

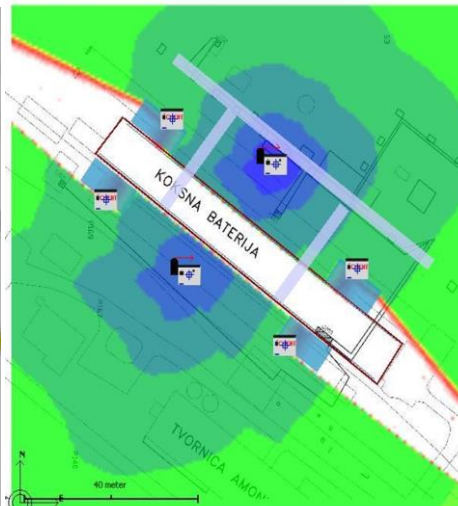
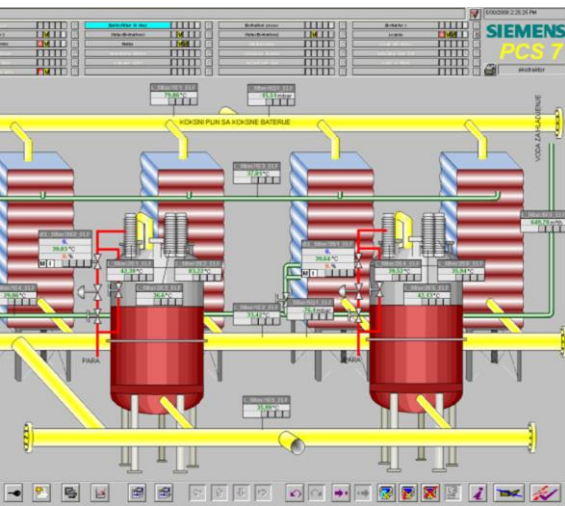
reference

**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 solution for production process in Coke Plant

**Customer: ArcelorMittal Steel Plant Zenica, BIH**



### Process description

The technological process includes the following operations:

- Transporting coal to coal bunkers
- Preparation of coal blend
- Filling chambers with mixture of coke coal
- Coking of coal blends during a given period of time
- Heating of coke ovens with coke gas
- The extraction of gas from the chambers (the regime of gas collectors)
- Extrusion of coke out of the coke chambers
- Coke quenching
- Grading of coke
- Transporting coke in blast furnace operation
- Coke gas processing

### 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. A very detailed diagnostics and maintenance management for the components of the process control system. Integration of wireless Ethernet into PCS7 environment for moving parts. Increasing of system reliability and availability

through redundant fiber-optic bus rings (Ethernet and Profibus)

### Solution

The solution is a PCS7 v7.0 SP1 architecture with a completely redundant network based topology. 6 Clients and 2 redundant servers are connected via redundant industrial Ethernet to 2 controllers (one controller for coal system handling of type AS417-4H, and one redundant controller for coking process handling of type AS417-4H).

I/O cards are connected to process controllers via ET200Ms and redundant Profibus optical ring. Some process instruments are connected to the system via Ex barriers. Installation of process instrumentation with HART capability enables fast commissioning and maintenance. Machines for coke extrusion and transportation are integrated into system via wireless industrial Ethernet with SCALANCE W788 and W74x.

### Project overview

- Sections in Atex zones (zone 1, zone 22)
- 150 motors
- 50 on/off valves
- 30 control valves
- 150 analogue instruments
- 1500 digital signals
- Control system PCS7 V7.0 SP1
- one process controller AS417-4H

### 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

- one redundant process controller AS417-4H
- 1 redundant OS server pair
- 6 OS clients
- ET 200M
- Based on redundant network topologies
- Redundant Industrial Ethernet and Profibus DP
- Almost all instruments and control valves with HART capability
- Integration of SCALANCE W788 and W74x into PCS7



### 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.

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### 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](http://www.elcom.ba)  
[info@elcom.ba](mailto:info@elcom.ba)

