

# CASE STUDY

## Asia Pacific Aerospace

Hard work, determination and a very clear goal have combined as a winning formula for Asia Pacific Aerospace Pty Ltd (APA), which improved turnaround times by 12% after working with Incremental Improvements Australia Pty Ltd (II-AU) and QMI Solutions for only a few months.

APA are based at Pinkenba, near Brisbane International Airport, and they specialise in maintaining, repairing and overhauling small-to-medium gas turbine engines. APA is an Australian Defence Force-approved maintenance organisation and supports Rolls-Royce model 250, General Electric T 700 and Honeywell LTS 101 series engines.

Its facility contains two computer-controlled engine test cells, machining, inspection, measuring and balancing equipment, an office and a library complex. APA Business Development Manager Brett Ace said "APA began implementing changes after approaching QMI Solutions."

When QMI Solutions were approached by APA they enlisted Incremental Improvements Australia (II-AU) as a third-party consultant to work with the team and specifically look at lean manufacturing to help improve their business.

Since they began working with II-AU, APA has reorganised its work space and restructured its entire processes through Value Stream Mapping and has made use of the 5S Lean Manufacturing principle. Before meeting an II-AU representative, APA already had an idea of what needed improving, however II-AU identified other areas that could further increase performance and reduce waste.

"We realised we needed to improve turnaround times and thought it was important to get some outside help to do that," a spokesperson at APA said.

II-AU Director Robert Tomlinson said "APA had good background knowledge about Lean Manufacturing but needed a kick start to introduce the principles into the business. They knew what specific areas needed improving and they knew it would be good, but needed II-AU and QMI to get things moving."

Changes at APA were implemented in two stages. First, APA introduced Value Stream Mapping (VSM) to improve processes, alleviate constraints and improve throughput. Then the 5S system was used to improve the facility layout and fine tune the process to further enhance productivity.

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VSM aims to assess and improve production flows by recognising limitations. "It works by identifying constraints that hold up the value stream, so improvements increase efficiency," Rob Tomlinson of II-AU said. APA created key performance indicators to measure and monitor constraints. The KPIs provided feedback on improvements throughout the process and demonstrated the actual results that were being achieved. APA took on the process whole-heartedly and, only a few months later, contacted QMI Solutions and II-AU again, seeking to implement further improvements.

APA then introduced the 5S Lean Manufacturing principle. 5S is designed to create organised, more effective work environments. It aims to Sort, Set in order, Shine, Standardise and Sustain an efficient work area.

With the help of II-AU, APA examined ways to fine tune the workshop layout to further alleviate constraints. As part of the 5S process flow lines were drawn on the workshop floor to ensure work flowed smoothly and efficiently. No stone was left unturned. APA not only improved the workshop layout but also sought to make changes at every processing level. It aimed to assess every process, from taking client orders through to the maintenance work itself and even going as far as examining the supporting administrative systems.

APA Management said 5S was very beneficial in helping the company achieve its goals. "The improved layout gave us extra capacity and allowed us to eliminate waste. We now have a very clear idea of what work is where." As a result, APA's turnaround times have improved by 12%. "We are on track to meet targets we set out to achieve at the start," the APA spokesperson said.

While there is still room for improvement, Rob Tomlinson at II-AU said APA was gaining a competitive edge in a tough market. "APA now has an advantage over its competitors, which means it can start gaining more market share. Clients are going to choose the company with the quickest repair times, particularly when such valuable assets are unable to earn income."

"We have learnt that implementing change is a continual process" APA explained. "We will engage with II-AU and QMI Solutions for at least the next six months so they can keep coming back, assessing what we've done and adding further guidance." APA continued to say that using third party organisations to assess its progress and give advice was crucial, because they have no personal emotions attached. "An outsider can come in and give suggestions, and management can choose to act on them or not."

II-AU's Lean Manufacturing specialist Rob Tomlinson said that Lean Manufacturing is essentially never 'finished' because the principle is about continuous improvement. If APA no longer needed assistance, that meant management was in a good position to continue implementing change itself.

Rob went on to say all businesses need a hand, particularly when they experience growth. "When businesses start out they are organised but, as they grow, not as much thought is put into managing their structure." In some instances, clients inadvertently put new equipment and processes wherever there is space, and this may not be the most efficient layout. "Much time is wasted moving between different processes. It costs money and can put safety at risk," he said. II-AU tackles those issues through implementing a wide range of Lean Manufacturing tools and it works!

The implementation of LEAN manufacturing systems has given us:

Improved turnaround times by 12%

Improved the workshop layout

Increased working capacity

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