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Missouri Company Adds Optimization

Altenburg Hardwood Lumber Uses INOVEC to Optimize Head Rig, Edger, Adds New TMT Edger

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ALTENBURG, Missouri — Optimization has been so enthusiastically accepted at Altenburg Hardwood Lumber Co. that Roger Moser, vice president, would not dare joke to employees about reclaiming the past.

“If I was to tell them they were going to have to go back to the old way, they’d probably leave,” he said.

In the summer of 2004, Altenburg Hardwood Lumber added an INOVEC YieldMaster™ StereoScan™ hardwood head rig carriage optimizer and 3-D log scanner for its head rig, a Filer-Stowell 7-foot slant bandmill. By December 2004, Altenburg also had added an INOVEC WaneMaster G3™ edger optimizer to its new TMT (Timber Machine Technologies) 3-saw conventional edger.

Both optimization systems were selected after thorough research. Roger, in collaboration with Kevin Engert, production manager at Altenburg, wanted to see what other mills were doing and learn about their experience. They wanted firsthand comments from people at other mills.

“We’ve looked at — at least — 15 other installations,” said Roger. “We did a lot of traveling, to the East Coast” as well as in the Midwest.

They also researched optimization technology from the vendor side. “We looked at every company that had a 3-D scanner,” said Roger. The two men got to know the personnel at various supplying companies and had an opportunity to assess the people who would be servicing the supplier’s system. The goal was to get to know as much as possible about what actually happens in the mill when a system is in



Flitches move from right to left under INOVEC edger optimizer prior to entering the Timber Machine Technologies (TMT) three-saw edger, visible in top left of photo.

place and to find out how vendors handle both service and installation.

When the Altenburg mill was ready to upgrade its edger and to optimize it at the same time, Roger and Kevin embarked on another round of mill visits. “We did the exact same thing with the WaneMaster G3,” said Roger.

Altenburg made a quick transition to both new systems. “For the StereoScan, it was not long at all,” said Kevin. “We have a very capable sawyer,” added Roger, and he learned the new system quickly.

Results were noted almost immediately. “The StereoScan is much faster,” said Kevin.

The sawyers at Altenburg already had some experience with scanning. “We re-

placed a light-bar scanner” on the head rig, explained Roger.

Employees also adapted rapidly to the TMT 3-saw conventional edger with the INOVEC WaneMaster G3 edger optimizer, according to Roger. The installation of the TMT with INOVEC WaneMaster G3 was tricky because of the limited space that was available in the mill. However, the layout challenge was solved by TMT and INOVEC personnel, who worked together closely on the project.

“INOVEC and TMT, they both had people here,” said Roger. “The engineering people from both helped get the edger into the space. That was key.”

The introduction of the TMT edger



View of the in-feed of the TMT edger. The edging process is controlled with the INOVEC WaneMaster G3 optimization system.

brought some real changes to the mill. “We went from a total manual system to an automated one,” Roger noted.

For Roger, the safety of the TMT edger was a huge selling point. Paired with the INOVEC WaneMaster G3 edger optimizer, the new TMT edger is even more efficient than the Altenburg staff expected.

With a manual edger system, the operator’s role is to ensure that lumber entering the machine is fed straight. With the TMT automated edger, there is very little for the operator to do. “When we put this in, we thought the operator would be overriding a lot of decisions” of the optimization system, said Roger, but they do not need to.

Altenburg is one of six wood products businesses — all hardwood businesses — owned by Dean Calhoun of Coldwater, Mich., who purchased the 26-year old company 10 years ago.

The mill cuts hardwood species from southeast Missouri, southern Illinois and

northwest Kentucky. The company buys about 75% of the logs it needs, and the other 25% comes off standing timber that is cut by a company or contract crew.

Altenburg buys both tree-length logs and cut-to-length logs. Red oak makes up 40 percent of incoming species. A second 40 percent is white oak. The remaining 20 percent comprises poplar, hickory, hard maple, cherry, ash and walnut.

Altenburg uses its own tractor-trailers to pick up logs from contractors. Eight of the 11 tractors are Macks, and the trailers were supplied by Burnett’s Welding in Pekin, Ind.

In the yard, logs are sorted by species and length and stacked with John Deere loaders. The 25-acre site has an irrigation system to keep the log deck wet during the summer in order to prevent the logs from drying out.

The debarker head and carriage were designed and built by C+L Steel in Union City, Indiana.

From the Filer-Stowell head rig, cants

go to a Salem band resaw with a C+L linear system. From the resaw, boards are routed to one of two paths. Boards that are ready for trimming go directly to an Irvington Moore trimmer; the trimmer is old, and the company is considering upgrading it with an optimized trimmer. Boards that require edging go to the new INOVEC-optimized TMT edger first. A TS Manufacturing stick stacker stacks the finished green lumber on stickers in preparation for drying.

Altenburg dries about 70% of its production in its own dry kilns — seven package kilns supplied by American Wood Dryers Inc. in Portland, Ore. The American Wood Dryers kilns are fitted with Lignomat controls. The kilns, with a combined capacity of 500,000 board feet, are loaded with Caterpillar forklifts. They are heated with a 200 hp Industrial Machinery boiler that is fueled with sawdust from the mill.

The American Wood Dryers kilns feature an aluminum structural framework that is well suited to tolerate the dramatic seasonal swings in climate. Altenburg, a village of only about 300 people in southeast Missouri, experiences near-tropical weather with high heat and humidity in summer and near-arctic or extremely cold and dry conditions in winter.

American Wood Dryers specializes in providing thermal barriers that tolerate annual exposure to a wide range of environs. The barriers are constructed of special heavy gauge Alcad aluminum or stainless steel panels.

As for residuals, a Precision chipper processes scrap wood into pulp and paper chips, and bark is sold wholesale for landscaping mulch.

“We’re normally custom-sawing for a customer,” said Roger. Customers fall into many categories but mainly are manufacturers of cabinets, moulding, stairs, furniture, or are engaged in the lumber export business.

Altenburg uses a Forestry Systems end tally and log scaler software system to help manage procurement and inventory. “We buy everything by the board foot,” said Roger.

Roger works closely with Larry Sharp, Altenburg’s sales manager, to ensure the flow of incoming raw material is coordinated with lumber sales. “I like log procurement,” he said, and his work is made much easier because of good communication with Larry.

In today’s lumber production environment, there must be good communication between the mill staff and management, explained Roger. That is where some of the

most important results obtained with the INOVEC optimization of the head rig and TMT edger come into play.

“We have noticed increases in the yields,” which was a primary factor in selecting the INOVEC systems, said Roger. Likewise, the company has experienced increases in production. In fact, INOVEC has met all expectations for improving yield and production.

The optimization systems enable management to have greater control over the company’s lumber product mix and also have led to an improvement in lumber quality. Speaking of the TMT edger with the INOVEC WaneMaster G3 edger optimizer, Roger said, “The control it gives management is a very nice feature of the system.”

The INOVEC WaneMaster G3 edger optimizer is capable of considering thousands of potential board edging solutions for maximum lumber recovery and best appearance of the finished lumber. “The better appearance of the lumber” was noticeable right away with the TMT and WaneMaster working together, said Roger.

“In the past we’ve been talking about not edging too heavy,” said Roger. The goal was to achieve proper board edging but reduce fiber loss. Without optimization, edging was time-consuming and generated a lot of waste wood fiber. All that changed with the INOVEC WaneMaster G3 edger optimizer and the new TMT machine.

Performance and results are only two parts of a three-part equation, though. Roger said the third part is also in place — service. “When it comes to service,” he explained, “INOVEC will walk their talk.”

Altenburg has put INOVEC’s staff to the test more than once. “We start at six o’clock in the morning,” said Roger. “If we call them, they’ll be on top of it,” even though it’s four o’clock in the morning on the West Coast, where INOVEC is headquartered in Eugene, Ore.

The INOVEC G3 software became available in 2004. It emphasizes intuitive interaction of the user interface, which relies on a Windows XP operating system with a heavy emphasis on Internet connectivity and compatibility.

The open connectivity of the INOVEC G3 software facilitates communication, whether it is between the head rig and edger or across the Internet. The concept that drives the development and application of the INOVEC G3 software is plug-and-play. In other words, make the software so easy to use that deploying it is like plugging in a tried-



Scanner projects laser lines onto a log on the carriage; the head rig is optimized with the INOVEC YieldMaster system with StereoScan 3-D log scanning technology.

and-true appliance. And make the software play anywhere — across the mill, or across mills at different locations, and so on.

Besides focusing on the software side of optimization, INOVEC makes certain that all the related equipment supports the process. Powerful computer hardware is supplemented with strong, stabilizing components on the saw line. The INOVEC YieldMaster StereoScan hardwood head rig carriage optimizer and 3-D log scanner scans 60 times per second and is supported by linear positioning designed for accuracy and tapering control. Linear positioners for an incoming log are ruggedly made with welded trunion and precision self-aligning rod eye mounting. High-speed servo-proportional valves are standard, and shock-absorbing features are in place. Temposonics™ linear transducers contribute to accuracy.

Timber Machine Technologies has put its optimized two-saw, three-saw and four-saw edgers in hardwood and softwood mills across the country. Headquartered in Tualatin, Ore., TMT also offers chipping edger systems and chipping systems, curve sawing gang systems, custom-built machinery and parts and conversions. TMT has a collective track record of more than 100 years in the wood products industry.

The TMT edger installation and its results were a collaborative effort not only with INOVEC but also Altenburg, noted TMT’s Greg Smith. “Kevin and Roger were really good to work with on the project,”

said Greg. “Kevin was the key to really making it a successful start-up. We really look forward to working with them again.”

Roger cited the employees at Altenburg Hardwood Lumber for what the company has been able to achieve. “We’ve got a workforce that is second to none,” he said. “When we travel, what we hear from others is ‘labor problems.’ We just stay mum. Even after a long holiday weekend,” the first return shift will have a full complement of workers.

Neither Roger nor Kevin comes from a family with roots in the wood products industry. “I started out in northern Indiana in the mid-to-late 70s as a log hauler,” said Roger. Eventually he got into log procurement.

Kevin has also been in the industry some 30 years. During high school he began working nights in a pallet mill. The pallet operation sent him to school to learn how to be a saw filer. He spent most of his career as a filer until he was named production manager a few years ago. Altenburg has two good filers, said Kevin, who still misses the work.

Both Roger and Kevin enjoy the camaraderie of the wood products sphere. “The people in this industry are pretty fantastic,” said Roger. They are “down-to-earth, good people,” Kevin added.

In his spare time, Roger plays some golf; he lives on a golf course. Kevin is a musician. “I play music on the side, guitar — country to rock,” said Kevin.

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