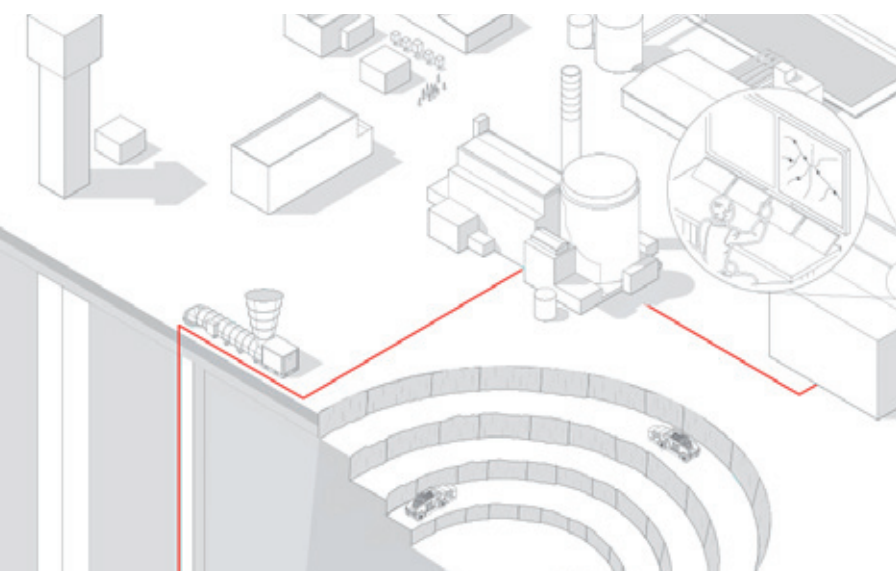


SmartVentilation

A real-time mine ventilation



ABB's SmartVentilation is a complete mine ventilation control solution with ventilation on demand functionality. It is a modular system which can be fully integrated into ABB's 800xA control system. Efficient use of your ventilation system and improved air quality by providing fresh air where necessary will result in energy savings of up to 30-50 % per year.

Implementation levels

The SmartVentilation is divided into three implementation levels:

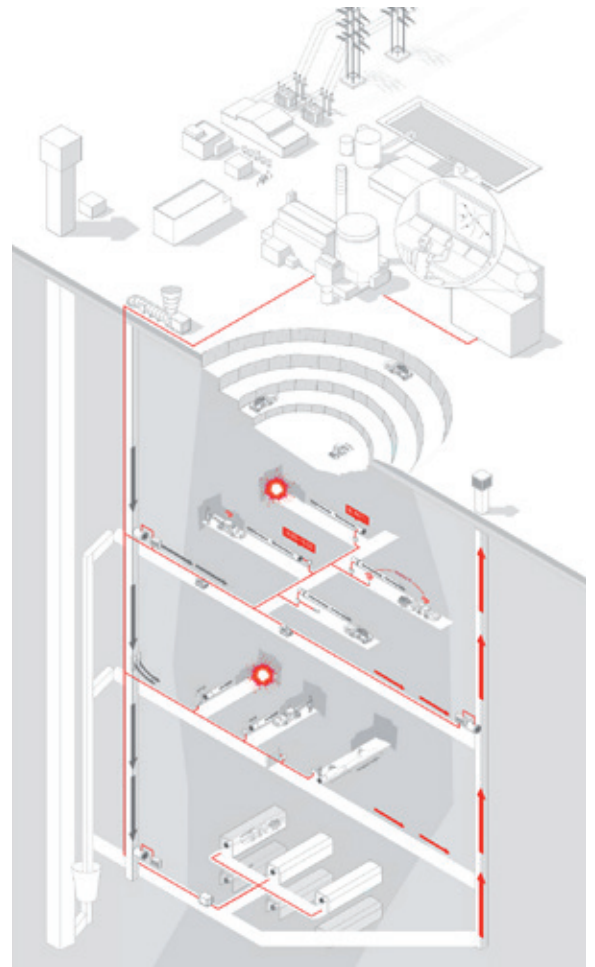
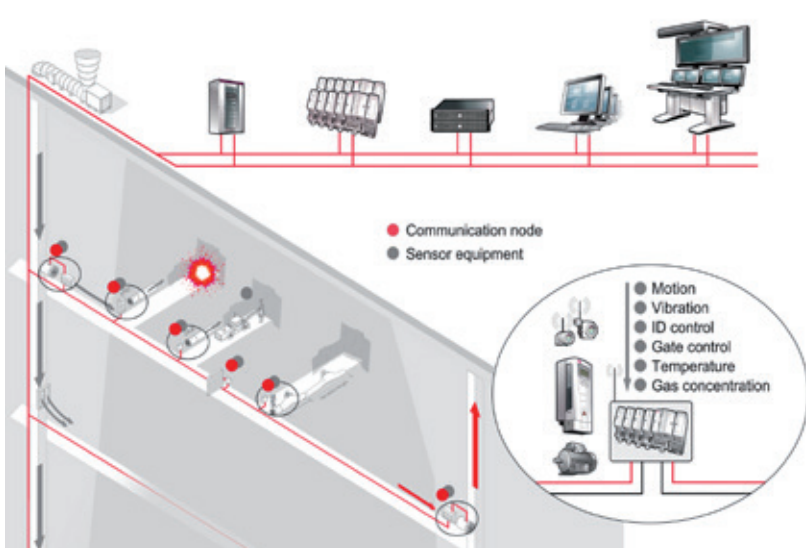
- Level 1, SmartBasic: Basic control and monitoring of fans, louvers and ventilation doors. Everything is monitored and can be controlled in the ABB 800xA System, together with air quality and air flow sensors, in order to reduce energy costs and increase safety by improving operator supervision and control.
- Level 2, SmartMid: Full scale ventilation on demand solution. Automatic control of all fans, louvers and controllable ventilation doors in order to improve air quality by providing fresh air where necessary and energy savings of up to 30-50% per year.
- Level 3, SmartPerfect: Mine ventilation optimization using ABB's SmartAir™ Optimizer, which utilizes airflow sensor feedback to perform online optimization of main ventilation fans. This means true mine wide control and optimization of air flows and air quality while minimizing energy consumption in real-time.

Features and functionalities

Centralized control and monitoring with the world class collaboration platform System 800xA, together with a modular solution allows operators, engineers and mine managers to easily supervise and control the complete ventilation system, either from a central location or using mobile devices.

The SmartVentilation features flexibility, scalability, online optimization and has the following functionalities:

- Scheduled and event based control
- Sensor control
- Flow control based on calculated demand
- Handling of parent-child relations
- Local distributed intelligence



Typical deliverables

The SmartVentilation covers the following components (Optional):

- System 800xA
- Communication network
- Mine ventilation control and supervisory ventilation control
- Centralized and local ventilation controllers
- SmartAir™ (Mine ventilation optimizer)
- Integration of subsystems
- Instrumentation
- Drives and motor control equipment
- Services and training

Benefits of choosing ABB's SmartVentilation

- Ensure a healthy working environment underground
 - Dilution of hazardous substances
 - Climate control
- Faster evacuation of blast gases
 - Shorter downtime
- Minimize energy consumption
 - Reduce costs
- Improved utilization of existing infrastructure
 - CAPEX and OPEX control
- Stepwise expansion
 - Investment over time and at your own pace

For more information, please contact:

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ABB's mining business is represented in the following countries: Argentina, Australia, Brazil, Canada, Chile, China, Colombia, Egypt, Estonia, Germany, Greece, India, Indonesia, Kazakhstan, Latvia, Lithuania, Malaysia, Mexico, Norway, Oman, Peru, Poland, Russia, Saudi Arabia, Serbia, South Africa, Spain, Sweden, Switzerland, Thailand, USA and Vietnam.