AUTOMATION&ELECTRONICS

International System Integrators

MILLWIDE SOFTWARE, OPTIMIZATION & CONTROL SOLUTIONS

ANNOUNCEMENT
A&E and TS MANUFACTURING AMALGAMATE

Canadian Investment In Automation & Electronics NZ & USA

Leading Canadian Sawmill Machinery Manufacturer TS Manufacturing has recently acquired a majority share holding in Automation & Electronics NZ Ltd and its A&E USA division based in North Carolina.

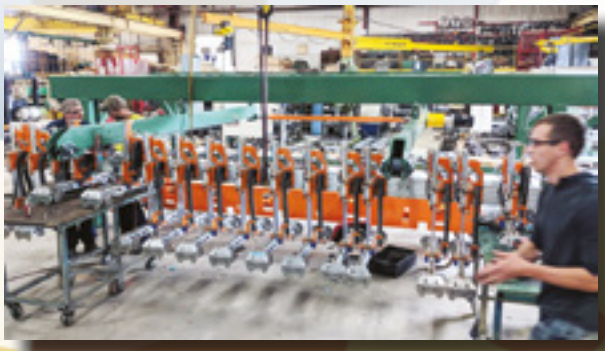
The acquisition strengthens TS Controls division in the North American market by adding additional controls support combined with A&E Optimization technology.

A&E is a well-established company with a 33 year history in the Australasian wood processing market combined with A&E USA having a ten year presence in the US market. The acquisition consolidates A&E's position in the US and Canadian market enabling significant growth and further R&D investment.

For A&E in New Zealand and Australia it means business as normal and continuing to support existing clients along with traditional engineering partners. Brian Smith, founding Director of Automation & Electronics, says "this is an exciting time for the business that enables us to expand our North American presence, increase our global engineering capability and at the same time be able to better support our Australasian and OEM clients with the added value of TS support in behind".

The other exciting factor in the negotiation is that we have retained our valued twenty five year association with Windsor Engineering Group who increased their share holding within the company which further consolidates the company's position. There is also opportunity for a Windsor and TS Manufacturing combination and we already have one major project on in Alabama where both companies are suppliers to the same mill.

TS Manufacturing



TS Manufacturing Office & Factory in Ontario, Canada

WEBSITES: www.tsman.com - www.windsor.co.nz - www.automationelec.com - www.automationelecusa.com

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AUTOMATION & ELECTRONICS
A YEAR IN
REVIEW

A&E IN THE YEAR 2018

THE Last 12 months have been rather hectic at A&E.
Work has come in at a rapid rate, with Australasian and American sawmillers in particular seeming to be quite enthusiastic about the future.

Upgrade projects that have seen outdated PLC and SCADA systems replaced with up to date products have been popular.
Out of date products place undue risk on any manufacturing plant, with the availability of spare parts, lack of knowledge on the older systems and incompatibility with new equipment, meaning that something simple such as a PC failure or an I/O card failing can bring a halt to a process that may take many days or weeks to fix.
A recent enquiry from a customer for a replacement PLC 5 Motion control module resulted in a job for us to upgrade the entire control system, the price to replace the card was over $10,000.

Out With The Old . . . In With The New

New equipment that speeds up and/or adds value to processes has also seen A&E with a very full book for the entire year. A&E boiler controls, 3D carriage scanning, 3D optimised edgers, binsorter controls and of course multiple CDK kilns in New Zealand, Australia, USA, Canada, China and Thailand means that the car park here can seem a little empty with the project engineers spending more time away than at the office.
We have not just been busy in the timber industry, we have also been playing our part in opening and processing mussels, batching concrete and tracking the delivery trucks, we even learned how to manage the energy required to light up a harbour bridge.
All of this goes on whilst the more day to day things still need to be done, small breakdowns to be dealt with either by on-line support or site visits, moisture meters need to calibrated and fixed, spare parts to be dispatched.

During the course of the year the ownership of A&E has changed, firstly with the retirement of long time Project Manager and Co-founder Tony Cable, and secondly with a “just announced” change to the shareholder list, a change that will set A&E USA on a steep growth path. (see front page story)

Over Christmas we have been busy commissioning new plant and the 2019 year has already started along the same busy path that 2018 left off.

Jobs in the pipeline . . .

Log steamer in Canada

AUTOMATION & ELECTRONICS
NEW STAFF

A&E WELCOMES NEW STAFF MEMBERS

Tom Douglas - Software Developer and Craig Sutton PLC/SCADA Project Engineer

PROFILE: Tom Douglas - Software Developer

Initially, Tom spent ten years as an automotive technician in Rotorua, then moved on to Forest Research (Scion) in Rotorua, having trained himself in the Java programming language. After one year there,Tom moved to the Tauranga/Mount area where he worked on a lawyers accounting package for six years – followed by ten years in web and telephone service systems entitled “Ezitracker”.

One of Tom’s aims at A&E is to ensure that the deployment of software is more automated and easier to deploy. He also wants to work on optimisation engines for various products applicable to the wood and other industries.

In his leisure time, Tom has a passion for sports coaching, particularly basketball, but has also coached tennis, rugby, swimming and athletics.

Tom is married with three children, the youngest of which is at high school, the middle at Canterbury University, and the oldest at Te Ohomai Institute of Technology.

PROFILE: Craig Sutton - PLC/SCADA Project Engineer

Craig started his career as a CAT mechanic,travelling and working around the world for 10 years before returning to NZ and doing his NZCE in Electronics.
Craig has also achieved his Computer Technology and Mechanical trade certificate.
Craig has a strong electronic and design experience in automation, in the FMCG dairy industry and electrical manufacturing of controls.

He maintains that one of his most important strengths is the ability to be able to work through an automation project and develop it through to commissioning.
Craig moved back to Tauranga where he had his own business and then sold it. Craig recently joined A&E in NZ and is currently handling Automation project work.

Craig is married and has three girls. The two older girls have left home and are successful in their own rights. His youngest daughter is proving to be successful in football premier academy teams.
His wife works for PowerCo as the PA for planning and Office Manager.
His interests are, spending time with the children and their interests and dreaming of having interests! Outside of that Craig likes fishing.

Recent projects at A&E

Commissioning a Resaw for Claymark at Rotorua Sawmills Ltd.
Working with TS Manufacturing in Missouri Installing and commissioning a Hardwood Stacker line with Optimised tray sorter, and automated Stick Placer. This line is fed from a new TS Manufacturing 96 Binsorter with Trimmer.

2

DANZER LUMBER
BRADFORD SAWMILL
BRADFORD PENNSYLVANIA
UNITED STATES

THE PROJECT

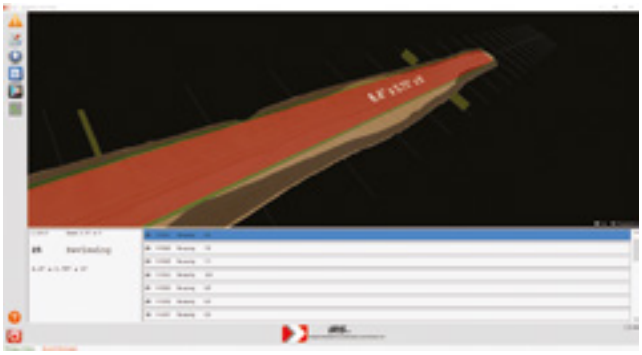
Danzer Lumber Bradford Sawmill in Bradford, PA was looking to upgrade the existing Inovec controls and optimization on their ASM edger. Automation & Electronics USA was selected for the upgrade and commissioned the system in June 2018 - Joe Korac, A&E USA President.

The system consisted of top and bottom scanners which were comprised of 16 x LMI Chromascan 3155C scanner with 0.33" laser profiles to allow for high resolution 3D scanning. The scanner profiles were then fed into our new IRISTM Edger Optimizer on the latest Windows 10 platform to provide accurate and reliable solutions to maximize each flitches value. The solutions were then transferred to the PLC system which consisted of the latest series Allen Bradley L81e ControlLogix processor running on v31. The motion control was handled by the PLC with Allen Bradley 1756 HYD02 modules for high precision and reliability for years to come.

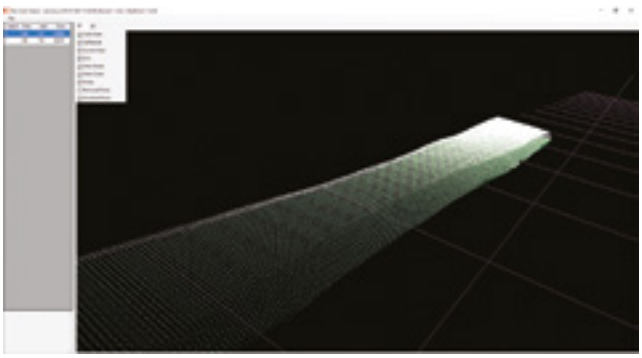
Client Comments:

'Automation & Electronics USA team worked diligently to ensure by startup we were operational. After startup, they have continued to tailor the software to meet our specific needs. Technical support has been exceptional, where there has always been someone to answer the phone".
Shaen Roeder Plant Manager

A&E USA's Joe Korac & Alex Trapski Commissioning at Danzer

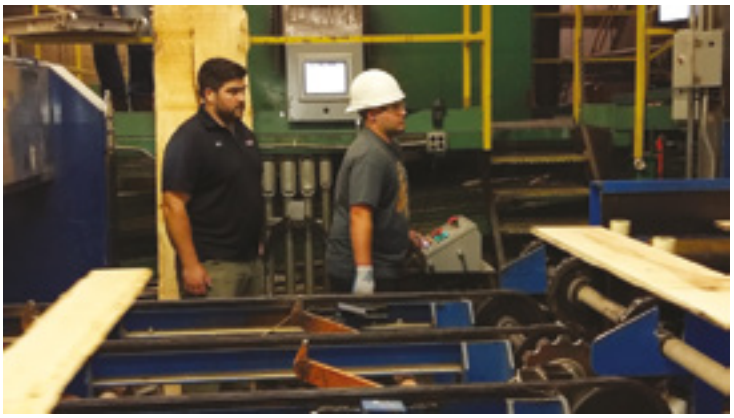


IRIS Board Scan



RAW Data View

ALEX TRAPSKI & JOE KORAC, A&E USA with Bradford Edger Operator Will Roberts- Scan frame to the left.



OPTIMIZED BOARD SOLUTION Displayed On User Interface

EDGER INFEED

A&E EXPO STANDS 2019

ATLANTA WOOD EXPO - Forest Products Machinery & Equipment Expo - Atlanta, USA
26th to 28th June

NHLA (National Hardwood Lumber Association) Convention & Exhibition New Orleans, USA
2nd-4th October

WOODTECH - Rotorua New Zealand - **11th-12th September**

WOODTECH - Melbourne Australia - **17th-18th September**

PICTURED: Joe Korac: At Last Year's Portland Show

3 WESPINE INDUSTRIES BUNBURY, WA AUSTRALIA

THE PROJECT

New Continuous Drying Kiln (CDK)

Wespine has now planned well into the future with the introduction of a new Continuous Drying Kiln – the largest in Australia – that produces a more energy efficient and enhanced product.

The new CDK, at the company's plant near Bunbury, has the capacity to dry over 180,000 cubic metres of timber per year.
It replaces five existing kilns that operated with older technology. The new CDK technology – a different drying and conditioning technique in the kiln – will allow Wespine to cut its gas usage by 40% and lower its electricity consumption 25%. Ground water usage in the drying process will be reduced to zero.
The new CDK is 127 metres in length (including loading zones), is about 14 metres wide and about seven metres high. Over the past 25 years production has consistently grown, with capacity now between 450,000cu^2 and 500,000cu^2 each year.
Wespine chairman Andrew Webster said the opening of the kiln was a major milestone. "It will be critically important to secure the business into the future," he said. "The whole project has been a success."

• Glenn Purcell was the Automation and Electronics Engineer for the project and Glenn tells us that A&E provided the controls, including panel build and commissioning for Windsor CDK Systems.

Pictured: TOP: Wide view of the Westpine CDK Kiln in action
BOTTOM: Right & Left are all close up shots of the Kiln in action.
Central pic is a close up shot of the controls installed by A&E.

Windsor Engineering

Sajad Moeini-Project Engineer for the Wespine CDK scheme had the following to say about A&E's involvement.

"A&E managed design, supply, installation and commissioning of the control system for Wespine's continuous drying kiln (CDK).
"Our CDK has a few new features comparing Windsor standard CDK's and A&E helped Windsor and us to implement the new systems including a modified hydraulic system and gas fire burners PLC interlocks".
"A&E was selected as preferred contractor by Windsor Engineering but Wespine have always used A&E service in operation of their batch kilns and were very satisfied with their service and high level of technical knowledge and professionalism".

"A&E was a responsive contractor. We experienced a smooth journey throughout this project and A&E was a major part of this experience with their positive attitude and prompt actions". "During commissioning they stood beside our team on site from the beginning and helped us to hand over our CDK to our operations team". "They helped us in training of our operators and kept in touch even after commissioning and helped us remotely from NZ". "It was a pleasure working with Glenn (Purcell)" said Sajad.

Automation and Electronics would like to thank Australasian Timber Magazine for excerpts of their story dated 12/2/2019 by Philip Hopkins for Timberbiz.

4 PACIFIC PINE PUTARURU NEW ZEALAND

Pacific Pine is an independently owned and operated, medium sized, modern sawmill located in Putaruru, Central North Island of New Zealand.

THE PROJECT

New Scanner Installation
3D log carriage scanner and optimiser using 4 x Scanmeg CV12 scanners.

The Story:

Dale Rendell, Operations Manager at Pacific Pine, tells us that their scanning system was well due to be replaced. This was particularly applicable in that this operation is a grade mill that has a sound reputation for producing very high quality NZ Pine timber products milled from pruned logs, meaning that grade sawing, recovery and first board accuracy is of paramount importance.

“Once we had decided to replace the scanner, we looked at a number of companies offerings, but kept coming back to a supplier that we already had a long and successful history with and who were very familiar with our operation”.

“A portion of our criteria was based upon available technology, supplier reputation, time frame and geographical locality and when weighing up all of those factors, A&E was the obvious choice”, says Dale.

“The project commenced in mid-September 2018, finished just weeks later and was fully commissioned by late November, doing exactly what A&E said it would”, states Dale.

Pacific Pine Industries Ltd
PacificPine
www.pacificpine.co.nz

• PICTURED: close up of scanner mounted over log carriage in action and control booth

The Results:

Dale tells us that there is a slight increase in timber throughput, but a significant increase in overall conversion, as a result of the scanner upgrade.

Client Comments:

Dale’s final thoughts on the subject were - “It was an absolute pleasure dealing with A&E again”. “I had a fair bit of exposure dealing with A&E over the years on various projects.
The bottom line is, what they say their solutions will achieve they do, and nothing is too much trouble” he says.

5 FAR EAST SAWMILLS GISBORNE NEW ZEALAND

THE PROJECT

Boiler Upgrade
A&E were asked to make some additions and changes to the hot oil boiler at Far East Sawmill’s Gisborne plant.

Variable speed drives were added to the over fire air fans and also to the fuel screws. A&E also added a SICK Oxygen meter and an opacity meter to the system, the information from which is used by the A&E BoilerView program to determine the ideal speed of the over fire air fans, increasing the efficiency of the plant.

The opacity meter monitors and trends the colour of the exhaust discharge and can shut down the plant if a pre-determined level of colour (smoke) is reached.

After commissioning the equipment, Desmond Gong from Tailored Energy Solutions was engaged to tune the boiler. The addition of the VSDs and O^2 meter made this a lot more effective.

6 WESTCO LUMBER HOKITIKA NEW ZEALAND

Westco specialise in manufacturing and marketing quality appearance-grade pinus radiata products. Their focus is on the furniture, joinery, moulding and millwork segments of the timber products market.

THE PROJECT

New Carriage Setworks and Scanner Installation

A&E installed an updated Setworks using an Allen Bradley CompactLogix PLC with Delta Motion Control. This was followed by the installation of the 3D log carriage scanner and optimiser using four x Scanmeg CV12 scanners.

The Story:

Grant McInnes is the Sawmilling team leader at Westco. He says that they have other Automation and Electronics systems in the mill and that he has had a great deal of involvement with A&E over the years.

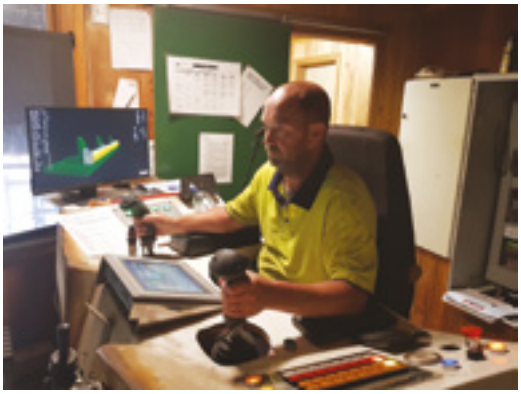
"Our old setworks system was at an age that it was no longer supported, so a risk management decision was made to replace it", says Grant. " We felt that it was timely to include the installation of the Scanner and Optimiser which was a capital expenditure decision targeted at gaining a better log conversion return", he said.

"The new carriage setworks was fabricated by A&E off site, then transported to us and installed by our electrician, in turn, this was fully commissioned by A&E", Grant stated. "Following this, the scanner was installed", he says.

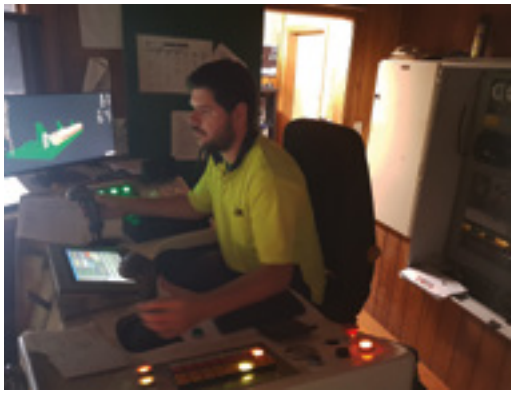
The carriage setworks was commissioned just after Christmas on the 27th and 28th of December 2018.
The scanner was commissioned between the 28th of December and 8th of January this year.

• PICTURED: PC Tower with one PC for each scanner

• PICTURED: Updated Setworks using an Allen Bradley CompactLogix PLC with Delta Motion control



• PICTURED: Operator at Westco views profile of Log Carriage.



• PICTURED: Operator at Westco

• PICTURED: Log Carriage and Scanner in action.

The Results:

Grant tells us that the whole project has been fine and went very smoothly thanks to A&E.

Client Comments:

Grant's final thoughts on the subject were - "I have always found A&E to offer efficient solutions and their support is always dependable", he says.

7 CARTER HOLT HARVEY KAWERAU
NEW ZEALAND

THE PROJECT

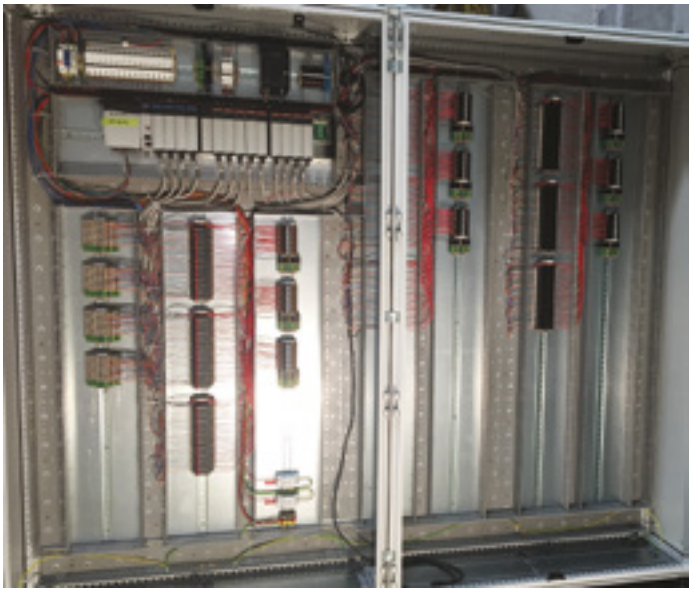
Drymill Upgrade
Multiple Control panels built to spec in a short time frame by A&E

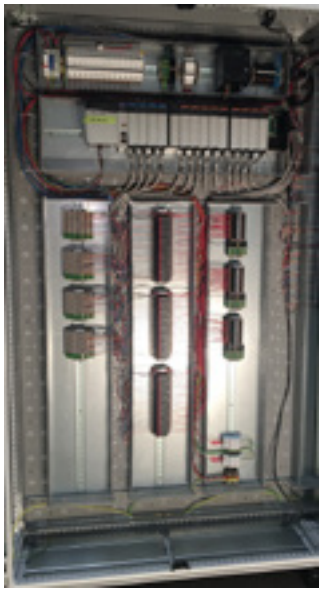
A&E Engineer: Mike Steel.

The Story:

In December CHH Kawerau contracted A&E to build the control panels for their Drymill upgrade within a short time frame.

- ***PICTURED: Left; Dave Alexander (A&E Panelshop Engineer) and Mike Steel (Services Manager) with recently completed control panels.***
- ***PICTURED: Far Right; A&E Panelshop Engineer Hud Milne works on smaller panels in early stages of manufacture.***
- ***PICTURED: Closeup of recently completed panels***





The Results:

An initial delivery of two large panels and three consoles were delivered to the site in February, with the remaining four consoles, three large panels, nine small panels due to be delivered in mid March.

AUTOMATION & ELECTRONICS
NEW PRODUCT

NEW WAGNER METERS

Wagner Is Very Pleased To Introduce Its New Orion Line Of Handheld Meters Which Will Replace The MMC/MMI Product Line.

WAGNER ELECTRONICS

The Orion handheld moisture meters come with some new and important features:

- On-Demand Calibrator, which essentially is a calibration reference (block) allowing the user to recalibrate their own meter, anytime, rather than having to send it away.
- Now easier and faster to change the species settings
- Every Orion meter also has a Relative Measurement mode with a relative measurement scale of 0-100. This allows for taking comparative moisture measurements in non-solid wood products and some other building materials.
- Programmable high moisture content alarm capability that when triggered will activate an audible beep (user-programmable volume setting)
- Protective rubber boot around the perimeter
- Comes in a hard-shell carrying case, rather than coming with the belt loop pouch. A belt loop pouch is an optional purchase for the Orion line

ORION MODEL 910 | ORION MODEL 920 | ORION MODEL 930 | ORION MODEL 940 | ORION MODEL 950

• Orion models 930, 940 and 950 offer dual depth measurement capability: the standard depth measurement capability of the MMC/MMI line, as well as a 'shallow' (1/4" approx.) measurement depth mode.

• In addition to the capability for a user to manually store up to 100 moisture content readings and provide Average, High and Low Stats (similar to the MMI1100), the 940 and 950 models an be put in Automatic Data Gathering mode as they scan a board, making it far easier to get those measurements stored.

• Model 950 also has an onboard Temperature/Relative Humidity sensor. This allows the 950 to measure ambient RH and Temperature that can be displayed. It also allows the 950 to calculate and display the calculated Equilibrium Moisture Content (EMC), as well as the calculated absolute humidity in Grains Per Pound and Grains Per Kilogram.

• **All meters have a 7 Year Warranty**

AUTOMATION & ELECTRONICS
NEW PRODUCT

ALLEN-BRADLEY CONTROLLER

STEERS OPERATORS TO BETTER PRODUCTION DECISIONS

Allen-Bradley CompactLogix 5480 controller combines Logix control and Windows-based computing in one platform.
Industrial workers can strengthen their grasp of production and make more informed operating decisions with the new Allen-Bradley CompactLogix 5480 controller by Rockwell Automation. The controller marries a Logix control engine and the Microsoft Windows 10 IoT Enterprise operating system in a single platform, allowing workers to view machine information at its source.

"The controller can collect raw machine data and reveal it to workers as useful information, right at the machine level. Providing these insights close to where they're produced allows workers to make smarter and faster operating decisions. As a result, they can better react to issues and ultimately increase productivity in a Connected Enterprise.

The controller can reduce latency by performing real-time data collection at the machine level. Users can view control information at its source, and other information can be sent upstream to the enterprise or cloud. The ability to run Windows applications on-premises can also reduce the need for a separate PC on the plant floor and shrink a machine's footprint.

"Companies deploying Industrial IoT technologies no longer have the luxury of choosing between cloud or on-premises architectures – they need both," said Matthew Littlefield, president and principal analyst, LNS Research. "The ability to access control-system data at the machine level and access insights from the cloud can deliver the agile decision-making that many companies desire."

The CompactLogix 5480 controller can support applications with up to 150 axes of motion. This makes it ideal for large packaging and converting, printing and web applications that would benefit from a simplified architecture and smaller footprint. The controller also provides faster scan-time execution and motion-loop updates to help improve machine throughput.

The controller incorporates multiple security functions, including user authentication and authorization, role-based access and digitally signed encryption. And because the Windows operating system runs independently from the control engine, any disruptions to the operating system will not affect machine or line control.

AE AUTOMATION&ELECTRONICS

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