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## PETS NEED MORE THAN TLC

A plant-wide automation system consisting of batch control and extrusion automation coupled with MES capabilities boosts productivity and quality for a major pet food manufacturer.

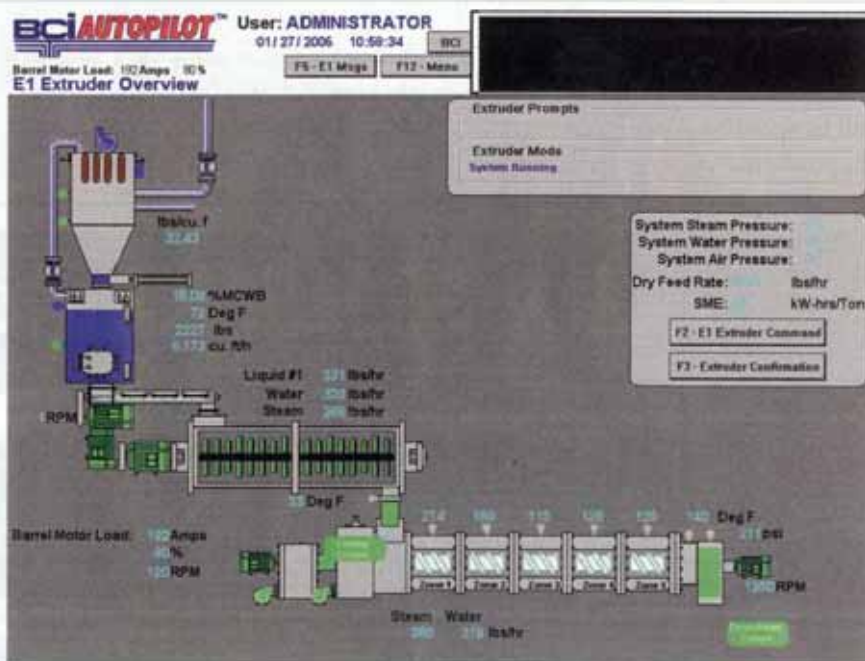
By Ray Bachelor, President, Bachelor Controls, Inc.

**>>>** We're pleased to introduce SPNews! SPNews showcases Rockwell Automation Solution Provider customer solutions using Rockwell Automation products and technology. In every issue of The Journal, this section will focus on an industry application, the customer's critical business issues, obstacles they've overcome, technology and services they've used, and their results.

DAD'S Products Co. ([www.dadspetcare.com](http://www.dadspetcare.com)), a large manufacturer of dry and soft-moist dog and cat food based in Meadville, Pa, experienced a large increase in product demand. To meet this need, the company decided to further automate its processes to improve production efficiency. DAD'S chose charter Rockwell Automation Solution Provider Bachelor Controls, Inc. (BCI) to optimize the total performance of its plant. BCI addressed throughput, quality, flexibility (tighter linkage with DAD's business systems) and visibility of plant key performance indicators (KPIs).

Batching and extrusion control were core elements of the solution to meet the flexibility objective. This includes minimizing waste and improving change-over time between formulations.

Cooking extrusion is a complex, highly variable process that uses shear, steam and pressure to cook a variety of shaped



This BCI AUTOPILOT® system screen shot shows monitoring information for an extruding operation. Data for the production cycle is collected, stored and displayed. The system provides a real-time link between production processes and business planning functions.

foods. It's the cornerstone of pet food production, as well as cereals and snack foods. Even with an experienced, attentive and accomplished extruder operator, consistent results still can mean a moisture variation exceeding  $\pm 5$  percent.

Such high moisture variation requires drying the product beyond the optimum target moisture to produce acceptable storage characteristics for the highest moisture swing of the production run.

The over-drying results in extra utility usage and reduces the optimum weight-based yield of the product because of the excess moisture extraction.

### Combination of Technologies

Bachelor Controls developed BCI AUTOPILOT®, an advanced automated cooking extrusion control system built on a flexible platform that can automate most extruder brands and models. BCI

developed a computerized model that learns the delivery characteristics of the particular dry feed mix being processed. Then, a built-in, proprietary algorithm continues to be refined during every refill cycle to achieve dry feed accuracies with a moisture variance of less than  $\pm 1$  percent. This was a perfect application for DAD'S.

BCI AUTOPILOT uses Rockwell Automation® ControlLogix® Programmable Automation Controllers (PACs), Rockwell Software® RSView® Supervisory Edition (SE) and Microsoft SQL Server Desktop Engine (MSDE).

After the automation project was finished, DAD'S had the enterprise-wide ability to continually monitor and control its operation. Data for each step of the production cycle was now electroni-

cally collected, stored and displayed. With a real-time link between production processes and business planning functions, DAD'S engineers could access information, release batches, and make online changes to recipes from workstations across the network.

### Immediate Results

BCI also integrated the extruder formula setup/management system so that each formula must be linked to a product that has been defined and resides in the batching database. This eliminated extruder setup errors involving the dry mix product to be run. Finally, two additional extruder units were added to the core BCI AUTOPILOT configuration, allowing control of all three units from a single operator interface.

"It's running fantastic!" adds Jeff Lang, vice president of DAD'S. "We've broken three production records in a row. We've seen over a 40 percent increase in throughput on average, and we've seen changeover times drop by over 65 percent."

Jeff Lang says the company also has seen enormous improvement in product quality related to shape, color and consistency. In addition, the amount of waste material was significantly reduced.

*Note: DAD'S Pet Care's dry dog and dry cat food products do not contain wheat gluten and are not affected by the pet food recall.* □

**Bachelor Controls, Inc.**

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