

# the lean payoff

Minnesota architectural woodworking company doubles its sales with lean conversion and addition of CNC router

By Jeff Crissey

**IN THE FIRST HALF OF 2005**, Interscapes has already turned away \$350,000 of business because it is too busy with the work it has. Despite this, the Minneapolis, Minn.-based architectural woodworking company is poised for a banner year and directly attributes its recent success to a decision to convert to lean manufacturing.

Two years ago, Interscapes used a traditional large batch manufacturing method to design and manufacture cabinets, reception desks, countertops and store fixtures in the medical, work office, hospitality and retail markets.

“When I first looked into lean manufacturing, I asked myself, ‘How could we possibly be more efficient than we are now?’” recalls Ron Lyrek, president and owner. “In April 2003, my business partner and I attended a lean training seminar in St. Paul. It convinced us we should make the switch. We then took all the shop employees, which was about 20 at the time, and went through the training session again. It was important for them all to see how it can work and to get everyone on board with the plan.”

In July 2003, Interscapes shut down its plant for five days in order to reorganize the shop and re-flow the production machinery into a more efficient



Interscapes president and owner Ron Lyrek credits the new Busellato Jet 4 CNC router and a switch to lean manufacturing for much of the company's rapid growth.

operation. As a result, the company reduced its manufacturing floor space from 12,000 sq. ft. to 7,000 sq. ft.

“I can't say enough about our employees during that conversion process,” says Lyrek. “They took ownership of the process and did the whole plant layout and moved the machines where they wanted them. Now, the beam saw, point-to-point machine and the edgebander are within 20 feet of each other with two carts moving parts through the work cell.” The company

doesn't make any products until it can be shipped. It only maintains roughly enough storage space to fill two trailers.

Interscapes' sales increased by 25 percent in 2004 to \$2.5 million, and the company is on pace to reach \$5 million in sales in 2005.

“When we laid out our goals to double our sales from \$2 million to \$4 million in two years, I thought it was a pipe dream to be honest. Instead, we're on track to do even better,” says Lyrek.

## Router strengthens production

A year after converting to lean manufacturing, Interscapes' business began to take off, prompting management to once again focus on the manufacturing process to see how it could again increase production. Lyrek investigated the option of nested-based manufacturing on a CNC router.

"The closer I looked, the more I realized I could machine a pattern on a router in about five to 10 minutes," says Lyrek. "At the time our parts were spending 15 minutes on a beam saw and another 10 to 15 minutes on a point-to-point machining center. Once I saw that, the decision to incorporate nested-based manufacturing was a no-brainer."

Interscapes took out a loan for \$270,000 and purchased a Busellato Jet 4 CNC router and OMAL horizontal bore, glue and dowel insertion machine from Delmac Machinery Group. In addition, it overhauled its design and manufacturing software with a software suite from Microvellum.

"The old software we had wasn't as good at nesting, so we got the latest and greatest software we could," says Lyrek about his Microvellum purchase. "We bought a router with a 5' by 12' table because we didn't want to be limited in our capacities in the custom area."

## A look at production

The company's conversion to lean manufacturing has enabled it to thrive in the tenant improvement market with short lead times.

"Businesses are constantly moving when their leases expire to find better locations," says Lyrek. "The problem is they don't give themselves enough lead time before they move. That means we have to handle short lead times on our end, and we experience the time crunch in production. Most of the work we do has about a three- to five-week lead time from job approval to installation."



To speed production, Interscapes moved the horizontal boring functions from the point-to-point machining center to its new OMAL horizontal bore, glue and dowel insertion machine.



Interscapes purchased the largest Brandt edgebander it could find at the time, the KDN-980 2C Optimat, to handle the edgebanding requirements of two production lines.

“When we get the blueprints, our first question to the contractor is ‘When can we install?’ If they don’t have an answer, we determine the tenant’s move-in date and back up a couple weeks from there. At that point, the project goes to our engineering department to get it in the correct queue priority based on installation time and the size of the job.”

Lyrek says the biggest advantage of the Microvellum software is it produces a parts list as well as a nested-based cut list, which allows the engineering team to choose one of two production routes with the flip of a switch.

“We can flow our manufacturing from the router to the edgebander and horizontal boring machine, or we can switch and go from the beam saw and point-to-point machine to the edgebander and horizontal boring

machine,” says Lyrek. “The nested-based operation became our main line, and the existing beam saw and point-to-point machine is now our second line. Getting one software program to interface with five different machines is amazing. That is what has enabled us to grow our business from \$2.5 million to a projected \$5 million in one year.”

Interscapes purchased the largest Brandt edgebander it could find at the time, the KDN-980 2C Optimat, to handle the requirements of both lines. To further increase production, the company removed the horizontal boring functions from the point-to-point machine and uses the dedicated OMAL boring machine for those operations.

## The face of the company

While most woodworking companies

focus solely on production and out-source installation, Interscapes uses a different philosophy to maintain its reputation for quality and meeting customer expectations. The company currently installs about 80 percent of its work using five employees.

“Our installers are the face of our company,” says Lyrek. “They are who the project managers and owners see. Our goal is to not have any rework at the end of a job. Our installers catch little things that we may have missed during production. In the end, it’s the installer’s responsibility to get the place looking its best. They can make it or break it for us.”

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*Reader Service #s: Delmac Machinery Group 353; Microvellum 354; and Stiles Machinery 355.*