

Supplying gas with Wonderware

by Wonderware Scandinavia

“With Wonderware, we can now easily access historic information in order to analyse data for a given time period, e.g. an hour, a week, a month or a year. This information is also useful for our Sales and Marketing Department.”

Kjetil Larsen,
Project Manager, Gasnor



VALUE DRIVERS

Goals

- To supply natural gas to industry and other operations across the whole of Norway.

Challenges

- A large number of control and monitoring systems;
- Costly reporting;
- Lack of real-time information.

KEY METRICS

Wonderware Solutions

- ActiveFactory software;
- InTouch HMI;
- Wonderware Industrial Computers;
- Wonderware System Platform.

Results

- An online control and monitoring system;
- Real-time trend and reporting tool;
- Cost-effective solution;
- Future-oriented solution.

Company Overview

Gasnor AS - Avaldsnes, Norway
 Gasnor AS was founded in 1989, at that time employing three people. Today, the company is Norway’s leading supplier of natural gas, with 50 employees and offices in Bergen, Kollsnes and Akershus, in addition to its head office on Karmøy. At present, Gasnor supplies natural gas for all energy purposes, with the industry as its largest customer group. Other important customer groups, in a sector characterised by high demand for pure energy, are; ferries, supply ships, coastguard ships and buses.

ActiveFactory software, InTouch HMI, Wonderware Industrial Computers, Wonderware System Platform

Gasnor's first two production plants for liquefied natural gas (LNG) were unveiled in 2003, and were recently supplemented by a third plant which will more than double the production capacity. The company currently organizes the transport of LNG by tanker and trailer and is driven by an ambition to be a sustainable supplier of natural gas to industry and other operations across the whole of Norway. In the process, Gasnor is making an important contribution to improving the industry's environmental record and, not least, making sure that it is one step ahead of statutory demands. As large-scale growth also requires restructuring and the upgrading of IT infrastructure, Gasnor is bringing Wonderware in on the act as an important contributor.

From many to one

Only a few years back, Gasnor operated several different controls and monitoring systems, all of which were designed for one purpose, but had different operational procedures. These have now been reduced to a single solution from Wonderware, resulting in better control and monitoring, common synchronised procedures, increased user-friendliness and, not least, making Gasnor's day-to-day operations more cost-effective.



This measuring and regulation station regulates gas pressure and temperature, ensuring that the gas which customers receive is of an appropriate quality. This is the last stop for the gas before it reaches the customer.

"Previously, we were using a system which had limitations, but thanks to the solutions from Wonderware we now have a monitoring system equipped with a range of possibilities," says Bjørn Færaas of Gasnor.

Growing sales

In 2007, Gasnor sold 178.5 million Sm³ (standard cubic metre) of natural gas, which is a whopping 44 per cent more than the previous year and the kind of growth which requires total control of the IT infrastructure. According to Bjørn Færaas, the company needs a control and monitoring system which enables secure and controlled growth. The choice fell on Wonderware.



Nitrogen is used to cool the gas, so that it can be converted into a liquefied form (LNG). This is done to increase gas storage capacity. One cubic metre of LNG corresponds to approximately 620 Sm³ of gas, says Bjørn Færaas of Gasnor.

A module-based solution

Many of Gasnor's customers buy liquefied natural gas (LNG) and the numbers of customers are steadily increasing. One of the many fine advantages that come with Wonderware is the fact that their solutions are module-based, which in practice means that there is no need for us to build new technology solutions for every new LNG customer. It is easy to copy the application of previous customers and then customize them to suit the needs of a specific customer, Bjørn Færaas explains.

Complete process automation

Wonderware solution for Gasnor is based on the Wonderware System Platform, InTouch HMI, ActiveFactory software, Wonderware Information Server (part of the Wonderware System Platform software solutions' offering) and Wonderware Compact Panels 10" (part of the Wonderware Industrial Computers' offering). The Wonderware System Platform is a platform for all industry automation solutions such as SCADA, Supervisory HMI (Human Machine Interface), MES (Manufacturing Execution System) and EMI (Enterprise Manufacturing Intelligence). InTouch HMI is a supervisory control and monitoring tool which can easily be integrated with the vast majority of automation tools. ActiveFactory software is a trend and analysis tool, while Wonderware Information Server is a reporting and information portal. Compact Panels are industrial computers which are deployed in order to monitor various gas stations.

"Overall, the different modules cater for all our needs. In addition, they are also future-oriented, allowing additional functions to be added subsequently. This is, in all respects, a long-term investment, enabling us to focus on our core

Oil & Gas

ActiveFactory software, InTouch HMI, Wonderware Industrial Computers, Wonderware System Platform



In this plant at Aksdal, a short distance outside Haugesund, is a tank which contains LNG. The liquid passes through evaporators, where it is converted into gas before being delivered to users.

activity, which is selling natural gas,” says Bjørn Færaas.

Historic information fed direct from the stations to the Wonderware solution

Kjetil Larsen, Project Manager at Gasnor, says that the company has installed PLCs with GPRS solutions at the various gas stations in order to enable them to send real-time data automatically to the Wonderware applications. This means that Gasnor’s plants are available online at all times. To ensure reliable operation, there are two application servers working at alternate times, so if one of them shuts down, the other one takes over.

“With Wonderware, we can now easily access historic information in order to analyse data for a given time period, e.g. an hour, a week, a month or a year. This information is also useful for our Sales and Marketing Department.”

Direct communication between Flow Computers and ActiveFactory software

With Flow Computers deployed on the premises of each individual customer and communicating directly with a historian server, and with such data subsequently being analysed in ActiveFactory software, gas composition is measured in real time.

“Reports are then published on the Information Server, which is a web-based publication tool. Thanks to the Wonderware solution, we can always log data on gas quality,” says Kjetil Larsen.

A long-term solution

Gasnor has been using Wonderware solution for a year and a half, for the first six months of which the solution was at the implementation stage.

“Another one of our objectives is to integrate Wonderware with our transport solutions, so that Gasnor’s Logistics Department can at all times have an overview of both the composition and quantities of gas in the different tank plants,” says Kjetil Larsen.

*This document was realized thanks to the support of:
Kjetil Larsen, Project Manager, and
Bjørn Færaas, Operations, Gasnor*