Case Study

Modernize without interruption

How do you upgrade a highly complex industrial plant with minimal production interruption? That's what ABB demonstrates to do for BASF's plant in Ludwigshafen, Germany. Here ABB upgrades the process system of several production lines in several steps to System 800xA with AC 870P controllers.

Background

The production lines, which manufacture some 1,000 tons of products annually for the pharmaceutical, cosmetics and food industries, are operated by two different process control systems; a 1986-installed Contronic P and a Symphony/ Maestro UX from 1998. Because the systems were near the end of their lifecyle, the customer wanted to upgrade them. The challenge with this migration is to minimize production interruption as much as possible, so the system upgrade is scheduled in six phases over a four-year period.

Increase availability

With some 1,000 different applications, the AC 870P controller is proven to be reliable in areas such as power station, water industry, pharmaceutical, petrochemical, metals and sugar production. "We expect to achieve a number of quality improvements from this system," says Michael Hoffmann, Engineering Manager and Project Leader for BASF. This includes especially a higher availability of the system with some 10,000 I/O (inputs/outputs). The new I/O building groups are known for their scalable redundancy. This means that the system automatically switches to the second connection, if the first one should get damaged, without interrupting any production processes. The operator can choose simple configurations, which save time, costs and calibration is not necessary.

Benefits

- Simplified upgrade process
- Reduced downtime
- Minimized maintenance costs

An additional advantage is that part of the existing system is already operated by a modern System 800xA, so that only the automation and operator components have to be upgraded. Costs are also minimized for BASF because components close to the production level do not need to be replaced. "Our maintenance personnel are already familiar with ABB technology," says Hoffmann. "Therefore, they don't have to receive additional training. This will be an additional benefit for future upgrades."

The first step of the migration phases is planned for mid-2009. "We are right on schedule," says Hoffmann. "Thanks to the ABB support team, everything is running according to plan and highly professional." That's why BASF is counting on ABB know-how for future projects as well. ABB will also provide support for BASF's new multi-production plant expansion, which is scheduled to go into production at the end of the year.

www.abb.com/processautomation