

ABB's "Next Level mining" automation boosts productivity, trims costs at Swedish mine

Zurich, Switzerland, June 9, 2015: "Next Level mining"

- ABB offers complete solution to integrate power and automation technology
- Comprehensive system spans from the mine to the mill to create the world's most-advanced zinc, lead and silver mine
- ABB's System 800xA controls at the heart of Boliden's Garpenberg expansion, ensuring viability for years to come

ABB, the leading power and automation group, has deployed a tailored technological solution to transform Boliden AB's Garpenberg mine in central Sweden into one of the most-efficient and productive mines in the world. Autonomous processes stretching a kilometer underground are unified in a single system driving efficiency and productivity to the next level.

ABB's System 800xA automation platform, installed in more than 10,000 process industry facilities in over 100 countries, forms the backbone of Garpenberg's control facilities, efficiently coordinating sub-operations including power and automation for mill drives, hoists, ventilation system and crushers.

Boliden transformed the mine over four years in close cooperation with ABB, building on the principles of the Internet of Things, Services and People.

Boliden and ABB, whose relationship began 90 years ago, have deployed unprecedented levels of automation and control below and above ground to optimize performance like never before. ABB's "Next Level mining" approach is uniquely suited to tackle challenges including volatile metals prices, rising energy costs, stricter rules, increased safety demands and workforce availability.

"ABB's comprehensive power and automation solutions for 21st century mining are a powerful demonstration of how the Internet of Things, Services and People is fundamentally changing the mining industry," said Peter Terwiesch, president of ABB's Process Automation division. "After nearly a century working together, ABB is proud to play a major role in helping keep Boliden at the vanguard of mining efficiency and productivity."

Boliden and ABB completed the \$580 million project at Garpenberg on time and on budget in mid-2014. Since then, the milled ore tonnage has risen nearly 60 percent to 2.22 million tons, a figure set to climb to 2.5 million tons by the end of 2015. Meanwhile, costs per ton dropped with decreased energy consumption, water usage and noise reduction for some 500 residents who live nearby.

To make this possible, ABB delivered power and automation solutions for grinding mills and mine hoists, as well as hundreds of motors and energy-saving drives.

The comprehensive System 800xA power and automation control solution successfully integrated what have historically been autonomous systems including hoist, mill drives, ventilation, dewatering, substations, conveyors, crushers, ore storage, maintenance and document management and communications.

Boliden operators and engineers in more than 30 workstations – or those deep below ground outfitted with mobile tablet devices – have the power to optimize the system, including with documentation at their fingertips should equipment need attention.

Additionally, a service agreement, based on preventive and condition-based maintenance, leverages expertise of ABB's team of remote service engineers. Based in another part of Europe, technicians can capitalize on vast amounts of data being generated by Garpenberg's sensor-equipped comminution equipment for troubleshooting that boosts its availability and saves Boliden money.

ABB provides 24/7 remote support to both new hoists in Garpenberg, via the company's new services Hoist Performance Monitoring Service (HPMS).

"Mines like Garpenberg face increased environmental regulations, labor and energy costs and heightened demand from the public and employees for safety," said Hans Jönsson, general manager at Boliden Garpenberg. "Boliden is working with ABB to address these hurdles, deploying high levels of automation and integration to ensure that mining here continues for years to come."

About ABB

ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, and transport and infrastructure customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in roughly 100 countries and employs about 140,000 people.

About Boliden's Garpenberg Mine

Successful exploration, coupled with industry-leading technological development, has enabled an expansion of Boliden's Garpenberg Mine, located in Hedemora, 180 km from Stockholm. The investment totaled SEK 3.9 billion and will increase production from 1.4 million tons of ore per year to 2.5 million tons by 2015. ABB's contributions have helped make Garpenberg one of the world's most cost-effective and automated modern mines.

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