Lean Management Thinking Programme

BAMG Case Study

British Airways Maintenance Glasgow is a short haul major maintenance centre of excellence. Built in 1964, the facility contains two aircraft bays providing comprehensive maintenance of Boeing 737 and Airbus A320 family aircraft.

BRITISH AIRWAYS Maintenance Glasgow

Lean Team

David Connell - Aircraft Maint. Supervisor

Mark Richmond - Lead Technician

Mark Gordon - Fleet Logistics Coordinator

Alan Lamb - Technical Engineer

Craig Todd - Mechanic/ C.I. Co-ordinator

Lean Project

The project was to apply Lean principles to non-standard defects during the maintenance overhaul process.

Lean tools utilised and analysis undertaken

The team began to process map activity and this highlighted inefficiencies within the following areas:

- Accumulation of data
- Availability of tools
- Availability of skills
- Availability of materials / spares

The process map became very complex and was displayed within the hangar to allow all personnel to contribute. The core team began to organise the project using DMAIC project management tool. From this a number of Ishikawa diagrams were created and data was organised into Pareto charts. This enabled the team to brainstorm ideas for improvement. As the process mapping became very detailed individual flow charts were created.

As the team measured actual activity over a maintenance cycle, 8.7% of defects were deemed to be non-standard. Using Pareto to break this down into further detail, the majority of defects were found to be due to lack of spare parts. This data will be used for the wider BA organisation to improve its performance into BAMG. Therefore, the project began to concentrate on the Production Support Engineering (PSE) process, as this is where the team could actually implement changes.

In progressing ideas for improvement, the team created value added observation charts which demonstrated a high level of non-value added activities due to current processing issues. This is creating a pathway to improvement as every day that aircraft maintenance runs over schedule a cost of £12,000 is incurred.

A focus on improvement

As the project began to focus on PSE, a major area of concern was 'lack of approved data'. There was no process in place to consistently measure the correct data. This led to an analysis of technical support queries to build up a pattern of activity on day-to-day processing. The findings concluded that a process was required for the PSE for each shift to visibly define where defects were occurring. This would need to be standardised across both bays.

The implementation process

The team have created a new PSE process containing a detailed written procedure, a process flow chart overview, standard PSE information cards and a centrally located information status board. This is currently being implemented under a pilot status and will be monitored throughout the next maintenance overhaul schedule in one of the two bays. During the pilot process it is anticipated that further enhancements will be made before a complete new system is implemented across both bays.

Project benefits

The key benefits to the BAMG hangar will be:

- All PSE information cards will be available in one area - now able to visually "scan" the cards for issues.
- PSE information will now be standardised eliminating duplication and the searching from manuals.
- Feedback from engineers will be visibly available building a database of recurring defects.
- Non-value added activity will be highlighted at source on a continuous basis to monitor the effectiveness of the process.
- Defects will be tracked consistently which is a major benefit as this will reduce the impact of last minute errors due to paperwork inefficiency.
- The planned financial value will be approximately £20,000.00.

"The team at BAMG got a lot out of the LMT programme.

It's given us the tools to look at our processes and procedures and really understand where they can be improved on. We found the lean tools were excellent at breaking down and analysing very complex processes.

We currently have a few other projects started, using the same tools we used on this one. Very worthwhile programme"