

SUCCESS STORY



Extended Enterprise Management—a Next Generation Manufacturing Success Strategy

Fox Valley Metal Tech Accelerates Turn-around Time



Fox Valley Metal Tech Decreases Turn-Around Time by 64%

John West, president of Fox Valley Metal Tech, was enthusiastic when his customer, a major defense contractor, asked him to participate in WMEP's Accelerate program. Over the past few years, the company used the services of WMEP to obtain ISO 9000 certification and conduct lean training that included Value Stream Mapping (VSM) of manufacturing process and 5S projects. Both projects with WMEP produced a strong return on investment and improved the company's operations.

WMEP's Accelerate program is designed to help suppliers increase the speed of production to improve performance and flexibility. Accelerate combines two powerful lean tools: Value Stream Mapping and the

Accelerate Results for FVMT:

The Accelerate process yielded impressive results:

- ▶ 10% reduction in cost (\$250,000)
- ▶ 64% reduction in cycle time (300 days to 120 days, far surpassing the original 50% reduction goal)
- ▶ Addition of three welders to work on other projects

Manufacturing Critical-path Time metric. Value Stream Mapping graphically depicts the flow of information and materials involved in producing a part, while MCT measures the total value stream in calendar days.

Fox Valley Metal Tech's customer set a goal to reduce turnaround time by 50%. West accepted the ambitious goal. "We had already developed a Value Stream Map for a prototype of the electrical cabinet that was the focus of the Accelerate program," said West. "Accelerate gave us the opportunity to validate what we were already doing."



Kurt Galien prepares cabinets for shipment.



Lean improves custom manufacturing

Value Stream Mapping analyzes the product flow from the initial order to the shipping of the finished part. This seemed like a straight-forward process for something as simple as an electrical cabinet. But the company manufactured six different styles of electrical cabinets in two sizes. Several versions of cabinets were grouped together on a single foundation called a "load center" that could weigh up to 6,000 lbs. and require a semi to transport. In addition, the company worked with several subcontractors for portions of the manufacturing process, and each subcontractor required appropriate documentation and inspection.

Phase I of the Accelerate project involved a day of thorough review, discussion and value stream mapping, followed by a day for developing a detailed plan to remove waste from the process. A matrix of action items was developed that included due dates, name of person responsible, and the actions that

the OEM customer was responsible for completing. "A primary benefit of the Accelerate approach is the collaboration between OEMs, suppliers and other partners," said West. "Everyone is motivated to work together and get things done."

Phase II of the project implemented the changes outlined in Phase I. Many of the improvements required changes to the manufacturing process documentation and had to meet stringent federal specifications for production, inspection and certification. This added another layer of complexity to the process. For example, a welding process developed specifically for the electrical cabinet had to be approved up-front by government inspectors as well as the customer. Welders working on the project were trained to approved standards. Their weld samples are stress-tested, tensile-tested, x-rayed, and approved by a certified third party as meeting the prescribed standards before the welders could work on the production line.



Cabinets in-process in the staging area prior to chemical coating process.



The semi-automatic welder makes a 6 foot weld on outside edge of cabinet.

Fox Valley Metal Tech

The Accelerate process also helped resolve technological issues. One step in the cabinet-making process involved welding a very thick piece of metal to a thinner sheet – a step that often required re-work and/or extra finishing. As part of the review process, two welders and a project leader focused on the issue and developed a technique that worked reliably and cut the welding and finishing time in half.



Completed cabinets ready for shipping.

Other improvements included: changing the sequence of assembly to increase ease of manufacturing; the construction of custom jigs that prevented warping and twisting of the product during the manufacturing process; and the purchase of a semi-automatic welding device to make the longest welds. “This equipment paid for itself in a very short time,” said West. “Due to the changes we made in our manufacturing process, we were able to use our trained and certified welders much more efficiently, reduce their down time and increase production speed.”

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In addition, other positive changes were made throughout the plant. “We improved communication with our clients and our sub-contractors”, said West. “For example, we clarified the government specification documents for our vendors by providing drawings and information specific to the part they supplied. This reduced confusion and sped up delivery times.”

Fox Valley Metal Tech was able to apply these techniques to other processes, as well. “As a result, we can offer customers better quality and better pricing, and we’re able to bid on more projects,” said West.

Success



Cabinets loaded on the truck for delivery to a painting subcontractor.

According to Davies Wakefield of WMEP, "Fox Valley Metal Tech is a great example of how a company can leverage the lean principles of continuous improvement for benefits far beyond product quality. The Accelerate program has helped them strengthen relationships with customers and vendors and lay a solid foundation business growth – even in the most competitive global economy."

About Fox Valley Metal Tech, Inc.

Fox Valley Metal-Tech., Inc., based in Green Bay, Wisconsin, provides sheet metal fabrication services to produce quality custom parts, fabrications and assemblies for stainless steel, aluminum and steel. Capabilities include laser and water jet cutting, CNC precision press brake forming, welding to AWS and military standards, metal finishing, and other related services. Industries currently served include

custom machine builders, paper industry, packaging equipment, car wash equipment, food handling and processing equipment, water treatment, safety equipment, marine and shipbuilding, construction, crane industry, electrical enclosure, and drying equipment. Phone (800) 469-9004. www.fvmt.com.

About WMEP

WMEP is a private, nonprofit consulting organization committed to the growth and success of Wisconsin manufacturers. WMEP is a leader in bringing Next Generation Manufacturing best practices to Wisconsin firms to help them achieve world-class performance through innovation and transformation.

For more information, visit www.wmep.org or call 1-877-856-8588.