



PowerUp

Taking manufacturing planning to the next level

General Nutrition Centers Inc. (GNC) is dedicated to helping consumers live well. With more than 4,800 retail locations throughout the United States—and franchise operations in 46 international markets—GNC is one of the world's largest manufacturers, distributors, and retailers of nutritional, sports, diet, and energy products, boasting sales in excess of \$1 billion.

Satisfying this large number of customers with the broad portfolio of GNC products is the responsibility of Nutra Manufacturing, the manufacturing division of GNC. Production of softgel, tablet, and hardshell bulk products takes place in Greenville, South Carolina, in a plant with a capacity of 13 billion units per year. The bulk products are shipped to a 300,000-square-foot facility in Anderson, South Carolina, where materials are packaged into a variety of different cartons, blister packs, and bottles.

Production challenges

Nutra Manufacturing's end-to-end production process is complex, typically comprising seven or eight primary manufacturing operations per product. Each operation may be



A Nutra Manufacturing employee looks for air bubbles during softgel preparation.

associated with alternative processes on which materials can be routed—such as packaging—where there are an astounding 17,000 stockkeeping units and package-routing combinations. While managing this complexity and scale, Nutra Manufacturing offers 1,000 bulk formulations and 2,300 end items, making production planning a significant challenge.

The dynamic nature of the dietary supplement market does not make planning any easier. Many of the items within the Nutra Manufacturing

product portfolio have short life cycles, with frequent product introductions and associated formula and labeling changes. Shifting demographics, health care trends, and evolving lifestyles also have increased demand for additional complex dietary supplements. These factors have forced Nutra Manufacturing professionals to become more agile and responsive.

New technology

Given the increased demands on the business and the complicated production processes, Nutra Manufacturing was outgrowing its existing planning technology. Microsoft Excel-based weekly load reports afforded limited representation of constraints and no graphical analysis or synchronized planning. As a result, Nutra Manufacturing leaders found that production plans were not always executable. They also discovered bottlenecks during shop floor scheduling. A lack of constraint visibility led to capacity investments and plans that weren't optimized. Profitability also was affected because the plant was often undersold or oversold, causing lost capacity and poor customer service levels.

GNC senior managers challenged the Nutra Manufacturing planning team and information technology professionals to improve manufacturing planning. There were five key project objectives:

- Provide more rapid and timely simulation capabilities so that the impact of new business initiatives, promotional activities, and changes in market conditions can be assessed.
- Identify and manage all constraints associated with production processes.
- Create plans that lead to optimized, synchronized schedules across bulk and packaging operations.
- Improve inventory turns by coordinating material receipts with planned production.
- Augment customer service levels.

A planning solution

Larry Morgan, Nutra Manufacturing senior director of operations planning, and Dan Mraz, Nutra Manufacturing director of information services, spearheaded the project. Their team members evaluated a range of solutions, eventually choosing Voyager Manufacturing Planning from Logility.

“We selected Logility Voyager Solutions for manufacturing planning because it was an affordable solution with an intuitive user interface,” Morgan says. “The data presentation facilitates quick comprehension, analysis, decision making, and action.”

The introduction of Voyager Manufacturing Planning has led Nutra Manufacturing to a comprehensive shift in production operations planning. Constrained plans now are created weekly, and capacity planning reviews are conducted biweekly. There is a consistent integrated approach across softgel, tablet, and hardshell packaging areas. All operations are considered as constraints automatically, providing greater confidence that plans can become executable schedules.

Voyager Manufacturing Planning’s reporting and simulation capabilities also have provided Nutra

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Manufacturing with advanced analysis tools and capabilities for the planning team to review, such as

- backlog levels
- trends in demand and associated weekly production goals
- performance of the production plan against the budget
- capacity available to sell to third-party customers
- optimal shift structure changes to align with production requirements
- time-phased introductions of new machines to accommodate required production.

Improved production planning

A major benefit of the implementation of Voyager Manufacturing Planning at Nutra Manufacturing has been its integration with the firm’s MAPICS enterprise resources planning (ERP) system. Planning data are updated in Voyager automatically from MAPICS, after which the final production plan is published back to MAPICS for execution.

“This integrated approach leverages and unlocks existing ERP data for strategic business decisions that continue to lead to profitability,” Mraz says. “The systems integration between Logility’s Voyager Manufacturing Planning and our ERP assures sound and timely business planning to meet ever-changing customer demands.”

Plus, the improved synchronization between production planning and execution has improved workflows

and perpetuated information-sharing across disparate departments, such as production, procurement, and sales.

At the same time, the benefits associated with improving the production planning process have been significant. “In a short period of time, Logility Voyager Manufacturing Planning has contributed to service-level improvements and an inventory reduction of 13 percent, equivalent to 16 percent improvement in inventory turns and millions in savings,” Morgan says.

The greater accuracy also creates benefits in purchasing. For example, Nutra Manufacturing soon will start collaborating with critical suppliers by sharing production forecasts. Suppliers of several key, high-value raw materials already have committed to significantly shorter lead times, which should bring about further inventory and cycle-time reductions.

One unexpected benefit is the accurate forecast of available capacity for the sales team members to commit to third-party customers. This is contributing to profitability improvements, while safely avoiding the risk of overselling the plant.

Logility Voyager Manufacturing Planning gives Nutra Manufacturing managers total visibility into their end-to-end production process. The solution’s advanced algorithms enable planning team members to create production plans that effectively balance supply and demand and respect constraints for each operation.

Continuous improvement

Today, Nutra Manufacturing professionals can undertake detailed analysis and anticipate problems, instead of reacting to them.

“In our competitive marketplace, it is important to challenge our own boundaries and continuously improve,” Morgan says. “Now, Nutra is even more consistent in delivering what we promise our customers. Our manufacturing efficiencies are setting us apart from the competition, which, in turn, generates new business and improved profitability.” ❏