

Arkema control system upgrade Automation Sentinel enables cost-effective system evolution

Arkema Inc. Calvert city, Kentucky, USA

In 1988, the first ABB Bailey Network 90 control system was installed at this plant. The original operator consoles have evolved to Conductor VMS Servers and client workstations which have become the standard for all process areas. The control system network consists of a central communication ring linking and coordinating multiple satellite rings distributed to the process areas. Collectively, there are over 50 operator workstations and 30 process control units providing the operating environment for over 100 controllers in various configurations.

Customer challenge

This plant manufactures the Kynar® polymer, the R134a refrigerant, the F141/F142 blowing agent and other chemicals. Arkema plant management has a record of continuously improving their control systems to keep up with increasing production demands and to maximize the financial return on their installed systems. Arkema has kept up by seamlessly integrating new functions and features into their initial Network 90 system by evolving to the INFI 90 and Harmony control systems.

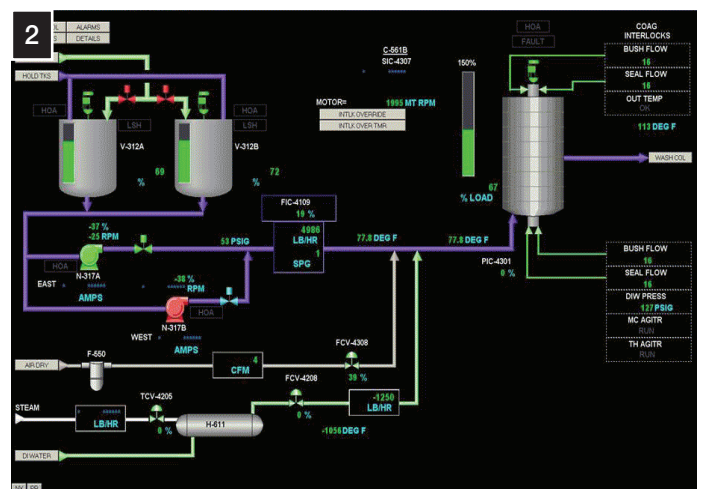
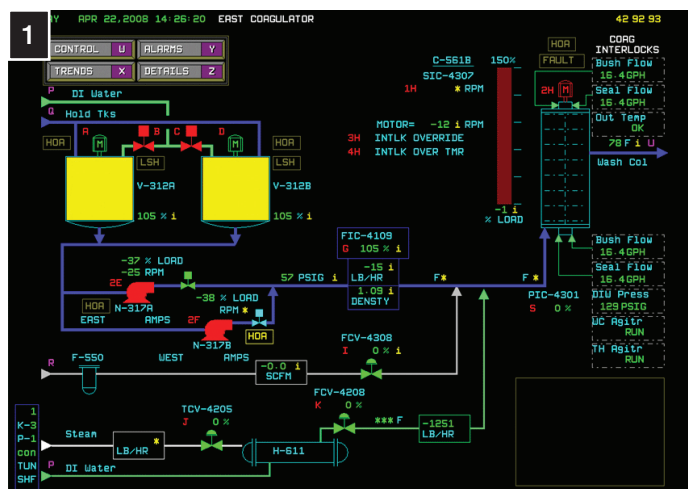
Over the years, Arkema has been driven to increase production capacity, improve operator procedures and

responsiveness, establish connectivity to other installed systems and devices in the plant such as programmable logic controllers (PLCs), and to more effectively address environmental and safety issues.

ABB solution

To meet these challenges, Arkema embarked on an evolution plan for the Human Machine Interface (HMI) for their Control System. As a first step, an inventory of their installed HMI was taken and a set of upgrade requirements established. After evaluating several HMI offerings, including two from ABB, Arkema selected ABB System 800xA as the system of choice for their next generation of HMI. Arkema was able to evolve the installed HMI to 800xA while the Network 90/INFI 90/Harmony control system remained in place, keeping the plant running and making money.

This Arkema plant subscribes to ABB's Automation Sentinel Software Management Program. As a subscriber, software license fees were included for the new 800xA HMI at a substantial discount based on the functions of their installed Conductor VMS HMI. Thus, a seamless and low-cost upgrade path was accomplished. ABB Automation Sentinel is also programmed to notify Arkema of the availability of new software version releases and security patches, all of which can be downloaded for use from ABB SolutionsBank.



Evolution of control system operator consoles to ABB System 800xA Process Portal
1 Original overview graphics | 2 ABB System 800xA Process Portal overview graphics

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Control room at Arkema Inc., Calvert City plant

The installed operator interface was the ABB Conductor VMS line of consoles, which had become the standard for all process areas at this plant. Arkema has a long tradition of performing system engineering and maintenance with in-house resources. For this, they found ABB's technical support in the early stages and phone support during implementation to be helpful in moving the project forward.

For example, approximately 20 graphic displays from the existing Conductor VMS console were converted to operate in the 800xA platform by working closely with ABB engineers. After this phase, Arkema was well on the way to convert, and in many cases improve, the remaining graphic displays. This confidence is based partially on the knowledge that ABB's technical system expertise is just a phone call away.

Customer benefits

The initial implementation was dedicated to a single process area. As the engineering and testing was completed, the new 800xA workstations were deployed to operate alongside the existing Conductor VMS consoles. This implementation provides for parallel operations using the installed HMI and the new ABB system 800xA to effect a seamless transition for the operators. As a result, operator training, procedure changes and production downtime are kept to a minimum. These benefits are further supported by the ABB Automation Sentinel updates, as well as ABB technical and phone support.

In executing this upgrade, Arkema took the opportunity to clean anomalies out of the system database, thus making it easier to maintain in the future.

Next steps

While they reaped the benefits of this HMI upgrade and assimilated lessons learned from this project, Arkema began the next phase of their system evolution. They planned to replicate this HMI upgrade in other process areas to eventually



ABB System 800xA workstations in staging

phase out the Conductor VMS consoles. Another goal was for the control system to secure connections to their plant Wide-Area Network in order to more closely link with their business applications. New applications including asset optimization, device management, connections with drives and Motor Control Centers are also in their evolution plans.

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