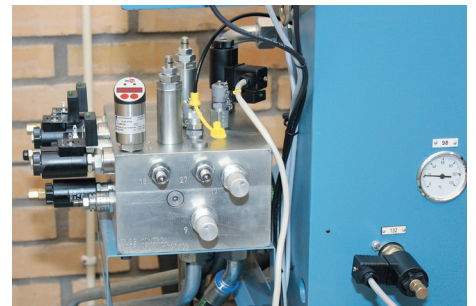
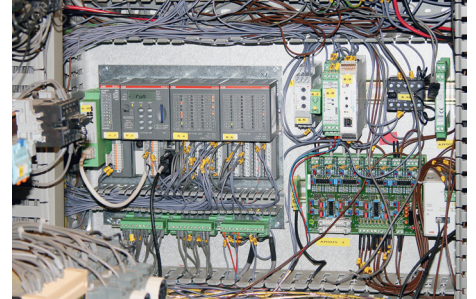


# Weekend upgrade with ABB Pyhäsalmi mine hoist up and running in minimum time



After years of service Pyhäsalmi's mine operators decided to upgrade its mine hoist with the latest technology to ensure the availability of spare parts for its entire life cycle. The mine operator chose to replace the old analogue brake module, BCC-1, with the new digital brake module, BRC-1, and the old Bosch Rexroth hydraulic valve block with the new one in today's deliveries from ABB.

#### Customer needs

The main reason for this upgrade was the difficulty of finding appropriate spare parts as they are becoming more and more obsolete. The hoist upgrade allows Pyhäsalmi Mine to continue operation without major interruptions instead of facing downtime due to a lack of spare parts. One day of production downtime equals a loss of 4,000 tons in ore production.

#### ABB scope of upgrade

New digital brake module BRC-1 that consists of:

- ABB AC 500 PLC with the following modules
  - Processor module
  - Analogue I/O module
  - Digital I/O module
  - Pulse Counter module
- ABB CP410 Operator Interface
- Phoenix UPS uninterruptible power supply
- Incremental Pulse Encoder (optional)
- Auxiliary electrical components

New valve block:

- Valve block
- Hoses
- Couplings
- Pipes
- Bolts
- Mounting plate

# Expanding system lifetime significantly

## Upgrade process

ABB initiated the upgrade Friday evening by loading the program into the BRC-1 memory module, attaching the panel on the AHC cubicle door and preparing all drawings. On Saturday morning, the hoist was shut down and work began. The module and valve block replacement was done simultaneously and in close co-operation between Pyhäsalmi's mechanical and electrical teams and ABB personnel. The hoist was up and running on Sunday evening with production starting immediately without any problems.

## Excellent co-operation

Thanks to the great support from customer side and the very close co-operation between ABB and Pyhäsalmi, the entire upgrade, including replacement of both – the new digital brake module and the new valve block – only took one week-end, resulting in a minimum ore hoisting downtime.

Anders Lindberg, responsible engineer and commissioner of this upgrade project from ABB Underground Mining Service, is very pleased with the co-operation between his team and Pyhäsalmi Mine's mechanical and electrical engineers.

**“We are very pleased with the ABB mining equipment. The upgrade was completed in the estimated time and the hoist started operation immediately after the upgrade was done.”**  
**Ari Turkia, Instrumentation Engineer,  
Pyhäsalmi Mine.**

## General hoist data at Pyhäsalmi Mine

Shaft diameter .....	5 m
Hoisting capacity .....	275 t/h
Hoisting distance .....	1,407 m
Design speed (ore hoisting) .....	15.5 m/s
Men hoisting speed .....	12 m/s
Weight of skip .....	20.5 t
Skip payload .....	21.5 t
Weight of cage .....	930 kg
Cage capacity .....	20 persons
Counterweight, incl. rope attachments .....	33.2 t
Pulley diameter .....	4.5 m
Synchronous motor rating .....	2.5 MW, 3 X 3, 050 V 8.7 Hz, 65.8 rpm

For more information please contact:

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