



International System Integrators

MILLWIDE SOFTWARE, OPTIMIZATION & CONTROL SOLUTIONS

1 USA PROJECT

Cable Hardwoods Inc – Portersville, PA, USA

Commissioned: April 2018

Optimized (Light Curtain) Carriage Controls Upgrade.

This project involved replacing the original Silvatech controls with A&E controls using an Allen-Bradley CompactLogix PLC and a RMC150E Delta Motion Controller.



USA PROJECT

R.E. Lowell Lumber Inc – Buckfield, Me, USA

This project involved replacing Silvatech controls and Motor Control Panel. A&E USA was responsible for replacing the setwork controls on a 4 knee setshaft carriage with existing Silvatech controls.

We also upgraded the carriage setshaft motor control to an Allen-Bradley VFD. In doing so we were able to increase the set speed by 50%, allowing for increased production while maintaining quality assurance standards.

Moving to a PLC/HMI control system has allowed us to customize the networks to the customers specific requirements and allows for remote support meaning minimized downtime in the event of a breakdown.



**A&E EXPO STANDS
2018/2019**

EXPO RICHMOND - RICHMOND RACEWAY COMPLEX, VIRGINIA, USA - MAY 18TH - 19TH 2018

EXPO RICHMOND

TIMBER PROCESSING & ENERGY EXPO 2018, PORTLAND, OREGON, USA - OCTOBER 17TH - 19TH 2018
www.timberprocessingandenergyexpo.com

HMA NATIONAL CONFERENCE & EXPO, SAVANNAH, USA - MARCH 20TH- 22ND 2019



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SOUTH EAST PINE

MT GAMBIER SOUTH AUSTRALIA

PROJECT MANAGER: Rainer Ansoerge

THE PROJECT

The mill consists of three main machines:

Primary log breakdown is an End dogger with Twin Bandsaws controlled by A&E with Allen Bradley PLC and Delta motion controlled interfaced with A&E LogView 3D Optimization Software. This software takes 3D profiles every 125mm along the circumference of the log.



The **Secondary machine** is another Twin band Resaw again controlled by A&E with Allen Bradley PLC and Delta motion controlled interfaced into A&E 3D Cant Optimizer.

The **third machine** is a Multisaw Edger interfaced to A&E controls and Edger Optimizer scanner /software which can do both wane up/down 3D profiles.

Each machine also features A&E virtual vision which provides top and end views of Logs, Cants and Boards that display the actual optimized solutions on a live video image of the lumber which enables operators to make grade overrides or box out pith or corewood.

Project Objectives:

To achieve optimum recovery of high grade timber

Client Comments:

From Mark Forster, owner of the South East Pine milling operation

“We were looking to achieve better recovery of quality timber from our milling operation” says Mark.

“Having worked satisfactorily with A&E’s Australian partner, A E Gibson and Sons (engineering) in past projects, we were keen to work with A&E primarily because of the negligible time difference between our two countries and A&E’s solid reputation in the timber industry”

“Working with overseas companies where there is a major time difference (such as in Europe), has proven to be difficult when problems arise particularly at the initial commissioning stage that require sorting speedily to avoid downtime”.

“The mechanization achieved by the combination of pre-set and optimized software has removed much of the operator responsibility and increased high yield timber recovery”.

“I really didn’t realize that the project was so big, the fact that the installation was tailor made to suit our particular operation and circumstances certainly takes time but the results are definitely worth it”.

“I found that A&E have some good people and Project Manager Rainer Ansoerge listened to our concerns and objectives and acted accordingly”.

The Result:

“Optimizing our log yield, particularly through the introduction of log scanning into our system was what we really wanted from A&E and this has been achieved”. By scanning alone, we have increased recovery by 5%, which pretty much hit my target”, says Mark.

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MAX BIRT SAWMILL POKENO - APRIL 2018

THE PROJECT

Upgrade of **Edger and Horizontal bandsaw** is into a modified trim line at Max Birt Sawmills Pokeno Mill site, Auckland, New Zealand.



Max Birt Edger Console & Horizontal Bandsaw Infeed

A&E Engineer Lance Mustard working on the Hori

Project Objectives: To significantly increase production



Client Comments: "At this stage the project seems a huge success" says Max Birt"

"whilst the project is still in the commissioning stage, early indications are that production will lift by some 35% on this production line". Max tells us enthusiastically, "The project has gone like clockwork as usual with the fusion of A&E handling the electronics and software and Pacific Engineering the mechanical. A&E help with training our staff to handle the new software and machinery and they even come in weekends".

"As sole director, I don't have a great deal of free time, and A&E answer any questions quickly and handle projects efficiently which makes dealing with them a breeze".

"We have certainly earmarked the whole plant for full scanning installation in the future", says Max.

The Result: 35% output improvement on this production line.

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AUTOMATION & ELECTRONICS BOILERVIEW™ UPDATE

A&E "BOILERVIEW™

BoilerView™ is designed to work in conjunction with an institute oxygen meter. The continuous measurement of flue-gas oxygen level allows BoilerView™ to adjust fuel ratios every few seconds.

Over the last year A&E has replaced boiler controls on three wood-waste boiler systems at NZ timber processing sites; Craignipe; Toi- Ohimai Institute of Technology at Waiariki; and one other. We also installed BoilerView™ on one new boiler installation.

Picture is a fuel system HMI screen



Novatech O2 meter (sits in the exhaust stream after combustion)



Novatech O2 meter (sits in the exhaust stream after combustion)

If a furnace is receiving too much excess air the result is more fuel being burned than is necessary, also the out-put of the system is compromised, this is particularly important for sawmills that do not have an abundance of available wood waste.

The O2 meter is also useful for detecting problems within the boiler, as an example, if the dry shavings bin is empty the O2 level will go low and possibly turn the exhaust to black smoke, the O2 meter will pick up on this and the PLC will take action before the smoke starts. All motors feature manual control override from the screen which is useful for clearing blockages etc.

BoilerView is suitable for all types of fuel and types of boilers, Steam, High Pressure Hot Water and Thermal Oil.

All functions are continuously trending allowing the operator to look back and see what may have caused system fault.

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KILN INSTALLATIONS NEW-ZEALAND & OVERSEAS

A&E SPECIALISTS IN KILN ELECTRONICS AND SOFTWARE

Since our last newsletter in October last year, Automation & Electronics have again been involved with a number of Kiln installations and upgrades, both in New Zealand and overseas.

COMPLETED NZ KILNS:

CCH Kawerau Stage 1: Christmas 2017 - Installed Dryspec 3™ into existing kiln installation at CCH Kawerau. Also, upgraded 2 x SLC's to control Logix at same installation. **A&E Contributing Engineers –Glenn Purcell**

CCH Kawerau Stage 2: March 2018- Upgraded the existing PLC5 installation to a control Logix with remote racks. **A&E Contributing Engineers - Glenn Purcell**

Westimber on the South Island West Coast:- Completed Kilnwatch 2000™ add on. **A&E Contributing Engineers - Glenn Purcell**

COMPLETED USA KILNS

For Georgia Pacific – Dudley, NC, USA

we provided an Allen-Bradley CompactLogix PLC which reads real-time moisture data from in-kiln sensors and calculates the push rate for a Continuous Drying Kiln. This project is stand alone and communicates to the existing kiln control system meaning that it can be integrated into any kiln control system that does not have reliable push rate control.



Georgia Pacific – Dudley, NC, USA
Commissioned: March 2018



Tolko Industries – Lavington, BC, Canada
Commissioned: Nov 2017



West Fraser – Smithers, BC, Canada
Commissioned: Jan 2018

ONGOING KILN PROJECTS:

Australian/Worldwide Kilns:

Two CDK Kilns to be completed, sent and commissioned in Thailand
One CDK Kiln to be completed, sent and commissioned in Wespine, Western Australia
Two CDK Kilns to be completed, and commissioned at CHH Kawerau, New Zealand.
Wetbulb controls to be fitted onto existing CDK at AKD Victoria, Australia.

FUTURE KILN PROJECTS:

- CDK in Canada
- CDK in China
- CDK in India

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AUCKLAND HARBOUR BRIDGE SOLAR POWER

During the latter part of 2017 A&E was contracted to work with Vector on the Solar power charging systems for the Auckland Harbour Bridge solar energy-powered show, lighting up the bridge with 90,000 LED lights and 200 floodlights. A&E Engineer Dries Nel was to assigned the project to work in conjunction with Vectors engineering team. This awesome result speaks for itself.



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