ABB Ability™ Data Analytics Platform for metals

Aggregating islands of automation and devices into one powerful resource with applications for performance optimization
Transform with ABB Ability™ Data Analytics Platform for metals
Enabling real-time performance optimization across the plant

Analytics & planning inputs to drive profitability

Cost reduction and energy efficiency to increase market competitiveness

Productivity enhancement from cross-function platform data insights

Integrated platform across entire process value chain for quality and safety

Enabling a responsive, reliability-driven enterprise
Metals manufacturers are under constant pressure to find new and improved ways to enhance operations and reduce costs. Digitalization has the potential to transform the way we work with new and more powerful tools that can help monitor operations, identify and diagnose current problems, predict new ones before they occur to maximize productivity and efficiency.

The first major step in any digital journey is to move from islands of automation to one, single-point powerful data aggregation and analytics layer. For this to work effectively, multiple devices and assets need to communicate with a common layer and each other effectively and seamlessly. Knowing what data is required and how it can be analyzed to provide relevant insights is also a decisive factor in digital transformation and can only be achieved through a deep understanding of metals industry processes.

**Single-point decision support platform**

ABB Ability™ Data Analytics Platform for metals is a new digital solution that will allow metals manufacturers to visualize every single piece of data across the value chain, gain access to actionable insights and make real-time decisions related to planning and plantwide operations. This solution is built on over a century of metals industry experience and includes applications designed to help metals manufacturers reach as yet unprecedented levels of optimization.
Visualize, analyze and predict plant operations
With a single, feature-rich platform

Harnessing the power of the unified, cross-industry ABB Ability™ platform with its digital capabilities extending from device to edge to cloud, ABB Ability™ Data Analytics Platform for metals monitors, visualizes, analyzes and predicts plant-wide operations to provide actionable insights that enable metals manufacturers to optimize resource utilization for utilities, byproduct gases and production and allow for higher levels of cost and energy efficiency.

Converging IT and OT into one single platform this solution collects data in real-time from as many automation systems and devices as necessary to provide an integrated view of operations via powerful, high-resolution dashboards. ABB Ability™ Data Analytics Platform for metals includes an extensible analytical engine interface with analytics tools such as R, Python and MATLAB to help write powerful machine learning applications to optimize your process performance.

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<tr>
<th>Feature</th>
<th>Benefit</th>
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<tr>
<td>Fully scalable, vendor neutral platform that collects data from as many subsystems, devices and sensors as necessary using OPC and Modbus</td>
<td>Better planning and control by enabling more cross-functional, collaborative problem-solving by integrating and visualizing data currently stored in silos</td>
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<td>Enterprise visibility of all energy and utility consumption, production and downtime, movement of heats, raw materials and much more</td>
<td>Provides opportunities for enhancing process control, cost and energy efficiency and reducing environmental impact with complete workflow visibility</td>
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<td>Real-time, continuous monitoring and visualization of operational data on-premise or in-cloud via Microsoft Azure</td>
<td>Improve productivity by responding quickly and taking action to avoid and/or resolve issues that may impact negatively on operations</td>
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<td>Flexible dashboards from multiple mobile devices offering drag and drop customization and the option to tailor reports by target group</td>
<td>Faster and more data-driven decision-making by providing the right people with the right information at the right time with 24/7/365 easy access to user-friendly, online reports</td>
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<td>Extensible analytical engine interface with analytics tools such as R, MATLAB capable of modeling, diagnosing and predicting</td>
<td>Drive profitability with actionable insights for a more proactive and efficient enterprise with higher quality operations and end-products</td>
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<td>Transparent, customer-centered approach to cybersecurity and data ownership</td>
<td>Complete control of your data and intellectual property and any information you choose to share with ABB is safe with ABB</td>
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Includes powerful applications for optimizing performance

As an open platform this solution allows ABB to custom-build applications to customer needs and even enables metals manufacturers to build their own.

**ABB Ability™ Data Analytics for utilities and byproduct gases**
This application monitors and optimizes allocation of utilities such as water, oxygen, nitrogen, gas, electricity and steam in real-time with the aim of improving overall utilization and unlocking savings. Data is collected from multiple systems to provide real-time demand and supply monitoring, balancing, benchmarking and forecasting based on production plans and historical data modeling for each utility. Root cause analysis is also applied to the data whenever a gap occurs between supply and demand.

**ABB Ability™ Data Analytics for production**
Providing metals companies with a real-time, centralized overview of production information from several manufacturing facilities, this application aims to significantly improve plantwide production planning and optimization. Information is collected from both ABB and non-ABB systems and visualized in flexible, customizable dashboards that provide the basis for faster and more data-driven decisions.

**ABB Ability™ Data Analytics for rolling mills**
Analyzing high frequency data from rolling mills and providing recommendations in real-time can be a boon for mill operators as it allows them to make the right decisions and improve productivity or end-product quality. This application transforms high frequency data for multiple coils or billets into meaningful insights using analytics models built for specific mill components such as rolling stand, motors and drives etc., and, by monitoring the process in real-time, can detect anomalies in component performance and alert the operator.

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### Advanced features for optimization of utilities and byproduct gas consumption

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ABB Ability™ Data Analytics Platform for metals at work

Use case highlights

When implemented effectively, digitalization can help metals manufacturers to reach unprecedented levels of optimization. ABB Ability™ Data Analytics Platform for metals is already helping to transform operations and maximize efficiency on costs, resources and asset performance. Here are just a few examples:

**Award-winning steel manufacturer**
Needed to optimize utilization of a variety of by-product gases and utilities throughout the plant by monitoring, collecting and analyzing relevant data for each gas and utility in real-time.

**How ABB Ability™ Data Analytics for byproduct gases and utilities met their need:**
Employed solution that provides actionable insights by collecting data from a variety of sub-systems, monitors supply and demand, analyzes production and historical consumption data to provide forecasts for each gas and utility as well as recommendations for production of utilities in line with predicted supply and demand.

**Leading Indian steel producer**
Needed to optimize plantwide allocation and utilization of byproduct gases by monitoring, analyzing and predicting both their generation and consumption across plant facilities in real-time.

**How ABB Ability™ Data Analytics for byproduct gases met their need:**
Provided solution that monitors, collects and analyzes data from multiple systems to optimize byproduct gas optimization by comparing allocated, actual and historical consumption levels, generating forecasts and utilizing root cause analytics in the event of an increased gap in supply in demand.
One of the world’s largest steel plants
Needed one single platform for collecting, analyzing and visualizing plant production data from both ABB/non-ABB systems and devices across several plants with the aim of improving operational efficiency.

How ABB Ability™ Data Analytics for production met their need:
Conceptualized and implemented a centralized command center visualizing data from a variety of data sources across 35 facilities in flexible web-based dashboards with personalized KPIs and reports, including downtime visibility, to provide actionable insights for enhancing operational efficiency.

Why choose ABB as your partner in digital?
At ABB, we understand that what really drives success in digitalization is an in-depth understanding of your metals plant. Domain expertise and on-ground process knowledge are essential to the effective and efficient convergence of OT and IT and the true realization of added value. Take the first major step in your digital journey together with a trusted and experienced partner.