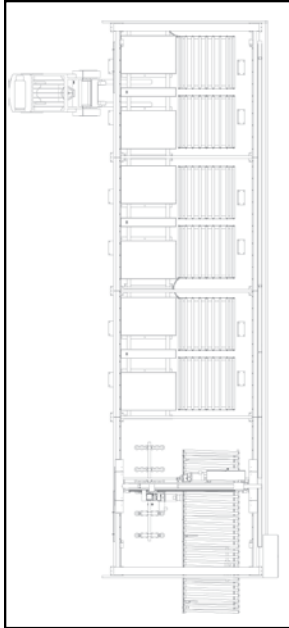


# Northway's new inventory control system spurs lean improvement

*Parts picking, stacking and tracking plan streamlines two major production lines at the Pennsylvania custom component, laminate panel and finished goods producer.*



*An overhead footprint of the eight-bay gantry at Northway Industries points to the complexities of mixing a wide range of materials, colors and sizes that must be coordinated in a seamless manner.*

As a major manufacturer of laminated furniture and cabinet components and finished goods, Northway Industries has continually sought to find ways to track the myriad of parts that are produced in its work cells. Now, thanks to a new inventory control system, the company's lean program has become leaner.

A few months ago, Northway was looking for a solution to create a single panel flow through its laminating line, while also seeking to create pre-sorted bunks of material processed through its fabrication department where orders are released using a complex software-guided system.

Boiled down, the Middleburg, PA-based company needed an inventory system that would be integrated into its office-based software platform so that it could pull inventory rather than push parts through the manufacturing scheme. The ultimate goal was to eliminate over-production and improve efficiencies, according to Don O'Hora, who oversees the manufacturing footprint and flow at Northway.

A machinery supplier recommended that Northway partner with Dakota Automation to come up with a plan and help implement such a program. Dakota Automation, headquartered in Watertown, SD, specializes in providing engineered solutions for manufacturers in the woodworking industry. Areas of focus for Dakota include panel processing and solid wood production for custom fabrication and assembly, primarily by providing material handling and inventory control solutions.

According to O'Hora, the former system at Northway involved manual material handling, operator sorting and multiple points of inventory control. "We began with a warehouse simulation using a Production Preparation Process facilitated through the Industrial Modernization Center of Pennsylvania," says O'Hora.

"This simulation included a scale model of our warehouse and 30 staff and production personnel. We measured key metrics of the current and future processes. The future state simulation included material handling equipment from Dakota Automation."

## Specialized Software

Each system that Dakota Automation builds is mechanically designed and engineered to fit an individual customer's production system. According to Jason Wobbema, outside sales manager for Dakota, Northway engineers and manufacturing specialists provided considerable input for the overall Northway's project.

"Northway created some of its own software to convert the information from three software programs that the company uses today," Wobbema explains. "From our standpoint, we can say that the PC control is an open platform that maps information to the controller through a CSV file or directly into SQL."



*Shown is an overhead view of the material sorting system at Northway Industries that incorporates special vacuum cups for moving panels.*

Part of the installation involved a special vacuum lift system for on-loading and off-loading parts in the two lines. "The vacuum system for the two inventory systems is the same. They utilize a decentralized pneumatic venture vacuum operation with standard vacuum cups. The pick head has multiple pneumatic cylinders used as material piece separators," Wobbema explains.

"The systems will host production release information created by the customer's ERP. The open platform of the software allows for inventory levels and sequential reports to be updated within the inventory system and can be displayed on a server for office personnel," he adds.

## Broad Ranging Benefits

- Single point of inventory control and real-time relieving of inventory;
- Right-size kitting of materials for production; 24-hour throughput, where press panels are converted to finished product within 24 hours;
- Increased cell production via organized kits;
- Greater control via visual production ques;
- Wireless communications between the machines and the material handlers, where the machines call materials needed and indicate locations;
- Reduced forklift travel and material handling expense.

## Material Sorting Process

And how do the operators, using the software, determine presorted stock in colors and HPL type without actually visualizing the material?

"The question will vary from customer to customer, based on the capability of the software to create the bill-of-materials. Our system doesn't create the pick order. That is either done with automated software or manually. Our system only accepts the list in order and pick to that," Wobbema says.

O'Hora says Northway benefited in a number of ways once the project was up and running. "We worked very well with Dakota," says O'Hora. "They were extremely professional and worked very well with our staff. And we appreciated their service and attention to detail."

And the ultimate benefit? "The most obvious benefit that we can measure is the improved inventory accuracy," O'Hora says, adding that the learning curve involved internal process changes related to order entry, material management and accounting.

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