CASE STUDY

Time Optimization Leads to Pipefitting Process Upgrade

Customer Challenges

- Capacity imbalances due to suboptimal resource allocation
- Inefficient purchase requisition process
- Material replenishment and tracking issues
- Insufficient material handling equipment

PROJECT SUMMARY

The project objective was to perform a work sampling study and analyze the improvement opportunities by taking the holistic view of the process and identifying the percentage of productive and non-productive activities of pipefitters and welders under study. A work sampling method was chosen as the ideal method to survey the crew, which was used to investigate the proportions of total time devoted to the various work activities taking place.

An opportunity to optimize time was uncovered through this method.

SYSTEM DESCRIPTION

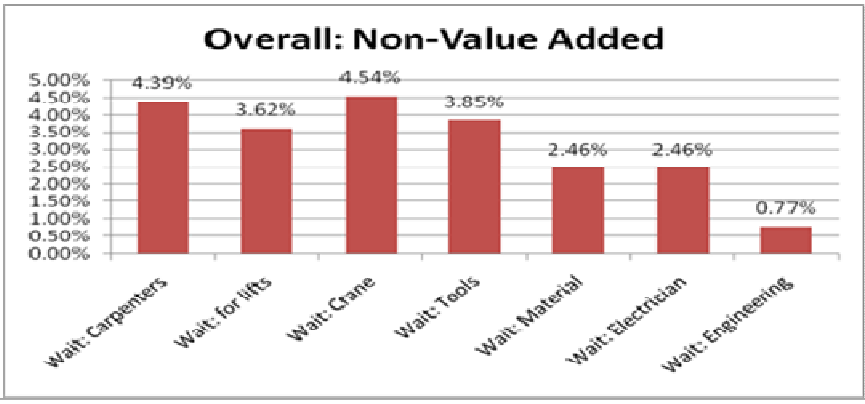
The system of pipefitting production is predominately the pipefitting process itself, though there are also additional processes such as hanging pipes in place for continuation of the manufacturing process, as well as set up and cleanup for incoming and outgoing pipes, respectively.

OPPORTUNITY

Work stations within the system were experiencing higher than average wait times, either due to tool or machinery requirements or break times by employees. Throughput would experience an increase if these times could be optimized.

APPROACH

In order to identify waste areas and suggest improvement infinitive, it was necessary to obtain the holistic view of the process. Thus, PMC's project manager conducted several interviews during the onsite visit. Based on the insights obtained during the initial interviews, it was decided to form a cross-functional team of the key-stakeholders of the material handling process and build the current state value stream map followed by the brainstorming session to identify improvement initiatives aimed at eliminating/reducing current waste in the process.



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SOLUTION

PMC's simulation models allowed the company to pinpoint the biggest areas of time spent on non-productive tasks. This led to several recommendations, such as:

- Setting a re-order point to ensure stock lasts until replenishment
- Accompany every change in work package with reference to the previous location of the item
- Provide fabrication shop listing to avoid confusion
- Collaborate physical machinery positions with those in the computer network
- Reallocate carpenters between day and night shifts to ensure on-time availability of scaffolding for fitters
- Implement a plan to use the cranes during shift transition times, to reduce overall wait time for fitters

PMC
Data-driven productivity solutions

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