

Ticona Enjoys Benefits of Fieldbus Technology By Switching to DeltaV™ with AMS Suite

RESULTS

- Saved considerable labor during instrument commissioning
- Improved maintenance practices significantly
- Eliminated up to 400 hours of routine maintenance per year
- Enhanced safety by reducing workers' risks



APPLICATION

Two DeltaV™ automation systems control continuous and semi-batch chemical process plants. Each system has a dedicated AMS Suite, providing maintenance personnel access to diagnostic data produced by some 2500 smart field instruments and more than 500 digital valve controllers.

CUSTOMER

Ticona GmbH, a subsidiary of U.S. based Celanese Corporation, produces polymers in a recently constructed plant in the Hoechst Industrial Park near Frankfurt, Germany. The product, branded Hostaform, is used in the production of plastics for the automotive, medical, and communications industries.

CHALLENGE

Ticona was forced to relocate an existing manufacturing facility in order to provide land for a new runway at the Frankfurt International Airport. When evaluating a variety of technologies for the new plant, Ticona engineers decided to upgrade from the existing analog automation system to a digital control system featuring the FOUNDATION™ fieldbus communications protocol. Ticona engineers and operations personnel had not applied this technology previously, but they became convinced that advanced field-based control with digital diagnostics would best meet the needs of the new plant.

“Our employees have readily adapted to the fieldbus technology and the diagnostic capability of AMS Suite.”

Thorsten Fleck
Automation Leader,
Celanese

SOLUTION

The Emerson team in Germany worked out an automation strategy in close cooperation with the Ticona project team. As a result, the new plant, which was completed in 2012, utilizes two separate DeltaV automation systems having a DST count of about 23,000, including a significant number of DeltaV SIS signals. An integral part of the project is the AMS Suite predictive maintenance software, which made it possible to stay within the time limits for starting up the plant.

FOUNDATION fieldbus transmitters were used wherever possible. With more than 2500 fieldbus instruments and 500-plus FIELDVUE® digital valve controllers, this is easily the largest FOUNDATION fieldbus installation in Germany. This combination of automation and predictive maintenance will grow as the plant and its requirements grow.

Once the AMS Suite software had been introduced to the maintenance team, it became obvious that the daily use of asset management software could improve their work practices and reduce the exposure of individuals to difficult-to-access locations. At that point, the digital system was readily accepted.

Even so, currently maintenance in general remains reactive. The main focus is on saving time in troubleshooting potential problems and improving worker safety in this Zone 1 plant. AMS Suite makes this possible by enabling personnel to diagnose many conditions without ever leaving the control room, saving an hour or two of technician time every day.

At Ticona, AMS Suite has become an integral part of the daily work routine. Previously, the maintenance personnel had to go out into the plant on a regular basis to check on equipment. Now, when a device alert is raised, the first thing they do is to look at the asset management monitor. They can diagnose many situations before any other action is taken. Frequently, it is not necessary to go into the field at all, avoiding the inherent risks of field work.

The next step will be to prioritize the importance of each piece of field equipment in the overall production process so that the diagnostics can be applied to optimize maintenance on the most critical devices. In time, the plant intends to use these data to drive predictive maintenance, as well. Even greater savings are expected when AMS Suite software is used proactively.

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“The state-of-the-art technology makes this Ticona plant future-proof.”

Thorsten Fleck
Automation Leader,
Celanese