Digital Mining

Connecting the ore from pit to port, from sensor to boardroom, for improved safety and productivity.

Mining companies are utilizing their
resources and assets to transform the
way they operate.

The combination of market
speculation, changing global demand,
radically different capital economics,
new technologies in need of an
technology infrastructure, through a
converged digital environment as well as
policy shifts around all facets of the
calent

The Digital Mine leverages the best
digital technology and Internet
of Things (IoT) cloud or on premise
platforms to extend the mining
value chain from mine to market and

High performance. Delivered.

Accenture Digital IOT Platform

Digital Plant Refresh Services

PIMS / Historians

MES

SCADA

VIMS

Logistics Database

Customer Orders

Rail & Port

Environmental Database

Short Term Plan

Medium Term Plan

Life of Mine

Fleet Management Systems/Dispatch

Fleet Management

Remote Operating Centers

Connected Worker

Remote Operating Centers

Centralize support for the Digital operation through “follow the sun” support.

Automation Master Plan

Map the “as-is” architecture, define the “to-be” Digital environment and
produce a road map to leverage the latest technology.

Leverage Historians and MES solutions to define better control loops within a
miner from sensor to boardroom. Data is

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Detailed Business and Technology Retrospective

Assess the current state of the business and information technology to identify
opportunities for improvement.

Understand the business requirements, the nature of the	organisation, the business
strategy, and the drivers for change.

Collect baseline data and assess the	current state of the	organisation.

Identify challenges, opportunities, and risks to	value and	performance.

Use a paradigm shift to explore
innovation.

Map the “as-is” architecture, identify the
“to-be” state using a Digital environment,
and develop a
digital transformation strategy.

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digital transformation strategy.
Mining companies are utilizing their digital assets to support the transition from the traditional, low productivity-while-high-maintenance, fixed-infrastructure model to a fully connected and optimized model.

The Digital Mining framework for next-generation mining is built on a Digital Plant that leverages the latest in digital technology and analytics to deliver highest value for mining operations.

The Digital Plant provides an integrated process and equipment management platform to connect the mining value chain from mine to market and create sustainable value for the operations. With this new Digital Plant, mining companies can tap into the power of digital data and analytics to drive the most critical processes and decision-making at every stage of the mining lifecycle.

By leveraging the Digital Plant, mining companies can:
- Maximize safety while increasing production through the automation of repetitive tasks.
- Optimize resource utilization and production efficiency.
- Reduce operational costs and improve profitability.
- Enhance decision-making with real-time data and analytics.
- Improve stakeholder engagement and community relations.
- Increase agility and resilience in response to changing market conditions.

About Accenture
Accenture is a leading global professional services company, providing a wide range of services in strategy, consulting, technology, engineering, and operations with 429,000 people serving clients in more than 120 countries. Accenture combines its deep industry experience and the leading global delivery network of the world’s largest delivery network—Accenture Digital, with its strong focus on innovation to improve the way the world works and lives.

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Digital technologies allow today’s mining operations to reach new levels of performance from mine to market, across the whole mining value chain.

Mining companies are utilizing their data assets and creating the mining industry’s own Digital Mine, a combination of market specificity, competing global demands, radically different legal or economic environments, new business models, need for automation, and a weakened and commodity global marketplace. In today’s mining environment, as well as policy shifts around the globe, mining companies need a Digital Mine to transform their businesses and capabilities and become sustainable value creators over the long term.

The Digital Mine leverages the best of customer order and market economics, dispatch, and blending, based on day-ahead and real-time data, and uses robust optimization platforms to connect the mining value chain from mine to market, from sensor to boardroom. Data is consolidated from diverse data sources such as analytics platforms, operational, maintenance, and ERP solutions. Data visualization and predictive analytics can be used to provide operational intelligence and real-time analysis of process performance, leading to improved productivity in the field and optimized operations.

The Digital Mine architecture is comprised of four layers: Analytics, Automation, Security services, and Sustainability services.

Analytics
Digital Mine Architecture

Dashboards, Reports
Big Data Platform
Batch Services
Data Integration
Work Order Mobility
Remote Operating Centers

Automation
Dashboards, Reports
Big Data Platform
Batch Services
Data Integration
Work Order Mobility
Remote Operating Centers

Security services
Dashboards, Reports
Big Data Platform
Batch Services
Data Integration
Work Order Mobility
Remote Operating Centers

Sustainability services
Dashboards, Reports
Big Data Platform
Batch Services
Data Integration
Work Order Mobility
Remote Operating Centers

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Digital technologies allow today's mining operations to reach new levels of performance from mine to market across the whole mining value chain.

Mining companies are utilizing their digital transformation journey to the modern digital enterprise to adapt to the changing market landscape. This SCP-essentially a combination of market opportunity, company’s global demand, radically different input economics, new location in need of automation, and a consideration in operational excellence as well as policy vitality around the globe—can be either a barrier in the mining community, or leverage digital tools and capitalize in new levels of performance across the mining value chain.

The Digital Mine leverages the best of digital technology and Internet of Things (IoT) cloud or on-premise platforms to connect the mining value chain from mine to boardroom from sensor to boardroom. Data is consolidated from siloed databases in production, plant maintenance, and operational crews. Collaboration with offsite experts, digital technologies, and analytics can be run to provide operational improvements through dynamic planning, scenario planning, and scenario planning.

About Accenture
Accenture is a leading global professional services company, providing a broad range of services in strategy, consulting, digital, technology and operations. With 275,000 people serving clients in more than 150 countries, Accenture delivers leading-edge assurance and consulting services, as well as industry-specific software and services that are tailored to help clients maximise the value of their investment in technology. Today, its focus is on helping its clients become high-performance enterprises through strategic business transformation, business operations improvement, technology enablement, and governance and risk management. A part of the S&P 500, Accenture was named a Top 50 Global Innovator by Thomson Reuters. Follow us on Twitter @Accenture and on LinkedIn.

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High performance. Delivered.

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Mining companies are utilizing digital technology and solutions to drive improvements through dynamic visibility, collaboration and analytics. They are creating a connected mine ecosystem to maximize business value and productivity.

Digital technology allows mining companies to capture data from sensors and other systems, then visualize and analyze it to make better decisions faster. Leverage analytics for predictive maintenance, connect the real-time system to the business, and improve operational agility, safety and productivity.

Digital Mining is designed for mining companies to consolidate, visualize and analyze data from anywhere in the mining value chain, starting with the raw materials and ending at the final product. The solution helps mining companies make better decisions faster, improve operational agility and reduce costs.

About Accenture
Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Through its innovation and technology service offerings, Accenture leverages the power of insights, data and analytics to help clients improve their performance and create sustainable value.

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Digital Mining in the Mining Industry