success story

Kanbans Boost Productivity at San Antonio Lighthouse for the Blind

Customer:
San Antonio Lighthouse for the Blind

County:
Bexar

Industry:
Textiles

TMAC Services
Lean Enterprise

Who to contact:
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The San Antonio Lighthouse for the Blind was established in 1933. It began with the objective to serve the blind in the San Antonio community. Today, their mission is to provide employment for people who are blind and visually disabled as well as offer rehabilitative services to those who are visually disabled in the community. It has a wide range of manufacturing capabilities including textiles, a line of office supplies, as well as absorbent seal kits and related products.

The Situation

In 2010, as the new Vice President of Manufacturing, Bob Buckley wanted to challenge the organization to improve its' operational efficiency and customer delivery. Buckley identified the pen line as having the most potential for improvement. Upon his arrival, the pen line was operating on average at about 63% of the performance standard. Many reasons were identified that prevented the operators from reaching their productivity goals.

In 2005, TMAC successfully assisted the San Antonio Lighthouse for the Blind (SALB) to improve the productivity of a production line that produced advanced combat pants product for the US Army. This effort resulted in an increase in overall efficiency of 114%. This success, along with Buckley's knowledge of TMAC's capabilities, led him to contact TMAC for assistance

The Solution

TMAC, along with a team from SALB, began by analyzing the current state processes. By using lean tools and techniques such as mapping and spaghetti diagrams, they were able to visually see where the breakdowns in product flow occurred. Then by collecting data such as material movement and distance traveled, along with calculating the amount of work-in-process, they were able to quantify the excess cost of the current state process.

In planning for the future state, TMAC reviewed and analyzed the historic order quantities over time as well as the planned volume forecasts by item. In addition, for each of the items, the bill-of-materials were analyzed and broken down to identify both common components and unique parts for the mix of pens being produced on the line.

Next, TMAC facilitated a future state brainstorming session with the team to identify areas in which products did not flow and to identify the specific causes for the breakdown in flow. All of the reasons that caused product not to flow could be summarized by one root-cause which was material shortages. TMAC trained the team on the lean concepts of Kanban Pull Trigger Systems which when implemented eliminated material shortages, resulting in the lines ability to continuously produce product.

The Results

The team completely redesigned how the stock room provides raw material to the work center. Based on the bill-of-material data and planned forecast, Kanban sizes for all of the raw material components were established. Excess material was moved out and racking was installed to hold all of the materials for the Kanbans. Material is now transferred to the Kanban staging area in full case quantity, thereby eliminating the counting of all components for each work order produced.

By creating a cap sub-assembly work cell, relocating the workers to a designated cap assembly table, and setting up a cap Kanban bin the team was able to reduce multiple shortages due to the cap assembly.

And finally, a SALB team member noticed that the filling operation would break down from time to time due to the tight parameters around the filling heads. He suggested that the pens be filled prior to one of the assembly processes. The line was changed to accommodate the suggestion resulting in 100% up time for the filling station and the elimination of the bottleneck.

In addition to achieving the measurable results in the table at the right, the operators on the pen line increased their efficiency from 63% to upwards of 99+% of the production standard resulting in quicker response time to customers and lower overall cost for San Antonio Lighthouse for the Blind.

Improvement Metric (per work order)	*Old Process*	*New Process*
Steps in the process	14	2
Picking and counting time	100 Min.	5 Min.
Transportation distance in feet	1,215 Ft.	303 Ft.
Percent complete and accurate	75%	100%
Time waiting for shortages	30+ Min.	0 Min.

"In the pen department alone, productivity has increased by 50%, resulting in an annual savings in excess of $100,000."

Bob Buckley,
Vice President, Manufacturing

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