and other data, they can act on root causes of issues, reduce variability. This helps transfer process methodology from higher-performing to lower-performing or green-field plants to guarantee standard output and compliance.

> *For a greenfield mining project in Latin America management required a data-driven decision support system to reduce project risks related to metal price, head grade, metallurgical recovery and operating costs. ABB is providing off-the-shelf solution and decades of experience. By enabling best-in-class processes, the refineries processing new ore types will reduce quality variability, lead time and risk.*

## 5. Costs
While initial investments are a consideration (particularly in underground mining due to complexity of positioning and the cost of communications infrastructure), ABB's FMS / OMS applications deliver substantial long-term cost benefits. We provide visibility of locations, equipment and personnel status in real time, effective intra-shift decisions and better orchestration across the entire value chain. This leads to more efficient resource utilization, reduced energy consumption, minimized operational overheads, less emissions and waste. By representing asset properties and workflows in a standard way based on ISA-95 framework, functionality and configurations can be shared across sites, simplifying integration and interoperability. The result is a significant improvement in the overall-costs-effectiveness of mining operations.

> *ABB has been recognized in the Australian Financial Review (AFR) BOSS Most Innovative Companies 2021 list for its cutting-edge collaboration with Gold Fields, to implement one of the world's most digitally enabled underground mines. By introducing the ISA-95 standard, Gold Fields Granny Smith mine now has a 'plug and play' architecture*

*that can be deployed across open pit and underground operations and is forecast to lead to 25% cost savings from integrations and up to 10% productivity increase.*

*A Canadian mine adopting ABB's FMS / OMS was able to move the truck dispatcher into an Integrated Remote Operations Center. After hiring analysts to support the dispatcher and automating the delivery of some insights, the customer found many opportunities for improvement, e.g. leading to 20% less personnel overtime annually.*

## Your journey to true operational excellence with ABB

Are you still using paper, spreadsheets and siloed tools for mine planning, scheduling, execution, energy, inventory, quality, maintenance management and analytics by separate teams, lacking real-time visibility of mine operation states? Does it make your data collection difficult, time consuming and error-prone? Is this limiting your ability to respond to unexpected events and move quickly? Are you implementing an Integrated Remote Operation Center and advanced analytics algorithms that require AI/ML ready data for more systematic and strategic problem solving?

ABB's operations management solution for mining brings a **new way to think about the data flow between an integrated set of tools** - producing reliable metrics critical to your success. It is designed to help your teams get control over the data they need to improve performance – easily scalable to benefit other sites and organization as a whole.

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| Connecting people, sensors, mobile and fixed equipment to an array of operational systems lets users **calibrate all mining-specific constraints in real time.** | Unifying the available data brings transparency and tighter control helping **take the right actions for any defined operational performance objective.** | Our customer success teams continuously engage with users so that **solutions remain relevant as business environment and technical maturity evolve.** | Our experienced solution architects mastering both IT and OT tech stack ensure you **get maximum value with optimal, fit-for-purpose infrastructure.** | Our focus on user experience, standardization and interoperability makes it easier to **explore new use cases in collaboration with ecosystem partners.** |

## Ask for your sample report and let's move on with your specific requirements collection

You can start with our mining KPI blueprint and adapt the configurations from a sample report to your dream report. To move forward, we will set up some interviews and a workshop with your key representatives to:
- Define your main management objectives and technical requirements.
- Identify solution benefits / success criteria.
- Outline the project scope, organization and intended time schedules.
- Describe user requirements for specific processes.
- Clarify necessary interfaces, system interactions and infrastructure.
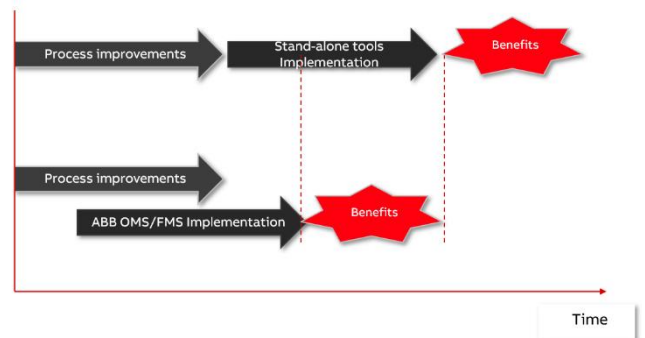


# Capture benefits fast
with ABB Ability™ Operations Management System for mining