

Digital Mining Enterprise



Enable Safe and Profitable Mining Production

Market Situation

Innovation-Driven Business

Business Priorities

SAP Innovations

Mining companies need to address the key challenges of commodity price volatility, operational productivity, and environment and safety. This requires a robust foundation of integrated IT and operations technology.

The mining industry is under constant turmoil of price and demand volatility. This has resulted in companies being more cautious in their capital-project decisions and inclined to engage in cost-reduction initiatives.

One way to achieve productivity improvements is by enhancing efficiencies in production, maintenance, and inventory management for maintenance, repair, and overhaul operations. Leading mining companies have embarked on “digital mining” initiatives to attain an integrated application landscape for a seamless information flow.

Due to lower production costs and more easily accessible reserves of a relatively high grade, focus on emerging regions such as West Africa, Mongolia, and Vietnam has increased. Growth in these areas, as well as increasing merger and acquisitions activity, necessitates scalability and robustness of information systems.

The outsourcing of various kinds of mining operations and maintenance services has been growing rapidly. Hiring, work-quality monitoring, access control, and payments to subcontractors are important challenges that need to be handled holistically.



Digital Mining Enterprise

Market Situation

Integrated applications enable efficient operations.

Innovation-Driven Business

Align Production (Mining and Downstream Processing) and Maintenance

Business Priorities

Improve overall equipment effectiveness and inventory management and improve usage of operational data.

SAP Innovations

Manage Operational Risk

Help ensure safe, environmentally friendly, and compliant operations.

Manage Financial Risk

Confidently handle the combination of lower commodity prices and higher cost of mining by introducing financial risk management strategies.

Reliable, efficient operations require tight integration of IT and operations technology with the organization's infrastructure and visibility into operational data, particularly for remote locations.



Business Priorities for Best-Run Companies

Market Situation

Innovation-Driven Business

Business Priorities

SAP Innovations

Best-in-class mining companies support their global organizations with single-instance implementations of SAP software, while providing the maximum possible functional coverage through SAP solutions.

- Optimized Mine Operations
- Sales and Supply Chain Management
- Operational Risk and Compliance Management
- Human Resources
- Finance
- Procurement
- Information Technology
- Technology and Platform



Understanding the value drivers for each of these priorities is key to executing as a best-run mining company.



SAP Innovations

Market Situation

Innovation-Driven Business

Business Priorities

SAP Innovations

Mining companies need to adapt to emerging IT trends and still provide service levels without any disruption to the business. They are also being challenged to leverage IT advancements to innovate processes and optimize their business.

SAP invests significantly in five distinct technology areas – applications, analytics, mobile, cloud, and Big Data.

Maximize the return on assets by using breakthrough database and technology solutions, such as the SAP HANA platform and SAP solutions for analytics. Mining companies can reduce operational costs while increasing asset availability and improving safety.

Mobile – SAP mobile apps enable all aspects of company operations to run faster and smoother by providing employees with access to critical information anytime, anywhere. It also allows them to capture data – eliminating paper-based processes – and bring data faster into the back-end software, where all stakeholders will have instant access to it.

Cloud – The cloud solutions from SAP and its partners provide a new way to deliver extraordinary potential for mining companies to run their businesses better and faster. Ariba Network provides access to a vast network of qualified, global suppliers, even in remote areas. It offers low-cost and low-risk deployment while ensuring flexibility, scalability, and full integration across comprehensive business processes.



Mining Value Map

SAP Solutions

Optimized Mine Operations

Sales and Supply Chain

Risk and Compliance

Human Resources

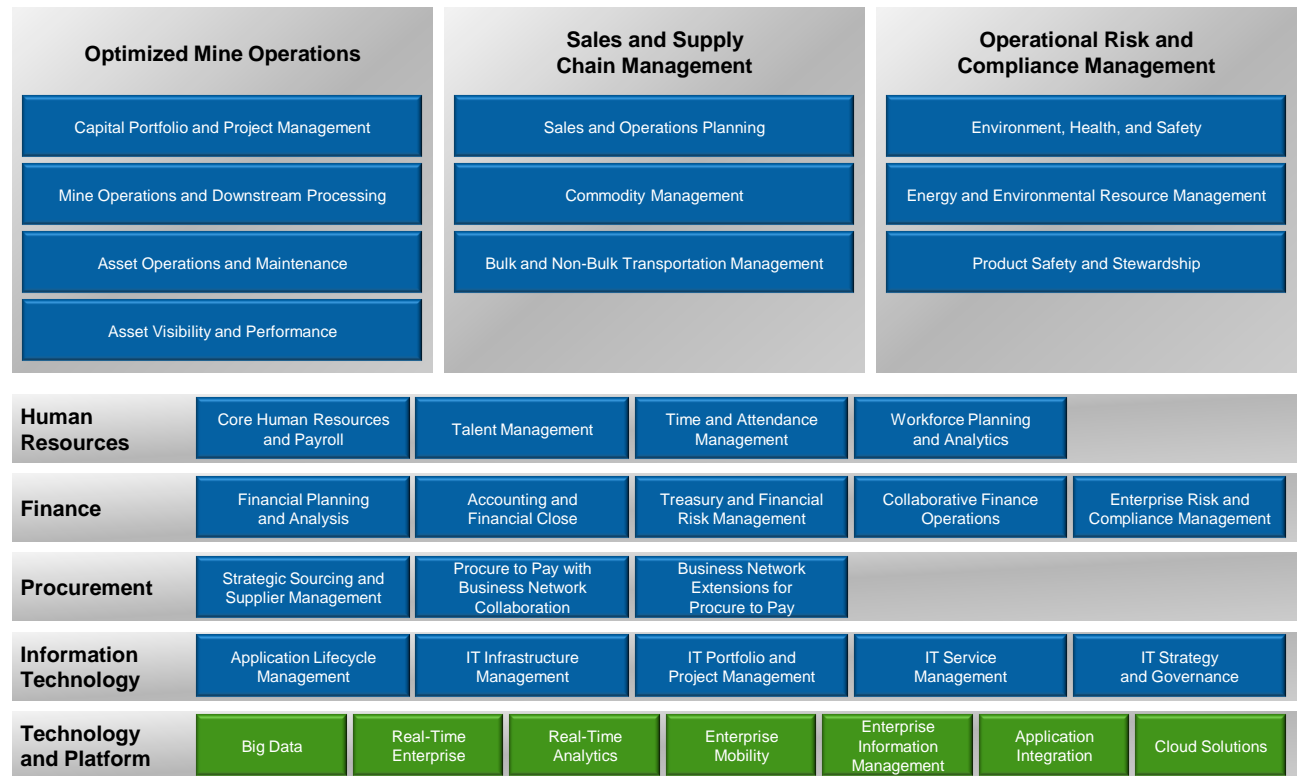
Finance

Procurement

Information Technology

Technology and Platform

Enable safe and profitable mining production.



Optimized Mine Operations

SAP Solutions

Optimized Mine Operations

Priorities

SAP Solutions

Constant volatility in commodity prices and profit margins compels mining companies to control capital and operational expenditure. This can be achieved through efficient production, processing, maintenance, and project management.



Operational efficiency is of paramount importance and can be achieved through effective collaboration between production and maintenance. This requires seamlessly integrated applications comprising SAP software and various third-party applications. This integrated “digital mining” landscape is enabled through the SAP Manufacturing Integration and Intelligence (SAP MII) application.

Decision makers at various levels require visibility into operations and maintenance data. This data should be provided in real time or in an aggregated form, based on the requirement to support benchmarking and to target specific productivity challenges.

In the long run, efficient capital project management and engineering, procurement, and construction contractor management lay the foundation for successful maintenance operations.

62%

Lower unplanned outages where sophisticated reliability-based maintenance procedures and tools increase asset availability

Source: SAP Performance Benchmarking



Optimized Mine Operations

SAP Solutions

Optimized Mine Operations

Priorities

SAP Solutions

Optimize mining and downstream processing operations through integration and business intelligence.

Increase production, overall equipment effectiveness, and environment, health, and safety compliance.

Capital Portfolio and
Project Management

Efficiently manage capital and operational expenditure projects, limiting time and cost overruns.

Mine Operations and
Downstream Processing

Plan, execute, and control production operations in mines, crushers, and downstream processing plants.

Asset Operations and
Maintenance

Enable more effective collaboration between production, maintenance, and repair operations, as well as spare parts and inventory management.

Asset Visibility and
Performance

Provide visibility into equipment performance, condition, and status to enable prompt corrective actions.

16%

Lower inventory carrying cost where timely transportation planning is performed with considerations of supply chain constraints

Source: SAP Performance Benchmarking

Benefits

- Higher production throughput
- Higher throughput per worker
- Higher equipment effectiveness
- Lower operational costs
- Reduced maintenance costs
- Accurate planned costs



Sales and Supply Chain Management

SAP Solutions

Sales and Supply Chain

Priorities

SAP Solutions

Customer satisfaction and profitability depend on the efficiency of contract-to-cash and transportation processes. Mining companies expect software to play an important role in the management of customer-facing and supply processes.



Sales and operations planning plays an essential role in aligning demand and supply. A unified model of demand, supply chain, and financial data enables quick analysis of massive amounts of complex data in real time.

Sales and purchasing contracts require the support of software that can handle pricing complexity. This ranges from quotation periods and quotation pricing to multistage invoicing, including complex formula-based payables, treatment charges, and bonus and penalty calculations that vary according to product assays.

Scheduling of the bulk transportation of minerals requires decisions on selecting appropriate grades of products from various stockpiles stacked in different locations. Employees blend the minerals and decide on methods of transportation for each delivery.

Effective inbound supply chain management of spare parts for maintenance, repair, and operations is critical, as this represents a high proportion of total inventory costs. And, with numerous mining-based operational and maintenance activities outsourced, subcontractor maintenance is becoming increasingly important.

Sales and Supply Chain Management

SAP Solutions

Sales and Supply Chain

Priorities

SAP Solutions

Boost profits with sales contract handling and supply chain management.

Efficient sales contract handling delivers faster, more accurate pricing. Efficient use of capacity and stockpile management reduce transportation costs and lower working capital locked in inventory. Subcontractor performance tracking increases payment accuracy.

Sales and Operations Planning

Plan sales and demand with a unified model of demand, supply chain, and financial data.

Commodity Management

Manage comprehensive commodity sales and procurement processes, including commodity and foreign exchange risk hedging.

Bulk and Non-Bulk Transportation Management

Perform transportation planning and execution for multiple locations, sales orders, purchase orders, and means of transportation for bulk and non-bulk materials.

69%

Lower recordable accident frequency where maintenance planning takes into account skill, material, tools, and specific job instructions

Source: SAP Performance Benchmarking

Benefits

- Higher profits
- Mitigation of commodity price risk
- Tracking of foreign exchange
- Higher transportation throughput
- Lower inventory costs
- Controlled subcontractor activity



Operational Risk and Compliance Management

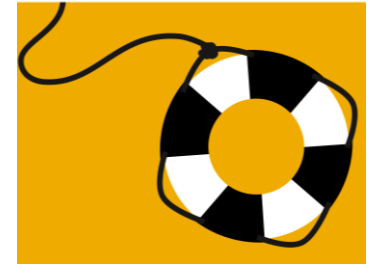
SAP Solutions

Risk and Compliance

Priorities

SAP Solutions

Worker safety and environmental compliance are top of the agenda for mining companies requiring strict controls on hazardous substances. Reducing carbon footprint and energy costs is also a key priority.



Noncompliance with safety and environmental regulations exposes mining companies to safety risks and financial penalties. For this reason, mining companies worldwide are working to improve their operational risk management capabilities.

Management of effluents and greenhouse gas (GHG) is high on the priority list of mining companies. As energy costs climb steadily and profitability is under pressure, mining companies strive to reduce energy consumption.

Integration of plant automation systems with the SAP ERP and SAP Manufacturing Integration and Intelligence (SAP MII) applications increases visibility of energy use to enable ongoing monitoring.

Responsible management of hazardous materials, such as explosives and reagents, is critical for mining companies. Proper labeling and training regarding safe handling of these substances is indispensable.

Operational Risk and Compliance Management

SAP Solutions

Risk and Compliance

Priorities

SAP Solutions

Create safe and economic operations across the mining value chain.

Improve safety in every operation while reducing energy consumption in mining and downstream processing.

Environment, Health, and
Safety

Assess and manage operational risks involving people, assets, and locations.

Energy and
Environmental Resource
Management

Monitor energy consumption and take corrective actions to reduce the carbon footprint.

Product Safety and
Stewardship

Reduce the number of accidents associated with mishandling such hazardous substances as explosives and reagents through better labeling, handling instructions, and training programs.

71%

Lower recordable accident frequency where safety and environmental data are fully integrated with asset management functions

Source: SAP Performance Benchmarking

Benefits

- Fewer days lost due to incidents
- Fewer penalties for incidents
- Better employee motivation
- Compliance with emission targets
- Support for carbon credit trading



Human Resources

SAP Solutions

Human Resources

Priorities

SAP Solutions

Talent is a true competitive advantage today and critical when aligning business strategy and execution. Best-run organizations achieve profitable growth by leveraging their talent and out-innovating the competition.



For organizational growth and an agile response to business change, organizations must give people the knowledge and technology to facilitate innovation.

Organizations that quickly respond with the right talent in the right places will have a unique advantage in the marketplace.

They must also move into new markets, adapting to local practices and tapping the right local talent. In addition, they must identify and retain new talent acquired through mergers and acquisitions.

32%

Less employee turnover by using analysis of workforce data to design, implement, and monitor workforce optimization strategies

Source: SAP Performance Benchmarking



Human Resources

SAP Solutions

Human Resources

Priorities

SAP Solutions

The new world of work.

Enable growth and sustainability by coupling global capabilities, integration, and real-time insight with choice in the way HR processes and services are delivered.

Core HR and Payroll

Consolidate HR and payroll processes on a common global platform for better workforce data and legal compliance.

Talent Management

Improve strategic alignment, increase productivity, and accelerate results by identifying, developing, motivating, and retaining talent.

Time and Attendance Management

Streamline time management processes to enhance resource effectiveness and visibility into, and control over, labor costs.

Workforce Planning and Analytics

Identify and analyze talent gaps and streamline workforce planning for efficient and effective management of workforce demand and supply.

38%

Lower costs for HR organizations with a high degree of internal integration compared to organizations with a fragmented HR environment

Source: SAP Performance Benchmarking

Benefits

- Align people to organizational strategies
- Support global expansion into new markets
- Improve productivity and engagement
- Provide real-time insight into business needs



Finance

SAP Solutions

Finance

Priorities

SAP Solutions

CFOs implement best practices to strike a balance between sound stewardship and value creation, while walking the fine line between entrepreneurship and caution. At the same time, they need to view the right information, whether it's the big picture, exacting detail, or somewhere in between.



During one of the most difficult and volatile economies of modern times, financial organizations are struggling to achieve excellence.

On a daily basis, they encounter persistent challenges, such as ongoing market instability, ever-changing regulations, and increasing pressure on margins. Plus, the speed of financial operations is accelerating, requiring access to insight on the go – anytime and anywhere.

Finance executives are tasked with cutting costs and providing insight into the financial impact of decisions. To achieve these goals in this high-pressure environment, finance organizations must rely on best practices that help them achieve excellence and drive business results.

With the right solutions, finance organizations can excel and become a strategic advisor to the entire business. They can help ensure regulatory compliance and effective risk management, outperform financial objectives, create sustainable value, and deliver superior service at reduced cost.

3x

Lower finance cost as a percentage of revenue for top-quartile organizations versus bottom-quartile organizations

Source: SAP Performance Benchmarking



Finance

SAP Solutions

Finance

Priorities

SAP Solutions

76%

Higher operating margins, where financial systems provide historical and forward-looking views into financial and operational performance

Source: SAP Performance Benchmarking

Excel with best practices that facilitate 360-degree processes.

In the face of sustained market volatility, increasingly complex regulatory requirements, and growing pressure on margins, financial organizations must enable their staff to collaborate more efficiently and use business insight more effectively.

Financial Planning and Analysis

Define and execute organizational strategies, manage financial plans and forecasts, and increase profitability.

Accounting and Financial Close

Deliver a fast, accurate, compliant close and regulatory disclosures with less cost and effort.

Treasury and Financial Risk Management

Achieve greater insight and control over complex processes for managing cash, liquidity, and risk.

Collaborative Finance Operations

Automate transactional processes to improve efficiency, effectiveness, collaboration, and service at lower costs.

Enterprise Risk and Compliance Management

Protect revenue and optimize financial performance with risk and compliance management.

Benefits

- Provide forward-looking insights
- Enhance efficiency at lower cost
- Deliver accurate financial data
- Help ensure regulatory compliance



Procurement

SAP Solutions

Procurement

Priorities

SAP Solutions

While companies often focus on revenue, procurement savings can increase profits with far higher impact. The key to maximizing procurement's success in this critical role is to deliver consistent quality, savings, and compliance over time. That calls for innovative solutions that boost efficiency and insight.



Procurement leaders set a baseline for success by implementing best practices, excelling in category expertise, and working with key stakeholders on cost-control programs.

While savings is always a priority, new objectives have emerged as well. Procurement must manage supplier risk and performance, improve process efficiency, drive innovation, and ensure sustainability practices.

You need solutions that give you the tools to cut costs, as well as add value. These tools need to support processes, including spend

analysis, sourcing, contract management, operational procurement, services procurement, supplier information, risk and performance management, and invoice management. At the same time, procurement plays a role in helping finance optimize the company's cash position through discount management programs.

These tools, when connected to and facilitated by an unparalleled collaborative business network, drive real-time insight and efficiency that can only be delivered through the "power of many."

60%

Improvement in annual average savings by leveraging technology for sourcing and procurement processes

Source: SAP Performance Benchmarking



Procurement

SAP Solutions

Procurement

Priorities

SAP Solutions

Drive sustainable savings while supporting innovation.

Help ensure best practices within the source-to-pay process in the cloud, while leveraging the “power of many” through network collaboration to realize greater efficiency, gain real-time insights, and achieve true procurement excellence.

Strategic Sourcing and Supplier Management

Find new suppliers through Ariba Network and manage these relationships through supplier management solutions. Identify and act on sourcing opportunities and create favorable, low-risk supply contracts.

Procure to Pay with Business Network Collaboration

Realize savings with compliant, user-friendly self-service procurement; services procurement; and plan-driven procurement. Collaborating on Ariba Network makes catalog management, purchase order collaboration, and invoice-related transactions even more efficient.

Business Network Extensions for Procure to Pay

Leverage Ariba Network even further to drive advanced invoice automation and exception management. Manage cash by taking advantage of dynamic discounting opportunities.

55%

Lower FTE per billion in spending for companies conducting electronic supplier collaboration on a network

Source: SAP Performance Benchmarking

Benefits

- Optimize spend under management
- Increase average annual savings
- Cut FTEs per billion in spend
- Drive innovation with suppliers
- Reduce cost and risk
- Accelerate turnaround



Information Technology

SAP Solutions

Information Technology

Priorities

SAP Solutions

Businesses enterprises should forge strategic business partnerships with their IT organizations by aligning goals. And business-oriented IT should maximize efficiency and responsiveness by running IT like a business.



Research shows that lines of business want to ascertain the value of their IT investments, which means that IT organizations no longer decide alone which IT projects to fund.

The challenge is that IT management is often seen as just running the technical landscape. To become more relevant to an enterprise, IT needs to reposition itself to run like a business.

SAP offers an integrated portfolio of solutions to do just that. New technologies like mobile, in-memory, and cloud computing generate value to a business in an unprecedented way.

However, these new technologies also make IT landscapes more complex, requiring more tools to manage them. By leveraging SAP solutions – along with following best practices – CIOs, CEOs, other executives, management, and employees can tap into and help ensure efficiency, continuity, and responsiveness, making IT more strategic to the business.

36%

Higher operating margin where organizations use IT to enable strategic and competitive advantages

Source: SAP Performance Benchmarking



Information Technology

SAP Solutions

Information Technology

Priorities

SAP Solutions

36%

More IT projects generate positive ROI when IT is included in prioritization process early on for appropriate road map development

Source: SAP Performance Benchmarking

Evaluate and control risk, enable flexibility and scale, control and optimize costs, and maximize strategic value.

Promote business continuity, drive efficiency, increase IT responsiveness to business objectives – with information technology solutions designed for any size business.

Application Lifecycle Management

Use application lifecycle management best practices, methods, and services based on Information Technology Infrastructure Library (ITIL).

IT Infrastructure Management

Monitor all network assets to integrate infrastructure and application lifecycles.

IT Portfolio and Project Management

Manage projects and align the portfolio to drive innovation efficiency.

IT Service Management

Align service-desk operations with service-level agreements (SLAs), resolve SLA incidents fast and adopt ITIL best practices to meet evolving business goals.

IT Strategy and Governance

Track IT costs and risks and map risk and compliance activities to business impact.

Benefits

- Better align IT to business strategy
- Shorten IT delivery and business cycles
- Maximize return on IT
- Reduce system upgrade and operation costs
- Lower risk mitigation cost and revenue loss
- Reduce critical business system downtime



Technology and Platform

SAP Solutions

Technology and Platform

Priorities

SAP Solutions

Technology solutions can make the difference between surviving and thriving. And businesses know that they need to innovate to drive transformation. Technology and platform solutions from SAP enable quick adoption of cutting-edge technology to run the business better and faster with agility and innovation.



Users expect to run a real-time business with collective insights from real-time analytics for better decision making, prioritization, forecasting and modeling of outcomes, and access to applications from the latest mobile devices. They demand that these capabilities seamlessly integrate with their favorite social platforms, allowing cross-stakeholder collaboration.

At the same time, data volumes are exploding while the window for capitalizing on opportunities is shrinking. Users must be empowered with information from real-time applications available securely on any device. And developers need a platform to innovate faster.

SAP enables the real-time enterprise with an innovative data platform to power a new class of real-time analytics and applications that give businesses a true competitive advantage. Companies can harness the value of Big Data, while improving governance with timely, trusted, and consistent information.

Plus, SAP provides a comprehensive set of cloud solutions, including line-of-business applications as well as social and business network collaboration. The SAP HANA Cloud Platform enables customers to build new apps or extend and customize existing ones with managed and subscription-based services.



Technology and Platform

SAP Solutions

Technology and Platform

Priorities

SAP Solutions

Drive transformation and help the business thrive with technology.

Technology and platform solutions from SAP enable the real-time enterprise by unleashing the power of collective insights, empowering developers to innovate, and unwiring the business.

Big Data

Achieve tangible results on every business priority by accelerating how users acquire, analyze, act on, and apply insights continuously.

Real-Time Enterprise

Power a new class of real-time analytics and applications with an innovative data platform to give businesses a true competitive advantage.

Real-Time Analytics

Unleash collective insight through enterprise business intelligence, agile visualizations, and advanced analytics on any device and platform.

Enterprise Mobility

Deliver a platform for mobile development and security to innovate employee and consumer apps for any mobile device.

Enterprise Information Management

Maximize the value of business data – both structured and unstructured – across the organization.

Application Integration

Integrate application delivery to maximize agility across people, processes, and systems – within and beyond the SAP software landscape.

Cloud Solutions

Extend existing on-premise apps and infrastructure to enable new innovative business processes, gain greater insights, and unlock new business value.

Benefits

- Enable real-time operations
- Lower time to value
- Turn data into an enterprise asset
- Innovate customer engagement



SAP Innovations

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

85%

Believe the cloud will have a major impact on their organization through efficiencies, innovation, or competitive differentiation

Source: SAP Performance Benchmarking

The opportunities for mining companies to transform their business models and position themselves for sustainable growth have never been better. New technologies like in-memory computing, mobile technology, and cloud deployment are helping enterprises speed decision making and accelerate business execution.



In-memory computing delivered by the SAP HANA platform allows you to maximize asset performance and utilization by mining, consolidating, and analyzing your operational and asset data. You can respond rapidly to changing demand and supply patterns by analyzing multiple what-if scenarios during planning meetings for sales and operations.

Mobile technology helps you drive efficiency and safety across your mining and downstream operations and maintenance activities. You can track and trace the status of shipments, including quality parameters of shipped products. You can speed up sales cycles by providing information to sales personnel and customers when it's needed.

Analytics software helps you gain real-time insight into the performance of your mines and processing plants via preconfigured dashboards. It provides visibility that lets you respond to unexpected supply chain events. You can monitor overall status and assess the degree of adherence to environmental regulations and other compliance programs.

Cloud-based solutions help you gain operational continuity, so you can secure revenue streams and brand reputation as well as minimize any risk of noncompliance.



SAP Business Suite powered by SAP HANA

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

SAP Business Suite software powered by SAP HANA allows you to boost competitiveness by unlocking new growth opportunities. You can boost responsiveness by driving business at the speed of market change. You can increase productivity by empowering people to decide and act in the business moment.



Optimized Mine Operations

SAP Business Suite powered by SAP HANA simplifies mining, analysis, and federation of asset and maintenance data to drive continuous improvement and operational excellence. You can boost asset performance and operational continuity by enabling advanced maintenance planning strategies.

Efficient Sales and Supply Chain Management

SAP Business Suite powered by SAP HANA enables real-time decision making on market opportunities, capacity and demand fluctuations, and supply-chain interruptions. You can simplify IT by combining analytics and transactions for reduced total cost of ownership. SAP Business Suite powered by SAP HANA gives you real-time insight into customer and product profitability.

Operational Risk and Compliance Management

You can gain results fast from analysis of incident- and accident-related historical data to enable quick, smart decisions and actions. You'll be able to monitor energy consumption in real time to take advantage of high- and low-demand periods. You'll reap benefits from increased equipment reliability and reduced maintenance costs through predictive maintenance.

The SAP HANA Platform

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

48%

Of organizations foresee a need for having predictive modeling and complex optimization techniques on Big Data analysis

Source: SAP Performance Benchmarking

Big machinery generates Big Data, and mines have tons of big machinery. Visibility into daily operations is problematic without the means to manipulate business and manufacturing data. There is a huge opportunity to transform mines – even in remote locations – into efficient, streamlined operations.



Optimized Mine Operations

Manage the intersection of mine planning, asset lifecycle management, and operational performance for each asset. Initiate and manage capital and operational projects. Align and measure against business objectives.

Efficient Sales and Supply Chain Management

Provide instant insight into and simulation of supply chain availability and capacity, based on planned and actual mine and mill production.

Improved Asset Utilization

Increase the granularity of production and operational data, enabling advanced condition monitoring and predictive maintenance. Benefit from optimized maintenance spend and higher asset utilization.

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

21%

Higher employee productivity
in organizations with a higher
percentage of mobile service
and support employees

Source: SAP Performance
Benchmarking

Mobile

Mining assets are distributed and mine faces move; employees are constantly on the move. Mobile technology opens up many opportunities to bring more efficiency, simplicity, and speed to daily operations.



- Provide transparency on key performance indicators to authorized stakeholders on the move – in real time or on an aggregated basis.
- Enable management-by-exception reporting with alerts to inform the right people about issues, regardless of their current location.
- Reduce paperwork and enable direct data entry for tasks such as maintenance requests. Confirmations sent by mobile devices reduce errors and help ensure that data is up-to-date.
- Reduce time-consuming inquiries about topics such as technical documentation or inventory availability for spare parts. As a result, productive maintenance time increases.
- Enable remote real-time recording of critical information about production or data relating to environment, health, and safety.
- Take quick corrective actions based on alerts and notifications received on mobile devices.
- Gain remote access to supply chain planning and scheduling systems to verify, approve, or change shipments.
- Optimize inventory and order fulfillment by providing remote visibility into stockpiles and in-transit inventory.

Analytics

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

53%

More employees leverage analytic information when business intelligence software provides access to easy-to-use advanced analytic tools

Source: SAP Performance Benchmarking

Healthy mines achieve high operational performance and can drive sustainable and profitable growth. Without tracking performance, taking action to improve is impossible. Analytics software creates operational transparency and enables you to turn insight into action.



Confidently seize opportunities while mitigating risk. Monitor operations, align operational plans and simulations, and support risk control and awareness through:

- Asset performance management
- Predictive analytics and maintenance
- Production loss analysis
- Sustainability performance management
- Energy and environmental performance management
- Operational risk management

Cloud

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

85%

Of companies believe cloud technology will have a major impact on their organizations through efficiencies, innovation, or competitive differentiation

Source: SAP Performance Benchmarking

Cloud computing is creating new opportunities for best-run mining companies. Cloud solutions from SAP and SAP HANA Cloud Platform allow companies to build differentiating solutions to establish nimble global business networks and connect faster and directly with customers and suppliers.



Optimized Mine Operations

Extend learning to employees and contractors through a blending of formal, social, and in-depth learning channels. Provide unparalleled content management, reporting, and analytics support. Plan your workforce so you have the right people with the right skills and talents at the right time and at the right price.

Efficient Sales and Supply Chain Management

Collaborate more easily with key stakeholders in an efficient, integrated planning process that profitably aligns supply with demand. Automate and streamline the strategic source-to-pay process and network it with your suppliers.

Operational Risk and Compliance Management

Manage information on product sustainability across your network. Deliver product safety documentation across regions.

Best-Run Customers

Best-Run Customers

Codelco

Konkola Copper Mines plc

PT Timah

Why SAP?

Seven of the top 10 mining companies run SAP.

Nine of the top 10 copper producers run SAP.

Eight of the top 10 zinc producers run SAP.

Seven of the top 10 aluminum producers run SAP.



Customer Co-Innovation

Best-Run Customers

Codelco

Konkola Copper Mines plc

PT Timah

Why SAP?

SAP co-innovates with leading mining companies worldwide. Forums like Industry Advisory Council for Mining, its workgroups, and special interest groups detect trends and lead co-innovation to drive continual software enhancements.

CIOs of Top Mining Companies

Mining CIOs discuss business innovation and technological requirements of mining companies and share best practices on how to manage an increasingly volatile environment.

Co-Innovation Partners

The co-innovation process is enriched by including system integration specialists and independent software vendors as co-innovation partners.



Best-Run Customers

Codelco

Konkola Copper Mines plc

PT Timah

Why SAP?

Codelco makes a case for IT investment with the SAP Value Management program.

Objectives

- Understand best practices for procurement processes and how they are leveraged by SAP solutions for procurement
- Learn about the value management tools and methodology used by SAP
- Leverage those tools and methods to predict quantifiable benefits

Key Benefits

- Participated in the SAP Value Academy program, with a focus on procurement processes and using examples and case studies
- Used value management tools and methods to identify the most pressing business needs and IT investment benefits for contract and warehouse management and mobile application

Achievements

- Better understanding of the value lifecycle
- Better understanding of procurement processes end to end
- Identification of potential benefits for three IT projects

6

Companies involved in the SAP Value Academy program

10

Days to build the business case

6

Key performance indicators from the VLM tool included in the business case



Konkola Copper Mines plc

Best-Run Customers

Codelco

Konkola Copper Mines plc

PT Timah

Why SAP?

Konkola Copper Mines creates a platform for future growth with SAP ERP.

The Company's Top Objectives

- Integrate and optimize business systems to achieve operational efficiency and gain full visibility across the organization
- Map efficiency throughout the manufacturing process in real time
- Speed up financial closure and reporting and improve audit ratings

The Resolution

- Replaced legacy business systems with the SAP ERP application and integrated end-to-end business processes
- Adhered to standard templates from SAP for process redesign
- Implemented the SAP for Mining solution portfolio and adopted a best-practice methodology

Key Benefits

- Single and consistent view of the business from one data source
- Accurate and real-time metal accounting
- Improved data quality, allowing faster, more accurate decision making

>US\$20

Million reduction
in stores inventory

>75%

Less time from purchase
order to requisition

>75%

Overall equipment
effectiveness of assets



Best-Run Customers

Codelco

Konkola Copper Mines plc

PT Timah

Why SAP?

PT Timah pursues operational excellence with SAP ERP.

The Company's Top Objectives

- Automate manual processes
- Enable real-time visibility into inventory stock
- Reduce invoice errors
- Improve transparency of third-party payment

The Resolution

- Implementation of the SAP ERP application to streamline reporting and enable real-time visibility into inventory stock
- Strong support from Timah management and involvement of business owners to optimize business processes through quick implementation

Key Benefits

- Real-time visibility into inventory stock achieved
- Invoice error rate reduced
- Sales document errors reduced
- Employee productivity improved
- Procurement lead time reduced
- Forecast accuracy improved
- Confirmation for third-party payments reduced

40%

Reduced time to close monthly books

60%

Reduced cycle time for forecasts

90%

Less time to create reports



Why SAP?

Best-Run Customers

Codelco

Konkola Copper Mines plc

PT Timah

Why SAP?

SAP solutions help mining companies improve their efficiencies and control costs. This is possible through employing integrated SAP software aimed at enabling the “digital mining” enterprise vision.

Leaders in the mining industry, who represent a base of over 360 mining customers, have adopted SAP solutions. The software offers a vast range of solutions, including the SAP ERP application, the SAP for Mining solution portfolio, the SAP HANA platform, and the SAP Environment, Health, and Safety Management application.

SAP software integrates enterprise software systems with mining and processing software systems. The SAP for Mining solution portfolio leverages industry best practices.

Special focus on the mining industry is accomplished through the dedicated mining industry team and the industry advisory council for mining, which sponsors applied research specific to the mining industry.



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