

Hunt Forest Products

A smarter generation

DEEP LEARNING DELIVERS FOR HUNT FOREST PRODUCTS

USNR's deep learning technology has reinvigorated production at Hunt Forest Products, from the NV4g to the GSc2000. The AI upgrades reduce waste and improve production, all while giving mill staff more time to focus on essential tasks.

> "The system keeps you from using dryer space on a piece of veneer that will get turned into waste on the dry side.



Neatly stacked green veneer at Hunt Forest Products in Pollock, LA.

Hunt Forest Products LLC is a family-owned wood products company founded in 1978. The company's Pollock, LA, plant manufactures veneer and plywood, mostly from southern yellow pine. The plant runs 24/7, employing about 290 people. The mill's capacity is 250 million square feet of 3/8" plywood and veneer annually, produced in various thicknesses according to market needs and the quality of logs being processed. Typical of many veneer operations, landscape timbers are also produced as a byproduct of the lathe operation. Most of the company's production is sold domestically in the U.S.

Several years ago, management upgraded the mill's green end with a new NV4g scanner, and two GSc2000 scanners at the dry end. This enabled Hunt to automate the clipping and grading decision process, bringing consistency and improved recovery to the company's production across the panel manufacturing process.

Spring forward 5 years and the mill had developed a bottleneck at the vacuum diverter and began to look for solutions. Steve Goodger, Mill Manager of Hunt Forest Products said, "Our specific goal was mainly process improvement, and we have seen improvements in production."

USNR supplied a new green end automation system to remove the bottleneck and added deep learning AI to the mill's existing New Vision NV4g to further refine the green grading process and improve recovery and production while reducing waste.

Steve explained, "The improvement we got from Deep Learning is from being able to pick out blonde wane that we weren't seeing before. The accuracy of that software is amazing. It has worked out really well for us to get wane out of our usable 54's."

"Hunt Forest Products sorts by grade," explained Chris Van Ackeren, USNR's Senior EWP Account Manager. "They have two grades off the green end, and they can accurately do it with deep learning." The NV4g system has always graded veneer, but the improved accuracy with deep learning is opening the door for customers to more accurately sort by grade on the green end.

Whereas the final grade comes from the GSc2000 on the dry end,

green end grading is more of a rough grade. Hunt takes advantage of grading their green veneer by running their dryers a little differently depending on the green grade.

Since installing deep learning, Hunt is seeing a lot less downgrade at the GSc2000s dry graders. Steve commented, "For the most part, wane gets clipped out on the green end, so we're not drying it. The system keeps you from wasting the dryer space on a piece of veneer you're going to turn into dry waste on the dry side."

Wane changes color a bit after the drying process, so Hunt's existing GSc2000 dry grader would downgrade it. But if you can remove the wane early in the process, you'll get more full sheets faster. Steve explained, "Catching it at the green end and getting rid of it early instead of running it through your whole process makes all the sense in the world."

He further clarified, "We've done several studies on its accuracy and determined the system is very accurate. We're very pleased with deep learning on the NV4g scanner."

New diverter and random stacker provides production boost

Along with the deep learning AI technology, USNR supplied a new Multi-Point Diverter system (MPDS) to replace the vacuum diverter, along with four strip trays feeding a 2-bin spike belt green random stacker, and a single overhead tray for full sheets feeding a 4-bin sheet stacker. USNR also supplied a comprehensive ControLogix PLC controls upgrade to operate all of the supplied equipment.

USNR's random stacker efficiently stacks green veneer, from the 6" minimum to full size, using spike belts, which reduces dust in the air.



"There are a few vacuum diverters that operate at 600 feet a minute but that is pretty rare," said Chris Van Ackeren. "USNR's patented MPDS uses spike belts and simply doesn't have that limitation."

The MPDS uses data from the mill's existing NV4g veneer defect scanner to precisely sort trash and divert random strips onto the trays for downstream stacking. New controls for the primary trays replaced a mill-designed control system, and hold downs were added to the existing NV4g to help prevent fold-overs and doubled-up veneers.

In a modern green end, the vacuum diverter is often the bottleneck in the system. Going to a USNR spike belt MPDS removes this bottleneck, allowing the diverter to match the maximum speed of the clipper. The MPDS is capable of loading the strip and sheet trays at high speed, and USNR's controls synchronize all of the motor speeds to keep everything flowing smoothly.

Steve Goodger said, "We are outperforming compared to the previous setup. We've got increased clipper speeds and our block count has gone up by close to 1,000 blocks a day."

USNR designed its green automation system to be plug-n-play, and it has proven to be, but unfortunately that didn't result in a flawless startup on this installation. The Covid pandemic was still in effect and the resulting trucking and supply chain issues, along with scheduling challenges caused delays. Then a Covid outbreak on site at the beginning of the startup and forced key players from both companies to leave site, further compounding the problem.

Project Manager, Shay Nichols said, "Looking back at this, it's amazing we pulled it off."

Chris admitted, "It was a one of the most challenging projects I've been involved with as far as scheduling and getting the right people back to site."

Steve agreed, "You know, COVID hit on day one and everybody abandoned ship. There was some heartache. The challenges faced by some of the PLC technicians, especially the ones that got left here during Covid, were immense. Those guys worked tirelessly to get us back into production.

Hunt's team of players were fantastic to work with even through the worst of the pandemic. The mill remains satisfied with the project and optimistic about the future. In fact, Hunt's next project, which is scheduled for 2024, is for significant lathe line upgrades upgrades including a 1390 core drive, a BlockLogix scanning and optimization system, and a ControlLogix lathe controls system, all to be supplied by USNR.

"I would like to thank Hunt Forest Products and their team for maintaining an optimistic attitude when we were struggling. That really helped bring this whole project to a positive conclusion," said Chris Van Ackeren.

Hold-downs were added to the mill's existing NV4g to present veneer to the clipper in a controlled fashion using a laser to remove fold-overs or doubled-up veneers.

