



## Reclaimed Wood Manufacturer Improves Sales by 10% with Advanced Planning and Scheduling

Kansas City, Missouri-based company manufactures and markets the highest-quality reclaimed wood products that adhere to standards embracing the company's deep respect for the environment. Every product created by this 20-year-old firm, including wide plank flooring, countertops, beams, and cabinet lumber is manufactured using wood salvaged from sustainable sources.

### Results

- Increased first year top-line revenue by 10%
- Increased production output without increasing headcount
- Improved on-time delivery

### Prioritizing on-time delivery and efficient resource utilization

The company is committed to efficient manufacturing of its custom products and assuring on-time delivery to customers. With this priority, the company began its digitalization journey by searching for tools that would complement the existing enterprise resource planning (ERP) system, and improve production planning to synchronize demand and supply.

The company began looking for a scalable and flexible capacity planning and scheduling package that would integrate with the existing ERP system and the homegrown shop floor data collection system. The answer was an advanced planning and scheduling solution, which helps manufacturers improve the synchronization of manufacturing processes, provide greater visibility and control to increase utilization and on-time delivery, and reduce inventory levels and waste.

## Business challenges

- **Customer service:** Improve on-time delivery to enhance customer experience
- **Efficiency:** Eliminate manual scheduling and firefighting due to short-term visibility
- **Processes:** Overcome scheduling limitations of existing ERP system

## Keys to success

- Implement tight integration between production planning and scheduling solution and ERP systems
- Account for shop floor constraints like material, yield, and changeovers using infinite capacity schedule (FCS)
- Use production planning and scheduling solution to provide visibility and flexibility for rescheduling throughout the manufacturing process
- Improve responsiveness to customer demand changes



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President, Building Materials Manufacturer

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## Business model first in all things

Out of respect for cultural heritage and architectural history, only structures that are condemned, abandoned, or beyond repair are deconstructed for reclaimed wood. All products are certified by the Forest Stewardship Council's Recycled accreditation. The recognition adds validity to an already green, environmentally conscious team.

In addition to leveraging specialized skills required to identify high-quality wood, the company had to consider the complexities of accurate scheduling of its manufacturing operations.

"The ability to constrain materials to production in the production planning and scheduling solution enabled us to know in advance what materials from our warehouses have to be planned for production," remarks the company's president. "But more importantly, we are able to re-plan our material in case of any dynamic changes."

The entire manufacturing process sequence depends on allocation of green lumber with large variations in sizes and customer requirements. The company used the advanced pegging features to link the green lumber output to further cutting processes, laying the foundation of a sound planning and scheduling process.

To arrive at accurate schedules, the production planning and scheduling solution enabled production teams to consider labor, material, and capacity constraints. "The production planning and scheduling solution exceeded expectations and became the key software that helped us expand our capacity and automation," remarks the vice president of production. "The production planning and scheduling solution moves the manufacturing shop floor."

## Tightly coupled integration

The implementation of the advanced planning and scheduling solution included the entire manufacturing process and two-way integration with the ERP software, a critical requirement.

Currently, the ERP system is used to manage bills of materials (BOMs), routings, planned and production order generation, and to send the necessary data to the production planning and scheduling solution. The use of advanced production planning and scheduling provides detailed, real-time visibility and order traceability throughout the manufacturing process, feeding information back to the ERP system upon completion. The company sends detailed serial information to its customers. "We have configured the production planning and scheduling solution to take our specific constraints and challenges when we are going to communicate with ERP," says the company's vice president of production.

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## Benefit beyond expectations

With advanced production planning and scheduling, the company integrated key business decision support systems for managing operations.

All manufacturing is custom in nature. The company uses the solution to help decide what to manufacture because the cutting of reclaimed wood requires consideration of specific data for accurate scheduling. The wood products company uses this data to help make predictive decisions and identify problems before they occur.

The production planning and scheduling solution is integral to successful business processes and is a key enabler of its continued growth.

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The wood products company has realized the benefits in many business areas. In manufacturing operations, the use of the production planning and scheduling solution has provided real-time visibility into work-in-process (WIP), machine and operations loading plans for all areas of manufacturing, identification of operational bottlenecks, and the ability to use calendars and set manpower and machine constraints.

For production planning and scheduling, the company can now balance key performance indicators for sales and production using what-if scenarios; develop a single unified plan for better coordination of sales, production, and purchasing; and predict problems instead of reacting to them.

The use of the production planning and scheduling solution has also helped enhance general business management with better visibility of customer delivery and sales, improved material planning, and reductions in work-in-progress inventory.

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