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From the pages of Control Engineering

Batch Control Project Feeds 'Fido'

Staff -- 9/1/2004

Faced with a large increase in demand for its pet food products, Dad's Products Co., a \$60-plus million, Meadville, PA-based manufacturer of canned, dry, and soft-moist dog and cat food, sought to automate processes and improve production efficiency.

AT A GLANCE

- Batch, SCADA, MES
- Real-time business link
- Extrusion process improvement
- Waste minimization

Bachelor Controls Inc. (BCI)—a provider of control and system integration solutions—was chosen by Dad's to implement a plant-wide automation system. System implementation goals were to optimize plant performance, incorporating flexible batching capabilities for optimum use of plant equipment; integrate manufacturing with Dad's business systems; and monitor process performance and quality.

BCI created an enterprise-wide monitoring and batch control system to increase efficiency and optimize product quality, as well as develop equipment-independent master recipes to be used across production lines for increased manufacturing throughput and flexibility. The batch control system is based on BCI's Batch Engine. Also included in the automation system are supervisory control and data acquisition and manufacturing execution system capabilities. Data for each step of the production cycle are now electronically collected, stored, and displayed, and a real-time link between the company's batch process and business planning functions allow engineers to access information, release batches, and make online changes to recipes from workstations across the network.

As a result of this new information access, Dad's chose to improve its extrusion processes and minimize its slurry end-of-run waste to reduce the load on the wastewater treatment facility. Bachelor Controls' BCI AutoPilot—an automated cooking extrusion control system—was the core element of the solution.

Bachelor Controls' chose to handle the wet additive independently rather than in a batch slurry. This means slurries could be more generic across products, and more-specific flavor and preservative ingredients could be metered at the extruder. BCI also automated the ingredient feed system and metered ingredients into the dry feed system at the extruder preconditioner. An extruder formula setup/management system was then integrated into the system so that each formula would be linked to a product already defined and residing in the batching SQL Server database.

Two additional extruder units were then added to the core configuration, allowing control of all three units from a single operator interface. At completion, the amount of waste material going to the water treatment facility was reduced, enabling Dad's to realize immediate, additional benefits. "We've broken three production records in a row," says Dad's vice president Jeff Lang. "We've seen over a 40% increase in throughput on average, and changeover times have dropped by more than 65%." Lang added that the company has also seen product quality improvements in shape, color, and consistency.

For more information about Bachelor Controls, log on to www.bachelorcontrols.com or see its listing in the Automation Integrator Guide at www.controleng.com/integrators.

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