

PROCESS IMPROVEMENT YIELDS COST SAVINGS, BOOSTS SALES

ABOUT ALINABAL INC. Based in Milford, Connecticut, Alinabal is a diversified manufacturer with history reaching as far back as 1913 when it supplied laminated materials for the Model T Ford. Today, through its four distinct business units including their Motion Transfer Division (MTD), Alinabal is a leading manufacturer of a diverse span of products from precision stampings and assemblies, spherical rod end bearing and linkage assemblies, as well as special purpose printers, aircraft instrumentation and advanced optical shutters.

THE CHALLENGE. With a forecasted monthly increase of 60% in actuation linkage assemblies expected by the end of 2016's first quarter, MTD's leadership knew they needed to take a closer look at the product line's assembly process to determine if it was adequate enough to support the predicted rise in sales volume. They soon realized the current lead time results were yielding excessive inventory levels adding to the number of pieces in the inspection queue and throughout the manufacturing process. MTD's assembly staff needed to determine when and how to reduce these inventory levels and decrease the lead time, reduce waste while increasing operating efficiency and cost savings. MTD's past project success with Connecticut's MEP led them to reconnect and partner with CONNSTEP.

MEP CENTER'S ROLE. Together, CONNSTEP's Bill Caplan and MTD formed an eight-member, cross-functional team represented by employees from the Stock Room, Engineering, Planning and Manufacturing. They determined a kaizen event would improve the overall process flow, reduce cycle-time reduction and increase productivity to support the additional product demand. Leveraging Value Stream Mapping, the team reviewed the current processing state of the actuation linkage product line including:

- Production time
- Value-added time per assembly
- Quantifying direct-process steps
- Amount of inventory
- Travel distance for assembly operation
- Outside process (shot peen)
- Inspection queues
- Space for inventory and kitting

With CONNSTEP's guidance, MTD accomplished all of the kaizen objectives. The kaizen team received additional training in Value Stream Mapping and completed current- and future-state maps of the entire actuation linkage product line. The resulting improvements included added capacity, reductions in inventory, value-added time per assembly, motion (from within the plant and developed into a cell) and distance traveled. In addition, MTD experienced gains in estimated productivity and a decrease in direct-process steps. Their Manufacturing Engineering department designed a double-ended welder for the shafts; point-of-use storage (POS) was implemented to replace kitting to improve material control; a new plant layout for process and material flow was introduced.

RESULTS



6 jobs retained and 3 jobs added



12% in increased sales



\$230,000 new investment



76% reduction in distance traveled, 50% in material handling, 27% decrease in direct-process steps



\$30,000 in new products

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"Continuous Improvement is embedded in our culture. By partnering with CONNSTEP, we were able to further uncover and reduce the waste necessary to remain competitive in our industry. The pressures of global competition are relentless and we need to be proactive and reduce waste while enhancing our processes. MTD's actuation linkage product line is a technically-advanced offering and our customers need us to deliver designs and technical support at the lowest costs possible often times in a multi-year regressive pricing environment. "

-Michael Murphy, VP and General Manager, VP and General Manager