

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)



## Monitoring of dam parameters and remote water consumption stations for Hydro Power Plant Modrac

Customer: JP Vodoprivreda BiH



## 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

Accumulation lake Modrac is formed in 1964. by construction of a dam at the strait Modrac. The lake is formed by the rivers Spreča and Turija and their tributaries.

The dam Modrac is poliarc reinforced concrete dam, that consists of ten arches (cylindrical shells), nine buttresses and two gravitational bank supports .

Basic characteristics of the dam are:

- Crown wheel arches and buttresses 205.50 meters above sea level
- building height of 28.00 m
- length in the crown of 205.00 m

Accumulation provides an average of 2.30 m<sup>3</sup>/sec raw water (population and industry) and 4.70 m<sup>3</sup>/sec as water (hydrobiological) minimum in the river Spreča (projected state).

## 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.

Possibility of monitoring via internet. Reliable wireless access to water consumption stations that are up to 10km away.

## Solution

The solution is a totally integrated automation architecture with PROFIBUS based topology. Distributed ET200S stations with PROFIBUS interface are connected to the central 317-2PN/DP processor.

Two PC stations are connected via industrial Ethernet to the controller.

Access to remote water consumption stations is achieved via GPRS network with SINAUT MICRO SC OPC server. At remote stations S7-200 PLCs are installed with SINAUT MD720-3 GPRS modems.

Remote monitoring through World Wide Web is made possible via WinCC Web Navigator.

## Project overview

- 15 drives
- 50 analogue instruments
- 500 digital signals
- Control system with 317-2PN/DP

- 2 OS stations with WinCC v6.2
- 10 ET 200S
- Industrial Ethernet and Profibus DP
- Based on network topologies
- 6 Remote stations with S7-200CPUs MD720-3 GPRS modems
- Utilization of WinCC Web Navigator
- Usage of SINAUT MICRO SC OPC server



## 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](http://www.siemens.com/automation/solutionpartner)

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