

Major Plastic Manufacturer Upgrades Resin Plant DCS to DeltaV

A major plastic manufacturer used a custom DCS developed in the 1980s to control a Resin Plant. The antiquated DCS was a roadblock for any technological advances, so a decision was made to upgrade the Resin Area to the latest DeltaV DCS.



Main Objective

The client desired to upgrade the Resin Plant in order to have a modern DCS designed for the 21st century that was flexible, powerful, easy-to-use, and able to adapt to new technology.

Customer Results

The project resulted in an upgraded, slick, powerful, modern DCS with more robust I/O and code, easy programming features, a greatly-enhanced operator interface, and better support. The Resin Plant runs much smoother than it had previously and was light years ahead of its predecessor when it came to troubleshooting problems.

Application Description

- The Resin Plant consists of three separate areas that produce different grades of plastic granules used to make sheets of Polycarbonate Resin Thermoplastic.
- The three resin areas share a common transfer system and finishing area. Each of the resin areas are divided into the Reactor, Centrifuge, Dryer, and Utilities areas. Each area contains multiple units.
- The CRISP DCS code for the resin areas consisted mainly of three text files that contained hundreds of thousands of lines of code. Each line of CRISP code was evaluated and converted into DeltaV logic (blockware or sequential function chart).
- A large group of MAVERICK engineers were involved in the CRISP code translation. One engineer served as lead for a given area, and each engineer in that group was responsible for the code conversion of a given unit.
- The CRISP DCS contained hundreds of graphics. Each was evaluated and redrawn as a DeltaV graphic. Another team of MAVERICK engineers were responsible for graphic translation and development.
- The existing CRISP I/O was replaced with new DeltaV I/O, and the marshalling in the I/O room was completely redone.
- The CRISP DCS had a full simulation system that had been developed by writing thousands of lines of CRISP code. This functionality had to be duplicated in the DeltaV DCS. The Mimic simulation software and multiple DeltaV Virtual I/O modules allowed the team to program full simulation and testing programs for each unit. This was also used later for FAT and operator training.

The MAVERICK Difference

MAVERICK provided an experienced team of skilled engineers and programmers. The team was able to transform the mass of complicated and cumbersome CRISP code into a streamlined DeltaV application designed for the 21st century that outperformed its predecessor in all aspects and exceeded customer expectations.