

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



Optimized contingency planning - better consumer information



Kunde
Kalundborg Forsyning
Country
Denmark
System Integrator
ALECTIA
Applications
AQUIS and AQUIS Operation
Data
Area
150 km ²
Number of consumers
~ 12,500
Main pipes
~ 58 km (~ 36 miles)
Service pipes
~ 159 km (~ 100 miles)
Max. pipe diameter
560 mm (22 inches)
Annual produced water
~ 2,800,000 m ³ (~ 30,000,000 ft ³)
Max. daily capacity
10,000 m ³ (~ 107,500 ft ³)

Danish Kalundborg Forsyning has implemented AQUIS Operation to get a better overview and improve the contingency planning.

This decision has clearly improved the basis for assessing the hydraulic and water quality related conditions in the network.

The Challenge

Too long reaction time due to lack of overview

With a limited overview of the network the Operator is in case of emergency less likely to make the best possible decision.

The Solution

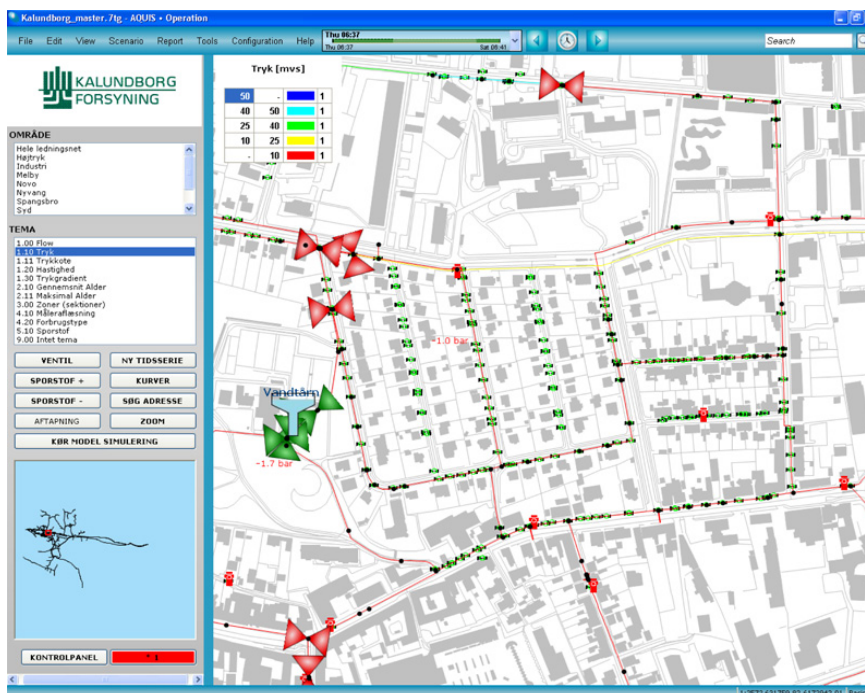
Splitting the network into sections

The network is now divided into sections, each with section wells that provide flow and pressure measurements. This section structure in the network is an integral part of the AQUIS Operation functionality and it allows the Operator to compare the expected water consumption with the actual amount of water flowing into the section. As the model runs based on real-time data, it offers a larger variety of solutions than traditional network models since it is possible to run calculations based on current situations rather than on static average daily consumption.

Based on the measurements the model can simulate future operations and send alerts. Such alert messages can for example be in regards to a critical pressure level given the current operational circumstances and settings. In addition, it is now much easier to see the ramification of the operational changes, which enables the Operator to act swiftly and efficiently based on the real-time data.

In the operating department AQUIS Operation runs on a separate Master machine in parallel to the SCADA system. This setup provides the full overview of the network.

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“Previously most decisions were made based on hunches rather than facts. With AQUIS this has changed completely.”

Frits Klemmensen, Engineer.

The planning department handles the calculation of the various operating scenarios and for that AQUIS Operation runs with an Operator license on a portable computer. It is therefore not always the same person in the planning department who handles the scenario calculations.

The result

Better set point for the planning

The installation has increased the insight and overview.

- Information about supply pressure at consumers.
- Sending information to specific consumers such as a planned, temporary closing of the water supply due to renovation.
- Flexibility for the operation.

Consumer advantages

More security and more accurate answers

Citizens, institutions, and companies in affected areas can quickly get accurate answers to their questions about possible changes in the water supply. And in the unfortunate event of a water contamination, the ramification can be significantly reduced by sending SMS text messages or e-mails as a supplement to other information sources.