

Process mapping and improvements in the medtech industry

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Long lead times and correspondingly high work in progress levels are commonplace in many manufacturing companies, making the planning for production difficult. Improvement methodologies such as process mapping and Lean can help identify and eliminate non-value adding activities to improve this issue.

Lead times and work in progress levels are important factors for running efficient manufacturing. Shorter lead times allow companies to better match supply and demand.

Atos Medical is a medtech company situated in Sweden. The company currently experiences, just as many other companies, long lead times and high work in progress levels in their production. Therefore, we studied the production process with the purpose of suggesting improvements to reduce the lead times. The process investigated showed a lot of manual and time consuming production planning, a dependency on individual employees, and machinery that is old and unergonomic. Continuous expediting in the production also occurs which indicates to be because production cannot keep up with set safety stock levels and lack of communication between departments and hierarchical levels. Tools are also missing in the production when needed and unnecessary documentation takes up a lot of time.

The Lean production method has proved to be an effective way of reducing non-value adding activities in manufacturing companies. However, not all companies achieve great benefits by working with Lean, there are several important factors for becoming successful in Lean, like persistence and management commitment.

Process mapping is often referred to as the starting point of improving processes, understanding the current state is necessary in order to identify where improvements can be made. Several methods of process mapping exist, value stream mapping and flow charts were used in this case study, to visualise the current state and build upon it to create a target future process state.

In order to find ways to produce with shorter lead time and reduced levels of WIP, utilising both process mapping and Lean production methodology showed to be a feasible way towards process improvement.

The study concluded in both short term and long term recommendations to Atos Medical, starting with the introduction of Lean tools such as 5S, cross-train employees, reduce batch sizes and introduce CONWIP as production control policy. By reducing the batch sizes and removing unnecessary steps in the production, the process time for high volume products could be reduced by 8 days to 30 days and the average lead time could be reduced by 55%.

In the future, Atos Medical should invest in new equipment, digitalise their production documentation and investigate if all their products have to be processed outside the company.