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Making Technology Work for You

A Case Study in Successful Implementation

It is human nature to fear the unknown. Risk is uncomfortable. Still, to compete in what is now truly a global marketplace, re-thinking the way a business operates may be the difference between success and failure. Embracing new technology is an important step in competing more effectively, yet many business owners see the price tag and determine the technology itself is too big a risk. Before dismissing the high cost of such investments, consider the cost of not investing. Resting on decades-old manufacturing techniques is similar to taking a wad of money and stashing it in a mattress. After years of inflation, the purchasing power of that money will be significantly less. Not upgrading manufacturing processes will, similarly, leave a company vulnerable to competitors who can produce the same or better quality goods more efficiently. On the other hand, making an investment in unproven or unnecessary technology can also be devastating. Fortunately, there are a number of strategies that reduce the

risk of investing in new technology and improve the chances of success.

Taking the Big Risk

Watching Partee Flooring Mill hum along, plant manager Coby Burrow takes satisfaction in its vastly improved efficiency. The equipment now in place is a far cry from the machines that were the guts of the operation only a few years ago. He believes this technology could help a lot of flooring mills across the U.S.

In 1999, management at Partee found themselves with an operation that had changed little in 30 years. That began to change with purchases of new equipment, including an automated rip system that reduced both the amount of physical labor involved in the job and lost time to worker injuries. The biggest change came in September 2005, when Partee shut down the flooring plant to install what is believed to be the largest high speed grading and nesting system in the U.S.

The decision to make such a large

investment was not an easy one. "I was afraid of it when we first started looking into it," said Burrow. Small changes were one thing, but shutting down the mill for 3 weeks was a much bigger risk. For the next couple of weeks Burrow watched as old nesting stations were pulled out and the new system was installed. Testing was completed and production was back to

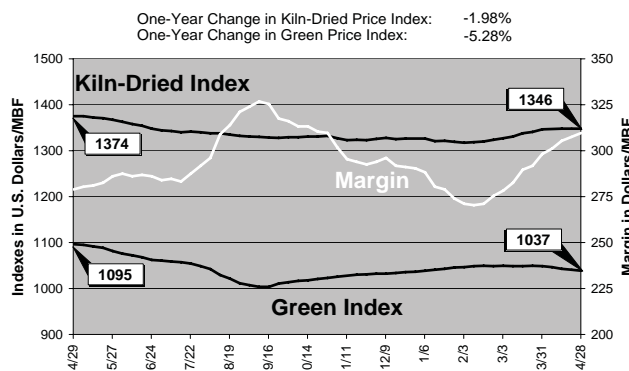
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Indexes represent the average published prices of 14 key hardwood items. The margin is the difference in dollars between the kiln-dried and green indexes, as read from the right-hand axis.

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full speed just 20 days after the plant shut down.

Big Benefits

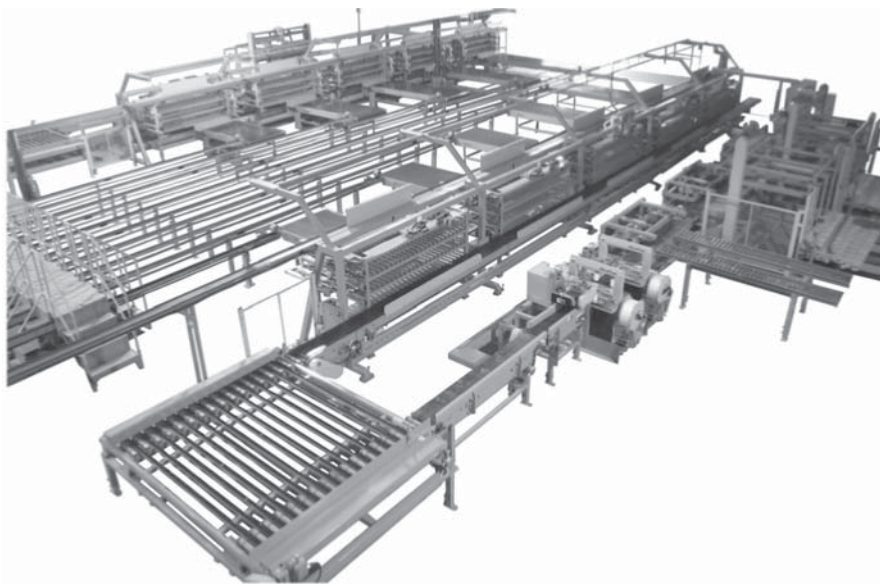
The Hasko Grading and Nesting System (GNS) automated much of the process behind the end-matcher. The grader electronically distributes boards to nesting stations so that each station works only on a specific flooring grade. Nesters build three bundles at a time. Any pieces that need reworking or re-grading are placed on a conveyor. Once a nested bundle is completed, the nester pushes a button and the system automatically removes the bundle, packages it with strapping

material about one-third as often as before. The reduced handling translates into less accidental damage during processing and, in turn, a higher quality product. Before installing the GNS, nested bundles went through a complex system in which they were strapped, moved, unstrapped, inspected and then re-strapped. Streamlining the process has allowed Partee to reduce its use of strapping material by about one-third. In today's flooring market, in which margins are tight, reducing waste makes a big difference in profitability.

Automating the process should also improve quality, according to Pugh. "We realized a long time ago that the harder a guy has to work, the

benefits for full-time employees to be \$7.87/hour at the end of 2005. On the average, reducing payroll by one employee saves \$43,763 annually. Based on that average, cutting the workforce by 13 employees, like Partee did, would result in a savings of \$568,921 each year. That's a significant start to paying off a new piece of equipment.

In addition to cost savings, technology that eliminates workers is extremely useful in situations where finding reliable employees is a challenge. Burrow said he did not have this problem, but finding reliable employees is a significant challenge throughout the industry. We have heard plenty of stories about employees who just stop showing up for work, companies forced to position workers at stations where they have little or no experience just to keep things moving and supervisors scrambling to fill in the gaps. Finding reliable workers is expected to become more problematic throughout the remainder of 2006. The unemployment rate dipped to 4.7% in March and a Manpower survey released in March showed 30% of U.S. employers expect to hire more workers in the 2nd Quarter of 2006.



Hasko Machine's Grading and Nesting System (photo courtesy Hasko Machines)

unique to that grade and puts it on a pallet with other bundles of the same grade.

Partee's risk has paid off so far. Hasko provided a week of on-site support when production revved back up and Burrow says the system is running smoothly now, "I'm very pleased with everything." Hasko's Steve Pugh agrees the high-speed experiment is a success, "It's a home run for all of us."

Even though the speed of the flooring line is primarily limited by the speed of the end-matching equipment, the GNS has increased production through better efficiency. According to Burrow, human hands touch the mate-

fewer good decisions he's going to make," he said. Similarly, the move to three separate nesting areas per worker reduces the pressure to find the right size piece to finish a bundle, improving the chances the nester will send back defective pieces, instead of jamming them into the bundle.

Probably the biggest benefit is the significant reduction in payroll that accompanied the installation. Partee reduced its workforce by 13 employees. The Bureau of Labor Statistics projected the average wage in March for non-supervisory workers in wood products manufacturing to be \$13.17/hour, and estimated the cost of

The Right Investment

Given the potential for reductions in manpower and improved productivity, some wonder why spending on new technology has not been a higher priority in the industry. Every business must carefully consider which technological advances will provide the most benefits. Pugh admits that if the supporting equipment is not in place, even the most advanced piece of machinery won't work out. To better understand the need for new technology in forest industries, the Canadian Government created a "technology roadmap." This document does not present technical solutions, but provides a list of potential improvements that could be made in everything from log handling to yard management. Take a hard look at your operation and create a unique list of problems and possible solutions. It will provide a better understanding of which investments will make positive

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impacts in your business. There are likely to be problems for which new technology solutions have not been invented yet. There are also likely to be opportunities you may not have previously considered.

Once you've decided on a problem area to attack, picking the right vendor is a very important step. Burrow's anxiety over the installation of the GNS system was eased by the professional knowledge of the installation team and Hasko's inclusion of on-site support for the first week. Although the high-speed design installed at Partee had not been done before, it was based on technology proven to work in smaller, lower speed plants. When dealing with new technology, a vendor's reputation and past performance should not be taken lightly.

The best technology solution is not always the newest one. Hasko is preparing to install handling equipment in a pre-finishing plant that is expected to eliminate about 17 positions per shift. It's not new technology; the company that designed the system started installing it in Canadian flooring plants 18 years ago, but only a handful of plants in the U.S. have the automated in-feed and out-feed systems.

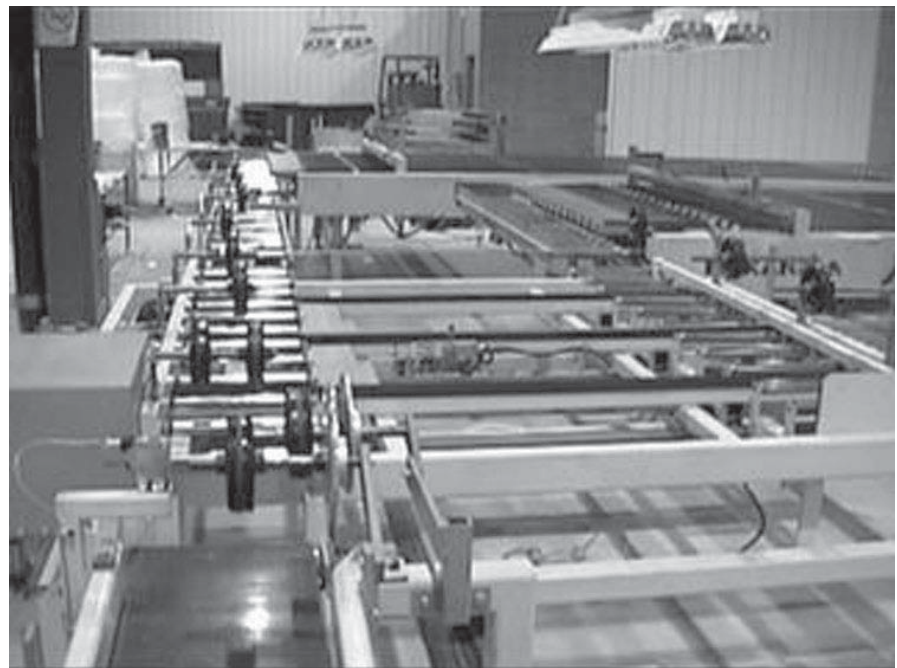
Making it Work

As with any technology change, reaping all the benefits of the GNS required more than getting the machinery to operate properly. An often overlooked, but very important part of implementing a change is getting employees to embrace new ways of working. In this case, the new machinery changed the way graders, nesters and other workers do their jobs. Graders no longer move about, checking quality in several places. Now, they must make quick decisions on where to send each piece of flooring, so the most critical change was getting them to focus only on the next piece of flooring. The GNS now provides each station with 3-tiered spaces; so

three bundles can be built at once. The new re-grade/re-work conveyer allows nesters more freedom to reject pieces that don't look right. Taking full advantage of the GNS system required motivating graders and nesters to embrace the changes to their responsibilities.

To best manage such changes, make sure employees are trained thoroughly on how the new system works, not just how they fit in. Expect a little chaos and lower production rates as they get used to the new procedures

remaining employees will see and hear plenty about how the layoffs were handled. Communicating honestly and as openly as possible about the need for the change is a must. Don't be stingy with the payroll savings from bringing in the new technology. Providing employees with reasonable severance packages, including some form of employment assistance, and a short-term extension of health care benefits will create goodwill from both the laid-off and remaining employees. Following the layoffs,



Hasko Machine's Pre-Finishing Handling Equipment (photo courtesy Hasko Machines)

and equipment. The trickiest part in making any change is convincing the affected employees that the new way will make their jobs better. In Partee's case, the improvements for employees were fairly obvious, but that is not always the case.

For Partee, saving money through reducing the number of employees also meant saying goodbye to 13 people. Handling layoffs is not easy. We form relationships with employees and they form relationships with their co-workers. Maintaining the morale of the remaining employees whose friends have been sent home is also important to the continued successful operation of the business. The

managers also need to be accessible if retained employees need to discuss the adjustments to their positions.

The decision to invest in technology is never as simple as just plugging in a new machine or computer software package. Proper planning can make the difference between an excellent result and failure. Doing it right is hard work, but there is greater risk in doing nothing.

We would like to hear your technology success story for possible inclusion in a future article. Contact Regional Editor Tim Knolby email (tim@hardwoodreview.com) or phone (800-638-7206).