CTPM Australasia
Specialising in TPM^3 – Australasian Lean
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Incat: the most adaptable to Change

"It is not the most intelligent or strongest who survive, it is the most adaptable to change."
Charles Darwin

This quote from Charles Darwin, delivered by one of the team members at the first cycle final presentations at Incat Tasmania, epitomises the work, focus, and effort put in by the team members and the leadership team. After all, what can you say when a team presents over 35 significant improvements at their final presentations with over 29 already completed!

Incat, based in Hobart, Tasmania, is a large scale lightweight catamaran manufacturer builder. It supplies high quality vessels to customers around the world including Japan and Europe. To maintain competitiveness, it has determined that it needs to reduce its ship building lead time by approximately 33%, with a similar reduction in manhours.

A key issue for Incat is maintaining a balanced work flow that allows highly skilled and specialised tradesmen to be occupied productively throughout the year and across multiple boat builds. To help achieve these challenging goals and objectives, Incat has undertaken a Lean implementation and transformation using CTPM's highly successful TPM^3 methodology.

No task undertaken by Incat is done half heartedly and the initial cycle of activity has been proof of this. Realising that results will only be seen if the core issues are tackled, Incat decided to commence their program in the Automated Welding and Prefabrication areas with two TPM^3 Macro FPI activities.

The Automated Welding area is where long aluminium extrusions are welded together to make the decking for vehicles within the ship. The automated welders are Incat purpose designed and built machines. As highlighted by one of the team leaders at the end of the improvement activity – "just by building and using these machines we made the job so much easier and better – we didn't expect there to be even more opportunities for improvement".

But opportunities…there were plenty. And simple too! Things like putting grease nipples on the machine and improving maintenance so that it works better, replacing the welding machines to reduce the number of tips blown, and installing a roller table to better move the finished product into the next shed all contributed to a doubling of the output potential from one of the machines alone.

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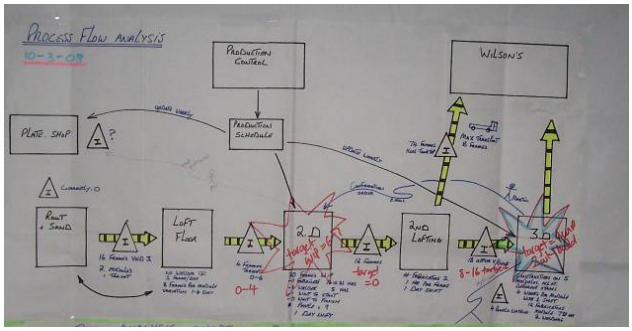
The Prefabrication shed is a congested hive of activity. Cut plate is delivered and moves through the shed, gradually being transformed into flat 2D shapes and finally being put together into larger 3D modules. The whole area could be described as productive chaos as people work on their specific task at hand. But what are the most important jobs? What do we need to work on next? What do we do with all this work in process? Where is the value add?

Above: Module in 3D being completed

To help clarify this, a value stream mapping approach was taken to visualise the process and to highlight the pauses and delay in the pieces as they moved through the shed. In addition, a wide range of survey tools were used to identify and complete simple improvements such as colour coded bins, better lighting, and the removal of redundant equipment and jigs. The changes that have started are outstanding.

Above: Completing the Value Stream Map

The layout of the 2D area has been transformed so that specific areas are laid out for people to work in, specific storage areas and inventory points have been identified within the process flow, and visual boards are now used to track the status of pieces within the workplace. This has translated to a 40 hour reduction in the time taken to manufacture parts due to improved flow.



Above: A Process Flow Analysis diagram

In the 3D area, visual management boards are now being used to highlight gaps and shortfalls in day to day requirements and there is a far greater understanding of what needs to be done. The net result is a far more stable workplace ready and willing to move to the next level of improvement activity.

"If only we knew then what we know now!" was the frequent learning from the team members as they gave their final presentations. "We could have achieved even more!" And that highlights the ongoing process of learning and understanding that never really stops, no matter which TPM^3 cycle you may happen to be completing.

For further information about Value Stream Mapping and TPM^3 - Australasian Lean contact Tim O'Shea – CTPM Senior Navigator TAS on 0428 525 349 or CTPM Head Office on 02 4226 6184.