

## JDA Sequencing



### Challenge: Optimizing Production Operations

The world of manufacturing has become increasingly challenging over the past several years. Competitive landscape and market demands pressure manufacturing organizations to deliver products faster and with greater flexibility, while simultaneously reducing operating costs.

Customers continue to require product delivery in immediate time frames. 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 aggressive promotions and pricing, causing increased volatility in demand forecasts as well as production changeover costs and downtimes.

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.

### Solution: JDA Sequencing

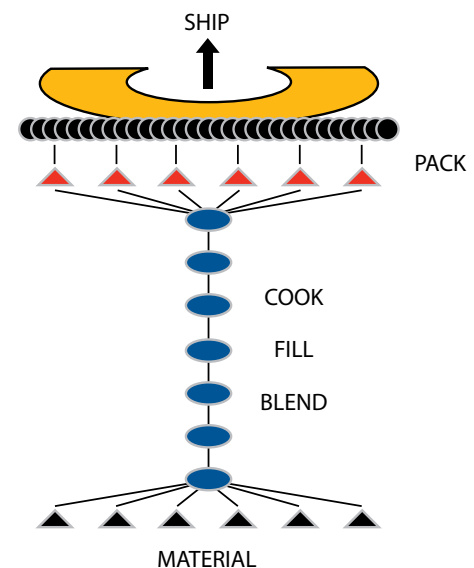
JDA® Sequencing, powered by Manugistics® takes production scheduling to the next level by simultaneously balancing customer service, cost and utilization while respecting complex manufacturing constraints and rules. In both single and linked multi-stage production environments, JDA Sequencing considers manufacturing resources and associated product attributes and their interdependencies at each stage in the process.

Its advanced algorithm produces a globally optimal solution for the manufacturing problem based on user-defined scheduling objectives. These user-defined objectives, such as on-time delivery and resource utilization, can be modeled in Sequencing to reflect the manufacturing strategies at each location of use. In addition, its 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 manufacturing operations.

### Key Sequencing Capabilities:

- Finite schedule optimization solution designed to solve non-linear problems
- Balances manufacturing objectives, material usage and customer service objectives based on user-driven optimization
- Generates a detailed line schedule – down to the hour or minute if desired
- Models attribute-based rates and changeovers
- Models intermediate storage resources to schedule tanks or vessels
- Provides detailed view of resource assignments and enables manual assignment editing through user-friendly and intuitive schedule board

### JDA Sequencing Enables Continuous Flow Production and Waste Reduction



You will also gain greater benefit from your enterprise resource planning (ERP) system since Sequencing addresses the business requirements necessary to achieve profitable growth objectives and unlock the full potential of a strategically responsive, dynamic supply chain.

### Continuous Flow Production, Reduced Waste

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. JDA Sequencing utilizes attribute-sensitive changeover models that consider both the duration and cost of each changeover. Since Sequencing 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, Sequencing considers manufacturing cycle time reduction to minimize work-in-progress (WIP) inventories and increase throughput. Developed specifically for sequence determination, Sequencing's realistic models simulate operations for a variety of process 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 material (BOMs), production rate models and production method models. Sequencing is integrated with JDA® Master Planning and JDA® Fulfillment, both powered by Manugistics®, providing you with the opportunities to optimize your plan and schedule while increasing your productivity.

### Maximize Resource, Department or Plant Throughput While Improving Customer Service by:

- Optimizing plant operations based on user-defined objectives
- Simultaneously considering both material and resource constraints
- Smoothing production across multiple production resources
- Robust modeling of complex production environments

### About JDA Software Group, Inc.

JDA® Software Group, Inc. (NASDAQ:JDAS) is focused on helping companies realize real supply chain and revenue management results – fast. JDA Software delivers integrated merchandising as well as supply chain and revenue management planning, execution, and optimization solutions for the consumer-driven supply chain and services industries. Through its industry leading solutions, leading manufacturers, distributors, retailers and services companies around the world are growing their businesses with greater predictability and more profitably.

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