

## CASE STUDY

## TopWorx chosen for Chemical Plant upgrade

One of the world's largest producers of water-soluble polymers was seeking to upgrade their production lines in the Eastern United States in order to increase reliability and efficiency, and minimize cost and downtime.

### Problem

The chemical plant sought a valve control product that would be durable in a rugged environment, and offer a long service life. This project was challenging, because their application was very rough, with a lot of noise and vibration. The production of monomers and polymers is a slippery and extremely sticky process, involving solvents and continuous washdown.

The chemical plant Project Manager noted "We were in a situation where we needed to replace the entire automated system, which meant that all of the control cabinets and wiring had to be new. The existing control cabinets, cable and cable trays needed to be replaced due to their exposure to sticky product. Our goal was to minimize the amount of installation time and cost."

The project was complex in that it consisted of both new installation, and retrofitting to existing valves and actuators, which had been in place for over 17 years. Because of problems with solenoids in the past, it was a priority for them to find a product with a high quality solenoid, and the ability to easily upgrade to support future expansion.

### Solution

Advice was sought from their local distributor, who recommended TopWorx Valvetop discrete valve controllers with FOUNDATION Fieldbus for this project. Plant engineers visited TopWorx to witness TopWorx FOUNDATION Fieldbus devices interfacing with the Emerson DeltaV control system, which solidified their decision to install TopWorx discrete valve controllers.

A section of the plant was upgraded from traditional hard wiring, and they upgraded to a DeltaV control system. They installed 400 Valvetop DXPs with traditional switches on one production line, and over 400 Valvetop DXPs with FOUNDATION Fieldbus on another, for a total installed base of over 800 units.

The project manager noted that outstanding support was received on this project. Their local distributor gave training in the commissioning of TopWorx Valvetop discrete valve controllers with FOUNDATION Fieldbus and DeltaV.

The project manager further explained that they chose FOUNDATION Fieldbus "because the wiring installation was faster, easier, and less expensive." He noted,

**"A big consideration was the licensing cost savings. Licensing is required for each DST. With DeltaV, three DSTs would have been required per on/off valve, but with TopWorx, only one DST was required per on/off valve."**



Installation of Valvetop DXPs with FOUNDATION Fieldbus at Eastern U.S. chemical plant

This resulted in up front installation cost savings of around \$100,000. This was significant, as it saved about 70% of the projected cost, and will enable continued savings with less renewal licensing costs required each year.

Valuable support was received from TopWorx on the network and segment design. The project manager relayed that "the electrical installation with FOUNDATION Fieldbus went very smooth. With extra ports, adding a few here and there is easy. FOUNDATION Fieldbus is great."

The project manager relayed that he was pleased with the decision to install TopWorx Valvetop DXP discrete valve controllers. They were attractive because they combined bus networking, pilot valve, and position sensors into a single globally certified, explosion proof enclosure that could attach to any automated valve package. He noted,

**"We loved the Valvetop DXP with FOUNDATION Fieldbus, because we could add to it for future expansion. Everything went very smooth. It was a good deal. I would do it again."**

### About TopWorx

TopWorx delivers "control without compromise" by offering the uncompromising standard of excellence for valve control and position sensing. Valvetop discrete valve controllers support multiple bus protocols, carry a variety of global approvals and operate in the most demanding plant environments. GO Switch leverless limit switches provide the ultimate reliability and durability in the most demanding plant conditions, including hot, wet, cold, dirty, abusive, corrosive and explosive applications.

For more information about TopWorx visit [www.topworx.com](http://www.topworx.com).