

OTT Application Notes / Success Stories

Monitoring of water node in Wroclaw

OTT LogoSens 2 & OTT PS1

Measurement of water level and temperature with TETRA data transmission



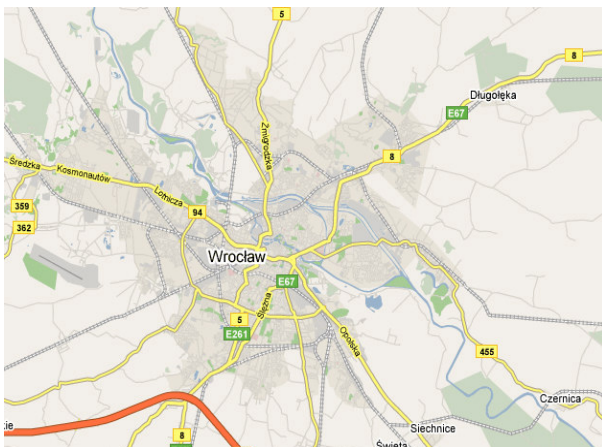
Background

Wroclaw's water node has complicated structure. The river Odra has 3 main riverbeds and a lot of channels which are located in the centre of town.

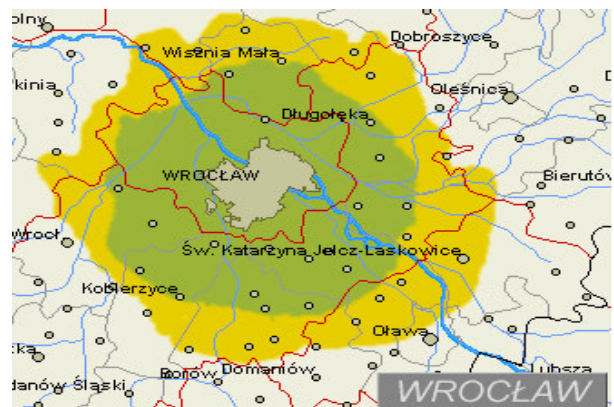
There are almost 100 hydro buildings which control flow of the water through the city and protect it against the flood.

The great flood in 1997 proved that no one has control over it. Communication systems failure caused a chaos.

After that time a lot of work has been done - especially in river engineering. The authorities of Wroclaw reorganized security and crisis management division and built a local communication system for authorities, police, ambulance service, city guards and fire brigades based on TETRA trunking radio.



River Odra and the basin in Wroclaw



Signal range of local TETRA system

Task

Build and erect a monitoring system for water level and water temperature, solar powered with communication via existing TETRA radio system.

Exceeding alarm levels should be forwarded to the monitoring centre and directly forwarded to mobile TETRA radios of responsible salvage service.

Monitoring Solution

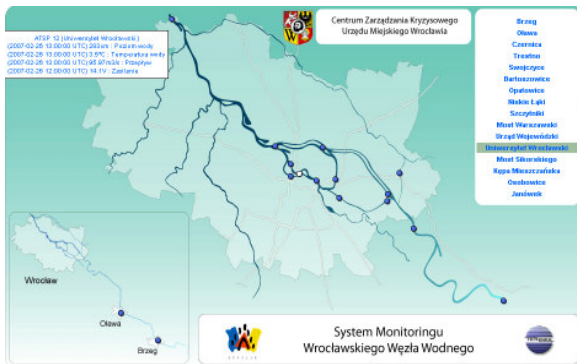
First part of the project was finished at the end of 2005. The OTT representative in Poland, company TECHNIKA, build two stations based on Nimbus with TETRA communication at Olawa and Brzeg.

For the second part (14 stations) the solution is based on PS1 probe and LogoSens2 with automatic SMS data transmission.

Measuring values are converted at site from SMS to SDS (SDS is an SMS in TETRA system) and send to the central station.

A TETRA radio modem which is connected to a Hydras3 server is responsible for receiving the data.

Central application is based on php and is requesting Integrated Web Server of H3 for the data.



Summary / Look-Out

The main task has been done successfully. TECHNIKA designed and installed a telemetry network which is able to work in full functionality during the disaster.

TETRA system is inaccessible for commercial as GSM/GPRS or landline.

Automatic data transmission ability of LogoSens2 gave a chance to save energy and deliver the data right in time. The first 2 stations have been operational since December 2005.

Stations of the second part (3 to 16) have been operational since July 2006.

About the construction / design of the station:

TECHNIKA decided to install equipment in two housings. One is for battery and the second for electronics. These are mounted on 10m mast. This kind of solution has 3 big advantages.

- it's similar to system which is working in Poland
- it improves the signal strength
- Vandalism aspect: it's hard to steal the solar panel

The new measurement network with state-of-the-art OTT equipment will allow fast and reliable information to the public in case of a flood in the future, and it will help to limit consequential damage as far as possible.

You will find more information about OTT solutions and products on www.ott-hydrometry.com.



Technology

Data Logger **OTT LogoSens 2**
Power supply: 50 W solar panel,
55 Ah battery
Level sensor **OTT PS 1** and **OTT Nimbus**

Communication system **TETRA** radio
Active data transmission (via SMS/SDS)