Lean Manufacturing

Machine Shops Benefit from Standardized Work Processes

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What You Need to Know

Standardized work is one of the most powerful, but least used lean manufacturing tools.
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Process control is essential for shops that want to stay competitive and maintain the high quality customers demand.

With a slew of improvement strategies, tools, and technologies available, many managers have lost sight of one of the simplest ways they can optimize the performance of their operations—standardized processes.

In fact, according to the Lean Enterprise Institute, standardized work is one of the most powerful, but least used lean manufacturing tools. "By documenting the current best practice, standardized work forms the baseline for kaizen or continuous improvement," the organization explains ***here***. "As the standard is improved, the new standard becomes the baseline for further improvements and so on. Improving standardized work is a never-ending process."

As defined by ***iSixSigma***, standardized work is the most efficient method to produce a product (or perform a service) at a balanced flow to achieve a desired output rate. It breaks down the work into elements, which are sequenced, organized, and repeatedly followed.

Many shops are experiencing these and other benefits of standardized processes. Hard Milling Solutions (HMS), a shop featured ***here*** in *Modern Machine Shop*, standardized its parameters for specific material and cutting tool combinations to manage a highly varied workload with minimal labor. "Our primary goal with this system is to ensure every programmer cuts the same way, and gets the same results," Corey Greenwald, owner of HMS, tells *Modern Machine Shop.* "We want customer needs to dictate what comes out of this company, not the experience and ability of any one individual."

Quality Industries (QI), a metal fabricator based in La Vergne, TN, have seen the benefits of standardized work processes across several business areas. "For QI, the move to standardized work created positive scenarios and brought both obvious and underlying benefits to the business," the fabricator says ***here*** on its website.

There are several benefits shops can gain from standardizing processes. The following are just a few:

- Reduced re-work due to errors in the production process or between operators.
- Reduced wasted time looking for tools, documents, or required inputs to complete tasks.
- Better, more comprehensive, training procedures for new staff and retraining of existing operators.
- Improved quality, if implemented throughout the production process and focus on quality at the source.

Below are just a few of the ways QI has made standardization work in its operations:

1. **Process Documentation for All Shifts**. Historically, many of QI's productive processes were understood only inside the heads of experienced team members. Creating precise documentation to supplement and replace this "tribal knowledge" helps the fabricator to critically evaluate each manufacturing process to ensure that the most productive sequences and work practices were being documented. In addition, the documentation ensured that a given process could be duplicated on all shifts, and in all work cells and departments.
2. **Reductions in Variability**. Once production processes were standardized, variability in product characteristics and quality was greatly reduced. While slight variations still existed due to different machine types, makes or models or tooling types, QI says most of these variations were eliminated because of the achieved consistency of steps and sequences in both material work and downstream activities. This aspect of Standardized Work also delivered tremendous value to the customer, who could rely on consistent finished goods.
3. **Easier Training for New Operators**. In any manufacturing environment, bringing new personnel up to speed quickly is a challenge. For QI, standardized work and well-crafted documentation simplified the process. The best process documents not only spelled out steps in clear language, but were also highly visual—with images, charts, drawings and any other helpful illustrations. This training resource provided a continuous reference for the operators and enabled a new communication system for the team. In the QI shop floor environment, team leaders and others from outside the department were able to determine the level at which each operator is qualified on machines, work cells, and specific operations.

In today's fast-paced market, process control is essential for shops that want to stay competitive and maintain the high quality customers demand. As stated in the industry brief, "***Strategies for Improving Workflow and Eliminating Bottlenecks in Industrial Metal-Cutting,***" today's industrial metal-cutting companies can't afford costly mistakes that can slow down or stop production. By implementing standardized work processes, many shops are finding they can not only increase productivity, but reduce variable(s) overhead and improve several other business areas that contribute to the bottom line.

Are your shop's metal-cutting work processes standardized?

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