


 Luminate Planning

# Production Planning

Accelerate your ROI with more effective factory planning and sequencing

## Business context

The world of manufacturing has become increasingly challenging over the past several years. A competitive landscape and increasing market demands of today's digital world are pressuring manufacturing organizations to deliver products faster and with greater flexibility, while simultaneously reducing operating costs.

Faced with the competitive threat of substitute products and/or suppliers, manufacturers are driven to do whatever is necessary to execute and maximize customer service levels. On the other hand, sales and marketing organizations continue to push for increased product proliferations with more personalized features and options, as well as more aggressive pricing and promotions, causing greater volatility in demand forecasts, production changeover costs and downtime.

When capacity is finite, manufacturers must make the right decisions in terms of which products to make, when and in what quantities. However, conventional methods that address generic manufacturing challenges do not provide the level of intelligence required to stay competitive in today's more complex production environments.

But now, enterprises can gain an edge and greater benefit from their resource planning system with Blue Yonder's factory planning and sequencing capabilities. These two capabilities address the business requirements necessary to achieve profitable growth objectives and unlock the full potential of a strategically responsive, dynamic supply chain.

## The Blue Yonder Solutions

With Luminate Planning, Blue Yonder combines the world's leading forecasting technology with market-leading network design, sales and operations planning, inventory planning, master planning, replenishment planning, order promising, factory planning and collaboration capabilities, converged with a common data model and interfaces to enable integrated manufacturing planning in the cloud. All components work together with enhanced analytics and provide critical inputs to streamline workflow and enable optimum performance unlike any other available in the market.

## Real results

Reduction in change-over time up to

**40%**

Reduction in production scheduling up to

**1/3**

Improvement in order fill rate up to

**20%**

Reduction in inventory up to

**30%**

## Key features

- **Create one feasible factory plan**  
Factory Planner simultaneously balances factory throughput with order fulfillment performance, inventory & cycle times to create "One Feasible Plan"
- **See What You've Been Missing**  
Factory Planner provides better visibility into material and capacity issues at speed with in-memory planning
- **Better integration**  
Open architecture provides better integration with existing factory systems

Blue Yonder Factory Planner provides intelligent decision support for Production Planning and Scheduling. It streamlines coordination in a factory amongst key planning functions including Material Planning (manufacturing, procurement), Capacity Planning and Scheduling.

Blue Yonder Sequencing capabilities take production scheduling to the next level by simultaneously balancing customer service, cost and utilization while respecting complex manufacturing constraints and rules.

In both single and linked multi-stage production environments, Blue Yonder's factory planning and sequencing capabilities consider manufacturing resources and associated product attributes and their interdependencies at each stage in the process.

## Capability details

Blue Yonder Factory Planning provides flexible model representation, including simultaneous material and capacity planning. It enables control of product mix quantities by resource and by part assuring the ability to plan for minimum utilization of resources. It handles re-entrant material flows with ease.

The advanced algorithm in Blue Yonder's Sequencing yields a globally optimal set of capabilities for your manufacturing scheduling challenges based on user-defined scheduling objectives. These user-defined objectives, such as on-time delivery and resource utilization, can be modeled to reflect your manufacturing strategies at each location of use. In addition, the solve times are fast, generating schedules in minutes rather than hours. Schedulers can quickly generate scenarios to evaluate the impact of events and new manufacturing strategies on every aspect of your manufacturing operations.

Many companies look to cut manufacturing costs by minimizing setup and changeover times. With all the possible changeover combinations, it is difficult to generate a schedule, let alone a cost-optimal schedule, when product attribute complexity is significant. Blue Yonder's sequencing capabilities utilizes attribute-sensitive changeover models that consider both the duration and cost of each changeover. Since it considers more than just the item, changeover models can be based at the item level and the item-attribute level.

In addition to minimizing setup and changeover times, Blue Yonder Factory Planning and Sequencing capabilities consider manufacturing cycle time reduction to minimize work-in-progress inventories and increase throughput. Developed specifically for sequence determination, the realistic models simulate operations for a variety of processes and discrete manufacturing work centers and departments with these specific characteristics. These models support reusable and auxiliary resources, resource groups, user-defined units of measure, detailed bills of materials, production rate models and production method models.

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## Key benefits

- Better order fulfillment through better visibility into material and capacity issues sooner and better integration with MES systems
- Reduced inventory through automated coordination of assembly processes and more effective sequential planning of material and capacity
- Reduced operating cost through ability to factor in complex constraints, faster response to changing demand & supply conditions

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