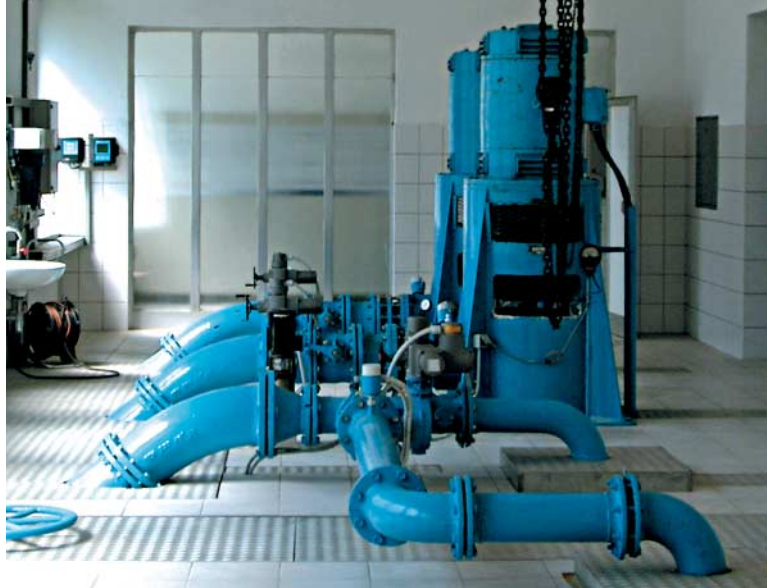


Control and quality assurance with the
Beckhoff Bus Terminal Controller

BC8100 controller helps provide clean water



→ Water is an important and indispensable basis of our life. Most of us have come to take it for granted that fresh, clean water is available at all times. Ensuring that this is the case requires a modern, high-tech water supply system. The company Komunala Novo mesto d.o.o. is responsible for supplying water to around 60,000 customers in south-eastern Slovenia. The company uses the BC8100 Bus Terminal Controller from Beckhoff for data processing purposes.



The BC8100 Bus Terminal Controllers operate as an autonomous control system. The small controllers with RS232 interface are programmed via TwinCAT according to the IEC 61131-3 standards.



Božo Ropret,
managing director of Elteh d.o.o.

The water supply network for which Komunala Novo mesto d.o.o. is responsible comprises around 600 km of piping, 32 wells, 44 pumping stations and 79 water reservoirs. In the 6 local municipalities covered by the company, it supplies more than 1,000 industrial and commercial customers with water. The total quantity delivered each year is 3.5 million cubic meters. A water supply system of this size and complexity requires a complex control system and strict quality assurance in order to ensure top quality.

Komunala Novo mesto has been working with Elteh d.o.o., specialists for water supply applications, on the development and renewal of the automation and control system of the water supply network for four years. Genera d.o.o., exclusive Beckhoff partner for Slovenia and Croatia, is providing technological support.

So far, 35 Beckhoff Bus Terminal Controllers have been installed as the basis for controlling the individual pumping stations, water reservoirs and wells. The controllers operate as autonomous/independent units, which are connected to each other and with the control center via the serial interface and modems. Different modem types are used for serial communication, usually radio modems, but also glass fiber or wired modems. The BC8100 with a modem connected to serial RS232 interface is a core component of the process control system. In addition, communication via the KL6001 serial Bus Terminal is possible. Freely programmable serial ports offer the developer a choice of different communication options, ranging from Modbus to protocols developed in-house.

The controllers are connected with the system components via digital and analog Bus Terminals. In this way, the small controller receives signal level, flow rate and status data and can control pumps, valves and similar equipment. The process signals are transferred to the control system, which responds with operating parameters and commands. The water control and monitoring systems are designed as homogeneous systems, in which the individual components can continue to operate independently even in the event of a fault.

"The Bus Terminal Controllers from Beckhoff turned out to be ideally suited for this application," explained Božo Ropret, managing director of Elteh d.o.o. "Their modularity provides high flexibility during system development and simplifies upgrades. A choice of 150 different I/Os is available. Both the digital and the analog Bus Terminals are available as 1-, 2-, 4- or 8-channel-modules, offering very low costs per signal and resulting in excellent I/O utilization. They are also highly reliable, which is a must in water supply systems," he added.