



International System Integrators

INDUSTRIAL SOFTWARE & CONTROL SOLUTIONS



INDUSTRIES COMPANY PROFILE



ESTABLISHED IN 1986

About Us

Automation & Electronics is an Export NZ Award winning company and has continued to expand and evolve into a highly skilled, progressive company specializing in design, software development and manufacture of control solutions for industry.

Established in New Zealand in 1986 the business rapidly developed a reputation for innovation and service, supporting client installations worldwide.

Twenty years later, in 2006 Automation & Electronics USA LLC was established when we acquired the exclusive rights of Silvatech Corporation in the USA and then extended support with engineering based in North Carolina.

The Company's Management are actively involved in the day to day running of the business along with key Engineers and several OEM partners and shareholder Canadian machinery manufacturer TS Manufacturing Co.

Sales and technical staff are based in both New Zealand and the United States. These specialists combine to deliver a wide range of skills

Including: • Software and PLC Design Programming • Panel Building • Servo Electric • Servo Hydraulic Positioning
• Electrical Motor Control Centre Manufacture • Technical Writing • CAD Drawing • Electronic Service and Support



Brian Smith
Managing Director (NZ)



Joe Korac
President (USA)

Projects

Automation & Electronics (A&E) specialize in completing small stand-alone machines through to complete turnkey projects including design, programming, manufacturing and commissioning, combined with management of sub contractors for large scale installations.

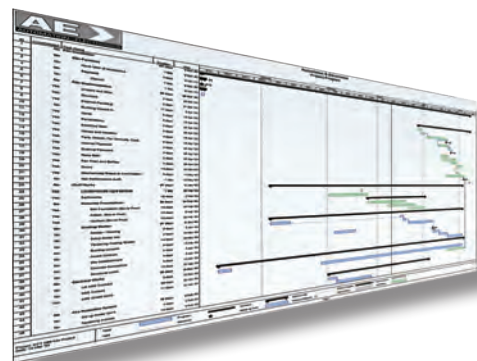
Automation & Electronics (A&E) have completed projects in New Zealand, Australia, United States of America, Canada, Fiji, Chile, South Africa, Thailand, Malaysia and Papua New Guinea, over a wide range of industry applications.

Inclusive of manufacturing, batching, repetitive process, energy and material handling with robotic integration.

Projects Management

We understand that the completion of projects to specified time, cost, quality and performance objectives are important to our customers. All staff are trained in Project management processes to ensure that we identify, monitor and achieve our objectives.

Our staff are highly trained in Health and Safety skills and procedures to ensure all projects are completed to the highest safety standards.



Quality Control

The Company has a fully implemented TQM (Total Quality Management) to international standards in order to ensure processes are thorough and consistently monitored for continuous improvement.

Our Industries Solutions

- Solid Wood Processing
- Concrete Manufacturing
- Quarry & Rock Crushing
- Energy Management
- Food Processing
- Plastic Rotational & Injection Molding
- Machinery Automation

Research Development

The Company invests substantially in research and development to ensure it remains at the leading edge and continues to push technological boundaries with new ideas and concepts in areas such as optimization, vision, energy efficiency and environmentally friendly technology.



Training & Support

Training is an essential part of internal development which also extends to our clients for all on-site operational training. This is supported with remote broadband and phone support worldwide.

Engineers are available for remote or on-site support 24hrs/7days per week. Clients are also provided with comprehensive manuals and troubleshooting guides.

SCADA SOFTWARE



Automation & Electronics (A&E) are able to custom design your Supervisory and Management system screens to your requirements. A&E have extensive experience with Rockwell Factory Talk and alternate Software package such as iFix and Wonderware. SQL database reports can also be provided, these are integrated through the system.

PLC CONTROLS & HMI



Our engineers have decades of experience with a large variety of PLC and HMI systems such as: All Rockwell / Allen Bradley PLCs and HMI, Siemens S7 and Omron Unitronix, SICK, Beiger and more . . .

MOTOR CONTROLS CENTRES



A&E Motor Control Centres MCC's are built in-house and are customized to your site's standards using a range of industry standard components and drives.

When integrated to an A&E PLC system, we are able to perform a large portion of the MCC testing in-house prior to shipping and therefore reducing on-site start up time.

SAFETY & MERGING NEW TECHNOLOGIES

- Rockwell Asset Centre
- Augment Reality

SAFETY

In addition to site and workplace safety practices, our engineers are experts in the area of machine safety. Their training includes qualifications to include the industry-leading and internationally recognised TÜV Functional Safety Engineer Certificate.

Standards we assess to include AS4024, ISO23849 and IEC62061.

All of the machinery we design and install is certified to world-leading industry standards.

We also design, commission and validate machine safety systems for existing or newly imported machinery, ensuring that it complies with the most stringent standards required for operation in New Zealand.

We can work with you to help assess your operations to identify any areas where machinery operation poses a risk to employees, and develop a common-sense and practical approach to mitigate those risks.

We can also facilitate the addition of guarding and electrical fail-safes, altering procedures and providing training for operators, as well as ensuring the safety of operators, safer machinery results in improved peace of mind, operational efficiency and reduced downtime.



ROCKWELL ASSET CENTRE

FactoryTalk® Asset Centre provides you with a centralized tool for securing, managing, versioning, tracking and reporting automation related asset information across your entire facility.

It can do this automatically, with limited additional management oversight or work from employees.

FactoryTalk® Asset Centre can impact uptime, productivity, quality, employee safety or regulatory compliance.

Merging New Technologies



AUGMENT REALITY

AR software tools is known for its advanced computer vision, calibrated performance and cross-platform reach. The system incorporates a marker based AR system in which the markers are the images or 3D objects registered with the application. It acts as information triggers in your application.

Developers can easily add advanced computer vision functionality to any AR application, allowing it to recognize images and objects, and interact with spaces in the real world. These recognition and tracking capabilities can be used on a variety of images and objects.

This AR development platform provides support for leading phones, tablets and eyewear. It is possible to add advanced computer vision functionality to Android, iOS, and UWP apps and create AR experiences that realistically interact with objects and the environment.



CONCRETE MANUFACTURING

• Aggregate / Quarry / Rock Crushing / Lime Plants

OPTIBATCH™ Batching Control System



OptiBatch is a modular solution based on the following components:

OptiBatch Enterprise: This manages customers, products, pricing, orders and scheduling with the Fleet Management Ethernet communications providing high speed transfer of data over multiple sites or locations if required.

OptiBatch Control: Automates the batching process to include handling, weighing and delivery of both aggregate and cement plus water additive metering. The controls use industry standard PLC hardware to ensure reliability and the ability to expand the system.

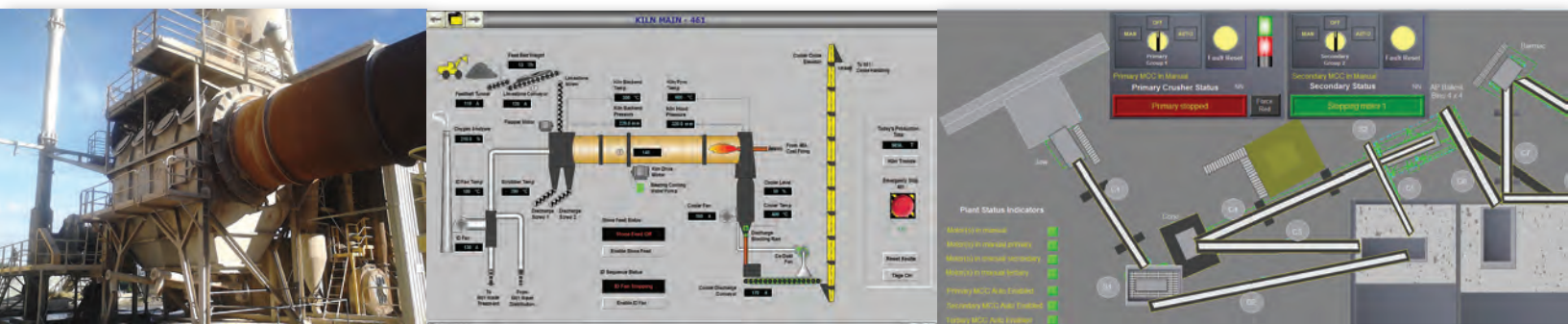
Because the system is modular it can be configured to interface with your existing management system controls or installed as a complete turnkey solution.



CONVEYING SYSTEMS

Aggregate / Quarry / Rock Crushing / Lime Plants

In addition to Concrete, over time, we have accumulated experience with many types of variable speed conveying systems combined with control of pumps, motors for quarry and rock crushing plants using hydraulic jaw crushers utilizing cone or barmac feeders combined with wash down systems.



FOOD PROCESSING INDUSTRY



We have extensive experience throughout various sectors of the food processing industry and have experience with design and programming to work with your sites system architecture. We use SCADA and integrated PLC Networks to carry out the functionality and process controls which we project manage through to commissioning.

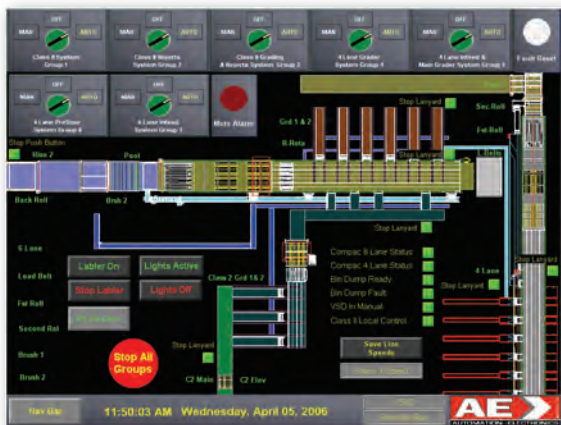
Our installations typically utilise Allen Bradley or Siemens PLC's integrated with the Site wide SCADA system on platforms like Factory Talk, IFix or Wonderware.

Applications include: batch control; recipe; cooking; weighing; measurement; flow CIP process; conveying systems and monitoring through to packaging lines and integration to the site IT system SAP or similar.

Our experience also extends to completed projects for Cool storage datalogging and monitoring.

With over thirty years in Automation & Electronics, we have commissioned systems in:

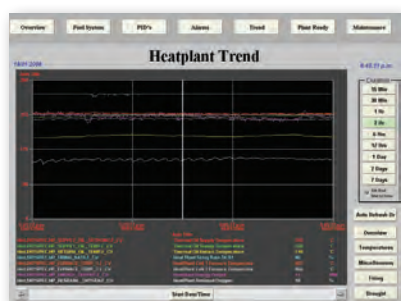
- Kiwifruit Bin Dumps and Coolstores
- Bakery's
- Salt Refinery and Bagging
- Chocolate Manufacturing
- Flour & Wheat Manufacturing & Packaging
- Seafood Mussel Processing Plants
- Honey & Edible Oil Manufacturing



ENERGY SYSTEMS

BOILERVIEW™

BoilerView™ is an integrated software and control package for all types of Boilers including Co Generation Plants. It uses a PLC for controlling the Boiler and a SCADA package running BoilerView Software as the visual interface. Some systems interfaced to our Kiln Software and also to wireless devices such as Ipad's or Cellular phones when operated in unmanned or limited attendance states.



Our Boiler controls can be used with any make or model Boiler that are fired by Natural Gas, Sin Gas, Coal, Bark, Saw-dust and wood shavings. In Woodwaste standard boilers use screws and/or fans to move timber products into the firebox. Combustors use a drying loop to both dry and move the fuel which we often control with the addition of a variable speed drive combined with an Oxygen sensor mounted within the flue to measure to automatically control fuel air ratio's which provides cleaner burning and higher efficiency.

OXYGEN ANALYSER



Features include

- Remote Access
- Automatic start-up and shutdown sequences
- Database reporting for production statistics such as fuel usage, water treatment chemical usage, opacity logging (smoke production figures for authorities).
- Alarming - direct to pagers, home phones and cell phones
- Historical Alarming
- Trending
- Fire monitoring on fuel hoppers (optional)
- Turbine control (optional)

OTHER AUTOMATION & ELECTRONICS APPLICATIONS

- Sewage & Waste Water Treatment
- Gangway Controls
- Pulp Mill pilot Plant
- Solar Power Management & Charging System

SEWAGE & WASTE WATER TREATMENT Controls & SCADA in New Zealand & Australia

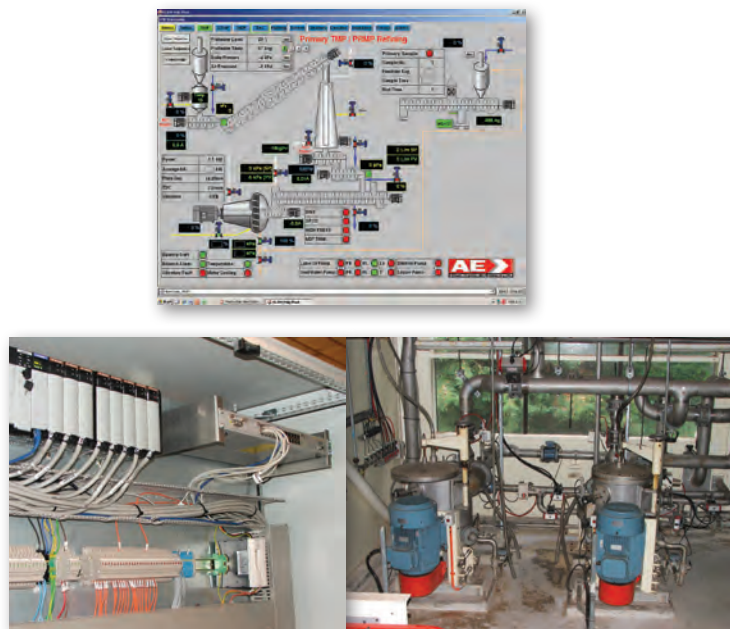


GANGWAY CONTROLS Controls for the Inter Islander Ferry Gangway



PULP MILL PILOT PLANT

SCADA and PLC Controls for a Pilot Pulp plant in Rotorua NZ



SOLAR POWER MANAGEMENT & CHARGING SYSTEMS



Over the past few years our Engineers have worked on some interesting projects relating to Solar Power and charging systems. These include working with Vector and Power Smart on assisting them to provide the lighting and charging system for the Auckland Harbour Bridge and a new Solar Management system for a Resort in Fiji.



FORESTRY INDUSTRY SOLUTIONS

- Sawmill Log & Lumber Scanning and Materials Handling Systems

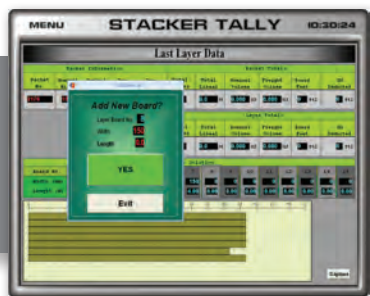


Automation & Electronics has extensive experience in this industry sector and for more than thirty years has provided total mill wide solutions throughout the entire sawmill. Our solutions commence with Log Merchandising, followed by Debarker automation for continuous log feed to the plant, right through to advanced 3D laser scanning systems for log and board optimisation. These are integrated for accurate sawing using servo electric or servo hydraulic positioning systems to obtain optimum recovery.



Further downstream we provide PLC & SCADA based systems for lumber handling, tally, sorting and auto-stacking systems which interface into a comprehensive SQL Millwide database providing production and diagnostic reports across the plant.

Our systems can also include safety PLC's and mobile app integration for your ipad or other mobile device.



A&E KILN DRYING SOLUTIONS

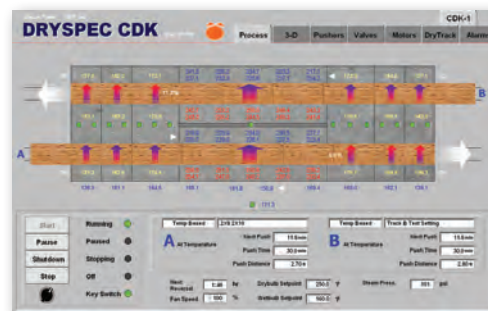
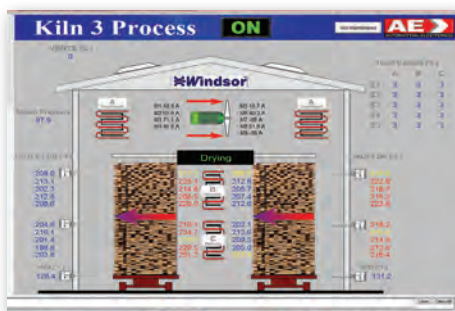
Automation & Electronics provides a range of control solutions for both retrofit and new medium and high temperature kilns. Recently Continuous Drying Kilns (CDK) have been successfully installed in both New Zealand and the United States in high production Plants which are drying Radiata Pine, Southern Yellow Pine and various other Softwood species. CDK technology has proven to deliver high volumes of lumber whilst at the same time improving lumber quality and providing increased energy efficiency whilst being more environmentally friendly.



Automation & Electronics have been closely involved in the development of batch kiln advanced kiln drying. This provides leading edge technology for monitoring and controlling drying schedules combined with extensive diagnostic information and reports along with Automation & Electronics integrated PLC & Motor controls.

System features include:

- Start, pause, restart and stop facility.
- Sophisticated multi-step schedule designer including ramps.
- High frequency user configurable charge plots.
- Adjustable fan reversal timer and speed.
- Vent and control valve position display with manual override.
- Manual restart on power failure.
- Endpoint on time.
- TDAL, MC or drying progress.
- Archiving of charts.
- Powerful reporter for production and process analysis, including downtime logging (configurable) and charge events recording.
- Networking of control and report databases.
- EMC calculator.
- Configurable alarms.
- Remote broadband access and support.



Kiln Operator Add-On Options

Kiln Scheduler: used to plan operations to suit future changes.

Condition/Smart ramp: raises the kiln temperature to match the capability of the heat plant.

Maintenance prompts: designed to client's specifications.

Zone control: Individual MC values from each zone can be used to control the drying rate in each zone resulting in an evenly dried charge.

DryTrack endpoint determination. Moisture content based endpoint determination.

Energy Management and recording: These add-ons interface the kiln drying and heat plant systems.

Energy Limit base: Optimizes the use of the energy source.

Dynamic Priority: Prioritizes kiln chambers depending on the stage of drying.

Flow/Pressure based: Flow/Pressure meters are used to monitor kiln usage.

AUTOMATION & ELECTRONICS

• Supported Products

SUPPORTED PRODUCTS

Exclusive Distributor And Service Provider In New Zealand only for Electromagnetic Handheld & In-line Moisture Meters



Pin Style Wood Moisture Meters For The Wood Industry.



Laser And Infra-Red Scanning And Sensing Devices.



Industrial 3D Laser Scanners For Sawmill Applications.



CCTV Cameras, Monitors and DVR Units Including IP and Analogue Plus Opticom Sawmill Anti Vibration Camera.



RENS OR METAL SHARK

In-line Full Log Or Wood Waste Quarry & Rock Crushing Metal Detection Systems.



Solid State Lasers

Available In Red And Green From 5mW To 30mW.



Sawmill Tough Precision Hydraulic Actuators.



PLC Automation And Sensing Devices For Industry.



Full Range Of Hand Controls And Joystick Bases.





OEM PARTNERS



Canadian Sawmilling
Machinery Manufacturers



Advanced Kiln Drying & Energy Manufacturer
based in New Zealand



New Zealand representative for TS Manufacturing



A.E. GIBSON & SONS PTY LTD
MANUFACTURERS OF SAWMILLING EQUIPMENT



Sawmilling machinery manufacturers based in New Zealand

CONTACT US

WE WELCOME ENQUIRES FROM CLIENTS
AND POTENTIAL OEM PARTNERS



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