

# More efficient operations

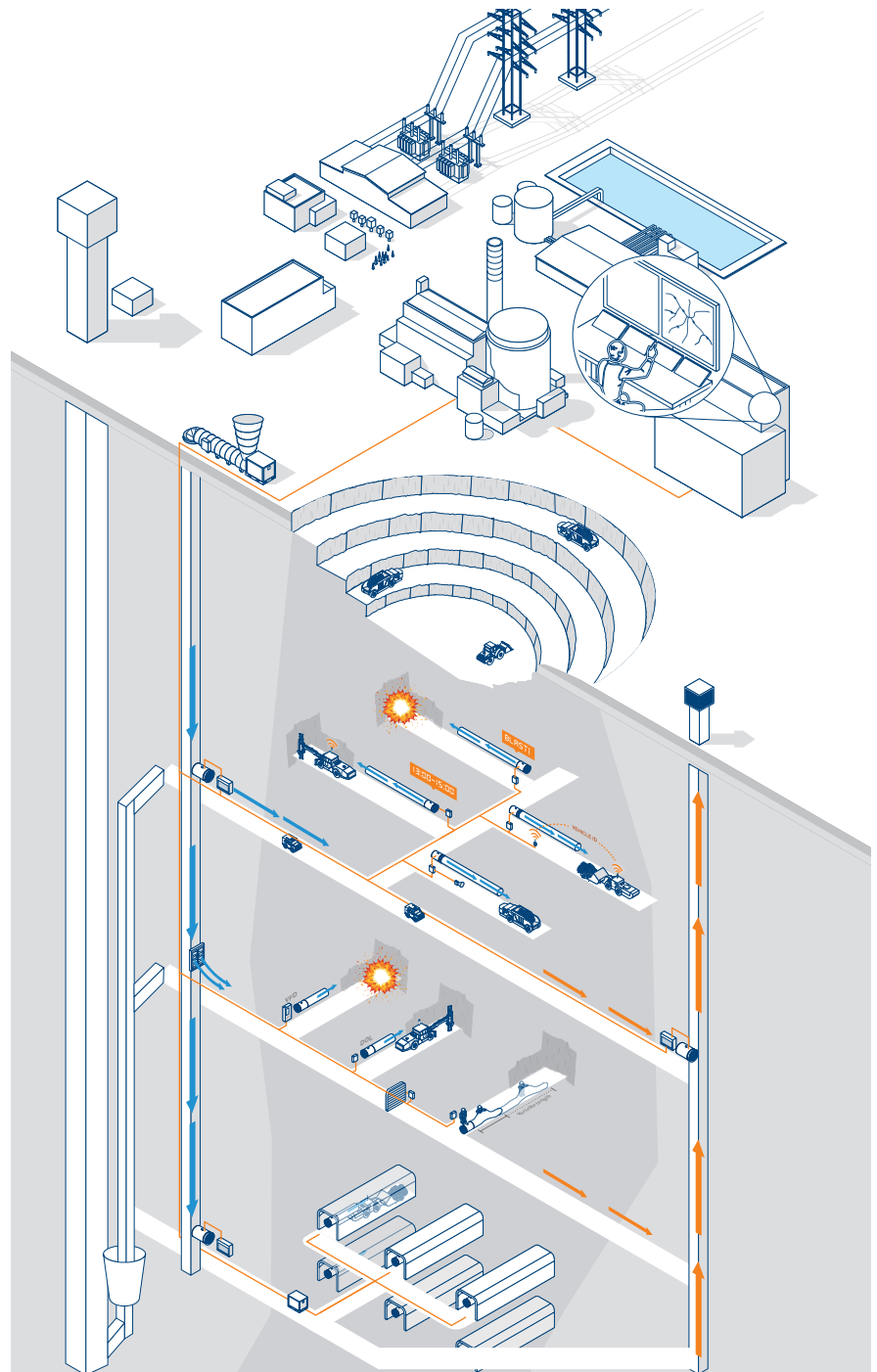
## Extended Automation System 800xA enables collaboration in mining operations

JOHAN BJORKLUND, ANDERS BOMAN, MIKAEL STEINER – The many challenges faced by the mining industry can be overcome by the effective implementation of automation. ABB's Extended Automation System 800xA has been a market leader among automation platforms for over a decade and is known for delivering productivity by consolidating the many subsystems of any operation (IT, electrical, safety, telecoms, logistics, process data, etc.) into one integrated system. It also provides high-performance operator environments – ideal for centralized control room solutions. System 800xA and mines are a perfect fit, proven in many installations around the world.

Programmable logic controllers (PLCs) have been in place for many years in the mining industry. But their use has tended to be in "islands of automation" and automation in mines has anyway tended to be more basic than in other industries – often limited to simple control of motors, equipment or limited parts of the processes. To overcome the challenges currently faced by the industry, what is needed is an automation solution that can

### Title picture

Automation is providing the key to reducing costs, and increasing productivity and safety for the mining industry.



encompass the entire mining process, from rockface to delivery of the mined product to the final customer.

ABB's System 800xA is an automation platform with the capacity to do this. It can integrate all kinds of products and solutions into a single control environment: Traditional process control systems such as PLCs and distributed control systems (DCSs); safety systems; electrical equipment such as drives and motors; and production planning, power manage-

ment, maintenance, asset management, enterprise resource planning (ERP) and documentation systems.

In a mine, all process equipment – from mobile machines, transport vehicles, crushers, conveyors, mine hoists, gearless mill drives, ventilation fans, pumps to sensors and instruments – can be integrated with System 800xA. This means that the whole operation can be controlled and optimized under one single system. This allows, for example, blasting and crushing to be

optimized together with the grinding process in the concentrator, thus closing any gap in the value chain.

### A new System 800xA generation

With close to 10,000 systems in operation in more than 100 countries, System 800xA has proven to be a world-class, market-leading DCS. System 800xA can monitor and control over 50 million tags and its sheer capability has helped ABB to be the top global DCS supplier for over a decade.

This sixth-generation release of System 800xA, commonly called v6, is not only aimed at new projects but also at upgrades of older DCSs running on unsupported operating systems such as Microsoft XP. System 800xA v6 provides customers with a more secure automation environment that lowers the total cost of ownership, while providing opportunities to improve operational productivity.

### Protection against cyber threats

System 800xA v6 will add to an already-extensive list of leading security features such as advanced access control, white listing and a means to monitor and manage the control system's security integrity. For example:

- It is based on the latest Microsoft operating system, with its higher inherent security.
- Digital code signing of applications ensures software legitimacy.
- There is faster, more immediate access to approved antivirus files.

### Lower cost of ownership

System 800xA v6 provides the ability to lower costs for new projects, retrofits and upgrades:

- In addition to virtualization, performance improvements and multiple-core technology can reduce the automation system's footprint significantly, leading to lower capital and life-cycle expenditures.
- A new intrinsically safe Foundation Fieldbus high-speed Ethernet (HSE) linking device is available that can further reduce engineering and

installation costs because it can be installed directly in Zone 2, Class 1, Division 2 hazardous locations.

### Productivity

System 800xA v6's collaboration platform and its built-in functionality allow the user to tackle money-saving initiatives and implement productivity-enhancing solutions for a fraction of the cost of adding third-party software and hardware. In addition to alarm management, advanced control, video systems, safety, electrical integration, power management and a host of other embedded capabilities, System 800xA v6 adds:

- Wireless mesh routers, enabling the safe and secure deployment of mobile operator clients, maintenance workplaces and process controllers.
- A new information management platform that provides secure connectivity to System 800xA so

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that data can be safely collected, viewed, historized and reported above the control system layer.

- An embedded public address system that allows text-to-speech announcements to be broadcast in multiple languages from System 800xA.
- Trends have been enhanced in System 800xA with the addition of alarm indication, autoscaling and adjustable sloped gridlines.
- New ways to visualize data are available with the addition of the System 800xA collaboration table providing a 3-D view of plant key performance indicators (KPIs).
- Batch management performance has been improved through the use

of a new multithreaded batch-procedure executing environment.

- New packaged services are available from ABB and CGM (a leading operator desk producer) to make it easier to design and build a state-of-the-art, ergonomic, productivity-enhancing control room that includes the System 800xA Extended Operator Workplace.

### Removing the barriers

Special consideration has been given to a significantly improved upgrade experience, supported by an enhanced Sentinel customer care program, in System 800xA v6. This includes:

- More intelligent "role-based" installation and a configuration tool that reduces manual steps by over 80 percent. This installation and configuration tool can also be used to centrally extend and update the system over its life cycle.
- Additional tools, such as the start value analyzer, are available to ensure that the upgrade goes smoothly, without any surprises when it comes to initial values settings.

### System 800xA and mining

The new generation of ABB's System 800xA further enhances the capabilities of this leading automation platform, making it an even more suitable automation solution for the mining industry. It will enable miners to increase productivity, reduce operational costs, improve safety and meet the plethora of other challenges facing the industry today.

To learn more about ABB's Extended Automation System 800xA, please visit: [www.abb.com/800xA](http://www.abb.com/800xA) or You Tube:

[www.youtube.com/watch?v=POqw0rIJe78](https://www.youtube.com/watch?v=POqw0rIJe78)

### Anders Boman

ABB Control Technologies

Singapore

[anders.boman@sg.abb.com](mailto:anders.boman@sg.abb.com)