

WASTEWATER NETWORKS:  
**GAINING MORE  
CONTROL AND  
OPERATIONAL  
INSIGHTS**

GRUNDFOS **iSOLUTIONS**



**PROVAS**

**DISCOVER HOW A DANISH WATER UTILITY UTILISED INTELLIGENT CONTROLS TO OPTIMISE OPERATIONAL HOURS, SAVE ENERGY, AND SIGNIFICANTLY REDUCE INFILTRATING WATER**

Provas is a municipal utility in the city of Haderslev in southern Jutland, Denmark, handling drinking water, wastewater and waste management. Like many utilities, Provas wanted to reduce operating costs to enable future investments. Saving energy across its network of 150 pumping stations would help them reach this goal. However, infiltrating water was a huge issue for Provas with a factor five of infiltration volume, compared to the

volume it was paid to handle. Solving the problem required a detailed overview of flow patterns at every pumping station, which could be achieved by installing external flow meters. As this was a major investment, Provas looked to pump control technology from Grundfos to test and utilise the solution to its full potential.

**36%**  
ENERGY SAVINGS



IMPROVED  
**TOTEX**



EASY  
**OPERATION**



**NEW SYSTEM**

Grundfos delivered a dedicated pump controller for wastewater pumping stations that would help Provas solve their operational problems and enable a detailed overview of flow patterns at every pumping station. The controller offers several excellent features for wastewater networks, including energy optimisation for pumping stations with built-in VFDs, and an advanced flow estimation feature.



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## OUTCOME

- LESS ONSITE INSPECTIONS DUE TO FACT-BASED MAINTENANCE PLANNING
- OPERATIONAL SAVINGS IN ENERGY, EQUIPMENT AND MAINTENANCE
- BETTER SYSTEM OVERVIEW TO PINPOINT AND REDUCE INFILTRATING WATER
- PROJECT PLANS NOW BASED ON ACTUAL OPERATING DATA AND FLOW ESTIMATES

### IMPROVING OPERATIONS PLANNING

After testing Grundfos Dedicated Controls, the results were clear: specific energy was reduced by 36% at one of three pumping stations, and flow estimates at all were correct within a 5% error margin. Given the amounts of water the plant deals with, small differences don't matter much to its operations managers, so estimates are fully adequate. What's important is knowing how the pumping stations are performing, and at what price, to ensure they aren't swamped in operating costs. They simply want to spend as little time as possible inspecting them.

The estimates also enable better operations planning as Provas can monitor specific energy use over time, making it possible to plan optimal system cleaning and maintenance. "Maybe we only need to use the cleaning pig once every six months instead of every month," says wastewater network manager Casper Koch Nodow. "That means we can use our man hours elsewhere where they are needed more."

*"It's really important that we draw on each other's strengths and find good cooperation partners like Grundfos. In the long run, we will really benefit from this."*

**Casper Koch Nodow**  
Wastewater Network Manager,  
Provas

