



FlexBatch®



D/3® DCS



### Benefits Realized

- **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 & execute campaigns
  - Pre-schedule batches/campaigns
  - Simultaneous batch execution
  - Continual batch execution
  - Automatic batch sequencing
  - Selection of equipment at run time
  - Automatic Equipment
    - > Allocation
    - > De-Allocation
  
- **No programming to modify:**
  - Ingredient type
  - Ingredient quantity
  - Procedure
  - Equipment allocation
  - Production schedule
  - Campaign size/characteristics
  - Batch size/characteristics

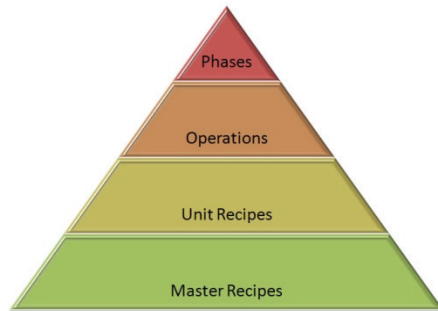
## Another Sweet Success for NovaTech

D/3 & FlexBatch chosen for new chocolate plant.

### OVERVIEW

NovaTech's D/3® Distributed Control System and its FlexBatch® (ISA-88) Batch Management product were selected by a major chocolate manufacturer for their newly constructed chocolate processing facility. The facility is the company's newest and most technically advanced cocoa processing plant.

Products made at this plant include chocolates, cocoa liquor, cocoa butter and cocoa powder. Their customers include chocolate manufacturers and food processors in the confectionery, bakery, dairy and beverage industries. As one of the world's largest cocoa and chocolate manufacturers, they grind a large percentage of the world's cocoa crop and have cocoa processing plants in North and South America, Europe, Asia and Africa.



ISA-88 Batch Management and Control Structure

As suppliers to some of the most demanding and sophisticated customers, this facility produces cocoa based products with unmatched quality and consistency with respect to flavor, color, texture, and purity. In order to meet customer demands and deliver on corporate profitability objectives, the plant must be nimble and must produce numerous product families with thousands of potential variations. The plant adopted and makes heavy use of the ISA-88 batch management model to

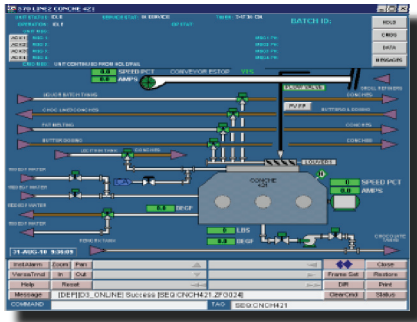
ensure maximum product and batch management flexibility. The S88 model ensures that the plant will be able to quickly change from product to product, maximize plant resource usage, dynamically allocate equipment, and make efficient use of raw materials. To ensure traceability and facilitate strict quality assurance objectives, product and batch data is tracked and archived in a secure database. Furthermore, the plant adheres to the demanding standards of the FDA, EPA and other state and local regulatory agencies.

### BUSINESS CHALLENGES

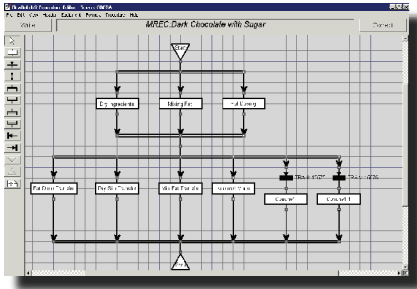
- Quickly develop, scale-up and produce new products
- Adjust and adapt products to new (customer) demands
- Provide maximum product flexibility with no programming modifications
- Easily schedule and change production to meet customers' needs
- Utilize plant equipment efficiently
- Maximize plant resources
- Ensure consistency and quality
- Maximize profitability

## NOVATECH SOLUTION

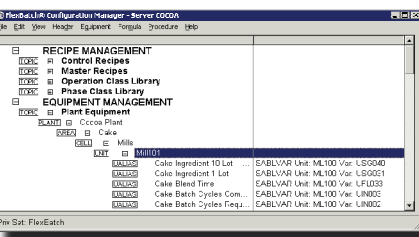
The D/3® DCS performs all process control and is connected to physical plant equipment through its native 8000 Series I/O interface. The D/3 houses all phase logic for unit operations within the plant and is used to produce and display graphical representations of the physical plant equipment.



FlexBatch® manages batch execution and features a graphical interface to create and modify ISA-88 recipes. These recipes specify ingredients, quantities, procedure, sequence, and equipment to be used

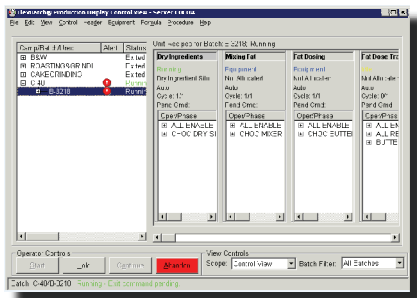


to produce each product. Recipe developers can easily create new recipes or modify existing recipes with the drag and drop interface. No programming is required to create and modify recipes.



Recipes and production schedules are routinely created and maintained by production staff, not programmers. The shift of control to the production staff

allows management to react quickly to new opportunities, change products easily, and develop new products efficiently. This makes for satisfied customers and improves the chocolatier's ability to compete in this highly competitive market space.



Once approved, recipes can be scheduled for execution on the FlexBatch production display. Multiple batches can be organized into campaigns. Campaigns or single batches can be executed automatically or manually when designated equipment becomes available. Operators can quickly determine if there is a problem with any 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.

## BUSINESS CHALLENGES SOLVED

### Quickly develop, scale-up and produce new products:

By shifting the power from programmers to the production staff, FlexBatch® provides the ability to easily create, modify, and experiment with recipe changes. Users can easily change batch quantities, ingredient quantities, procedure, order of operation, and designate equipment for a particular product type.

### Adjust and adapt products to new (customer) demands:

Many times, customers want a slight variation on an existing product or they may want to adjust quantities of particular products in the mix. FlexBatch provides a straightforward method to manage batch execution, scheduling, product mix, and batch quantities. With a few clicks, production staff can add or remove batches, adjust the scheduling of batches or start and stop new campaigns.

### Provide maximum product flexibility with no programming modifications:

NovaTech and plant 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.

### Easily schedule and change production to meet customers' needs.

The FlexBatch production display facilitates on the fly changes to campaigns, and batches allowing management to match production with the ever changing needs of customers.

**Utilize plant equipment efficiently:** FlexBatch allows the user to select equipment required for a particular product type at recipe design time. At run time, a user may designate what equipment is in service. FlexBatch automatically selects, allocates, and de-allocates equipment to batches as it becomes available.

**Plant efficiency, consistency, profitability:** As you can see, the combination of D/3, FlexBatch, and NovaTech engineering delivered the flexibility, dependability and ease-of-use required to ensure efficient plant operation, and exceptional product consistency and quality. These features will ultimately lead to maximum profitability.

For more information on how NovaTech helped deliver another sweet success, call us at 800.253.3842 or visit us on the web at [www.novatechweb.com](http://www.novatechweb.com).

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.