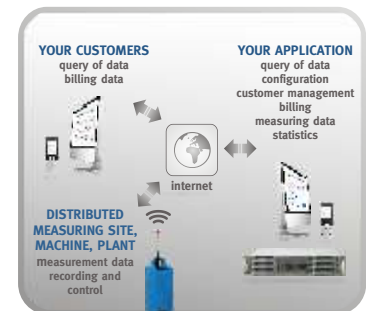


Departement of the Upper Austria State Government: Monitoring of Water Quality

Background

With myDatanet Microtronics Engineering GmbH has developed an innovative wireless measurement acquisition system which is suitable for a wide range of applications. Due to wireless measuring instruments and data transfer via GPRS the collected data is available via the internet in real time at any time.



Problem

The quality of recirculated water has to be controlled continuously in order to preserve the natural balance. Treated wastewater from municipalities, industrial plants etc. have to be monitored, pollution has to be detected immediately, clearly allocated and damages contained.

The integration of already existing multi parameter sensors for water quality monitoring, the transport of measuring devices from one site to another without problems as well as power supply via batteries and solar panels should be possible to facilitate the use in practice.

Solution

Microtronics Engineering GmbH has installed a new measurement system for water quality monitoring for several customers, among others the government of Upper Austria. Already existing multi parameter sensors have been integrated. On a survey map on the internet all measuring sites are illustrated by green lamps, which change to red in case of exceeding the value previously configured for alert, and an SMS or an e-mail is sent. All important information about the measuring site can be viewed immediately by clicking on the lamp. Due to the data being available in real-time and the clear diagrams the service team is informed about the happenings at the measurement site at a glance and can react accordingly. Additionally alert lists are displayed and daily reminders are sent if the fault is not rectified. According to the responsible persons the application of this new system has delivered an optimal performance in practice.



Measuring Points

For the measurement points RS 232 devices with rechargeable accumulators were used. The instrument provides a RS 232/RS 485 switchable serial communication contact. The protocol adaptation for existing multi parameter sensors can be easily configured by the web-platform myDatanet. Up to 20 channels can be chosen and parameterised for every connected sensor. The myDatalog RS 232 directly provides the power supply for the sensor. For the devices different types of power supply are available. Accumulators or batteries can be changed without tools on-site. Due to the MicroPower technology a battery life time up to 6 months is possible. Generally signals such as water temperature, conductivity, turbidity, pH-value, salinity, redox-value, oxygen and ambient temperature are activated. Also operating information like device temperature, power supply and GSM field strength are collected. All signals are registered every 5 minutes and are saved on the server for 20 years. For this reason there is no need for any additional logging of the collected measurement data and reports. Due to the integrated alerting alert messages via e-mail or SMS can also be transferred in case of flat accumulator.

