



APPLICATION NOTES FOR SATEL RADIO MODEMS

SATELCODE/SATELNODE in Remote Monitoring of A Water and Sewerage Plant

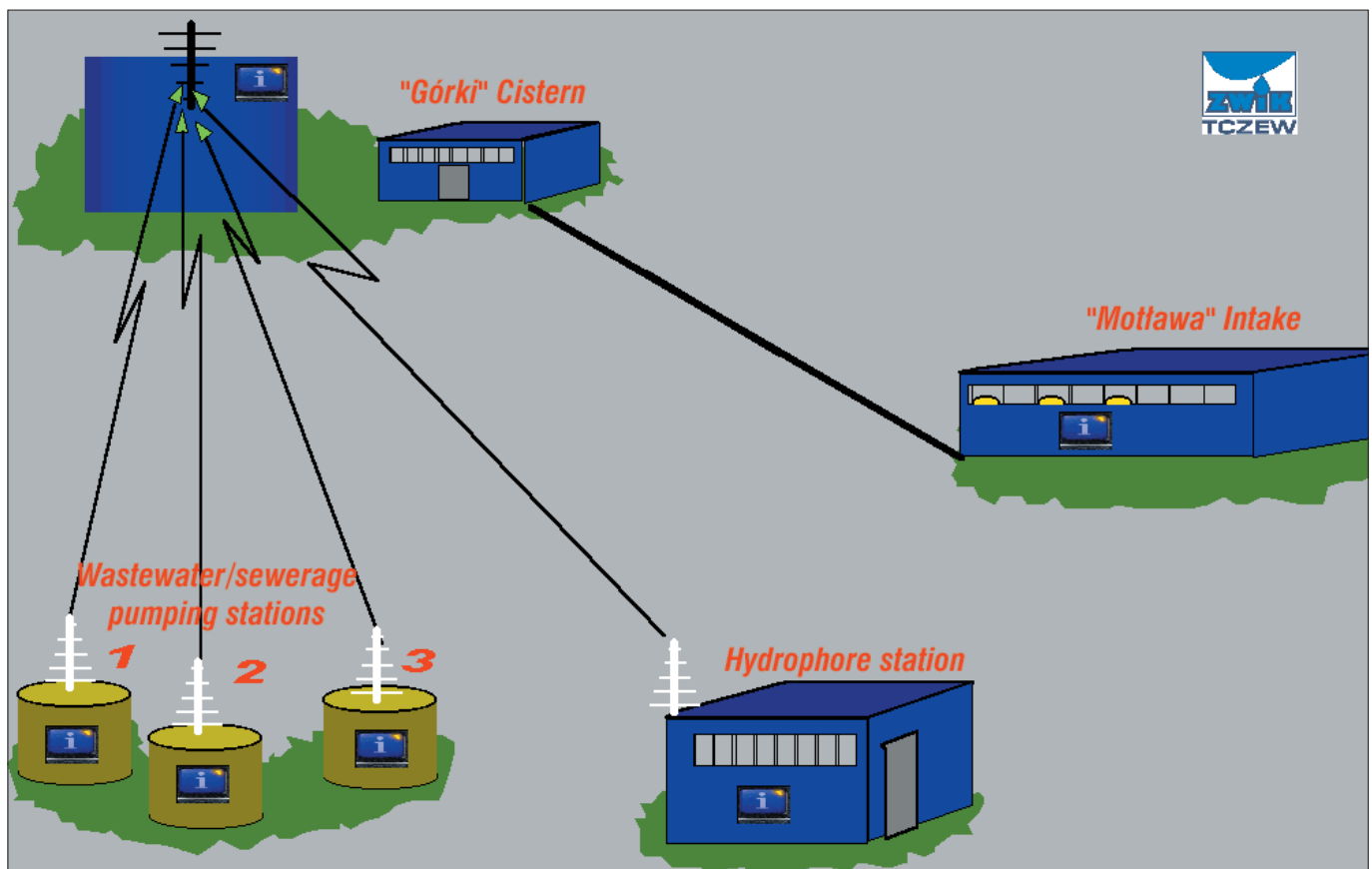
In Tczew, Poland, a water and sewerage plant consists of a range of water and sewerage handling sites dispersed in the neighbourhood of a township. In order to improve the supervision of the fully automated sewage pumping stations and hydrophore stations, the managing company decided to implement permanent electronic monitoring of the object sites. Considering the distances between those sites (up to 2 km), communication via radio was selected as the most advantageous solution.

The communication system is based on the SATELCODE and SATELNODE radio modems. The system operates

in the local area network, at a frequency of 168 MHz. The SATELCODE transmitters transfer data from three sewage-pumping stations and one hydrophore station through the SATELNODE to the Control Centre.

The SATELNODE receiver is installed at the highest point of the neighbourhood. It is provided with eight relay outputs and a RS-232 connector. The signals received by the SATELNODE activate the relay outputs.

The data retrieved from the production sites include information related to plant security, operational status,



Layout of the telemetric network - locations and links

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condition of the equipment and power supply situation, among others. This data is displayed and processed at the local Control Centre.

The alarm information transferred by the SATEL-CODE/SATELNODE radio modems can be conveniently forwarded through the SATELLINE to other locations concerned, for example the company headquarters. Communication distances of up to 40 kilometres are within the capabilities.

Wireless data transfer is dependable and economical

With the SATEL wireless communication products used, the Company managed to minimise the implementation and running costs of the monitoring system, and at the same time to standardise the equipment. The communication distances in question are less than two kilometres. Based on the tests performed, it was concluded that an output power level of 20 mW is sufficient. The equipment can therefore operate in Poland without any permit from the local State Radio Communication Authority.



Manufacturer:

Satel Oy, Meriniitynkatu 17, P.O.Box 142, FIN-24101 Salo
Tel. +358 02 777 7800, fax +358 02 777 7810, E-mail info@satel.fi
www.satel.fi