reference

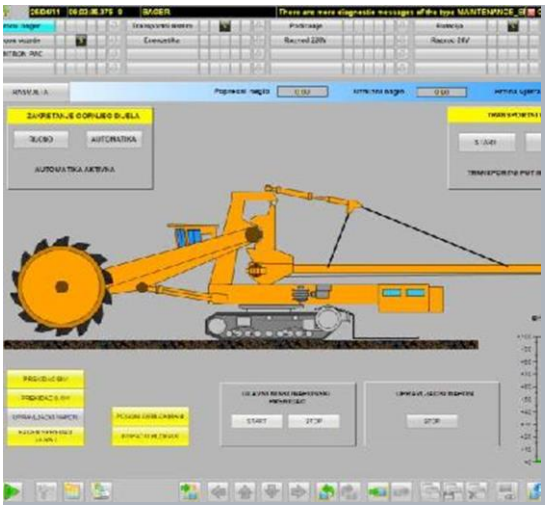
ELCOM d.o.o. is specialized in Totally Integrated Automation (TIA), containing electrical engineering and software development for the automation of production processes and machines, production of MCC and control cabinets as well as onsite installation, commissioning and acceptance testing (FAT, SAT, SIT)

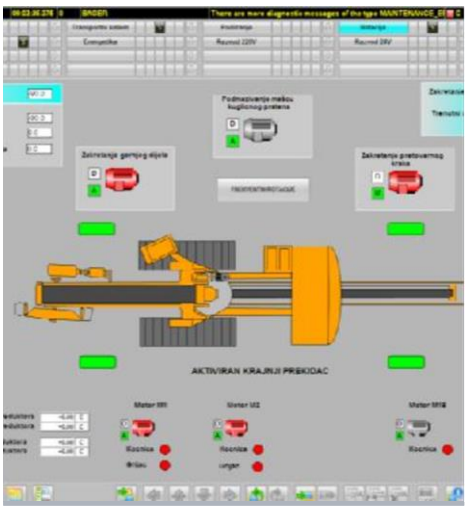
Automation of Bucket Wheel Excavator

Customer: JP Elektroprivreda BiH, Open-pit mine Dubrave, BIH

www.elcom.ba

Solution Partner
Automation
SIEMENS





Certificates

We have proven our competence as Siemens Solution Partner Automation in the following areas:

- Automation System SIMATIC
- Human Machine Interface SIMATIC HMI
- Process Control System PCS7

Process description

Bucket Wheel Excavators (BWE) are continuous cutting machines for soft to semi hard materials like clay, sand, gravel, marl and their blending as well as lignite and hard coal.
The characteristic parts of a Bucket Wheel Excavator are the cutting wheel with buckets, the wheel boom, the superstructure with counterweight boom, the substructure, the undercarriage with crawler tracks and a transfer boom to the bench conveyor (or a connecting bridge to the loading unit). All main parts are designed to meet the demands of the project regarding optimization, standardization and maintenance.
Bucket Wheel Excavators are among the largest terrestrial vehicles ever constructed.

Challenge

Implementation of a cost efficient and user friendly process control system with as less as possible classical cabling which have to result in a very fast and easier cabling, engineering and commissioning of a very high level.
Very detailed diagnostics and intuitive representation of current step for fast fault analysis and low deadlock times.
Robust solution to endure harsh environmental conditions and 24h 7 days a week work.

Solution

The solution is a totally integrated automation architecture with PROFIBUS based topology. Distributed ET200M stations with PROFIBUS interface are connected to the central 317-2PN/DP processor. Two PC stations are connected via industrial Ethernet to the controller.
Robust monitoring of machine position is achieved trough redundant BERO limit switches and SIMODRIVE absolute value encoders.
Control of motors is improved by introducing micromaster 4 frequency drives.
For remote monitoring a video surveillance system with Siemens SISTORE is installed.

Project overview

- 50 motors
- 15 analogue instruments
- 500 digital signals
- Control system with 317-2PN/DP
- 2 OS stations with WinCC v7.0
- 5 ET 200M
- Industrial Ethernet and Profibus DP
- Based on network topologies
- Micromaster 4 frequency drives
- Absolute value encoders
- 5 IP cameras
- SISTORE camera monitoring system

Information about the Siemens Solution Partner Program

Under the Siemens Solution Partner Automation and Power Distribution Program, we join forces with our Solution Partner. By merging our product and systems expertise with the application and industry knowledge of our partners, we have created a common basis for the fast, smooth and highly efficient implementation of your requirement –customized solutions for your competitive advantage.
www.siemens.com/automation/solutionpartner

ELCOM d.o.o.

M.M.Dizdara-Stupine B-2
75 000 Tuzla
Bosnia and Herzegovina
Phone: +387 35 305-700
Fax: +387 35 305-710

www.elcom.ba
info@elcom.ba