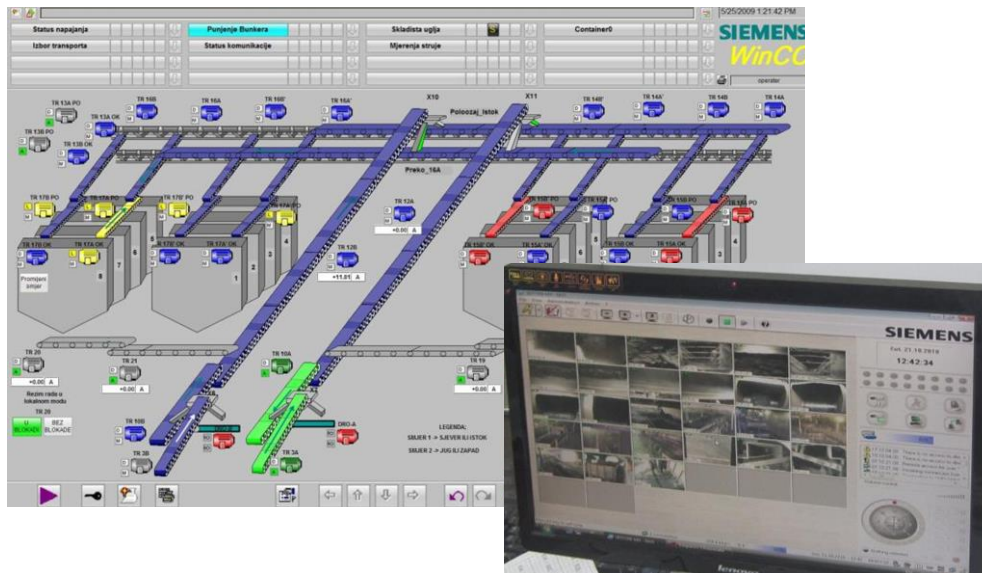# reference

**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 coal supply system and automatic bunker filling to the boilers V and VI

**Customer: JP Elektroprivreda BiH**

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- Based on PROFINET network topologies
- Industrial Ethernet and Profibus DP
- 30 IP cameras
- SISTORE camera monitoring system

## Process description

The transport system is designed so that the system makes a single unit with which receipt of coal, unloading, coal storage and transport to the bunkers of boilers 5 and 6 is achieved. Each of the boilers is of installed capacity of 200MW. Coal supply system can be divided into the following sections:

a. facility for receiving and unloading
b. coal conveyor system
c. system for power supply
d. control, measurement and signal system

The system of conveyor belts includes:
• steel conveyors 1A and 1B
• rubber conveyors 2A, 2B, 3A, 3B, 5A, 5B, 6, coal crusher, TR18, TR19, TR20, TR 21, 12A, 12B, boiler 5 and boiler 6 conveyors (13A rotate and move), 13B (rotate and move), 14A, 14B, 14A ', 14B', 15A (rotate and move), 15B (rotate and move), 15A '(rotate and move), 15B' (rotate and move), 16A, 16B, 16A ', 16B', 17A (rotate and move), 17B (rotate and move), 17A '(rotate and move) and 17B' (rotate and move).
• system of dampers to ensure coal transport route.

## 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. Implementation and integration of video surveillance system in order to reduce number of workers in the field.

## Solution

The solution is a totally integrated automation architecture with PROFINET based topology. Distributed ET200M stations with PROFINET interface are connected to the central 315-2PN/DP processor. PROFINET network is realized with scalance X200x switches closed in redundant Ethernet ring. Status of Ethernet ring and switches is monitored on operator screen. The 2 PC stations are connected via industrial Ethernet to the controller. For remote monitoring a video surveillance system with Siemens SISTORE is installed.

Automatic filling of bunkers and switching from one to another is realized with level measurement with MultiRanger100 .
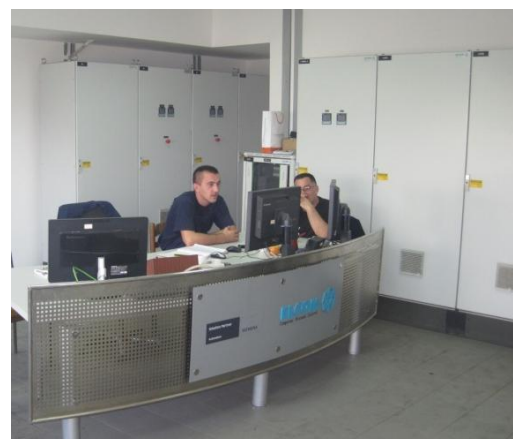
## Project overview

- 60 motors
- 15 analogue instruments
- 1000 digital signals
- Control system with 315-2PN/DP
- 2 OS stations with WinCC v7.0
- 10 ET 200M

**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**