



AUTOMATING WATER MANAGEMENT WITH MOTOTRBO™

ONLINE ACCESS AND REMOTE CONTROL OF PUMPING STATIONS CUTS OPERATING COSTS



The implementation of a MOTOTRBO™ system at Barsinghausen is realising significant cost savings for municipal utilities. By using an interface adapter developed by Motorola Professional Radio Application partner ATS Elektronik to link the municipality's SCADA system to a MOTOTRBO radio, vital data - such as flow, pressure and water quality – is being delivered in real time to a central control room.

A district of Hanover in the state of Lower Saxony, Germany, Barsinghausen Municipality comprises 18 districts and spans an area of 102 km², serving some 34 000 inhabitants.

The MOTOTRBO system has enhanced efficiency by providing online access to the pumping stations as well as enabling remote control commands and monitoring of the entire water treatment facility.

CUSTOMER PROFILE

Company
Stadtwerke Barsinghausen GmbH

Technology Partner
ATS Elektronik GmbH

Industry Name
Utilities

Product Name

- MOTOTRBO DM 3400
- MR 3000 repeater
- DMR921 USB adapter

Key Benefits

- Lower operating costs
- Integrated, reliable voice and data communications
- Permanently on-line
- Stand-alone system
- High reliability

CASE STUDY

MOTOTRBO™ Solution for Barsinghausen

The combination of MOTOTRBO's digital radio platform with the DMR921 USB adaptor gives us high availability at a significantly reduced cost. The ability to integrate it with our existing SCADA system and have voice and data communications centralised on one system will streamline operations, improve service provision and enhance productivity.

Mr. Heiko Wilhelmsen, Managing Director, Stadtwerke Barsinghausen GmbH

THE CHALLENGE

Historically, a telemetry over wired leased line solution was used to transmit data from pumps, valves and filtering systems and to monitor parts of the municipality's water treatment plant. This, however, was not only an expensive solution but one which was also prone to interference and cost-prohibitive from a system expansion point of view.

The municipality considered alternative options such as telephone and cellular networks, but these could not provide the reliability required for round-the-clock monitoring and control of critical utilities: for example, pumps need to be activated immediately when large volumes of water are required for fire fighting.

They needed a solution that could be integrated easily with their existing SCADA system, would be highly reliable and provide voice and data communications across the whole municipal area.

THE SOLUTION

One of the key factors in choosing the MOTOTRBO digital radio system is due to it being ETSI approved. This is an open standard that gives customers such as Barsinghausen Municipality the reassurance that their investment is protected.

MOTOTRBO's IP data capabilities enable easy integration with the existing control centre, keeping equipment overheads to a minimum. The municipality's SCADA system can be connected directly to MOTOTRBO radios using ATS Elektronik's DMR921 USB interface adapter. This enables them to transmit operational data, monitor flow and pressure levels and generate alerts (for example, when the water level in the pump rises), thereby improving the management and control of its waste water plant.

The radios can be configured for numerous applications by means of simple instructions sent via the DMR921. Having permanent online access to different processing equipment at the water treatment plant enables the system to be adapted quickly in emergency situations such as fire alarms.

MOTOTRBO's digital error correction technology is able to reconstitute voice transmissions with virtually no loss, providing clear communications across an extended range. The addition of a repeater ensures coverage across the entire municipality, enabling telemetry to be deployed at multiple utilities for remote access and control. If a call-out is required, GPS locationing can be used to identify the nearest technician and dispatch an order via their MOTOTRBO radio, saving time and enhancing productivity.

THE BENEFIT

The ability to transmit voice and data simultaneously within a single channel provides a centralised, robust communication solution that is not dependent on external service providers. It also eliminates recurring monthly call charges and maximises return on investment by doubling the capacity of an existing licensed channel.

In addition to reducing operating costs and improving efficiency, the MOTOTRBO DMR921 solution ensures the constant monitoring of pumping stations and enables control commands to be transmitted and executed remotely. This has helped to simplify procedures and automate functions to optimise the management and distribution of Barsinghausen's water treatment services.



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