
Sweet Success for Cargill and NovaTech

Success Story



Cargill's cocoa and chocolate business offers the food industry a wide range of both standard and customised cocoa and chocolate ingredients for use in delicious bakery, confectionery and dairy applications all over the world. The company's product range includes high quality Gerkens® cocoa powders, chocolate, coatings, fillings, cocoa liquors and cocoa butters. With years of experience in technical food expertise Cargill supports its customers in new recipes and new product development.



Cargill utilizes D/3® and FlexBatch at their chocolate plant in Pennsylvania

OVERVIEW

NovaTech's D/3® Distributed Control System and FlexBatch® (ISA-S88) batch management products were chosen by Cargill for their chocolate processing facility in Hazleton, Pennsylvania.

The Hazleton facility is one of Cargill's newest and most technically advanced cocoa processing plants. This state-of-the-art facility is approximately 225,000 square-feet, sits on 40 acres, and produces over 120 millions pounds of product annually.

Products made at the Hazleton plant include chocolates, cocoa liquor, cocoa butter, and cocoa powder.

BUSINESS CHALLENGES

- Quickly develop, scale-up, and produce new products
- Adjust and adapt products to new customers' demands
- Provide maximum product flexibility with no programming modifications
- Easily schedule and change production to meet customers' needs
- Utilize plant equipment efficiently, automatically allocate as required
- Maximize plant resource and raw material usage
- Ensure consistency and quality
- Maximize profitability

SOLUTION

The D/3® DCS performs all process control and is connected to physical plant equipment through its native 8000 Series I/O interface. The D/3 houses all phase logic for unit operations within the plant and is used to produce and display graphical representations of the physical plant equipment.

FlexBatch® manages batch execution and features a graphical interface to create and modify S88 compliant master recipes. These master recipes specify ingredients, quantities, procedure, sequence, and equipment to be used to produce each product. Recipe developers can easily create new recipes or modify existing recipes with the drag and drop interface.

NovaTech and Cargill engineers collaborated on the design of the automation schema and constructed small, modular programs to accomplish the basic phase logic for each unit operation. This made programming less complex, easier to understand, and easy to maintain. The end result is a highly flexible facility, easily able to produce thousands of unique and specialized products using the same basic raw materials with no programming required to make most changes.

Recipes and production schedules are routinely created and maintained by production staff, not programmers. By shifting the power from programmers to the production staff, FlexBatch provides Cargill the ability to easily create, modify, and experiment with recipe changes. Users can easily change batch quantities, ingredient quantities, procedure, order of operation, and designated equipment for a particular product type. This makes for satisfied customers and improves Cargill's ability to compete in this highly competitive market space.

Once approved, recipes can be scheduled for execution on the FlexBatch production display. The FlexBatch production display facilitates on the fly changes to campaigns, and batches allowing Cargill to match production with the ever changing needs of customers. With a few clicks, production staff can add or remove batches, adjust the scheduling of batches, or start and stop new campaigns. Operators can also quickly determine if there is a problem with a batch. If a problem exists, the operator simply clicks on the batch, and drills down to the specific unit operation on the right side of the screen to diagnose the problem.

The combination of D/3, FlexBatch, Cargill, and NovaTech engineering delivers the flexibility, dependability, and ease-of-use required to ensure efficient plant operation, and exceptional product consistency and quality.

KEY BENEFITS

Quickly create new products

- Easily adapt to customer demands
- Empower production staff
- Change existing products easily
- Experiment with new recipes
- Unlimited product variations

Flexible production

- Create and execute campaigns
- Pre-schedule batches/campaigns
- Simultaneous batch execution
- Continual batch execution
- Automatic batch sequencing
- Selection of equipment at run-time

No programming to modify

- Ingredient type
- Ingredient quantity
- Procedure
- Equipment allocation
- Production schedule
- Campaign size/characteristics
- Batch size/characteristics

About NovaTech

NovaTech is a U.S.-based supplier of automation and engineering solutions for the electric utility and process manufacturing industries. Our products and services are used by hundreds of utilities and numerous Fortune 100 process manufacturers worldwide to simplify complex technical challenges, reduce operational risk, and deliver the highest long-term value.

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