Vascutek Terumo – Case Study – February 2011

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

David Wilson – Process Engineer
Brian McDonald – Product Development Engineer
Robert Cadden – Stores Clerk
Frank Hanson – Team Leader – Trainer
Gary Wilson – Purchasing Technician
Heather Kangley – Team Leader
Gordon Ross – Equipment Engineer

Mission Statement

"To introduce and implement a Lean Management Program within Vascutek's Sterilisation and Packaging Processes."

Mapping the flow

The team spent a great deal of time gathering information and documenting the flow of activities through the sterilisation and packaging process. From this, a current state view was identified which demonstrated that the flow of materials from the clean rooms through to release of finished goods had a 12- 19 day lead time (instead of a 7 days lead time as stated in procedure). The team went on to communicate the current state using the flow diagrams with accompanying documentation covering activities in each part of the process.

Utilising Lean Tools – Implementing Lean

Following on from the value stream map the team analysed data and utilised Pareto Charts. Many of the operational areas had a fixed time within the flow of activity and as result, it was realised that a "holding and sorting area" held the key for lead time reduction. This stage of the process was not documented nor had a controlled procedure as it was an area created internally from production demands being pushed from cleanrooms into the sterilisation area.

Detailed activity charts were created to analyse the project area and an initial pilot run was carried out using products in small batches. Product flow and data was analysed throughout the Packaging and Sterilisation area. This led to improved workplace organisation under the 5S concept and it was noted that the amount of space required for product inspection within the operational areas were reduced and productivity and materials movement increased.

A second pilot run was then carried out which incorporated a new traffic light system to identify large, medium and small batches.

In addition to operational Lean tools the team utilised Ishikawa diagrams to demonstrate the cultural aspects of Lean. Communicating effectively with the workforce in questioning traditional viewpoints is creating visible motivation for change and improvement that wasn't evident before.

Business Benefits

The new future state process will now see the lead time reduced from 12 -19 days to 7. This will see a £46,000 reduction in Work In Progress (WIP) materials. The resulting reduction in double-handling will save the company approximately £25,000 in labour costs. There will also be a 67% reduction in space utilisation. Space at Vascutek is at a premium and is a critical business need.

Continuing the Lean journey

Further pilots are being worked on to implement the changes within the Sterilisation and Packaging area. The team are improving trolley design, area layouts and developing process ownership throughout the department.

The team have identified new projects which will include planning and scheduling, IT systems with emphasis on bar code development and a new sterilisation / aeration process for future products. The use of Visual Factory, linking these activities together will improve communications and identify issues quickly for resolution.

Environmental benefits of "Lean"

Having a sterilisation schedule in place will maximise the steriliser output leading to energy benefits, streamlining the process will lead to less reworks reducing packaging and energy waste.