

WATER NETWORK MANAGEMENT  
Real-time monitoring and proactive decision making  
**CUSTOMER CASE**



# Better Overview Optimizes Operation in Furesø



<b>Customer</b>
Furesø Water supply
<b>Country</b>
Denmark
<b>System Integrator</b>
Krüger A/S
<b>Application</b>
AQUIS Operation
<b>Data</b>
<b>Annual production</b>
1,030,000 m <sup>3</sup>
<b>Number of consumers</b>
~ 4,200
<b>Number of water works</b>
3
<b>Number of pressure boosters</b>
3
<b>Number of pressure zones</b>
7

The implementation of AQUIS Operation has resulted in a significantly better overview and improved planning

The AQUIS Operation (AO) model receives data from the SCADA system. The model can display parameters such as supply pressure, water age, flow or pollutants, if any, in the water, just as you can simulate the closing of valves. AO presents data with color coding across the network and the user learns how the network works at any givenpoint in time.

#### The Challenge

#### Varied information

Furesø Water Supply is a complex supply network with three water works, three pressure boosters and 7 pressure zones. The water works wanted a better overview of the flow in the network, including retention time and flow overview. It was of particular interest to get a nightly overview since this is when the pressure is lowered and the flow direction can be reverted, if required. Furesø Water Supply moreover wanted an application to plan the expansion and rehabilitation of the network.

#### The Solution

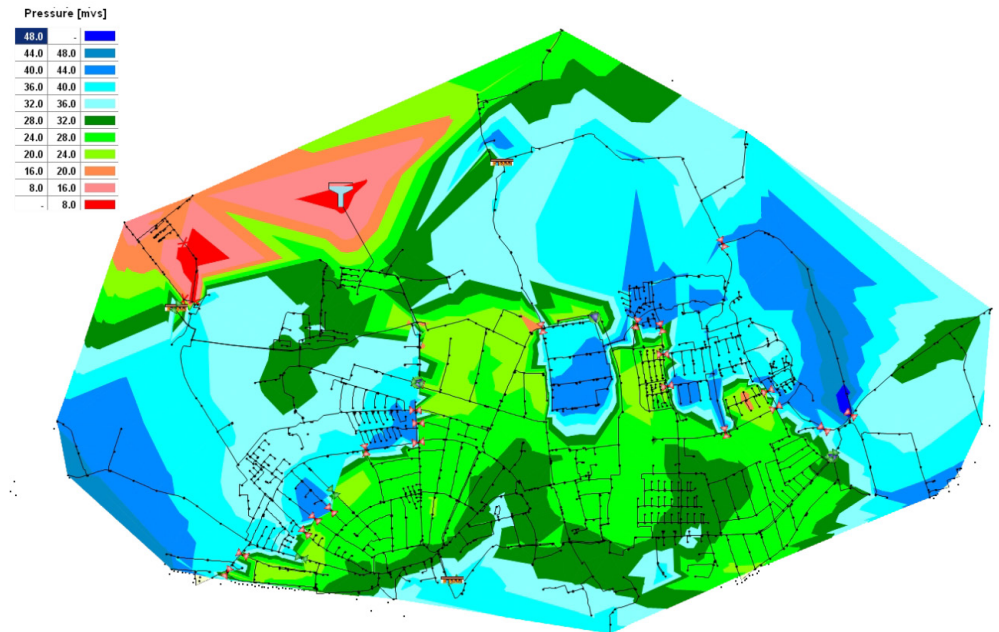
#### Upgrading a legacy AQUIS model

AO uses real-time data for pressure and flow from the SCADA system to calculate the pressure and flow in the entire network.

The water works already had a legacy installation of AQUIS. This model had been subject to updates and extended with new residential areas. This legacy model constitutes the platform for the AO model.

Calculations are done based on specified time intervals and the results are displayed in themes such as pressure, velocity and retention time that are easy to toggle. Each theme displays data in a clear color coded format. Themes and color coding can be customized according to needs and requirement, and this process is done in cooperation with the water works.

## CUSTOMER CASE



“AQUIS Operation is a strong tool in the decision-making process regarding pollution, leakage, repair, and rehabilitation.”

*Jørn Due, Manager  
Furesø Water works*

### The Result

#### Optimization of the operation

AO provides a better overview and consequently a smoother operation. Through the use of SCADA data the AO model is transformed from a planning tool to a decision-making tool; a tool that is an integral part of the daily operation with immediate and clear-cut benefits.

“My main concern was really not whether we would be faced with pollution, but rather WHEN it would actually happen. It is an extremely difficult process and costs hand over fist to track the pollutant and subsequently contain it from spreading and then clean the network. It was therefore a huge improvement of our contingency planning to implement the AO real-time model. I am now able to constantly monitor and simulate the flow in the network. When pollution hits us, we are armed to the teeth and can react based on facts rather than on assumptions,” Jørn Due states.

“AO has proven to be a strong tool when dealing with leakages, repairs, and rehabilitation. We were faced with a situation of a leakage in a 160 mm pipe right under a newly established roundabout in the downtown area. The leakage was discovered during a period of severe frost, and to make matters worse it would be a costly affair to restore the surface if we decided to start digging. In AO I could, with a single click on the mouse, right away tell how we could keep the pressure in the affected area even when closing the damaged pipe. Calculations moreover showed that if we changed the dimension to 110 mm it would be sufficient to handle the supply. So by pushing the smaller size pipe through the existing pipe we could entirely avoid the hassle and cost involved when digging up the damaged pipe.”