

# Are You Incorporating These Lean Manufacturing Best Practices?

written by Lauri Moon | December 7, 2016

(American Machinist - Megan R. Nichols: 11-2-16) According to the originators of Lean Manufacturing methodology, the five fundamental principles revolve around adding value to products and services, enhancing the value stream from end to end, improving workflow, reducing the overall time-to-market, and achieving perfection throughout the entire program. While it can be difficult to achieve all five principles, there are a number of best practices you can implement on the manufacturing floor to underscore the importance of these strategies and generate quantifiable results.

**Minimizing waste** — The general purpose of the Lean methodology is to minimize and, if possible eliminate, excess waste. Whether this is achieved in the actual manufacturing process of products or during another phase, such as packaging or shipping, waste can be found in nearly every business process associated with modern manufacturing.

Lean manufacturing methods highlight a number of different wasteful areas of an industrial operation. This includes overproduction in order to meet perceived or forecasted demands, inefficient inventory control, defects or bottlenecks in the production process, redundant inspections or requirements, excess transportation, idle time, unnecessary motion or handling of products, and the overall “culture” of your operation.

**Eliminating nonvalue** — Implementing Lean on the manufacturing floor also requires eliminating any nonvalue-adding steps or services that currently are a part of the production process. To do this effectively, you must first make the differentiation between value and waste.

Taiichi Ohno, inventor of Lean’s predecessor, the Toyota Production System, considers waste to be anything that is above and beyond the absolute minimum requirements of your company’s specific manufacturing process. Parts, materials,

tools, equipment, and even labor may be considered as waste.

**Consolidating vendors** — Consolidating your external vendors into one centralized point-of-contact is a great way to reduce waste in areas other than actual manufacturing processes. Purchasing all of your parts and components from one source instead of several not only saves you the time and ordeal of maintaining communications with multiple vendors, but it can also reduce your overhead costs.

However, it can be difficult to find one vendor that offers every individual part needed for the manufacturing process. This is precisely why many manufacturers will adopt a vendor managed inventory system, or VMI. Apart from consolidation, this approach has the potential to strengthen business partnerships, jumpstart communications, and bolster customer service.

**Achieving workplace safety** — While many manufacturers equate the principles of Lean solely with the production process, it's important to remember that the eight primary types of waste identified by Lean manufacturing principles can be applied to the workforce, too. As such, any effective Lean implementation should go hand in hand with employee safety.

Once you start thinking “outside the box” of standard manufacturing management methods, it's easy to see how these two concepts relate to one another. Reducing and minimizing unnecessary motions, for example, can reduce ordinary worker fatigue significantly, and even reduce the potential for injury. Manufacturers have even increased their workers' safety by eliminating defects in the manufacturing process itself, either by repairing and upgrading machines, adding more ergonomically designed equipment, or eliminating the use of any toxic parts and materials.

**Understanding the benefits of Lean** — Many of the benefits of Lean are readily apparent. Less waste, improved allocation of time and resources, improved production quality, and an increase in customer service are among some of the most obvious.

Dive deeper into the impact of Lean, however, and you'll find significant financial advantages as well. Satisfied customers are more likely to return or even

recommend your product to their friends, while lowering the overall time to market of your goods will have a significant impact on the amount of warehouse space needed to hold your inventory. Ultimately, this should lead to even lower overhead expenses.

While nearly everyone embraces the concepts and ideas behind the Lean methodology, some see it as an overly complicated, archaic, and downright burdensome set of standards that are too costly or time-consuming to implement. However, when implemented correctly, Lean manufacturing methods can pay huge dividends in the long run.

*(Megan Ray Nichols' past contributions to American Machinist have looked at the importance of aerospace ceramics and the "positive disruption" expected from the Industrial Internet of Things.)*