

REMOTE WATER PUMP AUTOMATION USING SMS AND CALLS

SUMMARY

To avoid wastage of water and enable more efficient use of resources, more and more often water systems are getting automated. It ensures that water use is optimized and requires less human effort.

In this project, ALES company created an automation system for remote control of an underground well pump intended for transportation of sanitation and irrigation water in a remote monastery. The water was intended to be transported between two points with a 160 meters elevation and 1.5 km distance which crossed out the wired control option as too expendable.

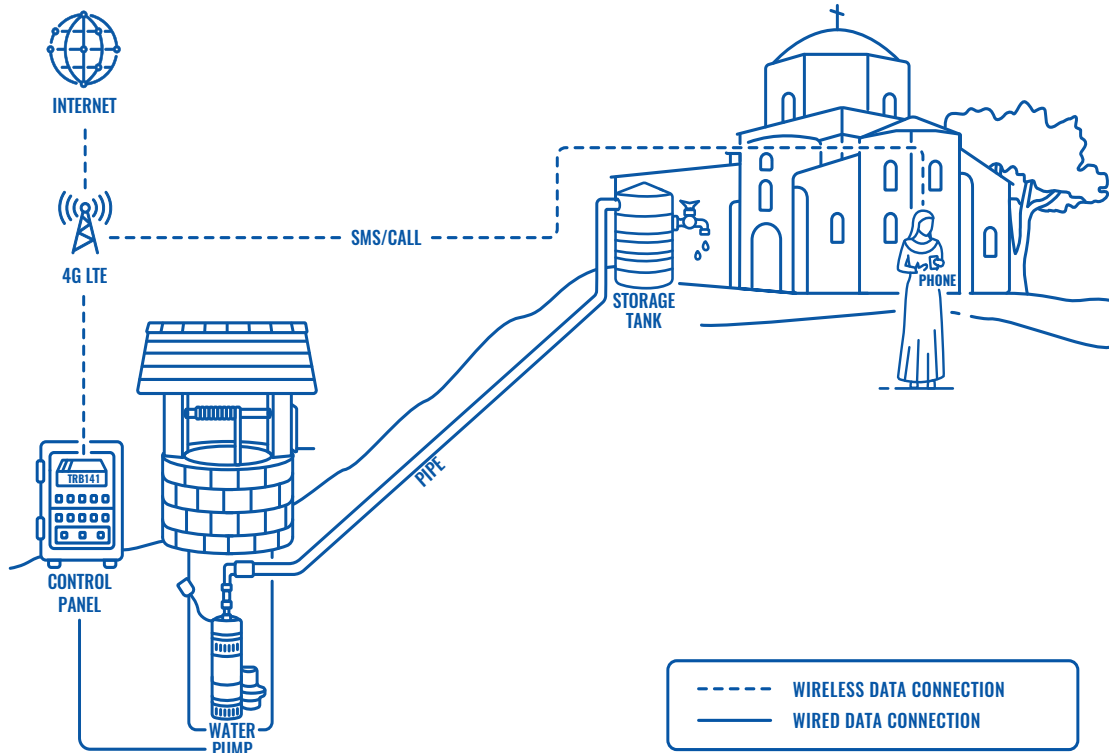
CHALLENGE

Although nowadays modern technologies make remote control a fairly simple challenge, however, simplicity and cost efficiency were key points to this solution. Due to the remoteness of the place related to significantly higher costs, broadband connection over cable was ruled out. The only viable solution was utilizing the cellular network. Using an omnipresent cellphone, the pump would be controlled by calls or SMS messages. This simple control solution was superior to a much more expensive approach such as control over the internet using a smartphone app.

PARTNER - ALES

ALES is a company with extensive experience in the market providing an array of products and services within the electromechanical industry. The company's work experience is based upon three pillars, which are: manufacturing, engineering, and automation. The main focus areas are automation and visualization of industrial processes, manufacturing machinery, and HVAC systems. ALES develops automated control systems that include PLC control, industrial user interface (HMI & SCADA), and various other automation solutions.

TOPOLOGY



SOLUTION

In this solution, the well, water pump, and control panel are located in a remote plain field, while the monastery, where the water should be transported, is located on a mountain 1,5 km away. The water pump allows to fill up the water storage tank located on the mountain via the water pipe.

The water pipe is not pumping the water continuously due to efficiency reasons. It can be remotely activated by using the control panel with a mobile Teltonika Networks TRB141 gateway, allowing to turn on the water pump whenever the water is needed. The pumping can be initiated either by calling or by sending an SMS to the TRB 141 gateway SIM card from a cell phone. After the tank is filled up, the pump can be remotely deactivated by using the same method (call or SMS).

BENEFITS

- Cost-effective and simple remotely controlled solution.
- Remote control by SMS – the pump can be managed by a simple SMS message sent by a specified list of users at any time.
- Remote control by call – the user can turn on the pump for a specified time frame simply by making a call.
- Easy to set up – documentation provided with the product is simple to understand and sufficient to utilize the entire capabilities of the device.
- Simplified support enabled by the Remote Management System.

WHY TELTONIKA NETWORKS?

As stated by ALES representative: “Teltonika Networks offered a product with small space occupancy, simple utilization, cost-effectiveness, and ubiquitous software for a simple yet powerful solution. Teltonika Networks Remote Management System (RMS) simplified the customer support. The RMS enabled remote management of the solution satisfying the requirements raised by the customer. Teltonika Networks was the clear choice in our case. We were especially impressed by their effective customer support and responsiveness, which enabled rapid workflow with our customers.”

