



## Looking Forward

In a time of economic uncertainty we are experiencing a mixed response from customers (globally). The good news is, although there are some gloomy individuals out there we are experiencing a level of optimism. During late March we headed down to the southern US for the Hardwood Manufacturers Conference in North Carolina which was well attended. The majority of millers were looking forward, had accepted change and were re-focusing their efforts. The larger US Softwood mills were starting to increase production and revisit projects that were shelved a year ago.

In New Zealand we have experienced a change in Government combined with a more competitive export dollar which should enable us to be competitive in the foreign markets. The combination of mill closures and the pine beetle forest devastation happening in North America must eventually produce a demand for

wood that Australian and New Zealand Sawmills will be well positioned to supply. We are also seeing customers tackling markets throughout Asia and the Middle East with significant success.

Being in the technology industry means we have no option other than to push forward with R&D and market development, in tough times capital for projects is the first thing that goes on hold, however, it seems many of our clients have realised that modernization and implementation of technology plays an important role in their own survival.

Our indicators are that the later part of 2009 and 2010 appears that many companies are warming to moving forwards through investment in advanced technology so it appears brighter times are not too far away! If we could switch the media off for a couple of months things may recover faster!

## Penrose Pine

New South Wales Penrose Pine, about two hours south of Sydney has recently installed a new Gibson Edger and infeed combined with A&E IRIS Edger Optimizer system. The Edger is capable of producing up to 6m boards at the mills required production rates. The same machine also processes up to 200mm thick Cants. When considering the wide range of dimensions being processed A&E decided to utilize JoeScan J20 Scan heads to true shape profile the boards and Cants, 16 heads in total were required to produce enough high-resolution data to profile wane and Cant geometry.



A unique feature of the system is the optimisation interface to A&E EdgerView which provides the operator with real sawline position on a video image of the board or Cant in real time. Furthermore there are also two images of the ends of the Cants showing relative saw position and the ability to change the solution to box out the pith and improve the grade recovery. This brings the gains of true shape combined with visual grading to a new level.



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# PanPac Forest Products

## Major Plant Expansion



As a part of a multi million dollar upgrade at the Pan Forest Products Ltd Lumber Sawmill, in Napier, A&E were awarded the supply and integration of controls, SCADA and MCCs for the mills new board transfer line. This expansion commenced from the out feed of a new Optimil Arbor Saw to a Southern Cross board transfer and unscrambler, onto a USNR quad cam lug loader which transfers to a Tray Sorter from Milltech and then out to a Gillingham Best Stacker.

**The Project**, involved the construction of a new 1,000 square meter building to house the tray sorter line and stacking facility. The expansion also incorporated a new 400 kilowatt arbor saw.

Kevin Banks, Project Manager, explains that two North American sawmill equipment suppliers were engaged to provide the key elements of the project. Optimil were responsible for the design and supply of the new arbor saw and related in-feed and out-feed equipment. Milltech supplied the downstream tray sorter line. Other suppliers were USNR (Lug Loader), Gillingham Best (Stacker) and Christchurch based Southern Cross Engineering (Tray Sorter In-feed Conveyor).

Kevin Burgess, the Project Electrical Engineer, explained that "To achieve the required level of control, nearly every motor on the tray sorter system was driven by a variable speed drive. We selected Drive Dynamics' SD450 series of drives for the project, which saw a total of 52 drives ranging from 5.5 kilowatts to 45 kilowatts installed". He also said that "Various VSD control interface options were considered, however, we elected to use a standard hard wired interface between the PLC Remote I/O modules in each MCC. These R/IO modules are linked by fibre to the three networked PLC's. Our next phase is to use the onboard ModBus serial communications of the SD450's and the V5 Soft Starters for monitoring back to the mill SCADA system".

"We were extremely happy with how smoothly the commissioning went" said Kevin Burgess.



The project was challenging as it involved accurately measuring and controlling the transfer of each board combined with the synchronization of the entire line. The controls incorporated Allen Bradley Control Logix PLC with remote I/O to all the devices and motor control centres, which in turn incorporated the 52 Drive Dynamic Variable speed drives each synchronized into the process to enable variable speeds of up to 80 lugs per minute.

All other communication was over Ethernet IP which interfaced to A&E's BinView TM Software and SQL database which connected into the sites information system.





# Rosvall Expansion

## Bin Sorter

You may recall our last newsletter, which featured Rosvalls auto stacker and innovations along with comment from Managing Director Mark Hansen. Since then, Rosvall have invested in more A&E Technology with the commissioning of A&E BinView Software and PLC controls on a 20 Bin Sorter which was imported second-hand from the USA. The mill's A&E TallyView system was upgraded to incorporate BinView Software and comprehensive database of the mills production and sorts, the software also features alarms, diagnostic tools and reporting for shift, product, grade, downtime etc. The Sorter has been connected and synchronized between the mill out feed and the auto stacker. (the round table is still able to be used).



# KLC

## Lug Squareness detection

Recently we were requested by KLC in Kaingaroa to find a way to detect lugs that had fallen out of alignment on their end matcher. The end matcher conveys pieces of shook transversely through the knives that finger joint and glue the ends of the shook. If the shook was not held square the joint would not match correctly, so it was important to detect the misaligned lug and indicate which lug was out of alignment.

To do this, we used a combination of high resolution pin point photocells and encoder to track location.

They were interfaced to a small Allen Bradley MicroLogix PLC.

In addition, ScanMeg single point laser sensors used to measure thickness accuracy to check that shook is within specification.



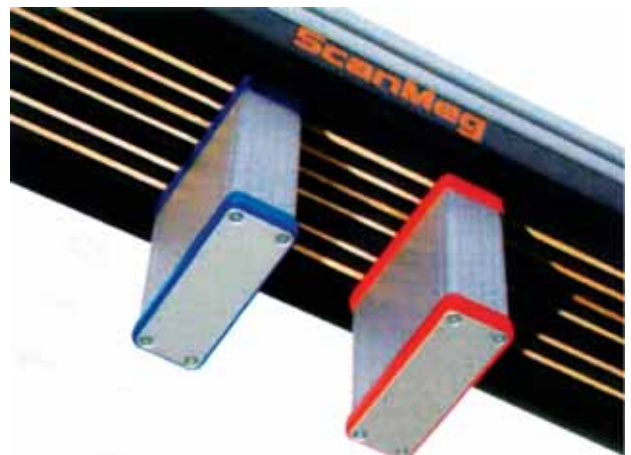
**KLC Lug - board squareness detect on their finger jointer. The system also incorporates ScanMeg laser thickness sensor to detect boards that are out of spec.**

# Modular Wireless Photocell

SNAP it on its bus rail, program it with a remote, start detecting

Introducing a totally versatile and inexpensive new sensor that will revolutionize the industry and the way one uses photocells and proximity photocells to obtain flexible and improved detection.

- \* Plug and Play
- \* Device net compatible
- \* Up to 4000 scans per second
- \* Automatic detection error conflict
- \* One bus rail, one wire, one connection
- \* Clip anywhere or wherever onto the rail
- \* PROX with programmable intensity level
- \* Photocell and Proximity Photocell side by side
- \* Hand held wireless remote control for programming
- \* Up to 96 PHOTOCELLS and/or PROX on the same rail



**Need a new set point: it is as simple as 1,2,3!**

- 1 - Clip a SNAP PC onto its bus rail where needed.**
- 2 - Use the hand held wireless remote control to assign a position number and to adjust the beam intensity.**
- 3 - Start detecting.**

# 3D Carriage Scanner

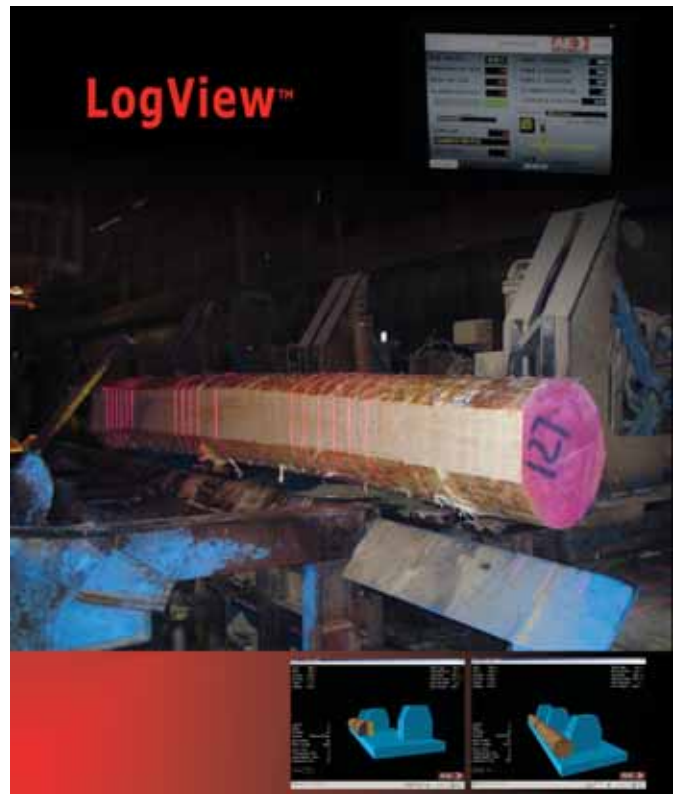
AE LogView™

## True Shape Carriage Scanning System

A&E recently upgraded the Setworks controls on the Rosvall Log Carriage to the latest generation Allen Bradley Compact Logix PLC combined with Ethernet processor which provides a fast seamless interface to A&E's new 3D, MOF Scanner.

The new ScanMeg CV12 Scanner was developed specifically for the application which comprises of scanner modules each 1500mm long, enough to cover a 6m log. Each module incorporates 12 solid state lasers and two cameras and 125mm spacing. This enables us to true shape profile the front 120 degree profile of the log at 125mm, scan and set. The high density scanner enables us to scan true shape, determine minimum opening face when close coupled to a Slabber. Higher accuracy profile can be obtained every 25mm along the length as the log moves over only 125mm toward the saw.

Calibration is simplistic and as the scanner does not have large stand off distances and all fixed in place components vibration within the mill causes no problems. This development along with our new Edger optimiser brings A&E closer to its goal of being Australasia's first true shape scanning and optimisation provider.



### FEATURES: True Shape 3D Profile (Cant, Board, MOF)

- \* Front or rear scan option
- \* Scalable taper rules
- \* Fast laser snapshot & high definition profile on the fly
- \* Comprehensive reports
- \* Ideal for Softwood and Hardwood Sawmills
- \* Local supply with local support 24 hour/7 days

# The Full Profile Scanner

whose time has come . . .

The new Type CV12 Full profile log Scanner is a very versatile device.

It can be used for:

- Conventional carriages
- End-doggers
- Edger & Cant scanner
- Sharp-chain scanners
- Rotation verification scanner
- Log sorting scanner

Whether it is used as a SnapScan or as a multi-headed longitudinal scanner the CV can be used in front of many different kinds of machine centers.

In many cases it could save valuable real estate during the scanning operation. It also could be used to scan the log or board in place, so that costly modifications to the mill do not have to be made.



### Computer Scanner Interface

The new Type CV12 Full profile Carriage Scanner can be used for conventional carriages and end-doggers as well as log sorting on belt conveyors. It can also be used to confirm log rotation after flying-log turners.

# R.H. Tregoweth

Headrig Upgrade



After the recent installation of a new McDonough Hi Strain Bandsaw on the Headrig at R H Tregoweth sawmills in Te Kuiti, our long time and appreciated client Kevin Tregoweth decided it was time to modernize the Setworks controls on the Heavy Duty independent Knee Carriage. The Setworks were originally installed by A&E in conjunction with Oliver & Haua Engineering in 1990 when we used the Allen Bradley PLC 5 series system which is no longer being manufactured by Rockwell.

The system has withstood the test of time, however, the new upgrade to Compact Logix generation which incorporates Ethernet IP and Delta servo positioning poises Tregoweth in good position for future modernization and interface to optimization technology.



# A&E Provides

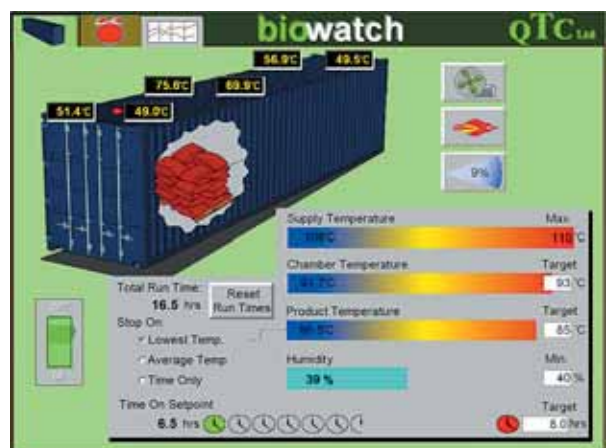
Biowatch SCADA and Controls

Biowatch was developed for a Windsor Engineering customer, QTC (Quarantine Treat Centre) of Auckland in response to New Zealand's tighter border controls of pests and contaminants.

The system sterilizes imported products using a closed air loop. The air is indirectly heated by a diesel burner and maintains an 80°C setpoint for a specified period of time depending on the product being treated.

As well as air temperature, product temperatures are monitored to avoid heat damage. The process requires constant humidity which is controlled with the aid of water injection spray nozzles.

QTC speak highly of the new control system and there is talk of further installations in Oman.





# A&E Development

## Continuous Drying Kilns

A&E is currently developing the new controls and Software for the Windsor CDK range of Kilns. The first system is about to be commissioned in a Softwood mill in Florida USA.

The Windsor range includes three different CDK kiln configurations.

### Windsor CDK-D

The CDK-D has a reverse flow double track kiln design. It incorporates central heating/drying, saturated cooling and equalising phases all in one extended chamber. This design includes options for both direct fired and indirect fired heating. The lumber stacks pass through the kiln in opposite directions on the two tracks. The lumber is automatically advanced, based on the moisture content of the lumber in the central heating zone, by hydraulic advancer units. CDK control is via a PC/PLC kiln management program like Dryspec 2000® integrated with the DryTrack® Echo in-kiln moisture measuring system.

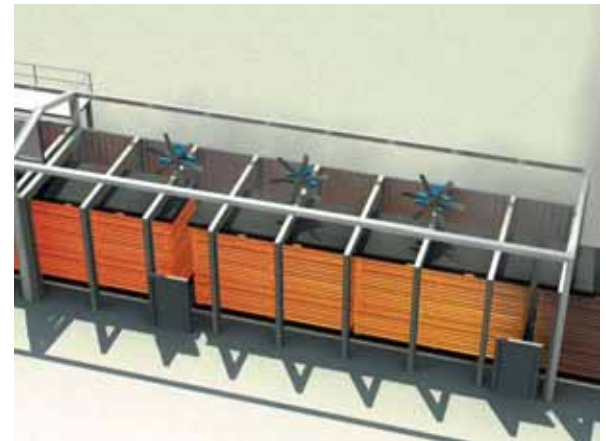
### Windsor CDK-S

The CDK-S (2 options) have a one pass single track kiln design. They incorporate plasticization heating/drying, forced cooling and conditioning phases.

The designs incorporate indirect heating principles. Lumber passes through the kiln in one direction. The lumber charge is automatically advanced based on the moisture content of the lumber in the heating zone. CDK control is via a PC/PLC kiln management program like Dryspec 2000® integrated with the DryTrack® Echo in-kiln moisture measuring system.

### Features

- \* Thermal energy efficiency gains of up to 30% are achieved.
- \* All CDK kiln options are fully automated in terms of baffle and door operation and also charge loading.
- \* CDK kilns include the automatic "hands free" moisture measurement system DryTrack® Echo.
- \* Existing batch kilns can be converted to CDK kilns to increased production and reduce energy/fuel use.
- \* CDK technology offers improved grade recovery due to the equalising and conditioning cycles.
- \* All aluminium construction is used in the equalising and conditioning sections.
- \* Operational at sites in the USA and Australia.



### SMS Advanced Alarm Auto Dialler For Dryspec2000

The advanced alarm auto dialler is able to send text messages to a mobile device and provides details of which alarm has been raised. The recipient can then decide if they need to go to site to sort out the problem.

Benefit: Kiln operators no longer need to dial in or attend site to see what alarm has been raised and what action if any needs to be taken.

Select Recipient to Call

Then Select which Alarms each recipient will receive



## Waitete Sawmills Ltd

### TRIMLINE UPGRADE

Another new development in Te Kuiti.

A&E recently worked in Waitete Sawmill implementing controls and software on a new Trimline system. The trim to length system designed and installed is interfaced to A&E's Vision based technology, where, similar to our EdgerView sawline overlay system, we provided a scanner that generates a live board image with trim sawline display to the operator. The operator has the option of letting the board continue with the current solution or manual re trim based on grade or geometrical defects. An additional enhancement will be the incorporation of A&E Tallyview software to provide the mill with comprehensive data on the mill's production and reports to MS Access or SQL database.



## Robot Applications for the Wood Industry

Automated Drilling, Cutting, Gluing, Assembly, Sawing, Palletizing etc



Talk with A&E in conjunction with Marand Precision Engineering about your applications today. We will follow through with a complete 3D simulation model of your process before you have even installed a Robot in your plant. It's nice to visualize your application before you go ahead with installation.

## Disclaimer

DISCLAIMER - "without prejudice" A&E management wish to advise its customers that recent rumours circulating that a part purchase or acquisition of A&E NZ Ltd by Pacific Timber Engineering Ltd is under negotiation. **Please be advised this rumour is false.**

## HMA Conference in North Carolina (US Hardwood Manufacturers Association)

A&E USA during March exhibited at the US HMA Conference in North Carolina which was well attended by more than 150 sawmillers and suppliers. The conference was optimistic and informative and for those in the Hardwood business this conference is well worth attending.



Pictured: A&E USA Sales Engineer Richard Baty with Mr Jeff Harper of Crosby Sawmill Machines from Louisiana.

## A&E in the USA

### SILVATECH Announcement



As part of a major leap forward in their business development plan, A&E's USA Division has acquired the access to the IP, Assets, customer files and database of Silvatech Corporation. Silvatech has been a major Scanning and controls company in the USA since the late 1970's with an installed customer base of more than thirteen hundred clients throughout hardwood and softwood mills in the USA . With A&E USA utilizing the resources of A&E NZ Software, controls and the knowledge base that we can extract from the Silvatech data, record and files, we are now in a great position to further develop our position in the US sawmill controls and optimization market. This has the added benefit of bringing some of that knowledge back to our Australian and New Zealand clientele.

## SEE US AT

### New Orleans Show

#### Automation & Electronics USA LLC

#### SFPA Forest Products Machinery and Equipment EXPO 2009

Location: Booth 2037

Morial Convention Center New Orleans, Louisiana USA

Start Date:

June 11, 2009

End Date:

June 13, 2009



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