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- **Robotic Stacker**
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World first for Fenning with robotic stacker

ROBOTS ...
SOMETHING that were once considered only in the realms of fiction, are now fulfilling major and exacting workloads. It was only a matter of time before they were utilised in the timber industry.

Now, a robotic stacking system, the first in the world, has been installed at Fenning Bairnsdale's Timber Conversion Centre in Victoria's East Gippsland region.

For Machinery Automation & Robotics, the major challenge was designing a system that could be used for the different lengths, widths and weight of the timber pieces. MAR design engineers worked through possible solutions before selecting the final design.

Once the final solution was successfully designed to Fenning's requirements, Machinery Automation & Robotics' engineers constructed and tested the system at their Silverwater factory to ensure it met Fenning's requirements prior to installation.

It was back in 2008 that research and development (with FWPA assistance) started on an automated and robotic solution for timber stacking.

Last year saw the FWPA

research and development trial of the system which was then presented to 18 hardwood and softwood timber processors in northern NSW, Victoria and Western Australia. The processors were selected according to the types and sizes of plants that could benefit in terms of throughput, processing costs, OH&S issues, sorting accuracy, product presentation or automatic tallying, including links to management software and labelling.

The Fenning team was among those to have a close look at the operating system at MAR's Silverwater factory and was suitable impressed so placed an order for the system, after all, Fenning is well-known throughout the industry as progressive, technologically savvy and highly competitive business. The Fenning name is synonymous with the timber industry and the family has been a producer of quality timber products for over four generations.

This year, the system was installed at the Bairnsdale site. According to principal Leonard Fenning, the site in Bairnsdale is a work in progress, continuously being upgraded with modern, cost-effective plant and equipment, vastly improved work ethics and conditions. "We consider our stake in the

industry to be an investment in our future as both management and staff strive for excellence in all aspects of our working environment."

"Manual stacking is one of the toughest and most physically demanding jobs in our industry," says Rodney Natty, Fenning's general manager.

"The two robots have improved packing consistency and help reduce injury and fatigue. We are able to relocate two staff to other duties in the same area, such as setting up the robots and ensuring they have enough timber."

Natty says the robots take all timber (from 100x50 to 300x50 in cross-section and 0.9 to 5.4 m in length) from the outfeed of the company's Dimpter docker and stack up to 15 packs by length at a rate of 12 boards a minute.

Automated and robotic systems cope well with dusty and saw-dust filled environments that are unpleasant or potentially harmful to staff. This improves workplace conditions by reducing the need for staff to undertake heavy and repetitive physical work in unpleasant environments and enables the staff to be reallocated to more valuable tasks.

Troy Krogh, MAR general manager, said the system could also help reduce

operating costs and material waste, increase output rates and manufacturing flexibility, and save space in high value manufacturing areas.

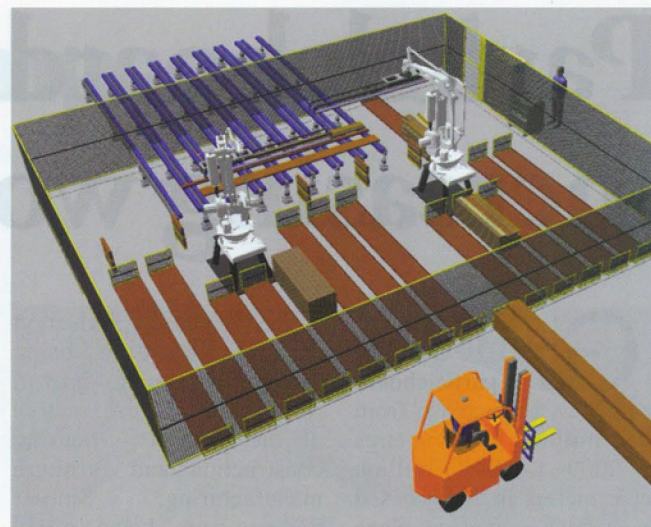
The FWPA funding enabled MAR to further develop and broaden the scope of an earlier project that focussed on a specific stacking environment. MAR

successfully designed and tested robotic technology—robot, vacuum gripper arm and associated software—for a broad range of timber stacking, movement and storage situations, both for finished products and work in progress.

Factory acceptance trials conducted at MAR confirmed that the technology could achieve the required specifications for piece selection, transfer speed, rotational or linear movement, stacking accuracy, binder placement and automatic pack tallying.

Machinery Automation & Robotics tailors automated and robotic solutions specific to production needs and plant layout. Systems can be scaled up or down in size to suit plant output.

Machinery Automation &



■ An image of a simulation for the Fenning installation.

Robotics provides complete automation and robotic solutions Australia wide and internationally through our offices in Sydney, Brisbane and Melbourne.

MAR founder and chief executive officer Clyde Campbell is extremely proud of the fact that after 23 years in the business he and his

team remain at the forefront of servicing the specific needs of production-critical companies with world-class automation solutions. "The challenge I set myself and my team every day is to be certain that we are meeting- and exceeding - our clients' expectations in achieving their competitive edge. That's our goal."



■ Fenning staff strapping timber stacked by the robotic system.



■ An aerial shot of the system during installation.



■ A close-up of one of the robots picking a piece of timber from the conveyor. (Featured page 1).



■ Robotic timber sorting system in operation.

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