

Woodward is an independent designer, manufacturer, and service provider of controlsolutions for the aerospace and industrial markets. The company's aerospace systems and components optimise the performance of fixed wing and rotorcraft platforms in commercialand business aircraft, ground vehicles and other equipment.

The Prestwick site opened in 1998 and brings a highly skilled workforce to Ayrshire servicing customers that include leading original equipment manufacturers (OEE's) and end users of their products throughout the world. Woodward components are incorporated into aircraftservicing 20 million flight per year populated by 30% of the world's population.



## Business Improvement Academy Project

Four members of staff from Customer Support and Technical Assembly areas attended the BIA programme with the objective of applying their learning to processes within the Prestwick facility. The initial process map completed by the team mapped out the fuel control process through the site. A key element here is the new Washroom facility that has been introduced as the new cleaning system for product. The team decided to focus on this for their "lean project" as the business is expected to go through exceptional growth over the next few years. The washroom facility needs to be optimised to meet this demand.

### Project Analysis

As the team created a basic process map on the Cleaning Process, the BIA facilitation team questioned the Woodward team about the map with regard to times, quantities etc. Most of this was not readily available so the team took action to gather data back in the business over a period of weeks.

It became clear as data was made available that there were significant delays within the process due mainly to a lack of customer data e.g. unit 'hours run' etc. With this in mind the team discussed how the "Cleaning Process" could easily become a future bottleneck and therefore began to work on the project charter which at this stage was quite vague. The process map was developed and the BIA facilitator worked with the team to hold back on jumping to solutions before truly understanding the capability of their process. By now the team was beginning to list actions for their improvement plan including producing a video of the process and running a pilot for analysis over a number of units.

As further reviews took place the Project Charter was revised but it was agreed that some key measures were still missing. The team were now realising that the Project Charter document needed constant review as more was being learned about the process. The team were now becoming more aware of the significance of the variety of scenarios for the cleaning process based on various factors

e.g. unit type, contamination level, contract requirement etc. They agreed to gather data for turn-around-times (TAT), revise the Charter and continue to review/revise their process map.

Within a few weeks they had obtained some (TAT) process data for the previous 2 months split by Overhaul vs Repair and began to apply "potential problem analysis" (PPA) as they were trying to prevent future issues. The team were now presenting demand data both historic and forecast, which illustrated the growth in the business and consequent need to increase capacity. A simple Fishbone diagram was produced for possible problems with the cleaning process following team brainstorming sessions. This really engaged the team and they developed their fishbone further involving Woodward colleagues and key stakeholders. From this the team went on to select a few critical concerns for which they needed to produce risk reduction/contingency plans.

### Preparing for Change

The team are now in a position to plan the on-going development of the new cleaning system and incorporate the commissioning of new product into the process. The analysis has shown that the system will reach its full capacity in 2022 and now they have the information to plan for the introduction of more cleaning facilities if the growth projections are to be met.

The cleaning system now has a clear schedule of work and it is planned to resource the system with a full-time operator allowing technicians to carry on with assembly and disassembly work increasing the overall productivity across the entire process. Plant capacity will increase significantly in a structured format.

### Business Benefits

The skill base of the operational team has been greatly enhanced by the BIA experience and the team have enjoyed the opportunity to learn with other companies. Tangible site benefits will be:

- Reduced queuing time
- Improved awareness of lean principles
- Quicker workflow through the process
- Improved disciplines
- Less waste in operator day to day working schedules
- Increased productivity
- Potential for higher capacity if a backshift is introduced
- SOP for standardised cleaning
- Supporting the local community with increased head count

*“As a group and individuals we gained a lot out of the BIA to enable us to go forward within our organisation with new projects, look at processes different and now have the tools to have the ability to change them if need be to enable the company to be leaner.”*