

VALUE STREAM MAPPING HELPS MANUFACTURER PREPARE FOR MOVE TO NEW FACILITY

BACKGROUND:

Connector Products Inc. (CPI) designs, develops and manufactures innovative, high-quality products for power utilities and mass transit. Specializing in connectors, CPI offers outstanding customer service and short lead times, especially during emergencies. “Better Products by Design” is the company’s mission and a philosophy they live by as a trusted industry supplier. The family owned company was started in 1972 by Mario Polidori. Mr. Polidori began his career as a machinist at the age of 18 in 1941. He enjoyed a successful engineering career working for Aircraft Marine Products (AMP), where he designed and patented the first wedge pressure connector for utility applications.

It was not until the construction of the Washington Area Metro Transportation Authority subway system that Mr. Polidori saw the need for a unique rail connector. When his company did not see the value in it, he decided to leave and start his own business. Known today as the “Polidori Clamp,” his original design for the rail connector is still widely used nearly 40 years later. Located in Pennsauken, NJ, CPI employs over twenty workers and has sales of approximately four million dollars.

CHALLENGE:

CPI acquired a new 20,900 sq. ft. facility and wanted to optimize this space while streamlining their process to “clean house” before the move. The company contacted NJMEP with regards to submitting a proposal to assist with this project and in streamlining their processes.

SOLUTION:

NJMEP met with representatives from CPI and received an overview of the manufacturing operations and heard the challenges faced in moving the operation to the new facility. Based on this initial meeting, NJMEP and its resource, provided a proposal for developing a layout for the new facility using the Lean manufacturing tool Value Stream Mapping (VSM). VSM is a dock to dock analysis of the procedures and processes used in a company’s operation. It begins with the customer order and demand, the order entry process, the fabrication and assembly processes, and product flow (push vs. pull) from raw material through to packaging and shipment.

The objective is to identify bottlenecks that hamper efficiency and identify improvements that will reduce material handling, improve material flow, reduce inventory, and reduce lead time. Improvements discovered as a result of the VSM would then be incorporated into the new facility layout. First the team constructed the current state Value Stream Map and captured the metrics and key indicators of the current process. Next they applied lean principles, including the 8 wastes to develop a future state Value Stream Map. The Map showed recommended process improvements to reduce waste and lead-time. Using the information gleaned from the mapping, preliminary layouts were developed.

New equipment, work areas, and workflows were considered in preparing them. CPI’s personnel reviewed the preliminary layouts and made suggestions and recommendations that were incorporated into the layouts. In addition to VSM, CPI participated in a 4 hour Principles of Lean Manufacturing with Live Simulation workshop that they hosted for other South Jersey manufacturers.

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RESULTS:

As a result of the NJMEP VSM and the workshop, CPI was able to meet their objective of optimizing their processes by “cleaning house” before the move. The VSM project enabled them to streamline their processes and the workshop helped them identify other Lean techniques that would also help them.

When completing the NIST Survey on the benefits of these endeavors, Mr. Polidori reported:

- Increased sales: \$10,000
- New employees: 3
- Realized a cost savings: \$50,000.00
- Invested in plant equipment: \$10,000
- Saw a saving as a result of new processes: \$10,000

CPI continues to work with NJMEP for its R&D Tax Credits and has also had them conduct a Core Values Assessment to determine how the company can be strengthened and create more value.

Nick Polidori, the president of CPI explained, “Our R & D Tax Credit work with NJMEP has been very beneficial for us so when I was preparing for our move they were who I reached out to. The move went smoothly and we are settled into the new space.” He added, “The VSM project provided us with a detailed process flow that we used for layout changes for our relocation, and we still refer to this flow chart today. It helped us to better visualize areas of waste, especially in excess product and people movement. As a result of this project-our relocation was more successful-and we continue to look for ways to reduce waste throughout our new shop.

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