



SATELLINE transfers data within a waterworks network

A waterworks and sewerage company recently built a set of new cisterns, for the supply of water for several townships in the surroundings of the city of Krakow. The gate valve chamber at the cisterns site comprises delivery, outlet, overflow and fall pipes and a hydrophore room. The regional dispatch station is located at a distance of approximately 2 km from the cisterns.

The Water Company decided to set up a system of monitoring and data transmission between the Cisterns and the Dispatch Room. Considering the closeness of the sites, direct visibility, and lack of wired connections, low power radio modems seemed the optimum solution.

Prior to the implementation of the project, the radio modems were tested. The trials involved transmission between the Dispatch Room and the Cisterns, with SATELLINE transmitters operating at the minimum output power level of 20 mW in the frequency band 420-450 MHz. The tests turned out successful.

The low-power radio modem solution minimises the cost of data transmission, because no permits are required in Poland for equipment with power not exceeding 20 mW and working on frequencies over 430 MHz. **Thus, the cost of the connection is limited to the cost of the radio modems.**

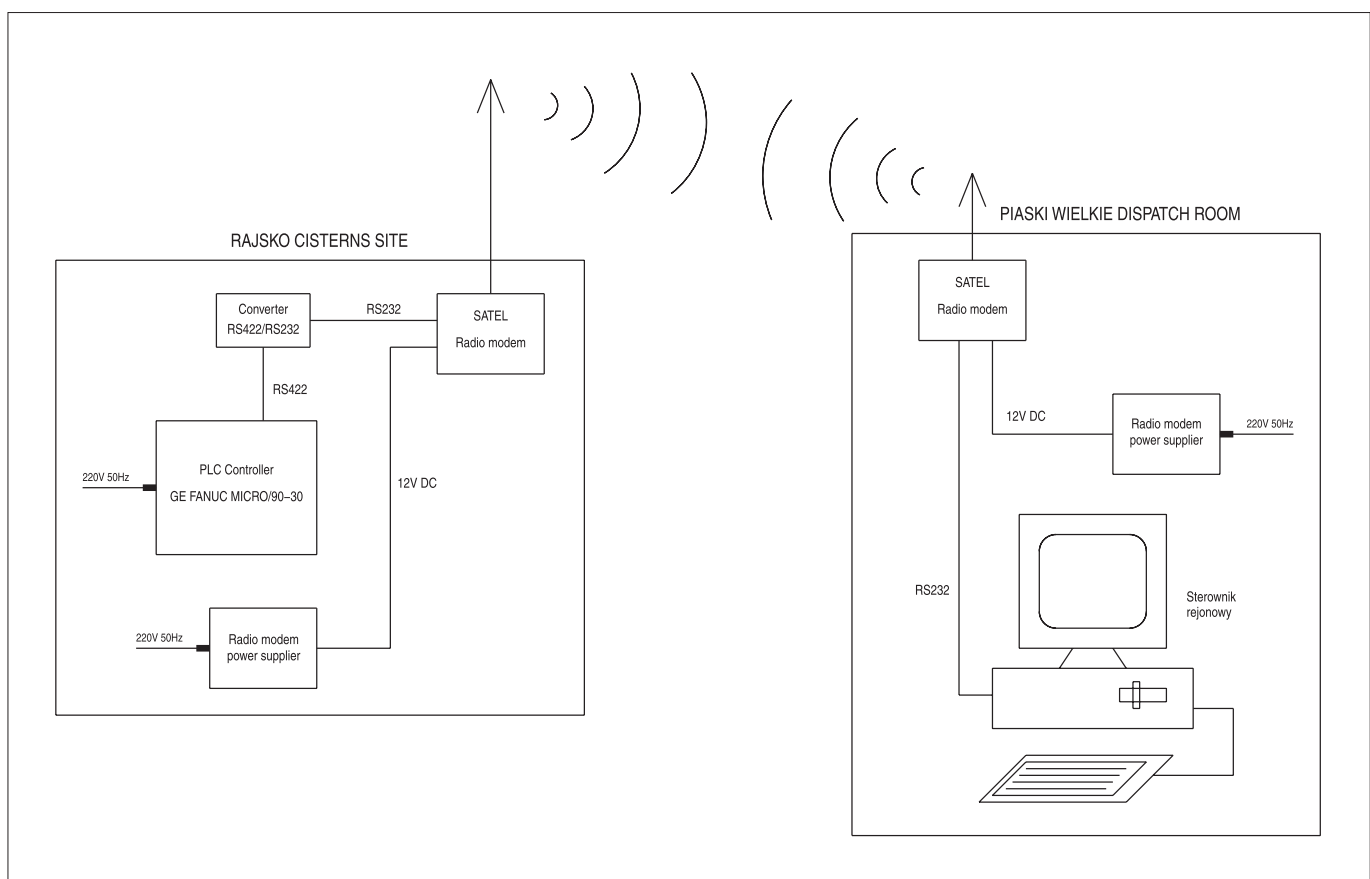


Fig. 1 - Structure of RABA II system of centralised recording of data and controlling

APPLICATION NOTES FOR SATEL RADIO MODEMS

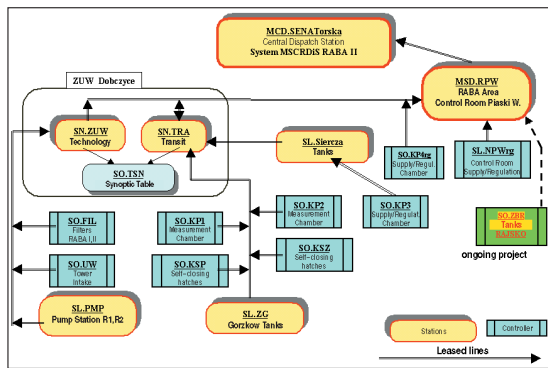


Fig. 2 - Diagram of wireless transmission based on SATEL modem

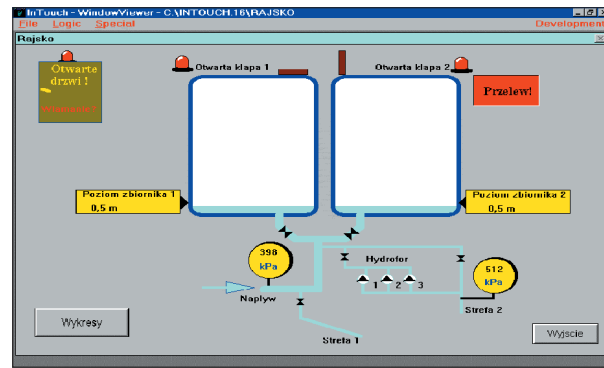


Fig. 3 - Synoptic screen showing the installations of "Rajsko Cistern"

Effective control and surveillance

At the Cisterns site, the SATELLINE-2ASxE radio modem is connected to the PLC controller through a RS485/RS232 converter. At the Dispatch Room, an RS-232 interface connects the SATELLINE modem to the workstation. The transmission is based on the RTU MODBUS protocol.

Thanks to the system of transmission via radio thus implemented, it is possible to exchange data on-line, which is of extreme importance when emergency situations arise with respect to process disturbances like, for instance, tank overflow or damaged hydrophore. Such instantaneous handling of data is also indispensable in respect of trespassing alarm signals (opened tank hatches, opened entrance doors, etc.).



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