

# Case Study

## SOLUTIONS IN PRACTICE

### Making good even better

Even the snag of a recession couldn't derail the benefits lean and agile manufacturing brought this year to a Canadian door and window maker.

Sales at Vancouver, British Columbia-based Vinyltek had doubled over three years, with an increase of 25 percent to 30 percent in the spring and summer of 2008. With mounting production pressure on its facility and staff, the company leased a nearby building and went from one shift to two in spring 2008.

"We did a lot of things probably the opposite of what we should have done," said Bob Lawrence, president of Vinyltek.

The moves didn't work. Problems grew.

"We had thousands of frames on the floor," the eight-year Vinyltek veteran said. "Lots of time was spent trying to find the product we were working on next; lots of time was spent walking around the product on the floor."

The company missed deadlines, and quality control slipped. It had huge amounts of work in process bottlenecking the plant, and it couldn't reliably predict when it would complete orders.

"Our management by instinct worked when we were a smaller company, but it had really stopped working as we grew," Lawrence said. "I could see that there was no way that we could handle more growth."

Lawrence, who has been Vinyltek president for two years, figured the company could use some outside help.

#### Enter the guru

Two decades ago, when Lawrence and



Eli Konorti worked for Ernst & Young, Konorti was known as a "productivity guru." So Lawrence called Konorti, now of AMS Consulting, in July 2008.

Konorti reviewed the company, its production processes, warehousing, customer service, financial position, marketing, sales, everything. He found a business on solid financial footing and customers happy with the product. Still, Vinyltek had plenty of opportunities to improve, from productivity, quality, training people and customer service, Konorti said. He thought the company eventually could meet his definition of a world class operation: the lowest cost producer of the highest quality possible with the least amount of service.

But that required lean and agile manufacturing, and management needed to be on board to communicate the new order to the employees. At first, it was hard for many not to take the push for change as criticism. After all, the plant's management team had reacted to growth by adding people and space, not by improving processes.

"We were able to convince them that they had the industry expertise to improve our productivity, but that they

Window assembly A-frames lead from the corner cleaner at Vinyltek in Vancouver, British Columbia. Aisles where products may not be stored are clearly marked on the floor.

needed the techniques and approach that Eli would bring them," Lawrence said. "We could not have been successful without their commitment, experience and skills."

Konorti concurred.

"This management was really gung ho," Konorti said. "They were never afraid to fail. They spent lots of time communicating with every level, including shop floor people."

But Vinyltek employees wanted to hear, and act on, the new message.

"We have a fairly unusual situation in our industry in that our plant staff (has) an average tenure with the company of about 12 years, which is very long for our industry," Lawrence said. "We have five or six who have been here more than 20 years. They're emotionally invested in our success."

Vinyltek started with them, convincing them that to grow and be successful, the company couldn't do things the same. Lean wasn't a way to cut staff, but a plan



Vinyltek's revamped floor plan puts the machine center, with saw, punches, welder and corner cleaner, in close proximity to reduce wasted product movement.

for Vinyltek to handle more business.

It worked. The employees, including workers on the line, bought into lean manufacturing, which helped the company face the recent recession.

Despite improvements by the spring, the sales slump forced Vinyltek to release some workers. Most had been recently hired, but implementing change during a period of layoffs would have been tougher. In addition, the downturn sliced door and window prices. The early productivity gains from lean helped Vinyltek compete.

"Had we been six months behind on our implementation, we would have had a very scary first two quarters of 2009—dropping prices and an unproductive plant," Lawrence said.

### Breeding out inefficiency

Before implementing lean in January 2009, a lot of preparation had to be done. Konorti worked in marketing and sales and did a customer satisfaction survey and a lot of cross-training.

The company conducted inventory for both raw materials and finished products. It measured productivity levels, quality, how it used space, takt time, manpower, capacity and non-value-added work.

With measurables in hand, the company could figure out where to streamline. The second building was closed to production, and the company could vacate the 15,000 square feet in a month.

"Had we started this process a year earlier, we never would have leased it," Lawrence said.

That consolidation helped improve the travel distance of the product by 46 percent. Vinyltek started a kanban system "where batches are smaller, more streamlined and flowing more smoothly through the plant," Konorti said. Now, three days before a customer needs an order, Vinyltek calls and confirms.

That means raw materials aren't piled around waiting to be manufactured into windows and doors. Windows and doors aren't waiting to be shipped. Customers get their products on time.

With lean manufacturing, hours per window have gone down 35 percent to 40 percent. Inventory kept on hand is down 65 percent. By June, the company had

achieved its goal of a 30 percent increase in productivity.

So Vinyltek set new goals to smash. It aimed for a 40 percent improvement by the end of December and met that target in September. Its new goal for the end of 2009: a 50 percent improvement in productivity.

"That represents millions of dollars just in labor cost savings to the company," Konorti said.

These improvements, and others, will show up in the employees' bottom line. A company that produces more with less while maintaining quality and safety makes more money, Konorti said.

"If you build windows in 25, 30 or 35 percent less time, it's pretty easy to figure out how much money that's saved," he said. "And we're going to put that in a pool and share that with the guys on the floor. They're going to see this in their pocketbooks and paychecks."

Customers have noticed, and they're happy to receive better products sooner.

"We're more efficient, handle our information better," Lawrence said. "We're as busy this summer as last summer, but we're not missing deadlines. We're delivering on time now. Our quality control is better."

— Michael Hughes

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