Millwide INSIDER

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MAKING BETTER PANELS

Coe Veneer Dryer improves production and quality at Martco

A WINNING COMBINATION

Gorman pairs MillExpert optimization with new sensor technology

RED STAG'S SIMPLE SOLUTION

Increasing throughput is easy with MillTrak

USNR

Problem solvers.

Have you ever had a problem you thought couldn't be solved, and then a solution was presented that made you ask, "Why didn't I think of that?" USNR has been in the business of solving problems for over 150 years. We've seen many and, to date we've solved most.

Our customers are problem solvers too. Customers like Martco Limited Partnership, Gorman Bros. Lumber and Red Stag Timber are all in the business of solving problems for their customers by providing some of the best wood products the world has to offer. Through hard work, good business decisions and smart investments they've taken raw resources and turned them into amazing products that solve problems, be it for strength, durability or beauty. And they've pushed the boundaries. The wood products available even 20 years ago could never compare with the virtual banquet of products on the market today.

To provide you with the equipment, parts, components and services that allow you to solve today's problems, USNR has expanded its focus and broadened its horizons. As technology has evolved we've pushed the boundaries of what is possible. Many of the products we now offer are solutions that were not even considered feasible 20 years ago. Our customers have brought us their problems and, through hard work, good business decisions and smart investments we've solved their problems.

We're still pushing the boundaries and more solutions are on their way. We'll soon be rolling out our next innovations that we know will be problem solvers for our customers. Some of the most elegant solutions we've developed are smarter, faster and simpler. As they are unveiled we hope you'll ask, "Why didn't I think of that?"

Sincerely,
Colleen Schonheiter
Editor

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Upping the ante for Martco's premium panel products

NEW DRYER IMPROVES QUALITY, ONE VENEER SHEET AT A TIME

"Maximizing cash contribution of our timber," in the words of Jonathan Martin, is the main operating principle for Martco Limited Partnership LLC. The company's massive plywood plant, located at Chopin, LA, recently started a new USNR/Coe veneer dryer to supplement its drying capacity, a move that is providing dividends with increased output and improved quality of veneer that is the basis for its premium plywood products.

Martco Limited Partnership LLC (Martco) is the operating name for the manufacturingcompany founded by Roy O. Martin in 1923. The company is now privately owned by approximately 120 descendants, though most are not involved in the day-to-day operation. Jonathan Martin, third generation, is now chairman and CEO of the company with nearly 40 years in the business. He knows his business and has a talent for turning raw logs into cash.

Humble beginnings

From its simple beginnings starting with a six-foot "groundhog" bandsaw, today Martco comprises a sawmill at Monroeville, Alabama, and an OSB plant, plywood plant and treating plant at Oakdale, Chopin and Pineville, Louisiana, respectively, with headquarters in Alexandria, LA. Roy O. Martin's commitment to provide customers with service and distinctive quality allowed the company to thrive. Martco is now one of the largest independently owned forest products producers, and the Chopin plant is the largest producer of plywood from a single facility in North America.

Through systematic acquisition, Martco has expanded its timberland base to 570,000 acres of prime southern pine and hardwoods located throughout Louisiana. High-yield forestry programs started in the 1950's, have advanced the increasingly rapid growth of merchantable timber through sustainable practices. The company relies heavily on its timberland to supply the raw material for its hungry operations. Eighty-five percent of the logs used in its products are obtained from company owned sources. This factor has been key to Martco's ability to remain competitive through trying times.

A social conscience

Employing around 650 personnel, recent job fairs were held to add new recruits to the Chopin plant's headcount. That is welcome news as the US struggles to gain foothold following the deepest recession in decades. Also welcome news was Martco's donation of OSB for Calcasieu Area's Habitat for Humanity to contribute to the group's efforts to construct 10 new homes in the region in 2010-2011. Martco is also involved in an educational program to prepare students for careers in the forest products industry. Now in its fourth year, Wood Works is founded and funded by Martco, and developed in cooperation with several area schools. With 93 students enrolled for the fall session and another 14 scheduled for the spring, interest for careers in our industry – at least in Chopin's locale – is strong.

State-of-the-art facility

Stated to be the most advanced plywood facility on the continent, Chopin is equipped with a Coe high-speed optimized veneer lathe system, five veneer dryers, stackers, automatic lay-up lines and presses, veneer pluggers, patch lines and sander. The plant produces 480 million feet (3/8" basis) of plywood annually. Careful monitoring of product quality through each step in the process is its formula for producing the finest plywood panels possible.

The plant produces a wide array of panel products for a myriad of applications; siding, sheathing, underlay, beaded decorative panels, concrete forming, radiant barrier panels, and more. It also produces top quality furniture-grade plywood and panels. Jonathan relates that 95% of its production goes to North American markets. Some offshore business goes to the US military, with product going to bases at Guantanamo Bay, Bagdad and Kabul, among others.

"We've been very, very pleased with the production capacity of the machine. We reached the machine's capacity within a week (of start-up) with almost no issues, which is unheard of."

Smart features, improved results

Jonathan decided this was the time to expand drying capacity. He chose the Coe veneer dryer over others because he knew it was the best; this is the second Coe dryer for the plant. This new dryer is a 4-deck, 20-section unit heated with hot oil. He also opted for a special insulated floor to ensure the best energy efficiency possible. The insulated floor constitutes 3" thick insulated panels which are seal-welded

to the steel frame and insulated with 8 lb. density Thermafiber covered with 3/16" stainless steel inside and 20-gauge stainless steel outside.

Instead of an insulated panel and seal bar duct system which is typically bolted together, this dryer has an air duct system fabricated with pans that are seal-welded in place. Insulation material is then installed and covered with stainless steel outer sheathing. The advantage of the seal-welded duct is that it provides better thermal efficiency while greatly reducing leakage and fugitive emissions potential under different operating conditions.

To maximize thermal efficiency, the dryer utilizes an ADEC (Automatic Dryer Exhaust Control) system, rather than three separate zone exhaust points found on older veneer dryers. The patented ADEC system controls the volume of exhausted air from the dryer by varying the speed of a single exhaust fan and damper arrangement. Based on set values during dryer operation, the ADEC system receives inputs from thermocouples at the seal section and another recording ambient air temperature. ADEC uses the signal differential to adjust the single point exhaust fan speed and damper accordingly, which in turn exhausts more or less air volume. The exhausted air is then directed through a duct to the plant's pollution control equipment.

A pop-out style of door latching system which more uniformly compresses the door seal material was incorporated on this dryer, thereby greatly reducing any potential for leakage around the door seal.

Jonathan said, "We've been very, very pleased with the production capacity of the machine. We reached the machine's capacity within a week (of start-up) with almost no issues, which is unheard of." He added, "We're also pleased with the quality of the veneer. We have less moisture variation, sheet-to-sheet, as compared with our other dryers."

Managing the details

Joe Chaykowsky was USNR's project manager for this project. This is a key role at USNR. His duties covered a broad scope, and included coordinating schedules with the customer and vendors of supplementary services, coordinating tasks and completion dates with USNR engineering and manufacturing shop to meet predetermined deadlines, quality control of outsourced components, attending project meetings at the Martco plant, and coordinating installation and material with the contractor hired to build the dryer.

On the Martco side, the key personnel that Joe interfaced with on the project were Adrian Schoonover, VP of engineering, Stan King, project manager, and Gary Jeffcoat, electrical engineer. Joe was very appreciative of this team. "The Martco folks were very thorough. I was in constant communication with Stan or Gary during the engineering, manufacturing, shipping and installation phases. Everyone I had a chance to work with was very helpful and professional. They are a true "roll your sleeves up and dig in" bunch of folks."

Installation of the dryer began Feb. 22, 2010 through May 21. The dryer was first started without heat the week of June 7 for trial runs to sequence the feeding and unloading equipment with the dryer. Ed Simmons, USNR electrical controls engineer, worked on the final PLC programming and tuning the dryer speeds. By July the final air and exhaust balancing was conducted.

Steve Antwine, USNR field service technician, oversaw installation of the dryer and worked with Martco's contractor. The contractor's crew was familiar with Coe dryers, and together with Steve's vast experience the machine was rapidly assembled. Joe related, "Martco personnel did an excellent job in staging the receipt of materials to have them on hand as we needed them. After assembly was complete we had a bit of time to double check the dryer assembly and controls system while other vendors were completing work with ancillary equipment. This was a real help to ensure everything was as it should be."

Ongoing improvements

In the past few years the Chopin plant has received several upgrades of Coe equipment. In 2006 a complete new fully optimized Coe lathe line was installed along with its first Coe dryer. The other three existing dryers, from a European vendor, are under consideration to be refurbished or replaced with more advanced systems. The Coe lathe line is equipped with the BlockPlus™ lathe charger scanning system, and Jonathan reports they are also very pleased with the results they have achieved with BlockPLUS.

Jonathan knows his business. Its longevity and growth are testimonies to the instinct for business that began with Roy O. Martin and is evident in his grandson. Jonathan doesn't mince words when describing the philosophy for his business acumen. "Convert cellulose to cash – it's that simple. We can't take trees to the bank." His foresight for the Chopin plant is just as elegant. "Survival. We want to be the last plant to close." Seems he's done things right so far!

6-Deck Jet Dryer

Productive. Efficient. Reliable.

World's best jet tube design

The Coe 6-deck Jet Dryer delivers the most cost-effective veneer drying system on the market. It's one more important innovation from the company that invented jet drying.

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- ▶Proven efficient and reliable humidity control produces uniform drying
- ▶World's best heat distribution and diffusion system through patented jet tube design
- ▶Get more high quality veneer

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Our experience tells the story. We've likely already installed a system that meets your needs and applications.

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- ▶200+ natural gas dryers
- ▶50+ direct-fired wood waste dryers
- ▶400+ longitudinal dryers

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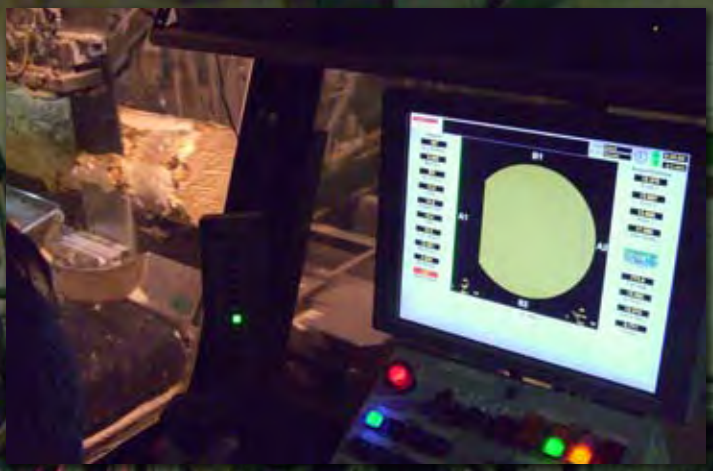


A Winning Combination

GORMAN BROS. LUMBER CARRIAGE OPTIMIZER PROJECT PAIRS MILLEXPERT OPTIMIZATION WITH NEW SENSOR TECHNOLOGY

When the right combination comes along, it's expedient to take advantage of the opportunity. And that is exactly what Gorman Bros. Lumber did when it purchased USNR's carriage optimization system with the pairing of USNR's MillExpert software and DynaVision® Chroma+scan 2400 3D sensors. The result is proving to be a winning combination for this operation.

As most successful wood processors do, Gorman Bros. Lumber of Westbank, BC believes in continuous upgrading of its equipment and processes with the aim to reduce operating costs, improve working conditions for its personnel, and maintain or enhance the quality of its products. One recent upgrade the mill undertook involved replacing a 1980's vintage Kita carriage scanning system with a MillExpert carriage optimization system from USNR.

The Kita scanning system used a simple light curtain to detect the presence or absence of material, and through fundamental measurements generated a model to calculate the volume. Resolution was poor and calculations imprecise, resulting in poor quality reports that were unreliable for management purposes. As well the Kita system had become obsolete and was no longer supported by its manufacturer. The time was ripe for the Gorman mill to invest in a new carriage optimization solution.

Taking on a new venture

As is the case for many independent wood processing operations, the company's founding business was one far removed from the lumber industry. The company is a family owned and operated venture that dates back to the 1950's. Two brothers, John and Ross Gorman, were orchardists whose holdings were located in the "fruitful" Okanagan Valley region of the southern interior of BC. After a heavy frost damaged much of their orchards they decided to start a business building fruit boxes to supplement the income from their orchards. The new business took off and in 1953 they set up a sawmill to provide raw material for their box business.

Today the Gorman Bros. Lumber operation encompasses plants at Westbank and Lumby, BC and at Oroville, WA. The lumber mill at Westbank, BC produces 150 mmbf of lodgepole pine and spruce lumber each year. Through continuous improvement to its processes and technologies, the company boasts it produces 30% more lumber from the same amount of raw material than it did 15 years ago. With its high-end moulder Gorman produces 1" boards with the signature "Gorman Edge", edges which are smooth and splinter-resistant. As a result, there is no need for sanding. Besides boards, the Westbank plant has remanufacturing capability and produces fingerjoint material, flooring, beaded ceiling stock, wainscoting, shelving, end-matched pattern stock, soffit and much more. It has invested in equipment to produce custom pattern stock based on templates that are developed in-house to fill custom orders.

Willingness to try a new solution creates a winning combination.

The company also has a pole operation located at Lumby, BC and a plant at Oroville, WA that handles value-added work such as priming, ripping, cutting to length, regrading and repackaging to meet customers' needs. Lumber packs are trucked to Oroville where they are re-loaded onto rail cars to be shipped across North America. Gorman also sells its products to international markets including Japan, Taiwan, Korea, Australia, Scotland, England, Italy, Germany, the Caribbean, Saudi Arabia, South Africa, Mexico and the US.

Battling nature with technology

The Mountain Pine Beetle (MPB) infestation has had an impact on the Gorman operations that technology has helped to alleviate through implementation of a USNR/Newnes defect scanning system at its sawmill trimmer several years ago. This allows the mill to cut-in-two in the green end, for example a short, high grade piece can be produced without trim loss. Candidate trim stock meeting specified characteristics for wane, knots and splits is targeted and routed for unique action downstream. For example, by sorting for grade at the trimmer the mill can take advantage of more efficient drying cycles for high grade products.

The company also tries to limit the amount of MPB affected logs it processes; 50% of its raw material is obtained through lands it manages and the other 50% from logs purchased on the open market. The company works hard to trade the MPB affected lodgepole pine that is not suitable for its products for raw material that will meet its stringent quality control standards.

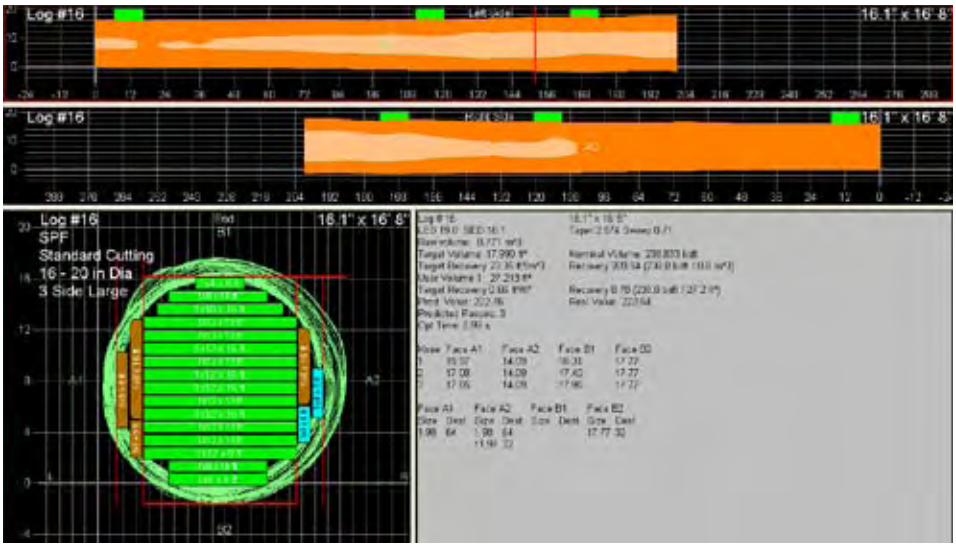
Finding a solution

Glenn Griffin is in charge of quality control and set up of the optimization systems at Gorman. He commented about the decision to go with USNR's new carriage scanning and optimization combination, "the MillExpert system and the DynaVision sensors were both proven, just not proven in combination. With our temperature fluctuations here in BC we thought this would be a good solution." He went on to say, "We did consider other vendors. We have the MillExpert system on the canter line and we are satisfied with its performance. It made logical sense to have a MillExpert system on the headrig as well."

This combination is a separation from USNR's common pairing of MillExpert software with LASAR sensors for carriage optimization, but is an excellent example of the customer-focused attitude USNR endeavors to uphold. The philosophy USNR brings to its MillWide Optimization solutions is to supply the scanning, optimization and information management systems designed to uniquely match the customers' needs, even if the supplier of one of the components is not USNR. USNR integrates the components and provides a uniform solution methodology across the broad range of lumber manufacturing processes.

Advantages of having USNR MillWide Optimization technology throughout the mill include:

- Uniformity in how lumber products' parameters are described;
- Interchangeable spare parts inventory;
- Greatly reduced training requirements because all of the optimization software systems look, "feel", and play the same;
- Common information systems;
- Open access to tally information;
- Connectivity between systems;
- Cost savings and simplicity in terms of long-term support.



The combination of MillExpert software and the new DynaVision 2400 sensors provide the information mill management needs to make the appropriate decisions at the right time about their products.

Meeting challenges

Though it is common practice for USNR to provide the customer's preferred scanning medium, this solution presented some challenges in the execution. When using LASAR sensors the log is dogged on the carriage and is initially scanned before it actually begins to be transported. With the DynaVision 2400 sensor the log is scanned while it is being transported toward the saws, so the optimization system actually has less time to develop a solution.

Carl Thomas, USNR senior account manager, was integral to proving out the validity of this combination. He worked with mill personnel to acquire actual log diameter data and downstream product setups. He considered the installation parameters – the amount of space the log had to travel before it entered the saws, the amount of time it took the knees to position the log, etc., and created a MillExpert setup that modeled the system requirements with real data. Carl said, "We found that with the newest computer hardware we had, it was doable. At the same time a new sensor was released that used similar scanning technology to previous sensors, with the advantage of having a faster scan rate and a decreased laser spacing (6" vs 12"). The new sensor gives us a full scan of the log within 6" of movement and also has newer scanning technology so it will be supported for a longer period of time."

With the scanning system at the Gorman mill, 18 scan heads are housed in two 24' scan frames manufactured with 1/4" heavy gauge structural steel

members covered with 3/16" protective steel skin. One scan frame is positioned above and to one side of the carriage, with the other positioned at a 40° angle. The new DynaVision 2400 sensor has 4 lasers in each scan head to capture a complete 3D profile of the log in as little as 6" of travel. The sensors take an initial scan once the log is dogged on the carriage and this scan is used to generate a minimum opening face solution for the log. Then while the carriage transports the log toward the saws, the scanner continues to scan the log at better than 1" resolution. Once it has captured the full image of the log, the MillExpert optimizer recalculates the model and generates the full breakdown log solution.

Jeff Storey is USNR's project engineer/manager assigned to the Gorman Bros. carriage optimizer project, and described the challenges this project presented. "This system is a first-of-a-kind using the Dynavision Chroma+scan 2400 series sensors with MillExpert optimization. Software is designed to utilize the dense scan data being provided by the sensors. This type of scanning requires the carriage to travel downstream to collect cross-sectional data between the laser lines being emitted. Once the log travels the required distance (6") then the data is provided to the MillExpert solution engine. The software is modified to calculate a quick opening face to move the knees to a set position (on the initial scan). Once the opening face solution is achieved the MillExpert optimization software begins calculating the whole log solution, and the second knee position sets are provided. This does not require much movement from the initial opening face location, which saves valuable time as the carriage ramps up to full speed towards the saw."

The scanners are positioned above and angled to capture the scan data for the optimized solution.

Successful start-up

Because of his involvement proving the soundness of this solution, Carl Thomas was cautiously optimistic during start-up. "I was impressed with how well the system went in and was started up. Our guys did a really good job on the front end of the project. The software engineers and programmers invested the time early on to understand the sensor platform and get the necessary programming done and tested ahead of start-up. Also, to ensure we could address any issues that came up on a timely basis we sent two of our software developers to site in addition to the field service start-up personnel."

Glenn Griffin reports that the start-up went very well. Besides himself, mill personnel involved in the project included Glen Sorenson, electrical/mechanical supervisor, and Howard Faulkner, electrical foreman. Though the system is fundamentally similar to the MillExpert system on the canter line, the mill opted to send this group to USNR's Eugene, OR facility for three days of intensive training.

Jeff Storey was in charge of training at the Eugene facility, and explains the benefits of training at a USNR facility. "This allows the customer to get a hands-on feel for the system before it arrives onsite. The Gorman personnel were able to go through the calibration routines with a scaled down version of their system. The course also included hands-on development of their product solutions through the MillExpert program using workstations for each individual, and I believe this is key to successfully taking ownership of the system."

Better tools – better decisions

Glenn Griffin is pleased with the system's performance. Carl also noted, "Mill personnel said to me that when they do sideboard checks on the new system it's deadly accurate, which wasn't the case with the old system." Higher accuracy equates to better information for mill management to make decisions about the operation.

This project was memorable for Jeff Storey, who related, "Throughout the project the Gorman team remained very flexible to our needs. Both vendor and customer were committed to the success of this project. This became the most personally gratifying project for me when Glen Sorenson called after the start-up to convey how pleased the Gorman team is with the system."

On the USNR side, other personnel who were involved with this project included Scott Parvin, field software engineer, Jeff Jones, field controls engineer, and Scott Gross and Dwayne Fujima, software engineers.

When asked about the benefits of the new combination, Carl Thomas commented, "This combination will be particularly advantageous for applications where there isn't enough clearance above the carriage to install a LASAR scanner and get a clear view of the entire log." Through ongoing development, incremental advances and a willingness to try a new solution, USNR continues to evolve its products to meet the needs of our customers.

LASAR CARRIAGE

Highest yields. Maximum profits.

Grade sawing solutions

USNR's Carriage Optimizer system is completely configurable combining the industry's highest density scanning with extremely versatile optimization software.

Fast and accurate scanning

LASAR is the rugged and reliable sensor able to scan both sides of a log with unparalleled resolution. The results are incredibly accurate opening faces with only one scan and one set!

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USNR's advanced system enables you to implement even the most complex solutions including MOF+, Whole Log BOF, and Optimized Grade Sawing. Now you have control of your product mix.

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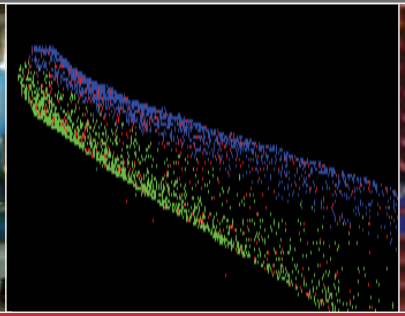

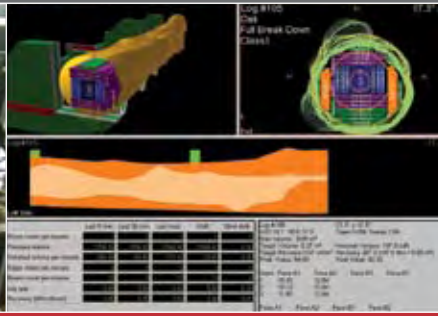

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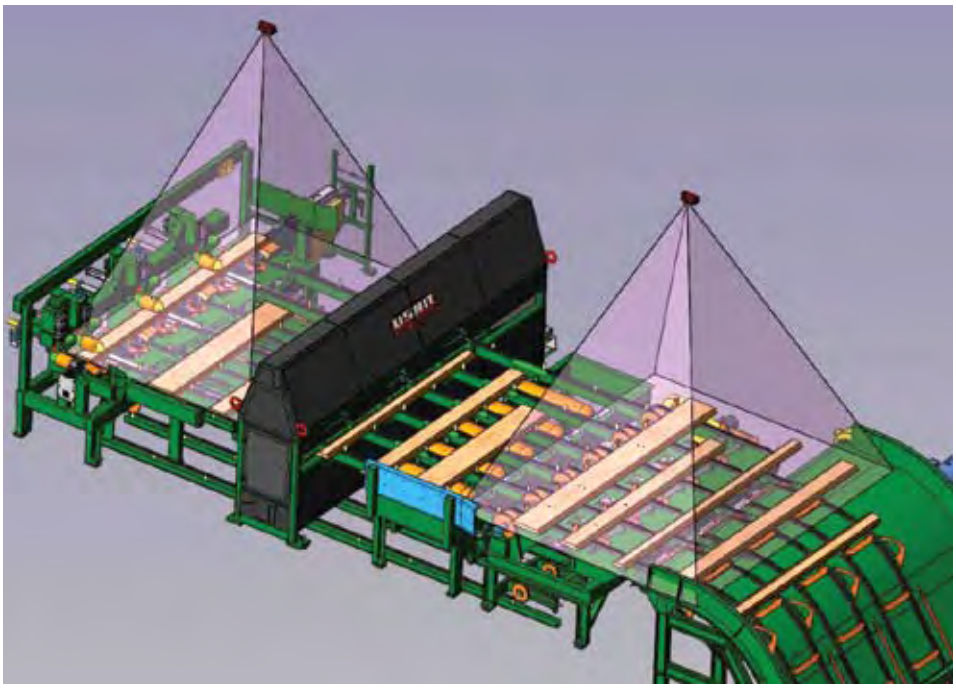
Red Stag Timber: on track with MillTrak

SMOOTHING MATERIAL FLOW RESULTS IN SIGNIFICANT PRODUCTION IMPROVEMENTS



MillTrak's simple solution can have a major impact on the cost of doing business. Achieving a continuous flow of material to the next stage in the process is a key component for improving throughput and the bottom line.

Increasing capacity, efficiency and recovery is the strategy behind a major capital investment for Red Stag Timber of Rotorua, New Zealand (NZ), and USNR is pleased to be partnering with Red Stag in the supply of numerous new systems to this end. Part of the supply has comprised several of USNR's MillTrak material flow management systems, resulting in significant improvement to throughput for those processes.

Red Stag Timber's Waipa mill near Rotorua is an independent operation, acquired by private ownership in 2003. One of the largest producers in the region, the operation consists of a sawmill, dry kilns, finishing mill, reman operation and timber treating, producing 350,000 m3 of lumber annually with revenues in excess of $100 million. With some projects still in the equipment selection phase, over the next two years the company will make capital investments in nearly every facet of its operation.

Red Stag Timber manufactures structural lumber in a full range of sizes and lengths that are machine stress rated to New Zealand grading agency standards. It also produces treated lumber products for outdoor landscaping. Species processed are Radiata Pine and Douglas Fir, obtained from sustainably grown NZ woodlots. Products are sold primarily to domestic New Zealand markets, and also exported to Australia and Asia.

Smoothing the flow

Currently the Waipa mill has six MillTrak systems that are located in the following areas: tilt hoist to Quad Cam board feeder, planer infeed, planer outfeed, sorter infeed, and in the sawmill at the edger infeed and edger table. The planer mill infeed area was first to receive this technology approximately 18 months ago. The controls system in that area was having trouble keeping wood flowing to both the planer and lug loader. Andy Archer, Red Stag's secondary processing manager commented, "Backlog was very inefficient and inconsistent, particularly with changes of dimension products." It was on recommendation by Damon Clinch, USNR controls engineer based in Woodland, WA, that the MillTrak system was installed to rectify these issues. "Damon Clinch is the best programmer I've seen and I trust his opinion," said Andy. Damon was aware that USNR had just developed the MillTrak system to solve this type of lumber flow problem. Andy went on to say, "Damon promised it would work substantially better, and I trusted Damon's ability. He came across (to NZ) and made it work very well."

Damon commented on the situation he was faced with resolving. "Andy took over a planer mill with a feast-or-famine, start/stop problem. Andy and I had several conversations about how we could transform the flow to be smooth and relentless. He knows how well a planer mill can run and wanted that continuous scream of machines ticking along like a finely-tuned V12 Ferrari. I knew that using the MillTrak camera system Red Stag would get the benefit of the smooth, continuous lumber flow they were looking for, and for me it was a relatively easy fix – a win/win solution."

Damon went on to explain one key consideration with using MillTrak. "There is basically one critical component and that's lighting/contrast. When lighting is even and consistent, and where there is adequate contrast to easily differentiate the wood from the background, then MillTrak makes the job easy. Andy changed some yellow chain runners to black and added more lighting in critical areas, and that ensured a successful result."

MillTrak is a vision-based lumber flow management system. It maximizes throughput efficiency utilizing a camera that is mounted above the lumber transfer to provide a clear view of the flow. It can detect the presence and position of lumber as it passes through the camera's field of view; accuracy is dependent on the camera's position and distance from the lumber deck being monitored. Its location above the lumber flow reduces its susceptibility to

the dust and moisture that often hinder photo-eye and proximity detection systems.

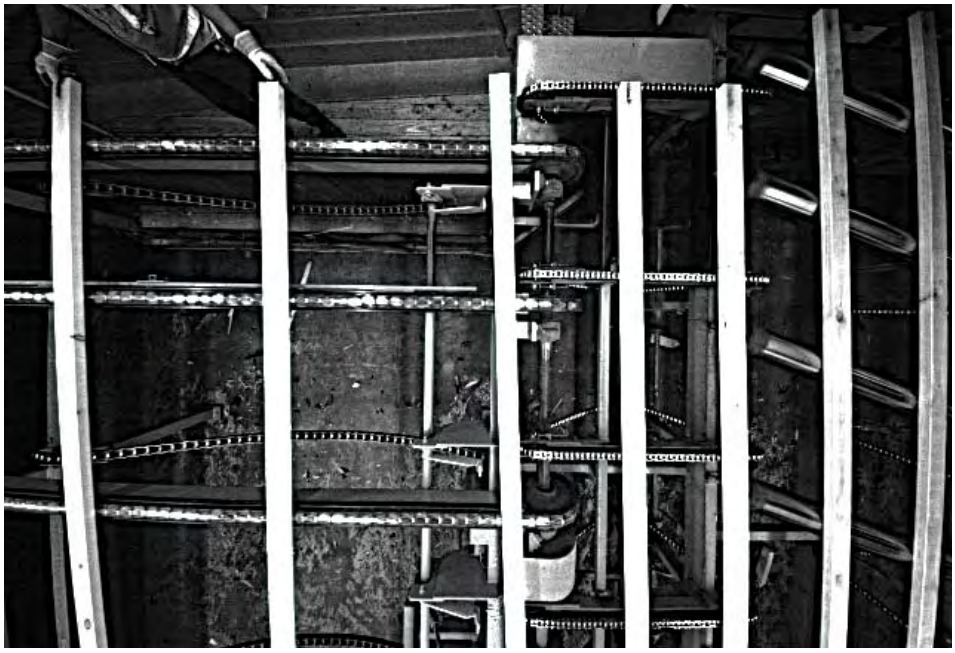
MillTrak creates a virtual array of presence detection points along the lumber conveyance. As lumber pieces travel through the detection area, the system is able to recognize the presence or absence of lumber as well as its width, length and skew. Through adaptive hook sequencing, the hook timing can be adjusted based on the lumber's width. If a skewed piece is detected, extra space can be created by having the hooks remain up until the piece has straightened, reducing the need for operator intervention. The virtual array can be easily modified through software and does not require the physical relocation of numerous photo-eyes and proximity sensors. Much of the conventional PLC logic can be simplified to use less timer logic replaced by more accurate proof of detection logic, allowing for better optimization of timing for lug chain loading and smoothing the flow. Optimizing lumber flow maximizes the efficiency of the process and reduces the overall cost of ownership.

Installation is as easy as mounting one camera module above the flow you want to monitor, and running one set of cables to the PLC control system. MillTrak is a very cost-effective alternative to installing and maintaining hundreds of photo-eyes and proximity switches. Damon summed it up this way,"With dozens of devices strategically located and adequately protected, you can make conventional photo-eyes work as well as a single MillTrak camera, but why bother?"

Improving production

Andy is very pleased with MillTrak's performance. "From the first system installation we saw the benefit and wanted to put MillTrak in other places where we had the same product flow issues. And we've used Damon's skills to get the most out of the MillTrak systems." When asked about quantitative results, Andy responded, "After each system went in, within a couple of weeks we'd broken the old production records several times. The biggest benefit we've seen is the increase in production. We're experiencing fewer jam ups and we're no longer starving the machines." Andy also spoke very highly of Damon's performance throughout the various installations, commenting, "Damon is always welcome at our plant."

As part of Red Stag's modernization plans, it has installed a USNR MillExpert carriage optimizer and a MillExpert log sorter in the past year. USNR is also manufacturing an advanced trim/sort line that is slated for installation at the Waipa mill in December. Included in the supply is a step feeder ahead of a radius back unscrambler, USNR's new Multi-Track trimmer fence, a clam shell-opening trimmer, a new pusher style sorter top and 10-bin sorter addition, an upgrade to the existing WinTally™ sorter tally system, and a new Allen-Bradley ControlLogix system. Steve Roberts, Red Stag's sawmill manager, has insisted on another MillTrak system, with start-up by Damon.



Above: MillTrak camera view at Quad Cam board feeder infeed area.
Below: MillTrak camera view at planer outfeed landing area.

Increasing profit through investment

Vern Pittman, USNR's account manager who is working with Red Stag on these projects, commented on the company's approach to improving its bottom line through capital investment. "Red Stag is focused on new technologies and the additional paybacks that they can generate. With the appropriate production volumes, the company understands that the long term paybacks and profits generated by the latest technologies can far outweigh the one time capital cost savings of installing used equipment with older technology."

MillTrak may be only a small investment when compared with the overall improvements Red Stag has planned for its operations, but it is key when one considers the cost of a huge machine center sitting idle waiting for the next piece to be fed. Andy says that Red Stag's operating approach is, "focused on continuous improvement, and getting the most we can out of our capital expenditure - running safer, faster, better." MillTrak's success fits in nicely with that strategy.

USNR's Advanced Hardwood Solutions

NHLA ANNUAL CONVENTION & EXHIBIT SHOWCASE
VANCOUVER 2010

USNR has been designing machinery for hardwood sawmills for over 100 years and has been developing hardwood optimization products for over 25 years. Often mischaracterized as a "softwood solution supplier" USNR installed the first basic hardwood optimizer in the 80's and introduced a hardwood focused edger optimizer in the mid 90's that was designed to maximize the surface area of pieces.

Much has changed since then but USNR still holds patents that were used in the original hardwood optimization algorithms. As computer processors increased in functionality and speed, it became possible to add the complex rules and decisions required to fully optimize hardwood carriage, trimmer and edger solutions.

With the addition of Inovec in 2006, USNR gained even more hardwood knowledge, and became a much more hardwood focused organization with that expertise. "Inovec brought us optimizers with a user interface and parameters that spoke the language of hardwood fluently," said Scott Norton, Director of USNR's Optimization and Controls organization. This has been integrated into the MillExpert optimizer product, so it now also speaks "hardwood" for mills that require that level of optimization.

USNR has a lot to offer hardwood manufacturers: advanced hardwood optimizers for the edger, trimmer and carriage, package kilns, machinery, a new Hardwood WinTally system, and BioVision for lumber classification based on visible defects.

The MillExpert hardwood edger optimizer is emerging as the preferred choice with features such as wane-free clear cutting evaluations, the ability to consider true random or fixed widths or a combination, and independent wane controls for each edge. "The addition of vision (via BioVision) makes it even more exciting because now we can truly identify where the cuttings are, how to classify pieces and ultimately how to grade them in an automated way, which gets even better value out of those pieces," said Scott.

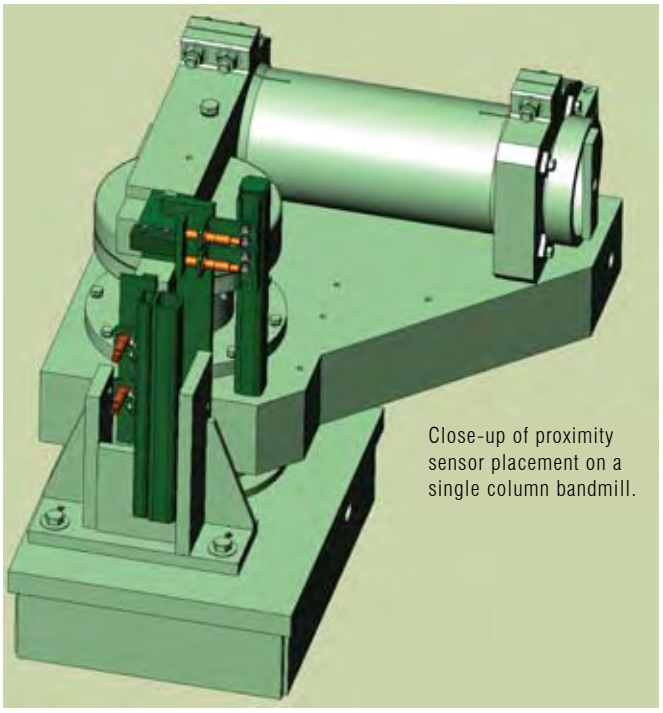
The BioVision technology now running in transverse edger and trimmer applications adds visual defect scanning to traditional geometric scanning, making value decisions to increase the finished grade outturn and recovery, thereby increasing total value. New technologies are currently being tested that will ultimately be used in the grading of hardwood products to find most defects, allowing inspectors and graders on the line to be able to focus on the really difficult stuff.

The MillExpert hardwood carriage optimizer is the best full featured carriage optimizer available on the market. It's been well received and accepted by hardwood mills for years. This real-value optimizer considers millions of possible solutions based on log grade, true shape and product definitions including wane and real dollar values, enabling hardwood mills to implement complex solutions and gain control over their product mix.

The new Hardwood WinTally system is not just a reworked softwood tally that still has an uncomfortable softwood feel to the back end. It's been fully redesigned as a specialized hardwood tally management system that captures real-time production information as boards pass the grader. It is designed specifically for proprietary hardwood and NHLA tally types.

USNR has also had big successes providing machinery and package kilns to hardwood mills. As a large stable company with a 100 year lineage, USNR is constantly improving its products and offers a larger 24/7/365 support staff than all others combined. To learn why USNR is the best choice for your hardwood sawmill solutions, call **1.800.BUY.USNR** or visit us at booth #42 at the National Hardwood Lumber Association's upcoming annual convention at Vancouver, BC Canada.

Log is being scanned with USNR's LASAR hardwood carriage optimizer system.



Close-up of proximity sensor placement on a single column bandmill.

Air Strain Bandmill Conversions

IMPROVE PERFORMANCE AND SAFETY, REDUCE MAINTENANCE

USNR is constantly looking for ways to improve our products and these three simple bandmill conversions were developed to boost performance, reduce maintenance and improve safety. The following conversions are appropriate for air strain bandmills that use limit switches to indicate high/low strain including models from Kockums-Cancar and L&B.

Limit switch conversion

USNR has a conversion to replace the current travel limit and strain limit switches on air strain bandmills with proximity switches. There have been limit switch failures due to contamination, resulting in expensive wheel lift / strain repairs and down time. Converting to proximity switches delivers consistent and reliable air strain.

Remote tilt conversion

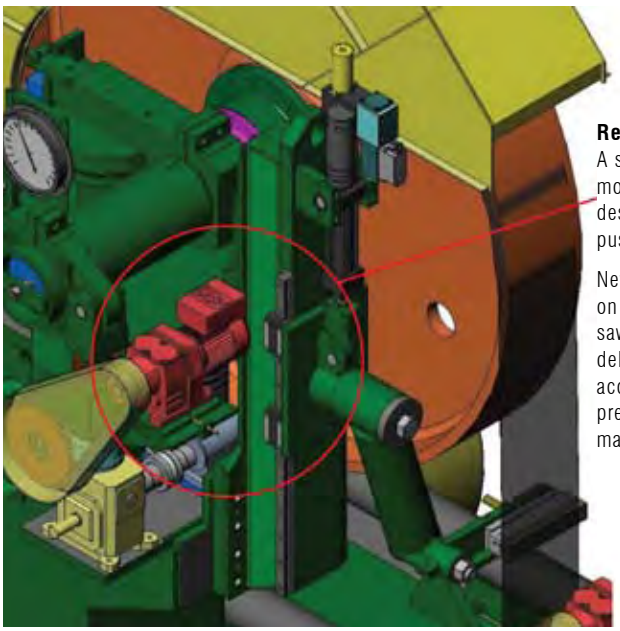
The remote tilt conversion uses a small ½ horsepower motor combined with a floor or wall mounted remote push button station that accomplishes wheel tilt while out of harm's way. The operator will no longer have to climb up on an overhung bandmill (OHW-AS3, AS4) to track the saw with the tilt hand-wheel. This conversion is very simple and a quad bandmill with an overhung wheel could be converted to remote tilt in a weekend.

While the double column bandmills (HSA-1) are not as crowded as the overhung type, we also offer a remote tilt for double column rigs. This conversion requires one existing wheel lift jack mounting surface to be lowered, allowing the introduction of the remotely controlled tilt jack.

Linear bearings on upper sawguide

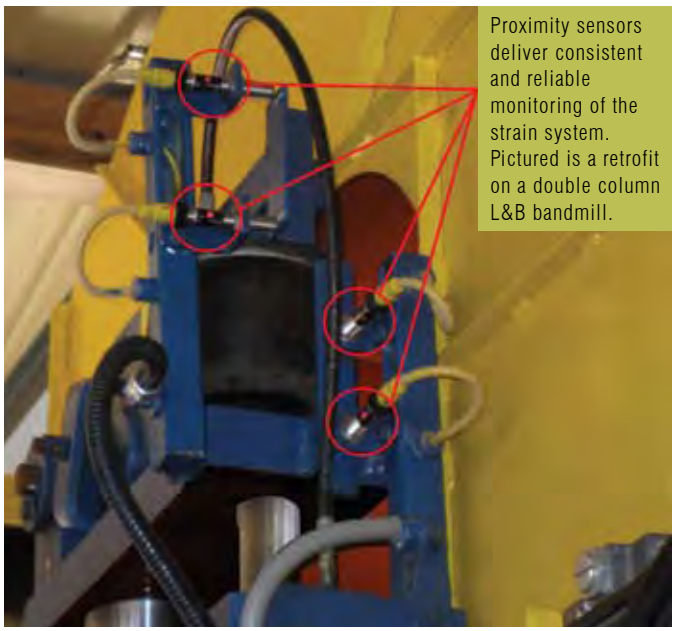
New linear bearings on the upper sawguide slideway mounting bracket deliver long lasting accuracy and precision. This smooth operating design replaces the earlier mounting bracket design that was made with turcite bonded slide frames rubbing on chromed rails. This simple conversion is more accurate and requires less maintenance with fewer replacement parts.

For more information about improving the performance and safety of your air strain bandmill, please contact us at 1.800.BUY.USNR.



Remote Tilt: A small 1/2 hp motor achieves desired tilt with the push of a button.

New linear bearings on the upper sawguide mount deliver long-lasting accuracy and precision with less maintenance.



Proximity sensors deliver consistent and reliable monitoring of the strain system. Pictured is a retrofit on a double column L&B bandmill.

NEW PROJECTS

The **Beasley Forest Products** mill at Hazelhurst, GA is upgrading its lineal edger line with MillExpert optimization and Smart TriCam scanning. This is in addition to a MillExpert carriage optimizer with LASAR scanning that was implemented in the past couple of years. Beasley is the largest hardwood sawmill in the US, producing over 90 million board feet of lumber per year. Species processed include red oak, white oak, poplar, cypress, and ash.

Bee Forest Products of Nelson, WI is upgrading its package kilns with new Kiln Boss controls. The system currently has manual circle chart controllers that are not at all effective in dealing with the mill's power usage problems associated with the power fluctuations at the grid in their region. Kiln Boss is an automatic system that can be accessed remotely, and offers precise control of kiln drying schedules which can lead to reduced energy costs. The ease of operation and training of other kiln operators are additional benefits.

Canfor's mill at Fort St. John, BC will soon receive a new 58" Forano chipper from USNR. The project includes a kick out anvil and rear discharge. The new chipper will increase the mill's capacity for producing quality chips.

A mill in **Holden, LA** will see its single track Hemco kiln repaneled and new blend box, blower, return air and heat/transition ducts installed. USNR will also be adding actuators and dampers to provide zoned heat control for this direct-fired kiln.

Hunt Forest Products of Pollock, LA is expanding its Coe M72 steam heated veneer dryer with 6 additional 4-deck sections. The expansion will improve the capacity of the veneer dryer.

Interfor at Maple Ridge, BC Canada is enhancing its primary log breakdown with a new MillExpert end-dogging carriage optimizer with LASAR scanning. The mill expects to improve recovery through new technology.

Millar Western at Whitecourt, AB Canada will soon be installing a Lineal High Grader (LHG) system. This unit will be used for geometric scanning only, to assist their manual grading efforts. The mill's graders will grade for visual characteristics while the LHG will scan for profile measurements. With this application, the graders' visual grade decisions will be combined with the optimizer's profile data to generate a final trim solution. This will improve the recovery and value of the mill's products, and consistency in its finished packs.

Pukepine Sawmills of Te Puke, New Zealand is retrofitting its transverse edger system with new MillExpert optimization. The MillExpert Edger Optimizer supports almost any machine type including traditional sideloading edgers to high-speed lineal systems with multiple scan zones. The scan frame will be extended to accommodate 20' long material. As well, a fourth shifting saw assembly and new edger picker outfeed will be installed.

In addition to other major projects in the works for **Rex Lumber** of Brookhaven, MS, USNR will supply a new MillExpert lineal edger optimizer with Smart TriCam scanning.

As announced previously, the Brookhaven mill is also being refurbished with the following equipment from USNR: Extended Length Infeed (ELI) Reducer Twin primary line outfitted with USNR's new Precision Geometric Log Rotation system, a carriage optimizer, and a horizontal double arbor shape sawing gang line, a Quad Cam board feeder, new Multi-Track Fence, a 60-bin drag chain bin sorter, and a MillTrak lumber flow management system. A new sawmill Revolver lug loader with backlog table will be installed at the **Sierra Pacific** mill at Quincy, CA. It is expected the Revolver will smooth out the flow and improve lug fill.

Temple Inland of DeQuincy, LA is upgrading its stick placing system with USNR's Lunden style automatic stick placing system. With this system, sticks are automatically fed and placed, eliminating the necessity for operator intervention.

A new primary log breakdown system is going in at **Terminal Forest Products** at Delta, BC Canada with USNR's MillExpert log optimizer and Smart TriCam scanning. Improving recovery through newer technology is the reason for the capital investment.

New Yieldmaster G3 carriage optimization for hardwood processing is going to **Virginia Carolina** at Lawrenceville, VA. Uplift in recovery is expected with faster processing capability and improvements in the overall software package for whole log solutions.

Warm Springs Forest Products of Warm Springs, OR is updating its carriage system with a new MillExpert carriage optimizer system with LASAR scanning and ControlLogix controls. The system's 3D scanning will provide a much more complete solution than is currently generated by the mill's light curtain scanner, leading to much improved recovery.

The **West Fraser** mill at Opelika, AL has purchased a new Kiln Boss controls system. This system will control 3 kilns, all direct fired using shavings. The Kiln Boss will interface with a Signature Control System (SCS) In-Kiln Moisture Measuring System. With this combination the mill will be able to read moisture contents continuously and use the new information to advance schedules or determine the end point of the charge more accurately than previous control schemes.

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CANFOR PERSONNEL TRAIN UP FOR LHG

Two Lineal High Grader (LHG) systems have recently been installed at Canfor's Houston, BC mill. To prepare for the new technology, two groups of 8 personnel from the Houston mill recently received hands-on training at USNR's facility at Salmon Arm, BC. Pictured above are members of the second group. Left to right, they are: Serf Goncalves, Bob Poole, Bob Beemer, Didar Bhatti, Dwayne Bueckert, Blair Dinelle, Mark Allert (USNR LHG specialist), Doug Gowanlock and Daryl Fry.

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PROFILE

Carl Thomas is Senior Account Manager for USNR, based in British Columbia, Canada.

Carl began with Perceptron in 2001, which was subsequently acquired by USNR in 2002. He had studied mechanical engineering at the University of Victoria in BC, but has held positions in optimization, first as service technician and technical support and then project management. These roles were a good basis for his move to account management in 2007.

While working in project management Carl was a key member of USNR's team handling log line start-ups. "Those were the early years for a couple of machine centers and as a result the team put a lot of effort into improving those machines. Now all of that effort has paid off and the results can be seen in how smoothly our last few log lines have started up."

About his current role as senior account manager, Carl says, "I really like working with customers to help troubleshoot problems that they are having and to assist them in finding the right solutions."

Together with his wife, Monica, Carl is very proud of his 21-month-old daughter, Eva. He also enjoys golfing, skiing, cooking and wine touring in the beautiful Okanagan Valley of BC.

UPCOMING EVENTS

SEPT. 22-24
AFPA
Jasper, AB Canada

SEPT. 27-OCT 1
LESDREVMASH
Moscow, Russia

OCT. 13-16
NHLA
Vancouver, BC Canada

OCT. 17-19
APA/EWTA Info Fair
Tucson, Arizona

FEB. 9-11, 2011
IHLA
Indianapolis, Indiana

MAY 30-JUNE 3, 2011
Ligna
Hannover, Germany

AUG. 11-12, 2011
SFPA Expo
Atlanta, Georgia