



Case Study

Coffee Creamer Plant Batch Control System



Industry

Food and Beverage

Application

Batch; Cross-platform integration with existing HMI; Production reporting; CIP

Solutions

Rockwell FactoryTalk Batch with Archiver and Reporting, ControlLogix, Wonderware ArchestrA Graphics, Microsoft SQL Server and Reporting Services

Benefits

Increased manufacturing flexibility due to ease of recipe and process changes; Increased productivity through system reliability; Improved quality through precise control strategies and ease of access to batch data.

The Challenge

A global leader in the food industry was faced with replacing an unsupportable legacy batch control system at a powdered coffee creamer plant. The company's changing business needs required a dynamic system which would allow ongoing recipe and process modifications to be implemented by plant personnel without lost production. The system would control key processes at several locations in the plant. A requirement for the new batch controller was to integrate reliably with the existing corporate-standard HMI to minimize implementation and training costs. Increased access to batch data was also desired to assist with increasing product quality and plant efficiency.

The Solution

McEnergy Automation worked closely with the food company's personnel to design and implement a new batch control system integrating Rockwell Automation's **FactoryTalk Batch** with the plant's existing **ArchestrA Graphics** HMI. One new batch server was used to control multiple process areas including wet mixing, dry mixing and CIP. Several optional features of **FactoryTalk Batch** were utilized: Redundant servers with warm backup capability to increase the system's reliability; Campaign manager functionality for automatic initiation of repetitive batches; and **Batch Archiver** and **Batch Reporting** to provide improved access to batch production data throughout the enterprise. Phase logic programming was implemented in three separate **ControlLogix** controllers. **ArchestrA Graphics** were developed to maintain the same look and feel to reduce retraining. Script function libraries and API calls were used to create a seamless interface between the HMI and batch server. Enhanced reports were created in the new system, providing real-time information from the entire operation into a user-friendly, actionable format using Microsoft **SQL Server** and **SQL Server Reporting Services (SSRS)**.

The Results

As a result of extensive testing and simulation, a cutover period of just a few hours was required for each process area, with no lost production. Because graphics were developed to maintain the same look and feel, operator training was completed in one shift. The new batch control system increased the plant's efficiency in several ways: Increased system reliability reduced production outages; Improved reporting assisted in identifying and eliminating inefficiencies in existing processes; Use of more precise control strategies ensured that additions are within tolerance, which reduced waste and re-work. Most importantly, the new system provided an easy and reliable way for plant employees to implement and maintain recipe and process changes, allowing our customer to remain a leader in their marketplace.