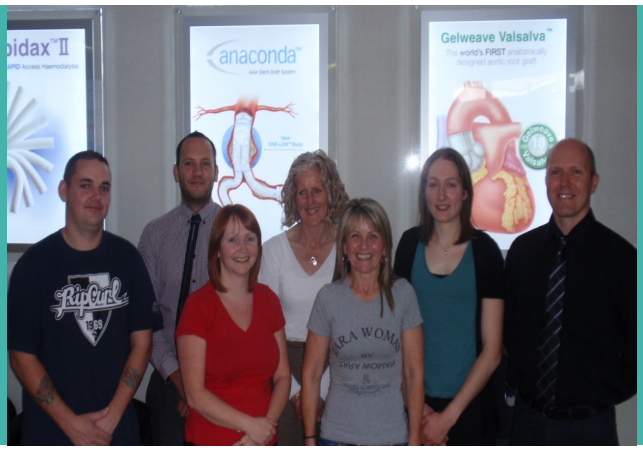
Vascutek, a Terumo company, is a world leader in the design and manufacture of products for the treatment of diseased or damaged arteries. Founded in 1982 with 8 employees, the company now employs over 500 people at its custom built facility in Inchinnan.



Lean Team

Kevin Knight – Production Operator
Chris Owens – Purchasing
Ainslee Smith – Production Supervisor
Frances Thompson – QC Technician
Helen Moore – Product/Sterilisation
Tricia Wood – Product Development Engineer
Alasdair Stewart – Equipment Engineer

Lean Project – Leaning the Packaging Process at Vascutek

A cross functional team was assembled to focus on the Triplex product which is a tri-layer graft with inner and outer polyester and elastomeric membrane mid layer. The objectives were to address inefficiencies within the packaging process of the Triplex product in the bonded area. All errors were identified through 100% inspection and defective products / packaging were removed and reworked.

Lean tools utiised

The team carried out a S.I.P.O.C. assessment as this product will see significant growth over the next few years under the Terumo banner. Manufacturing space is at a premium and a critical component of the lean assessment. It is vital that Vascutek provides an efficient and waste free process into Terumo with exceptional levels of customer service. The assessment provided the team with three main objectives as listed:

- Error proof (Poka Yoke) packaging processes to minimise errors relating to stock management and defects.
- Reduce workbench space requirement by 30%.
- Redesign the process layout of the work stations to improve flow.

Having created a value stream map, the team gathered data as they continually walked the process. Using the project management tool of PDCA, the team went on to produce Ishikawa Diagrams and Pareto Charts relating to the above objectives.

Addressing the Objectives

Error Proofing - the analysis highlighted many reasons why errors occur and this was communicated visually within the area via Pareto and Pie Charts. An action plan was drawn up to address these errors, which highlighted the following:

- Description of error
- Where the error was occurring
- Type of error and responsibility
- Action to control the measures

The main areas of concern fell under component identification, handling and transport and extra components. A new process was introduced to ensure that packers only received the exact number of components per batch. By increasing employee ownership within the packaging area and highlighting where waste occurs, enables a possible error reduction of 17%. The Introduction of a bar coding system will enhance operator performance with the potential to reduce errors by 41.67%. Finally, the team sourced a generic trolley for all products for better movement of product through the area. This will improve productivity and reduce damage, and also has the potential to further reduce errors by 17%.

Vascutek Terumo – Case Study – July 2011

Reduce workbench space by 30% and Redesign the process layout of the work stations to improve flow - the new trolleys and the introduction of more compact workbenches specially customised for Triplex will see a much more efficient utilisation of floor space. The new system is designed to ensure batches flow quicker through the area preventing excessive WIP.

Flow of documentation

During the project, as the team worked on the new process flow, they documented Spaghetti Charts following product and paperwork throughout the packaging area. By highlighting this flow, they were able to demonstrate how current excessive movement created a complex arena for documentation traceability. As the process required data extraction from multiple stages, the team devised a new system that would allow data entry from multiple points. This system requires modification of computer software which will see five separations of paperwork and product reduced to three. The team calculated a 30 minute reduction in labour per run of 60 grafts.

In addition the team also discovered that the recording of QC data is being duplicated. A change to the process has already been raised and once implemented will also reduce the labour time for each run of 60 grafts by approximately 30 minutes.

This equates to an annual cost saving of £8K.

Action plan for Change

The changes will be implemented during the latter part of 2011 with the following action plan:

- Validation of bar coding procedure - completed by Q4
- Implementation of workbenches and trolleys - completed by Q3
- Further investigation to reduce paperwork and product separations - completed by Q4
- Staff to check the number of packaging components prior to packing to increase personal accountability and reduce the error rate - completed by Q3

Environmental impact

During the project a detailed carbon assessment was produced for the company. From this, recommendations have been made for Vascutek to recycle polyethylene terepthalate and reduce landfill. The assessment documents that there is a potential carbon reduction of 4.1 tonnes CO2 p.a. which could save the company £9,000.00 p.a.

Benefits to the business

This project helps in the company focus on space. The knowledge gained will be used to assess improvement opportunity for other products in the packaging area.

The action to recycle polyethylene terephthalate will segregate this waste, making it more visible, and will drive activity to reduce packaging waste.

The Future

The team have created a blue-print for implementation that will engage further staff in developing improvements beyond the project. Many areas of non value add have been highlighted that will require project focus for Vascutek to reap the benefits.

"The practical aspect of the Lean Management programme gave team members the opportunity to take ownership of a project and appreciate firsthand the value of the simplistic techniques and principles learned during the monthly workshops. We see lean management as one of the cornerstones to our company's successful future and look forward to passing on our new found enthusiasm in this area to our colleagues."

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