Extending the Intelligent Enterprise for Mill Products and Mining with Co-innovation

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Priority 1: Innovative products at better margins
From production control to real-time profitability

Priority 2: Small lot sizes and individualization
The right product for the right customer

Priority 3: Customer collaboration
Real outcomes instead of just products

Priority 4: Value-added services – the art of the possible
Real-time tracking of production and logistics generates data for customer benefit
Digital trends transforming the mill and mining industry

New players enter and change business

321 Billion
Potential created value for mining and metals

68%
Of metals CEOs worry about new rivals from other industries disrupting their sector

Need for innovation is not debatable

87%
Of mining executives say companies that do not embrace Digital will lose their competitive position.

Democratization of information is continuing

65%
Of enterprises are already using the Internet of Things

30 billion
Things will be connected by 2020

http://www.pwc.com/gx/en/ceo-agenda/ceo-survey/download.html
World Economic Forum: Digital Transformation Intuitive: Mining and Metals Industry Executive Summary

Accenture Digital Mining Survey


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To transform metals companies, prioritize new business models and processes

1. Innovative products
Customers demand constant innovation, such as metals made from recycling material, new grades for specific characteristics such as strength, innovative coatings, and better processing capabilities.

2. Small lot sizes and individualization
Quick order completion and delivery of tailor-made solutions create additional value for customers.

3. Customer collaboration
Critical customer relationships need to be strengthened for sustaining high customer satisfaction and retention rates.

4. Value-added services
Digitalization and interconnection of products and services create additional value. An example is to advise on the best usage of a complex product, which can drive new revenue opportunities.

5. Disintermediation
Companies will increasingly look up, down, and across their value chains to expand into additional markets.
To transform mining companies, prioritize new business models and processes

1. Make mining more predictable and safer
Advanced predictive analytics and machine learning help predict failures or exceptions to support the right decision making, making mining more predictable and safer for the workforce.

2. Collaborate with customers, suppliers, and workers
Collaboration with customers, suppliers, and workers will strengthen relationships, digitalize the data exchanges, and make the business more agile, increasing profitability and digitalizing the worker.

3. Enhance operational and commercial agility
Enable commercial and operational agility through real-time decisions by bringing together IT and OT along the entire pit-to-customer process.

5. Increase productivity through automation
The mining industry will increase the level of automation to make work safer and the outcome more predictable, and increase productivity.
High performance delivers substantial rewards

SAP performance benchmarking shows that, compared with average performers, top performers in mill products achieve:

- **+30%** Growth in market share by integrating offers across traditional and digital marketing channels
- **-33%** Lead time for order fulfillment when supply plans align with demand
- **+11%** Overall equipment effectiveness on assets where equipment use is tracked in real time
- **+17%** Return on assets where asset management systems are fully integrated
- **+30%** Rervice level creating greater customer satisfaction and profitability
High performance delivers substantial rewards

SAP Performance Benchmarking shows that, compared with average performers, top performers in mining achieve:

- **62%** Reduction in equipment outages with reliability-based maintenance procedures and tools that increase asset availability
- **60%** Higher order compliance with suppliers and terms working through the business network
- **41%** Lower inventory where maintenance planning and scheduling takes into account skill levels and specific job requirements
- **76%** Higher margins when financial systems provide insight into financial and operational performance
The intelligent enterprise in the experience economy

80% market standards to optimize for speed and simplicity

20% differentiation to extend and transform the business
Intelligent Suite & Platform

Advanced Order Management
Alternative Configure Price Quote
Manufacturing Execution Systems
Supply Chain Mgmt Models
Industrialized Digital Core
Industrialized Integration to 3rd Party

Industrialized ML Models and Apps
Industry Analytics

Simple UX against standard APIs
Full blown applications on SCP with standard integration
SAP Production Configuration Services &
SAP Product Configuration Intelligence
Examples

Smurfit Kappa – YouTube

- Great video with an overview of Smurfit’s journey
- Chief overview of MTS solution initially implemented by Movilis (how they’ve grown to launch a managed SAP digital supply chain service)
- Why calming what they implemented, why not all the integrations, business rules, etc.

https://www.youtube.com/watch?v=TfSagy2OOgg

LPI Solution Suite Highlights

- Print & Packaging Best Practices for LPI/IOX
- Pre-defined Product Structure for Sheet Fed Products
- LP Technical Document Interface

Our technical concept idea needed to be verified

CAC – SAP ERP Shared Usage – ProjectQDRoller Process

Our hypothesis that we wanted to verify:

- We can bring our SAP ERP-based application to an SAP cloud environment or split it across parallel systems and reduce dependencies

TOTALLY INTEGRATED SAP / RPM OFFERING

- ERP Modules (ME/CO)
- BPC
- LiXeS
- Public Cloud

One Button Process

- SAP HANA
- SAP BUI
- S/4HANA

Examples
Digital business scenario
Use sensor data to maintain assets proactively and to deliver the perfect order

- Customer demand
- Production planning
- Monitoring production
- Analyze machine alerts
- Prediction of machine shutdown
- Investigate machine supplier updates
- Order machine spare part
- Order tracking
- Real-time operational insights and KPIs
- Stronger customer relationship

Watch a video illustrating the scenario here
Digital business scenario: **Real-time planning and execution lead to operational excellence**

1. Operational dashboards
2. Life-of-mine planning and simulation
3. Mine planning
4. Equipment monitoring and tracking
5. Capturing events
6. Predict asset failures
7. Real-time update to planning and execution
8. OEM collaboration
9. Maintenance planning and execution
10. Confirm work orders
11. Real-time operational insights and KPIs

**Digital core**

- Collaboration
- The IoT and assets

**View demo**
Innovative products at better margins
Simplifying Protective Packaging with SAP Hybris Solutions and SAP S/4HANA

Objectives
▪ Upgrade sales and customer management systems to more-effectively personalize and enhance customer experiences to increase lifetime value
▪ Provide proactive, relevant service to a diverse clientele
▪ Simplify and integrate disparate systems across departments to unify operations

Resolution
▪ Worked with TPC to deploy SAP S/4HANA and the SAP Hybris Cloud for Sales solution
▪ Completed the digital transformation project in 16 weeks

Benefits
▪ More-informed decision making using instant reports to the executive team that increase visibility into sales and customer support
▪ Enhanced agility with a simplified platform that allows real-time data sharing among sales, customer service, and business leaders
▪ Greater efficiency due to the elimination of duplicate data entry
▪ Simplified data analysis for more-effective and targeted selling

16 weeks
Implementation on schedule and within budget

360-degree
View of each customer account

15%–20%
Expansion of the sales pipeline
Enabling higher productivity and increasing profits

SAP Cloud Platform allows mining companies to:

- Gain real-time operational insights
- Combine mine planning and financial data to enhance life-of-mine planning and simulation
- Reduce operating costs with improved connectivity and process automation
- Speed up maintenance and repair through integrated asset data, spare-parts procurement, and alignment of contingent workforce
Thank you

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