

CASE STUDY

Applications of NPE – Built-in Industrial Computers

Water supply networks monitoring

The monitoring system

Water supply networks are systems of a very specific construction. They are placed over large areas. However key installations are concentrated. The selection of an appropriate monitoring system is a hard task requiring the utilization of both wired and wireless technologies. To meet these demanding requirements, we offer a system for monitoring water supply networks using the **NPE 9201-GPRS**. It is a solution which allows the realization of a control system and management combining wired technology (the Internet) and wireless technology (GSM network) in a way that is flexible and meets the client's expectations.

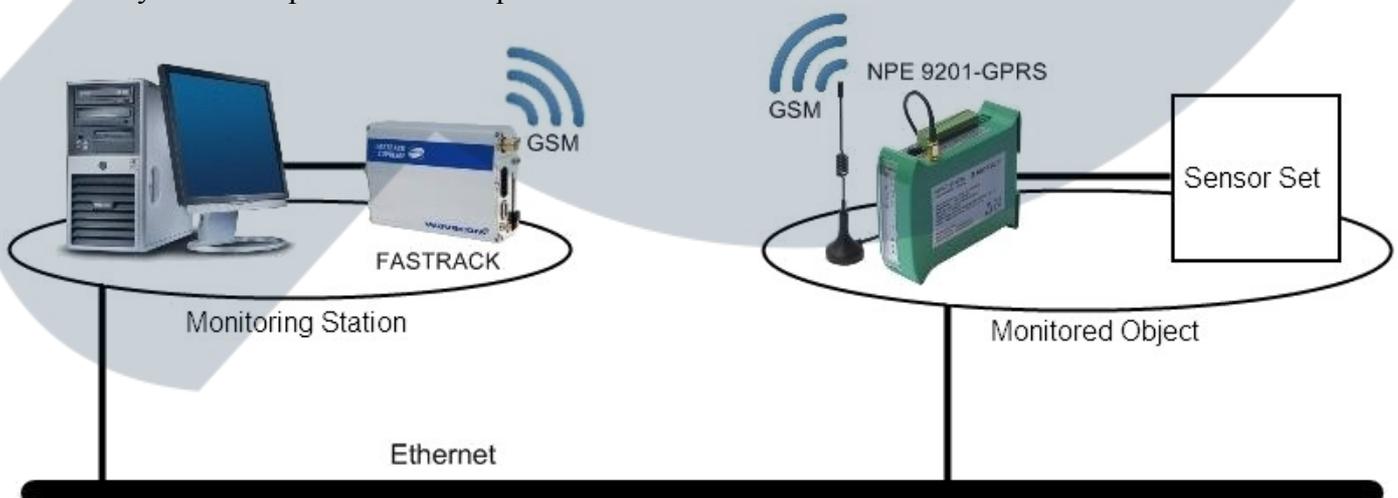


Technology adjusted to conditions

The monitoring system is composed of 2 parts. One is the central station, and the other part are outlying measuring posts. The latter are located at places to be monitored. Sensor units generate data regarding the measured parameters such as: pressure, temperature, flowability, etc. These can be practically any variables, depending on the needs of a specific realization. This data is sent to the NPE computer. It subjects this data to initial processing and analysis. In the event of a sudden problem or lack of connection, it can instantly send an email through the internet or a text message through the GSM network to preassigned persons.

Analysis and decisions

Data gathered by the NPE are sent through Ethernet or GSM to the central computer. The method of data transfer depends on the client's preferences. An immediate change of the communication channel is possible in the case of an emergency. The central computer gathers data from all outlying posts. It synthesizes and analyses the data gathered. Immediate remote diagnostics are also possible. The system has options of development and modification.



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Monitoring station

A key element of such a system is the monitoring station, where a managing computer with SCADA software can be found. It serves to analyze and present the received data. A FASTRACK 20 modem is included to the set – it is the device responsible for GSM transmissions. The monitored object must also have a GPRS modem along with a microprocessor controller. It is an integral part of NPE. It does not require additional appliances.

The industrial computer

The NPE industrial computer's function is gathering information about the object's selected parameters and saving them in its memory. When the memory is full, the accumulated data is transferred by modem to the monitoring station. After the transmission, the memory is used to save new readings. This method lowers the cost of transmission. During sudden emergencies or on the demand of the station, data transmission can occur when only part of the memory has been filled.

IP technology

Each modem is assigned an IP address, similarly to how computers are assigned IP addresses in the Internet. Thanks to this address, data can be sent between any devices in the network. IP addresses can be assigned permanently or change after each log-in to the transmission channel. Each transmitted data packet contains the IP addresses of the sender and recipient. This puts the transmission in order and it is possible to quickly localize the source of the message.

Our system makes it possible to:

- ✓ **Precisely monitor water supply installations**
- ✓ **Synthesize and analyse data gathered from various places in the system**
- ✓ **Present the data in a desirable way**
- ✓ **Immediately inform selected persons in the event of an emergency**
- ✓ **Remotely control elements of the system**
- ✓ **Precisely designate the location and cause of the emergency**

Our solution distinguishes itself with:

- ✓ **The application of the newest technological solutions**
- ✓ **The application of universal and efficient means of communication – text messaging and email**
- ✓ **Fast construction of the monitoring network, with full wireless capability**
- ✓ **Very high reliability and alternative methods of transmission**
- ✓ **Flexibility in the system's realization, depending on the client's needs**
- ✓ **Low costs of installation and exploitation**

Do you want to learn more? We invite you to visit our Internet site: www.a2s.pl. Please send any questions, suggestions and concerns to the following address info@a2s.pl, or call us at: +48 58 345 39 22 or 23. Our experts will gladly and thoroughly answer your questions.