

Improving Overall Equipment Effectiveness in CNC Machine Shop using Lean Techniques



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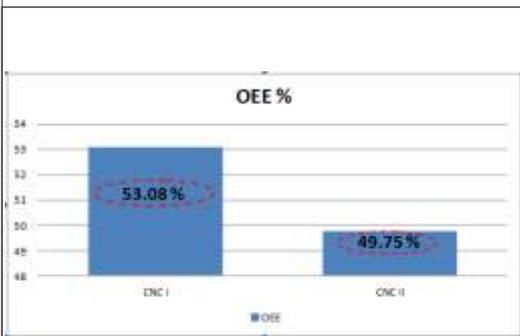
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Abstract:

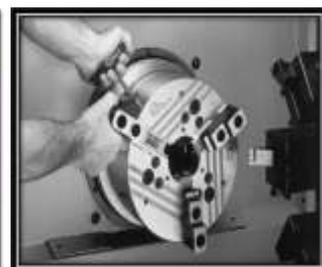
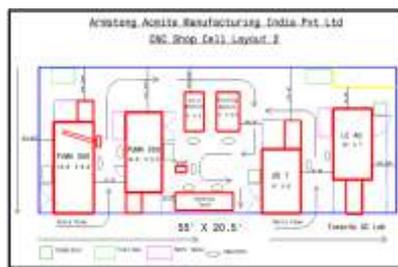
In an era of global manufacturing, a company must flexible to change its strategies when new markets are explored and when demand changes frequently. With the intense in market completion, manufacturing companies are accepting the customer orders even for small batch sizes. In order to achieve the target for varying customer needs with small batch quantities, it is becoming a great challenge to get optimal utilisation of the resources available within the company. In a job shop though the resources seem to be utilized completely within the available time, there are huge losses in terms of time which affect the overall productivity of the resources. These losses are usually go un-monitored by the companies but are the real culprits in under-achieving the company targets.

The project intends to identify various losses by measuring the OEE in a job shop & improve the productivity time by using lean techniques such as SMED, TQM, Cell layout & 5S. The project report reflects the work carried out in a job shop by data collection & analysis of the present OEE and visualizing the losses within the process. The objective of the projects are achieved by implementing the best suited lean solutions for reducing the losses & increasing the equipment utilization. The setup time reduction by quick changeover processes, by waste eliminating approach, will support the movement towards reducing the availability losses incurring due to frequent set-up changes for variety of components.

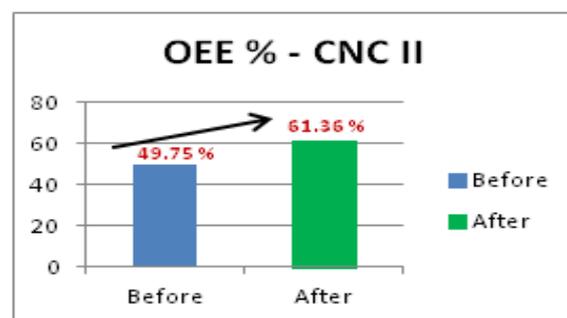
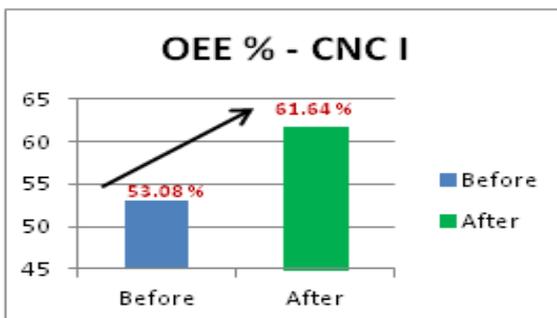
The scope of the project covers tracking of present OEE, data collection & analysis, proposing of solutions to overcome the problems, implementation of the possible solutions & tracking the improved OEE. The main result of the project is improvement of availability & performance of CNC machines within the machine shop, hence increasing the OEE of machine shop. The project resulted in the improvement of 9% OEE in the machine shop.



Previous OEE of CNC machines



Lean techniques used to improve OEE



Current OEE of CNC machines