

# Lean processes deliver quick order turnaround

By introducing a lean production system into its manufacturing process, Australia's leading manufacturer of steel personnel doors achieved productivity improvements of up to 50%.

BY TIM MCLEAN

Swan Hill, on the banks of the River Murray in Victoria, would seem an unlikely location to find Australia's leading manufacturer of steel personnel doors. However, the genesis of the business is even more unusual. Managing Director, Phil Joyce was delivering a batch of Larnec's wooden doors to a client in country New South Wales when he noticed that the steel door on the client's shed was falling apart. Phil took a look at the broken door and convinced himself that he could come up with something better. After a lot of research and investment, the Larnec steel door business was born.

The business grew rapidly, but in recent years had come under pressure from low cost Chinese imports. Phil realised that the way to compete was to offer a customised door made to order in the same lead time offered by the ex-stock Chinese product.

Phil and Operations Manager, Leon Joyce had already been experimenting with lean manufacturing after having seen the potential for the lean approach at Innovation Insights factory visits to companies in Melbourne. Larnec also did an Enterprise Connect Business Review with Vecci Business Advisor, Paul Szuster. This review reinforced Phil and Leon's belief that Lean Enterprise might provide the answer to the challenge of achieving order lead times of less than five days with a make to order product.

After seeing a presentation by Tim McLean at the Ballarat Business Month event last year, Larnec engaged TXM to assist in implementing lean approaches to reduce the lead time on steel doors. A Tailored Advisory Service Grant from Enterprise Connect also helped Larnec Doors to get underway.

TXM did a value stream map of the process of making Larnec's two main



Larnec's Operations Manager Leon Joyce is checking Kanbans in the Melbourne-based factory for steel personnel doors.

Photo: Larnec

door lines, the lightweight 650 line and the premium 200 line door which has exceptional strength and light weight. The current state map revealed that the lead time to manufacture a door was between 10 and 12 days, much more than the four days that the business needed to achieve. With coaching from TXM Consultants Tim McLean and Anthony Clyne, the Larnec team developed a future state map and action plan for the business. This outlined the changes the business needed to make in order to achieve its lead time target. The changes were major and Larnec took action quickly.

## Natural flow of production

Working with Anthony they developed a new plant layout which involved bringing their key machines closer and creating a natural flow of production from punching to folding to robot welding. The layout also integrated assembly with product packing and despatch which freed up a factory building previously used for despatch and eliminated double handling. A Kanban system was set up to trigger manufacture of door jams in the metal fabrication area and specially designed kit trolleys transport small batches of products through assembly on an hourly basis.

Standard work methods ensure that the assembly of doors runs at a regular pace. To support the system Anthony coached the Larnec team on implementing 5S to organise the workplace and structured problem solving techniques to find the root causes of problems on the shop floor.

The results have been dramatic. "We get as much work done in half the time it used to take," says Leon. "Lead time targets have been exceeded with 90% of doors manufactured to order in under four days. Management of the plant is a lot simpler and we no longer need to worry about what is running on the punch or folders, as long as the Kanban cards are moving through the system we know we are on track."

Larnec is committed to continuous improvement and is now extending its lean production system into the manufacture of wooden doors and their range of Champion Horse stable partitions. 

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