

Case Study

DuPont Migrates Legacy Batch System to Experion[®] Batch Manager

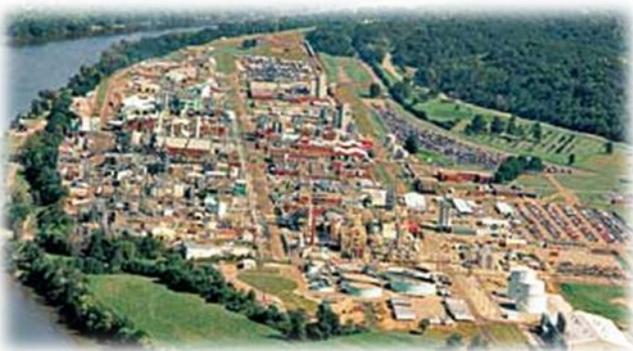


“We chose Honeywell based on their ability to come up with the right solutions and work with us a partner. Their local office makes sure we get the products we ask for, and they are able to understand our needs.”

- David Niermeyer, Senior Process Controls Engineer, DuPont Washington Works

Background

For more than 200 years, DuPont has brought world-class science and engineering to the global marketplace through innovative products, materials and services. The company's Washington Works manufacturing operation is located near the Ohio River in Wood County, West Virginia, on a tract of bottomland conveyed to George Washington in 1772.



DuPont Washington Works Teflon production operation.

The Washington Works facility produces more than 700 million pounds of polymer and thermoplastic products annually.

Benefits

Honeywell is a preferred vendor to DuPont, and it worked closely with the company to develop an effective solution for control system modernization at Washington Works. A sister plant in China had already completed a similar control system project, and learnings from this effort provided valuable insights.

A collaborative project approach improved the quality of implementation for batch applications and allowed an efficient vertical start-up of the updated control platform. It also enabled operators to get up to speed on the new technology quickly.

In addition, the use of third-party interfaces minimized overall risk and reduced the impact on production.

DuPont Washington Works continues to work closely with Honeywell's local office, and this ongoing relationship has helped to identify current and future automation requirements, and then deliver the right products when they're needed.

Challenge

Like other process manufacturers, DuPont Washington Works is faced with improving its productivity and reducing operational costs. The facility's legacy batch system experienced end-of-life issues with all the problems typical of outdated equipment. The system had been in service for nearly 25 years, and was not compatible with plans for future upgrades at the site.

Plant management recognized the need to replace its obsolete technology, which was costly to maintain and posed spare parts availability concerns. It also sought compliance with corporate standards, as well as a batch implementation aligned with the industry-recognized ISA S88 guidelines.

A phased system migration approach was needed to avoid costly outages and a subsequent loss of production in the Teflon[®] fluoropolymer resin operation. The work was slated for completion over four phases spanning 2011-2014.

Solution

DuPont decided to replace its outdated third-party controls with Honeywell's Experion® Process Knowledge System (PKS) Release R400 running the Experion Batch Manager application. This solution provided the redundancy features demanded by DuPont's batch processes, allowing plant personnel to execute batches using multiple batch units from the procedure level downwards in the S88 hierarchy.

Experion Batch Manager executes in the Experion C300 controller, with redundancy increasing the availability of the platform. Since the batch executes in a controller environment, the sequence execution cycle time is configurable up to 50 milliseconds.

An advanced simulation solution allowed realistic testing of the Experion configuration, as well as accounting for process dynamics during CAT tests.

Phased migration has been enabled by an OPC interface to the existing system. This approach allows prototyping of individual units prior to rolling out copies.

Results

Thanks to the upgrade of its plant automation and batch management capabilities, DuPont Washington Works has improved both uptime and yields, and is expecting to reduce its cycle time. Additionally, the operation has shortened the period between batches and is anticipating improved productivity over the long term.

For More Information

Learn more about how Honeywell's Experion PKS solution can optimize your operational performance, visit our website www.honeywellprocess.com or contact your Honeywell account manager.

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In the future, DuPont Washington Works plans to utilize Honeywell's Field Device Manager (FDM) to simplify maintenance tasks, and perform device configuration and management tasks through smart plant instrumentation. It will also expand the Experion PKS architecture into wastewater processes.

About Experion PKS

Experion PKS integrates an advanced automation platform and innovative software applications to improve users' business performance and peace of mind. Unifying people with process, business and asset management, it helps process manufacturers increase profitability and productivity. Experion PKS is the only automation system that focuses on people — making the most of the knowledge they hold. By integrating disparate data across facilities, making the most of resources and people, and feeding it all into a unified automation system, users can achieve an operation that's more proactive, efficient and responsive.

The Honeywell logo is displayed in a bold, red, sans-serif font.