

Mining Data: Fujitsu's solutions for transforming mining operations



In the rapidly evolving mining industry, integrating advanced Data and AI solutions is essential for enhancing operational efficiency, safety, and sustainability. Fujitsu, in collaboration with platforms like Microsoft Azure, Databricks, and Power BI, offers a suite of tailored solutions designed to address the unique challenges faced by mining enterprises.

Transforming Mining Operations with Data & AI

Fujitsu's Data & AI services apply statistical, machine learning, and big data techniques to solve real-world business challenges. By leveraging industry-leading specialists, we offer end-to-end advanced analytics, business intelligence, and AI capabilities, enabling mining companies to harness their data effectively, drive high performance, and accelerate success.

Key Offerings:

- 1. ESG Reporting** Through the integration of Azure's data governance and Power BI's reporting capabilities, we facilitate comprehensive Environmental, Social, and Governance (ESG) reporting. This enables mining companies to adhere to frameworks such as the Sustainability Accounting Standards Board (SASB), ensuring standardised and comparable ESG disclosures that meet the growing expectations for sustainable and ethical business practices.
- 2. Health & Safety** By integrating advanced data management capabilities with Power BI's interactive visualisation tools, Fujitsu enables mining companies to enhance their health and safety protocols. This integration facilitates the analysis of incident reports, near-miss occurrences, and safety compliance metrics, allowing organisations to identify patterns and potential risks. Consequently, miners receive early warnings, enabling proactive measures to prevent accidents and ensure adherence to regulatory standards.
- 3. Alcoholizer Reporting** Our solution integrates IoT-enabled alcohol detection devices with Azure's real-time processing and Power BI's reporting capabilities, automating compliance tracking. This ensures only authorised, sober personnel operate machinery, reducing risks and improving workplace safety.
- 4. Plant & Equipment Maintenance** Through the integration of Azure's predictive analytics and Databricks' machine learning capabilities, we monitor the health and performance of mining machinery. This enables the prediction of potential failures and the scheduling of timely maintenance, thereby minimising unplanned downtimes and extending equipment lifespan.

5. **Plant / Vehicle Management** By deploying Azure-based IoT solutions and Databricks' real-time data processing, we facilitate the integration of systems like Orb and Modular. This integration allows for real-time tracking, efficient dispatching, and maintenance scheduling of plant operations and vehicle fleets, ensuring optimal asset utilisation.
6. **Wire to Collar Reporting** Utilising Azure's data integration services, we collect and process drilling operation data from initiation (wire) to completion (collar). By applying advanced analytics and visualisation through Power BI, we provide precise tracking and reporting, ensuring adherence to planned drilling paths and enhancing equipment performance monitoring.
7. **Ore Audit Reporting** By utilising Databricks' data processing and Azure's analytics services, we support systematic sampling, analysis, and inventory management of extracted materials. This approach ensures accurate ore audit reporting, supporting transparency and enhancing operational planning within mining operations.
8. **COB Bin Optimisation** By harnessing Azure's data analytics capabilities, we analyse bin usage patterns, material characteristics, and operational schedules. This data-driven approach enables the development of AI models that optimise the management of Coarse-Ore Bins (COBs), ensuring efficient material flow and reducing bottlenecks in mining operation

Case Study: Digital Acceleration for a Global Mining Giant

Fujitsu partnered with a global mining company to drive their data-led digital transformation. The collaboration encompassed implementing a range of data solutions focusing on key pillars such as safety and sustainability, operating performance, and technology innovation. Solutions included a Sustainability Data Centre (SDC) for timely data collection and reporting, as well as safety-improving solutions that monitor driver fatigue and provide key safety data for self-service reporting. [Global Mining Case Study](#)

Accelerators: Enhancing Time to Value

To improve time to value in unlocking data potential, Fujitsu has developed a series of frameworks (Accelerators). These accelerators lower implementation costs by applying tried and tested results within your organisation. [Fujitsu Data & AI Accelerators](#)

Conclusion

Fujitsu's integration of Data and AI solutions, in partnership with platforms like Azure, Databricks, and Power BI, empowers mining companies to transform into data-driven organisations. By addressing industry-specific challenges and leveraging advanced analytics, we enable mining enterprises to achieve operational excellence, safety, and sustainability.

For more information on how Fujitsu's Data & AI solutions can drive high performance in your mining operations, please visit our [Fujitsu Data & AI : Fujitsu Australia](#).