Kannonsaha - Vihtaperä water cooperative
Area: 550 km²
Population density: 2.4 persons/km²
(Finland average 18.3 persons/km²)
Network length: 22 km
Pumping stations: 11

Grundfos Connect helps reduce environmental footprint and operating costs in rural Finland

In the rural area of Kannonkoski in the central region of Finland lies eleven pumping stations that together make up the Kannonsaha - Vihtaperä water cooperative. In the sparsely populated area, distances are long and on-site work can be inconvenient and expensive. As part of an update of the pumping stations' electrical cabinets, the Kannonsaha - Vihtaperä water cooperative connected all their stations to Grundfos Connect which has helped them reduce maintenance costs, overflows and their environmental impact.

Modernising a rural wastewater network

When the Kannonsaha - Vihtaperä water cooperative got in touch with Grundfos, the electrical cabinets installed at their pumping stations were more than 10 years old. In addition to being worn out, they were out-dated and lacked the functionalities necessary to maintain the expected level of efficiency and reliability in a modern-day wastewater network. The Kannonsaha - Vihtaperä water cooperative contacted Grundfos in their search for a new solution that could accommodate their need for unmanned operation, such as remote monitoring and control as well as automatic alerts and notifications.

Real-time data and automatic alerts

Grundfos made a proposal to replace all electrical cabinets in the network's pumping stations and equip them with brand new sensors and a backup level switch in addition to Grundfos Dedicated Controls. The pump control system includes pump-specific current measurement, overvoltage protection and phase monitoring. The Dedicated Controls system was then connected to Grundfos Connect for remote monitoring and control.

Grundfos Connect

Grundfos Connect is a simple and cost-efficient alternative to a SCADA solution. Through an online platform, Grundfos Connect allows you to remotely monitor and control your water infrastructure equipment from anywhere, anytime. All you need is a device with access to the internet. Automatic alerts, including alarms and warnings, enable you to act quickly and proactively when issues occur, ultimately minimising downtime, reducing operating costs and increasing efficiency.

GRUNDFOS

Possibility in every drop

To make sure the new Grundfos solution accommodated the needs and requirements of the Kannonsaha - Vihtaperä water cooperative, the electrical cabinets were designed and manufactured by a local Grundfos partner in Finland in close cooperation with the Kannonsaha - Vihtaperä water cooperative. Before shipping, the cabinets and the connection for remote monitoring were tested thoroughly at the factory, and the Dedicated Controls system was pre-parameterised according to the pumping stations. This all helped ensure a smooth installation process.

The electrical cabinets in the network were then changed one by one and each new cabinet instantly connected to Grundfos Connect upon installation. This meant that data started to accumulate in the system and the automatic alerts were activated from the second a new cabinet was installed.

Remote monitoring is reducing overflows

Since the update, the Kannonsaha - Vihtaperä water cooperative has experienced a significant reduction in the risk of overflows at their pumping stations thanks to their new ability to remotely monitor their equipment.

“I used to worry a lot about overflows and the damage it can cause to our pumping stations and the surrounding nature. But since upgrading to our new Grundfos system with Grundfos Connect, we have significantly reduced the number of overflows, and not a single overflow has ended up in nature,” Kari Piispanen, Housing Manager for water cooperatives, explains.

They have even been able to reduce the need for on-call workers and been able to keep service and maintenance work within normal working hours. Thanks to additional features in Grundfos Dedicated Controls, such as daily emptying and foam draining, the cleanliness of the pumping station tank has also been improved. This reduces the need to wash the tank and remove solids with suction trucks, ultimately reducing maintenance costs.

Furthermore, with data from Grundfos Connect, the Kannonsaha - Vihtaperä water cooperative can identify necessary changes in the individual pumping stations to prevent future problems. Information that they are now using to take a more proactive approach to planning future inspections and maintenance.

The Kannonsaha - Vihtaperä water cooperative is already so pleased with their new solution that they are expanding it with a pumping station locking function that will allow each of the seven pumping stations in the chain to automatically interlock the station above them to prevent overfilling.

“We are really happy with our new electrical cabinets, and especially with Grundfos Connect. It has increased operational efficiency at our pumping stations and given us peace of mind,” Kari Piispanen explains.

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