

Industry Overview Metal ...

Michael Gerold, Mill Products & Mining, May 2015

Internal



... and Mining

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Internal



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Metal & Mining Industries

- **SAP Industry Setup**
- Drivers & Trends
- SAP Footprint
- Co-Innovation & Communities
- Solutions
- Partner & Competition
- Recent Customer Cases & Activities
- Summary

Industry Mill Products & Mining

Industry coverage

Forest Products



- Solid Wood
- Plywood
- Particle Board

Pulp & Paper



- Brown Paper
- Fine Paper
- Hygiene

Packaging



- Paper Packaging
- Plastic Packaging
- Aluminum Packaging
- Glass Packaging

Mining, Non Ferrous Met.



- Mining
- Copper
- Aluminum

Primary Metals



- Flat Steel
- Long Steel
- Aluminum

Fabricated Metals, Cable



- Metal Service Centers
- Cable
- ...

Cement & Concrete



- Cement
- Ready Mix Concrete
- Concrete Products
- Aggregates

Building Products



- Bathroom
- Windows
- Ceramics
- Flooring
- Roofing
- Furniture

Textiles



- Yarn & Fibres
- Fabric
- Carpet & Rugs

Industry Team - Mill Products & Mining

Making sure that SAP solutions fit for the industry

IBU = Industry Business Unit

IVE = Industry Value Engineers

The IBU is within SAP the leading **global** organization for a specific **industry** segment



IBU Mill Products & Mining Locations

- Vancouver
- Atlanta
- Fort Myers
- Walldorf
- Munich
- Moscow
- Delhi



The IVEs are within SAP the leading **Local and regional** organization for a specific **industry** segment



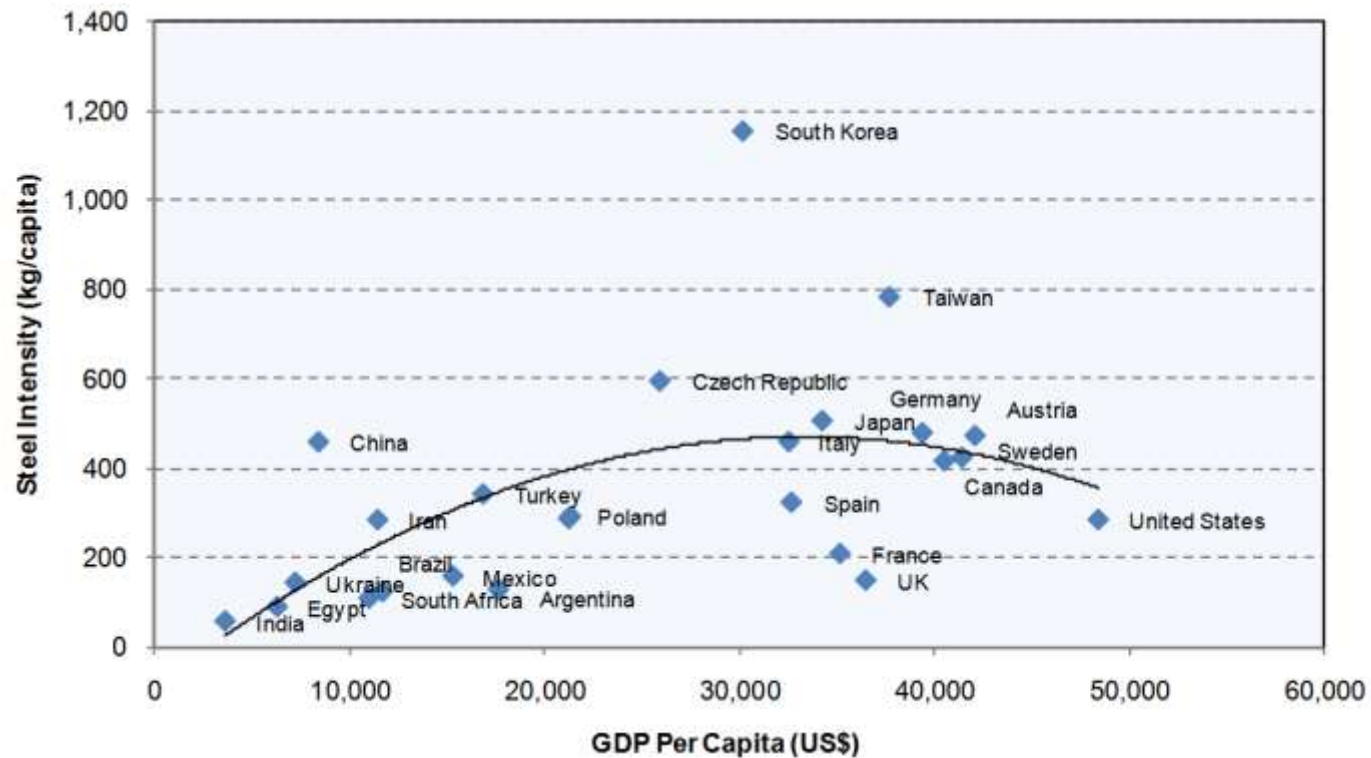
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Steel Intensity Curve

Indicator for steel demand

2011 Per Capita Steel Intensity Curve



Situation & Outlook

- Developed countries show already decline in per capita steel demand
- Growth countries with increasing population and improving GDP/capita will follow curve and are drivers for steel demand

➔ Overall quantity of steel in lifecycle will increase, most addition will be driven by high population in South East Asia

Source: <http://hk.amegroup.com/Website/FeatureArticleDetail.aspx?fald=25>

Risk Radar for Mining and Metals and SAP Solution Coverage





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Mining & Metals





Selected SAP Customer Examples

Mining & Metals Value Chain



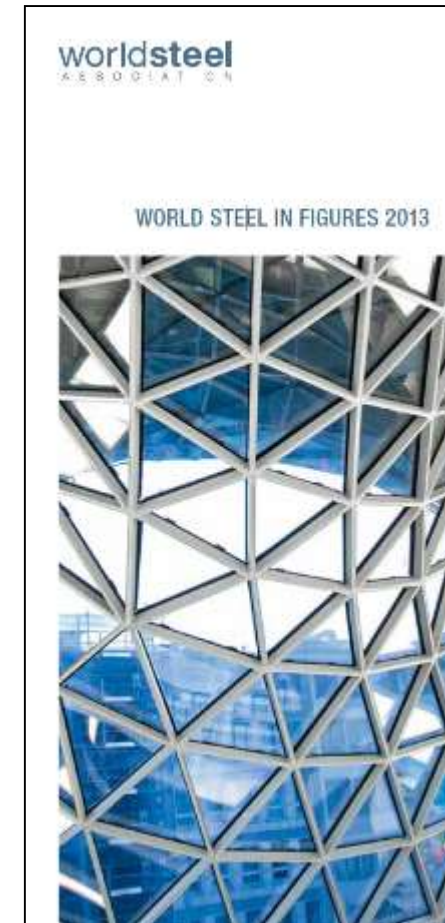
The large majority of the top steel companies run their core business processes using SAP

Top Steel Producers 2012

Rank	Company	Tonnage	Rank	Company	Tonnage
1	ArcelorMittal [†] 	93.6	23	IMIDRO [†]	13.6
2	Nippon Steel & Sumitomo Metal Corporation ^{††}	47.9	24	SAIL [†] 	13.5
3	Hebei Group ^{††} 	42.8	25	Rizhao	13.2
4	Baosteel Group [†]	42.7	26	MMK [†]	13.0
5	POSCO [†]	39.9	27	China Steel Corporation [†]	12.7
6	Wuhan Group ^{††}	38.4	28	Metinvest [†] 	12.5
7	Shagang Group	32.3	29	Baotou	10.2
8	Shougang Group [†] 	31.4	30	Taiyuan 	10.1
9	JFE [†]	30.4		Jiuquan 	10.1
10	Ansteel Group [†] 	30.2		Pingxiang	9.1
11	Shandong Group	23.0	31	Zongheng	9.1
	Tata Steel [†] 	23.0		Jindal	9.1
12	U. S. Steel [†]	21.4	32	Techint Group [†] 	8.7
13	Nucor [†] 	20.1		Xinyu	8.7
14	Gerdau [†] 	19.8	33	ISD	8.5
15	Maanshan 	17.3		JSW Steel [†] 	8.5
16	Hyundai Steel [†]	17.1	34	Guofeng	8.0
17	RIVA Group ^{††}	16.0	35	Ereğli Demir ve Çelik Fabrikaları TASEL [†] 	7.9
18	Evrar Group [†] 	15.9	36	Anyang 	7.7
	Severstal [†] 	15.1	37	CELSA Group [†] 	7.6
19	ThyssenKrupp [†] 	15.1		Zenith	7.6
	Benxi Steel	15.1	38	voestalpine [†] 	7.5
20	NLMK [†] 	14.9	39	Jingye	7.3
21	Valin Group	14.1	40	Nanjing	7.2
22	Jianlong Group	13.8		Usiminas [†] 	7.2

* worldsteel members

** Handan, which is part of Hebei Group, is a member of worldsteel

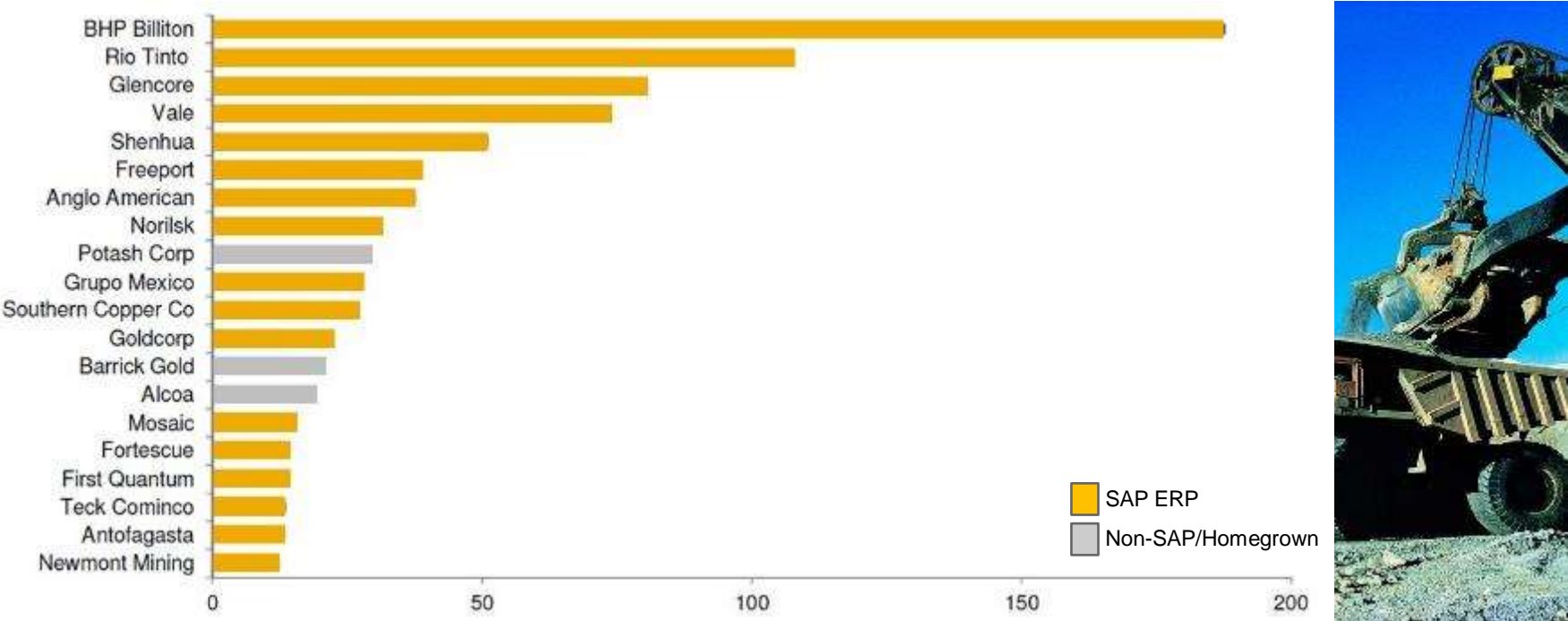


Source: http://www.worldsteel.org/dms/internetDocumentList/bookshop/WSIF_2013_spreads/document/WSIF_2013_spreads.pdf

The Leading Mining Companies Run SAP

Market capitalisation of major listed mining companies

At July 31 2014 (US\$bn)



Source (chart): http://www.riotinto.com/documents/investors_databook/Chartbook.pdf



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Strategic Alignment with Customers and Information Sharing



Industry Advisory Council for
➔ Metal
➔ Mining



SAP Mining & Metals Forum



ASUG Special Interest Group for Mining

Join the SAP Mill Products & Mining Community



<http://scn.sap.com/community/mining-and-mill-products>



<http://www.linkedin.com/groups/SAP-Mill-Products-Mining-Group-4532949>



<http://www.facebook.com/SAPMillProductsandMining>



<http://twitter.com/SAPMillMining>

[@SAPMillMining](https://twitter.com/SAPMillMining)

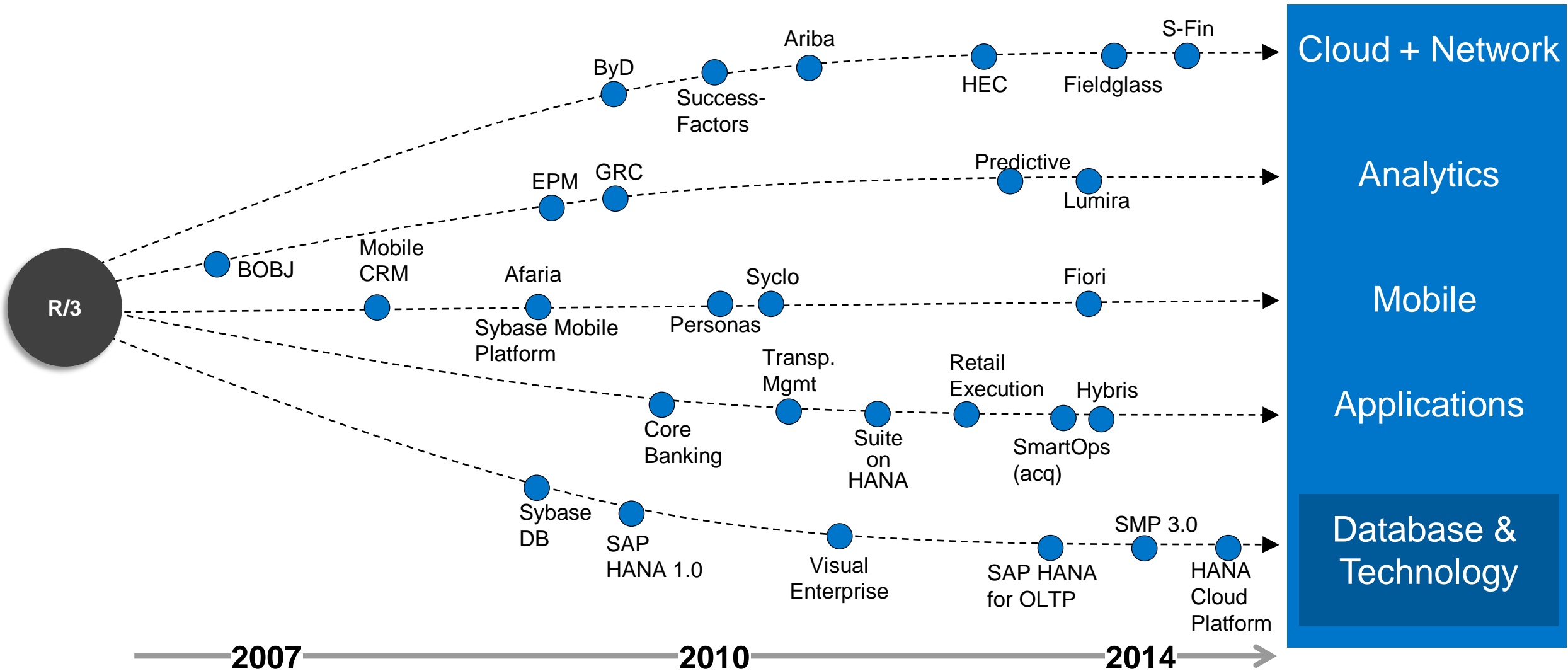




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SAP product portfolio evolution – powered by SAP HANA



SAP portfolio: next-generation technology for business

Mobile



Unwire your business to deliver secure, real-time, business-critical information – anytime, anywhere, to anyone, on any mobile device.

Cloud



Capture the power of the cloud – while fully integrating with on-premise investments. Empower your employees, engage customers, and collaborate with partners across business networks.

Applications



Run your business smarter, faster, and simpler, with an integrated suite of applications powered by SAP HANA – delivering long-term predictability and nondisruptive innovation.

Analytics



Explore and exploit data, find answers in real time, and make confident decisions. Harness visually compelling, easy-to-use tools on the devices of your choice.

Database & Technology



Simplify your IT infrastructure dramatically and drive high-value innovation by exploiting across structured and unstructured data sources.



A real-time business platform, powered by **SAP HANA**

Enable the Connected Enterprise

How can SAP® solutions enable you to change the game?

Create the connected mining enterprise by integrating operational technology into SAP business processes to gain deep insights into operational and equipment data. Collaborate with vendors and contractors through procurement and workforce management solutions in the cloud. Reduce operational and financial risk through integrated solutions from SAP and manage all modes of transportation.

What do SAP solutions help customers do?

Optimized mine operations



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

Commodity supply chain management



Improve profitability through effective sales contract handling and supply chain management.

Operational risk and compliance management



Create safe and economic operations across the mining value chain.

What are the benefits?

SAP solutions help mining companies provide visibility into operations, manage commodities, and enable safe operations through:

- Real-time visibility into mine operations
- Optimized utilization of assets
- Improved commodity risk profiles
- Efficient transportation
- Efficient procurement processes through business networks
- Reduced operational risk

Why SAP?

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.

Key facts

62% Fewer outages

With reliability-based maintenance procedures and tools that increase asset availability*

71% Fewer accidents

With integration of safety and environmental data with asset management*

Customers

- ▶ [PT Timah](#)
- ▶ [Boliden Group](#)

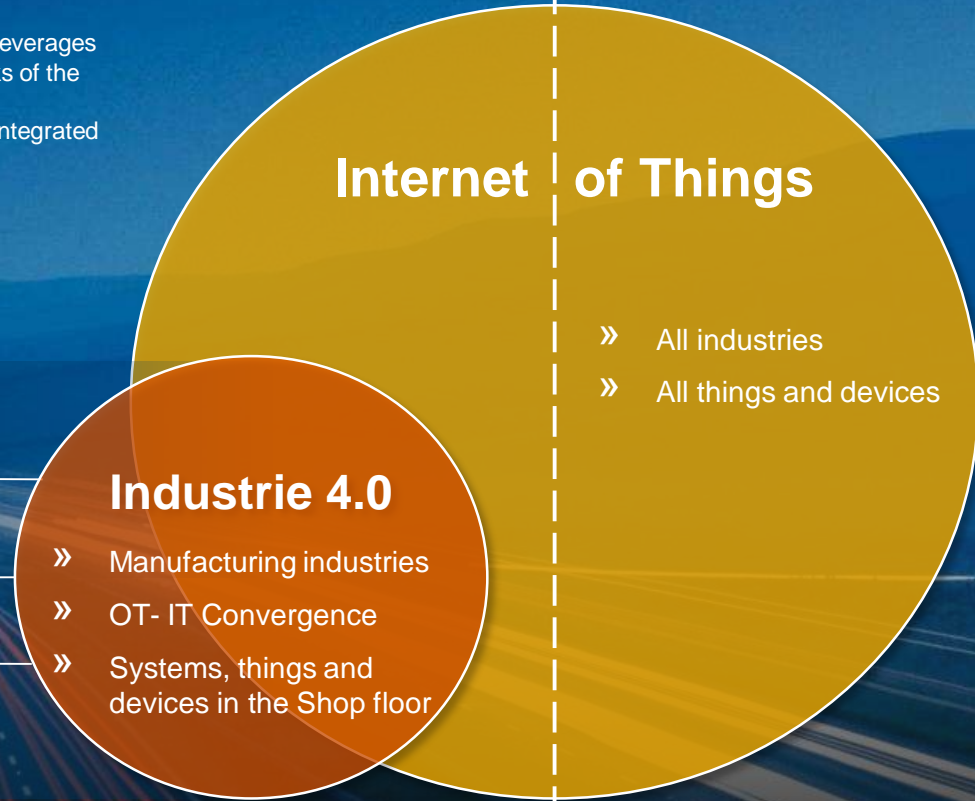
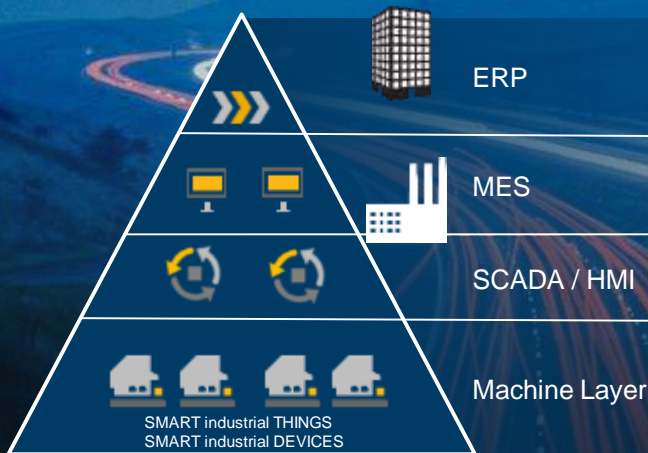
Learn more

- ▶ [Visit us online](#)
- ▶ [Benchmark your performance](#)
- ▶ [SAP Solution Explorer](#)

Internet of Things and Industrie 4.0

SAP Connected Manufacturing runs Industrial IoT with Industrie 4.0 scenarios

Industrie 4.0 focuses on all manufacturing industries and leverages value inside the four industrial walls and the production networks of the enterprise. Key topics are lot size of one, flexibility, traceability, production documentation and execution leveraging seamless integrated business processes connecting the top floor with shop floor.



The external **Internet of Things** scenarios enable all smart devices and things to be connected wherever they are. Once connected the information can be transformed and new business scenarios can be realized.

Optimized Operations

How can SAP® solutions enable you to change the game?

SAP software helps mining companies integrate operations to gain visibility across all operational sites. With support for business intelligence and visibility into equipment health, firms detect inefficiencies as they arise and can perform proactive maintenance to maximize equipment uptime and production. Workforce management software facilitates the management of internal and contractor workers.

What do SAP solutions help customers do?

Project and portfolio management



Leverage a comprehensive framework to align your asset portfolio hierarchy with corporate strategy.

Mine operations and downstream processing



Integrate the plan-to-production process, including plant-level operations and quality management.

Asset operations and maintenance



Integrate maintenance planning with execution, and visualize your equipment in 3D.

Asset network



Predict equipment outages for proactive maintenance, and manage your workforce with cloud solutions.

What are the benefits?

With SAP software, mining companies can align organizational strategy with their capital portfolio for more competitive business operations. Other benefits include:

- Fewer unplanned outages
- Higher utilization and product output
- Reduced spending
- Increased labor productivity

Why SAP?

SAP solutions integrate corporate business information and provide predictive and visualization features to maximize operational efficiency, equipment utilization, and production output for mining companies.

Key facts

+35% Effectiveness

Of operating equipment when managed with best-in-class software*

-18% Unplanned outages

When firms use a preventive-predictive maintenance approach*

Customers

- ▶ [HBIS Tangshan Iron and Steel](#)

Learn more

- ▶ [Visit us online](#)
- ▶ [Benchmark your performance](#)
- ▶ [SAP Solution Explorer](#)

Commodity Supply Chain Management

How can SAP® solutions enable you to change the game?

SAP software supports integrated, demand-driven business by enabling mining companies to base production and sales plans on current financial data. Commodity management software facilitates contract management and execution of sales and purchases and provides risk management tools. Help for advanced shipment planning increases the efficiency of shipment processes, including full visibility of status and costs.

What do SAP solutions help customers do?

Demand-driven business planning



Integrate sales, inventory, and operations planning to enable collaborative decision making.

Commodity management



Manage commodity sales, procurement, and price risk while adhering to compliance rules.

Bulk and non-bulk transportation



Plan and execute bulk and non-bulk shipments with full visibility into status and costs.

What are the benefits?

With SAP software, mining companies can manage sales and supply chains efficiently, meet customer commitments, and lower financial risk linked with commodity sales. Benefits are:

- More accurate contract fulfillment and invoicing
- Reduced financial risk
- Efficient collaborative planning and execution of shipments
- Reduced transportation costs with more accurate costing

Why SAP?

SAP offers a comprehensive portfolio of integrated solutions that increase process efficiency and enable demand-driven business planning, strategic sourcing, commodity management, and cost-effective management of procurement and transportation.

Key facts

-65% Sales quote errors

When orders are priced in real time using matrix-based rules*

-14% Expedition

Of shipments when planning is integrated with sales order software*

Customers

- ▶ [Aurubis](#)
- ▶ [Nizi](#)
- ▶ [SMART Modular Technologies](#)
- ▶ [Cargill](#)

Learn more

- ▶ [Visit us online](#)
- ▶ [Benchmark your performance](#)
- ▶ [SAP Solution Explorer](#)

Sourcing and Procurement

How can SAP® solutions enable you to change the game?

Sourcing and procurement software from SAP helps streamline the procurement processes of any organization, driving compliance and control while cutting costs and risks. The software offers a pleasurable and efficient shopping experience for your business users, with automated approval flows and integration with the world's largest business network.

What do SAP solutions help customers do?

Strategic sourcing and supplier management



Manage and collaborate with your suppliers effectively and meet aggressive savings targets.

Self-service procurement



Enable simple Web ordering and automate approval flows.

Services procurement



Achieve control and visibility over complex services spend categories.

Direct procurement



Mitigate risk by managing all your direct procurement activities in one place.

Contingent workforce management



Manage your contingent labor efficiently and track spend on flexible workforce.

Travel management



Automate and simplify the travel planning, booking, and expense management process and cut costs.

What are the benefits?

Sourcing and procurement software from SAP can transform businesses through:

- Better collaboration with suppliers and excellent sourcing and procurement processes
- Smoother operations with improved spend insights and higher compliance

Why SAP?

SAP solutions connect processes for a variety of industry value chains by integrating horizontal lines of business with industry-specific solutions on premise, in the cloud, and through mobile devices.

¹ SAP Performance Benchmarking

Key facts

-70% Operating costs

With closed-loop sourcing and procurement software from SAP¹

+60% Order compliance

With suppliers and terms working through the business network²

Customers

- ▶ [ABN-AMRO](#)
- ▶ [Clariant](#)
- ▶ [Caesars Entertainment](#)
- ▶ [GlaxoSmithKline](#)
- ▶ [Rio Tinto](#)
- ▶ [Sunrise Communications](#)

Learn more

- ▶ [Visit us online](#)
- ▶ [Benchmark your performance](#)
- ▶ [SAP Solution Explorer](#)

Analytics Technology

How can SAP® solutions enable you to change the game?

Analytics solutions from SAP let you to extract real meaning from your data and use it to drive growth. They help you understand your business and drive better decisions, explore and present data to reveal new insights, and confidently anticipate what comes next. With analytics solutions from SAP, you can strategize, plan, and monitor your success, and better understand how to balance risks and opportunities.

What do SAP solutions help customers do?

Business intelligence



Enhance your organization's business intelligence.

Predictive analytics



Identify opportunities and expose risks buried in vast amounts of data – all in real time.

Enterprise performance management



Execute better on your strategy.

Data discovery and visualization



Help business people of all skills to better understand data and use it to engage their audience.

Governance, risk, and compliance



Reap the rewards of effective risk and compliance management – with less effort and expense.

Key facts

13x ROI

Through investment in analytics¹

28% Reduction

In customer churn rate²

Customers

- ▶ [AAA](#)
- ▶ [City of Boston](#)
- ▶ [Sharp Electronics](#)
- ▶ [Daimler Trucks](#)
- ▶ [SA Health](#)

Learn more

- ▶ [Visit us online](#)
- ▶ [Benchmark your performance](#)
- ▶ [SAP Solution Explorer](#)

What are the benefits?

With analytics solutions from SAP, companies are able to create business value by:

- Increased quality of information from their data
- Optimized performance and reduced risk

Why SAP?

SAP solutions connect processes for a variety of industry value chains by integrating horizontal lines of business with industry-specific solutions on premise, in the cloud, and through mobile devices.



Mobile Technology

How can SAP® solutions enable you to change the game?

With mobile solutions from SAP, organizations can virtualize, accelerate, and transform business with a comprehensive platform-based offering. They can build, deploy, and manage industry-specific mobile apps and analytics for the entire enterprise. They can also readily deploy and support apps to multiple devices.

What do SAP solutions help customers do?

Enterprise mobility management



Safeguard corporate data at the device, app, and content levels.

Application development platform



Quickly build and deploy mobile apps with an industry-leading mobile app development platform.

Messaging services



Engage consumers through mobile technology to drive sales, loyalty, awareness, and revenue.

Mobile apps



Liberate data, accelerate business processes, speed decision making, and engage with consumers.

Key facts

+24% Operating margins

Where enterprise mobility is embedded in all business processes*

+40% Employee productivity

Where mobile access is provided to employees across all levels*

What are the benefits?

SAP solutions enable companies to combine SAP business process expertise with leadership in mobile, Big Data, and cloud to gain competitive advantage through:

- Optimized safeguards for corporate data
- Real-time customer engagement through mobile devices
- Increased loyalty and awareness
- Maximized revenue and productivity
- Optimized application design and deployment processes

Why SAP?

SAP is an enterprise mobility leader that provides end-to-end mobile solutions that align with cloud, mobile, Big Data, and social networks.

Customers

- ▶ [Hallmark](#)
- ▶ [Société de Transport de Montreal](#)

Learn more

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- ▶ [Benchmark your performance](#)
- ▶ [SAP Solution Explorer](#)



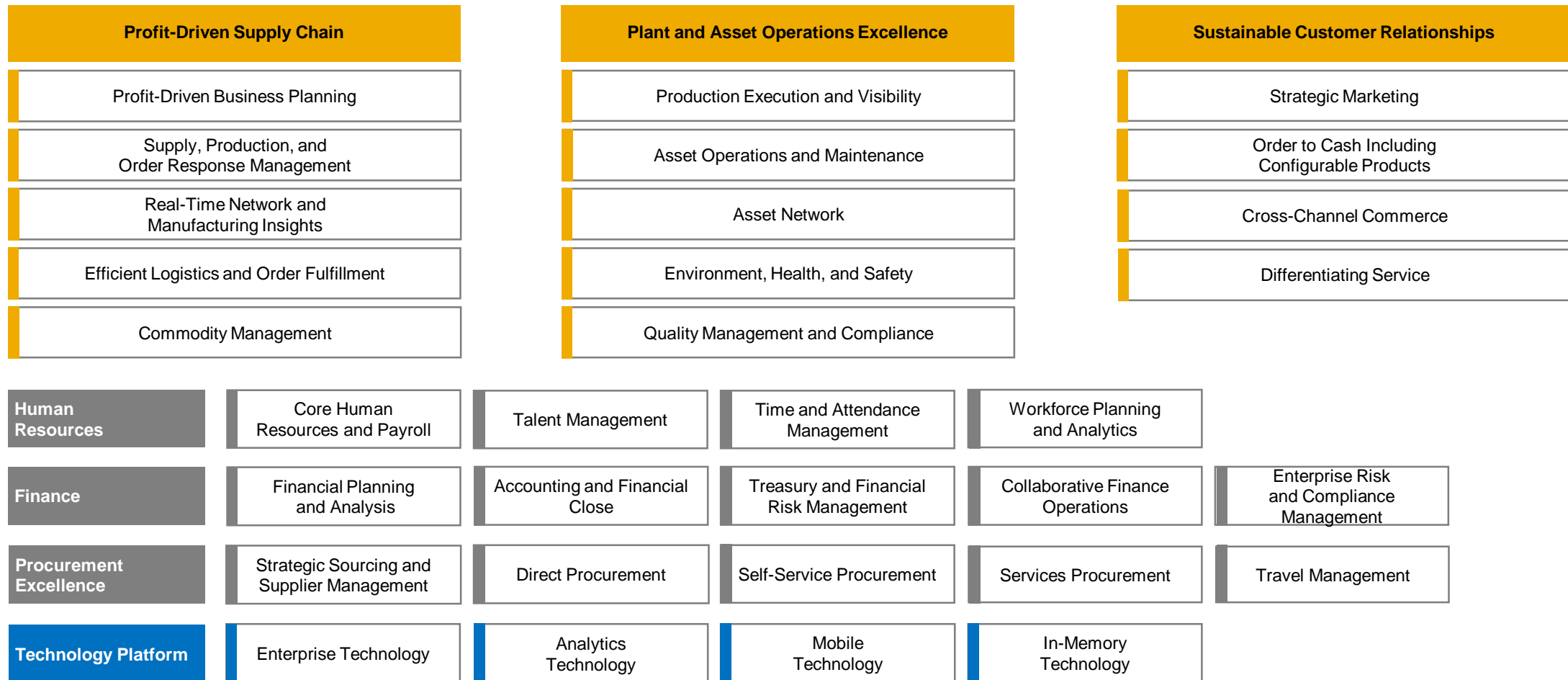


Metal Industries

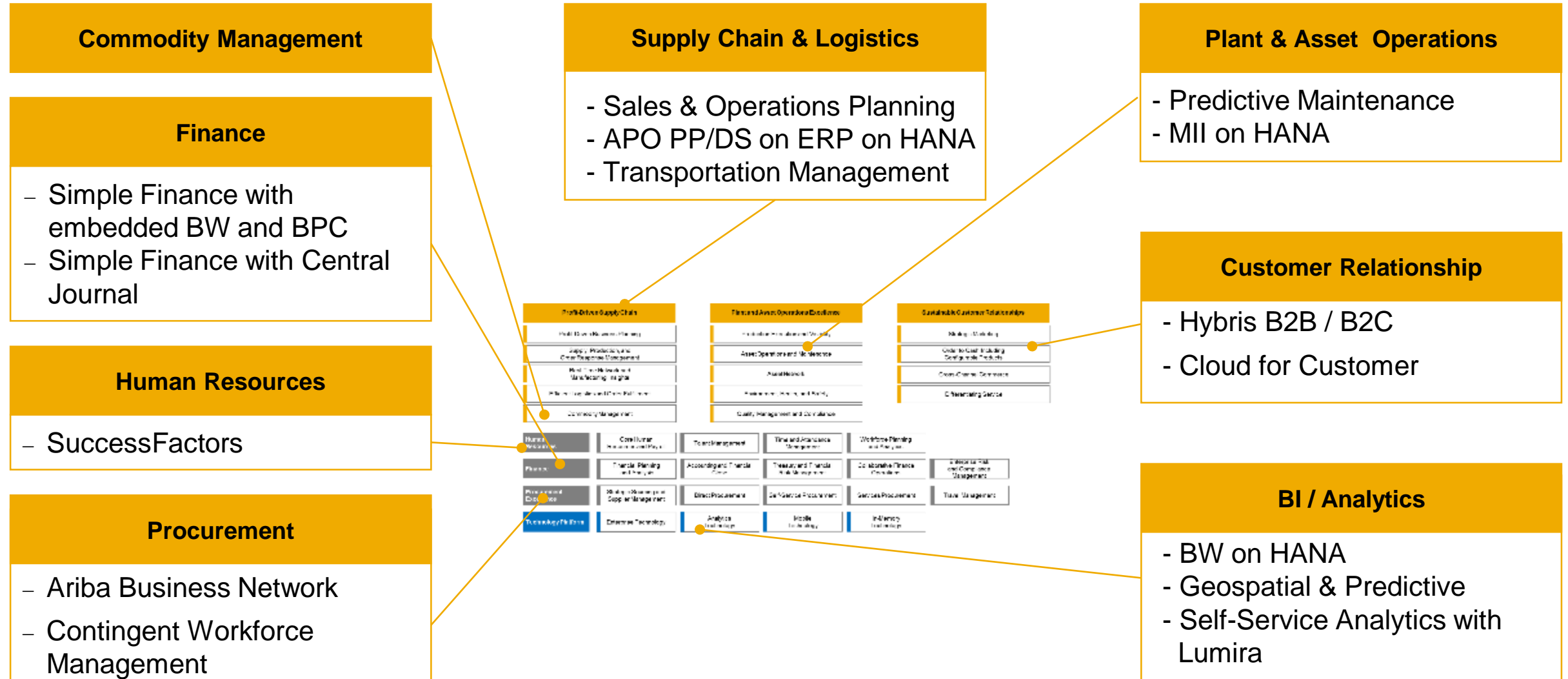
Value Map 2015 for the Metal Industry (Mill Products)

Differentiate in Commodity Markets

Interactive Version: [Solution Explorer](#)



Solution Highlights for Mill Products

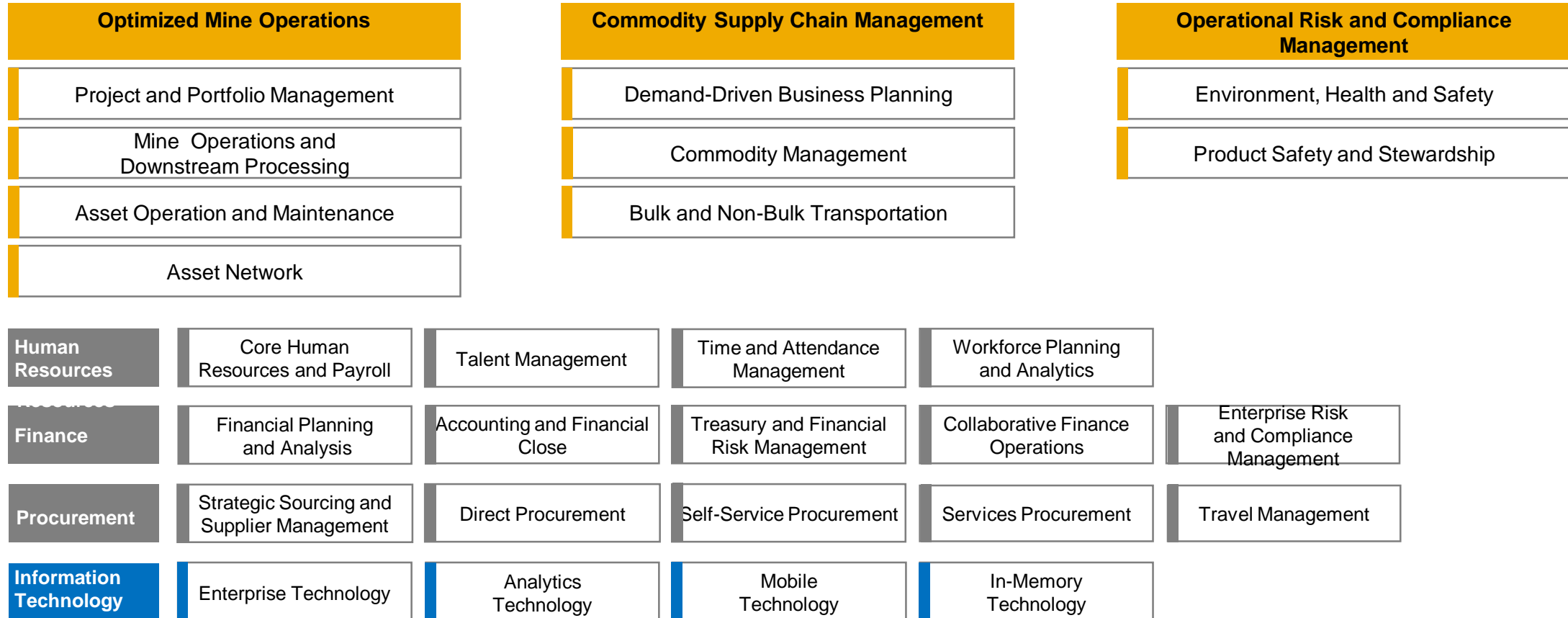




Mining

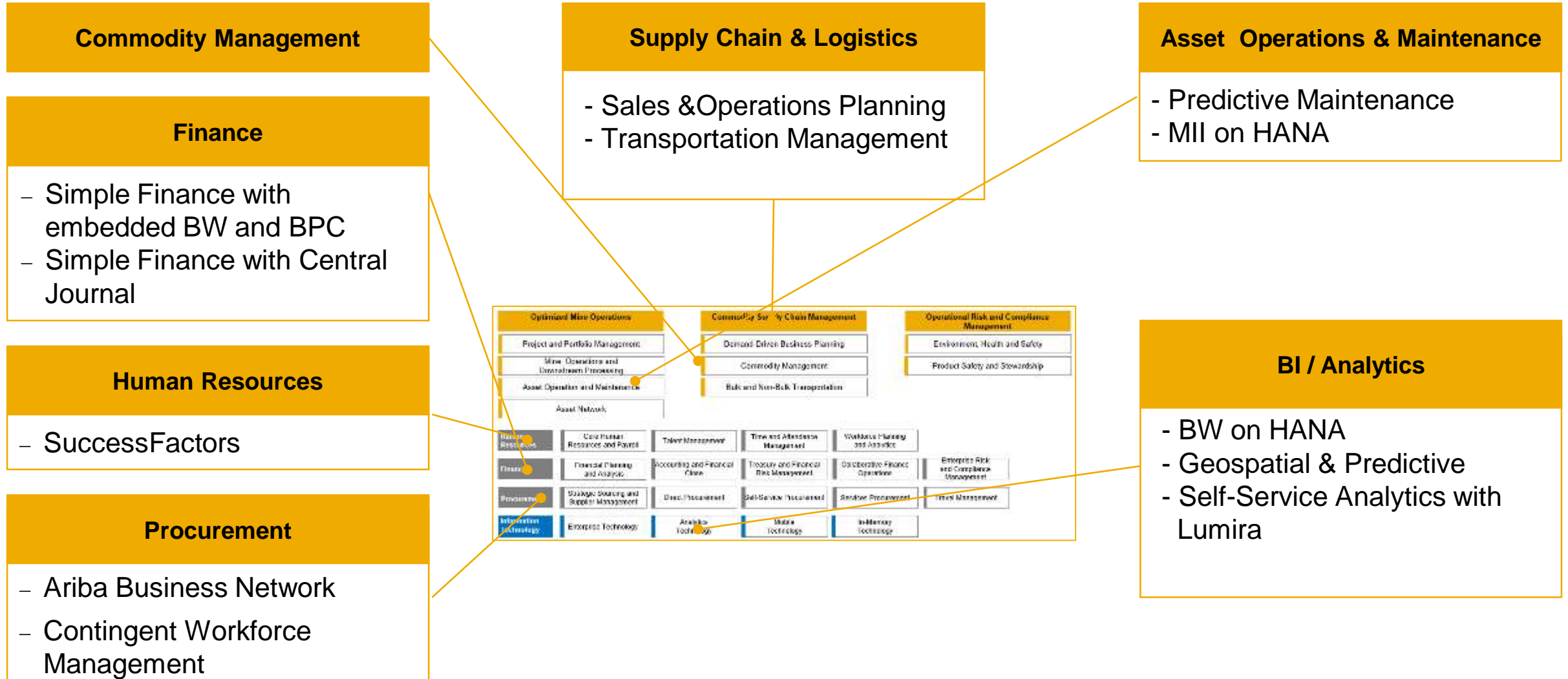
Value Map 2015 for Mining

Enable the Connected Mining Enterprise



[Solution Explorer](#)

Solution Highlights for Mining





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13,000x faster data custom reports



5x faster standard ERP transactions



New Business Processes

Product: SAP Business Suite powered by SAP HANA

Business Challenges

- NLMK is challenged by a high data growth on top of huge data volumes. They required a replacement of their ERP database to handle larger volumes with high performance.

Solution

- Proof of Concept to upgraded platform and migrated database to SAP HANA

Technical

- Three largest tables > 500 million entries
- Top 20 tables >100 million entries
- Daily growth of 8GB or 240GB per month

Benefits

- Accelerates both transactions and analytics
- New possibilities with interface and analytics

	Oracle	SAP HANA	Optimized ERP on HANA
Custom Reporting	3.5 days	257 seconds	24 seconds
FI Turnover	~7 minutes	250 seconds	21 seconds
Standard Transactions			> 5 x



“ERP on HANA Works!”

Paul Shulga, Head of Corporate Information Systems, NLMK Steel

Severstal: Empowering Teams Worldwide with Real-Time BI Enabled by SAP HANA® and SAP® MaxAttention™



Company

Severstal JSC

Location

Cherepovets, Russia

Industry

Mill products – steel production and mining

Products and Services

Steel production and mining

Employees

61,000

Web Site

www.severstal.com

Partners

SAP® Active Global Support organization, SAP MaxAttention™ services

Top objectives

- Make real-time analysis of huge volumes of data available company-wide
- Support business process optimization with faster, simpler reporting
- Reduce IT management complexity, effort, and cost

Resolution

- Partnered with the SAP Active Global Support organization to transition to the SAP HANA® platform
- Tested performance gains using actual data volumes prior to deployment
- Partnered with SAP MaxAttention services to optimize data availability and management and enable on-schedule deployment

Key benefits

- Real-time reporting and analysis of large data volumes
- Self-service and mobile business intelligence (BI) to support fast, efficient business processes
- Simplified, efficient BI infrastructure management

Up to
100x

Faster reporting

35%

Average reduction in data upload time

250%

Improvement in data compression

"The transition to SAP HANA creates new opportunities for transformation across the company, and expertise provided by SAP MaxAttention has helped make that transition successful."

Yuriy Shekhovtsov, CIO, Severstal JSC



Great Panther Silver: Working with SAP and Illumiti for Best-in-Class ERP in Mining



Company

Great Panther Silver Limited

Headquarters

Vancouver, British Columbia

Industry

Mining

Products and Services

Silver

Employees

1,200

Revenue

US\$60 million

Web Site

www.greatpanther.com

Partner

Illumiti

<http://illumiti.com>

Top objectives

- Establish a stable and reliable IT platform for growth with partners that are innovating in the mining industry
- Reduce business and legal risks related to data quality and reliability
- Replace a relatively new enterprise resource planning (ERP) system that did not meet expectations for performance and functionality
- Reduce operational and overhead costs

Resolution

- Worked with SAP and Illumiti, gold-standard partners for software for the mining industry globally
- Implemented an SAP® Business All-in-One solution, best-in-class ERP software, as a single system operating sites in Mexico and managed centrally in Canada

Benefits

- Massive reduction in time to execute operational processes due to integration and a simple user interface
- Much higher confidence in the data integrity, reliability, and quality
- Fast performance that sped up training and improved user satisfaction

"In only four months, SAP and Illumiti provided Great Panther Silver a stable, easy-to-use, state-of-the-art software platform that we can use to grow and innovate at our own pace. The performance improvement was like night and day."

David Asher , VP Technology Services , Great Panther Silver Limited

90%

Faster retrieval of finance reports (from 10 minutes to 1)

80%

Time savings for goods issued

70%

Time savings for purchase order (PO) creation

30%

Faster and easier PO approvals

20%–30%

Faster reporting on key warehouse transactions

50%

Faster creation and posting of journal entries (from 10 minutes to 5)

66.7%

Less time to close the books (from 3 weeks to 1 week)





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Summary – SAP solutions for the Metal & Mining Industries

Best-in-Class Solutions

- Metal & Mining industry specific solutions
- Fully integrated, end-to-end processes
- Flexible, scalable IT platform that supports business growth
- Clearly defined roadmap
- Long-term support commitment
- Lower Total Cost of Ownership

Industry Focus

- >35 years experience in the metal and mining industry
- Customers in metals & mining run SAP
- Dedicated global Industry Business Unit
- Executive Advisory Council driving industry co-innovation



Key links for more information

SAP Service Marketplace

- [SAP Roadmaps](#)
- [SAP Improvements & Innovations](#)
- [SAP Release, Upgrade and Maintenance Information](#)
- [SAP Rapid Deployment Solutions](#)

Mill Products Info

- [SAP Solution Explorer - Mill Products](#)
- [Mill Products on www.sap.com](#)
- [Metals on www.sap.com](#)

Mill Products User Groups

- [ASUG - Special Interest Group Mill Products](#)
- [DSAG - Workgroup Mill Products](#)
- [SAP Configuration Workgroup](#)

Communities

- [Mill Products on SAP Community Network](#)
- [Mill Products group on Linked In](#)
- [Mill Products on twitter](#)
- [Mill Products on Facebook](#)



Thank You!

Michael Gerold

Industry Principal
Mill Products and Mining EMEA & MEE



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