

Mobile Workstations Can Increase Output, Quality, and Profits

Avoid the perfect storm of motion waste, transportation waste, and time waste

With the holiday season fast approaching, manufacturers, distribution centers, and e-commerce providers are working to meet growing customer demand, while also navigating severe supply-chain disruptions and mounting labor shortages. At this point, we all had hoped to have the devastating effects of the pandemic behind us. Yet the transportation delays, rising prices, component shortages, and labor challenges facing suppliers and retailers are even worse than last year. And that's saying a lot.

This year, with retail stores reopened and online shopping in full swing, holiday sales are projected to hit a record high. According to an annual forecast, e-commerce holiday sales are projected to grow 11–15 percent, and retail sales are predicted to increase 7–9 percent this year. To meet this demand, manufacturers of everything from electronics to bicycles and dolls have been ramping up production to accelerate output and prepare for the inevitable onslaught of returns after the holidays.

Against the backdrop of these challenges, or perhaps because of them, innovative manufacturers are turning to lean Six Sigma principles to identify and reduce operational waste and redundancy, bolster productivity, improve quality, and ultimately, increase profits. The goal of a lean Six Sigma process is one in which 99.99966 percent of all aspects of production are free of defects, a quality goal that can be difficult to achieve in the best of times. Adding lean processes—to eliminate waste and provide maximum value with the lowest possible amount of investment—can be a daunting but necessary step to succeed.

Before initiating any lean processes, however, it's important to identify and quantify your pain points. Ask yourself, and others, including those actually performing the functions in your production or fulfillment facility, questions such as: What processes make your job most difficult? What resources do you need to access in real time to make the process more efficient?

Develop a root cause analysis, collect data, and establish a baseline against which you can measure improvement. Set key performance indicators that underscore the value to your operation. If shipping is the focus, for example, how much is coming in, how much is going out, how often are you printing a label? All these data and details will enable you to make tangible, actionable decisions and identify the best solutions.

One area that has traditionally been a stumbling block is in how manufacturers and distribution centers provide workers with the tools needed to do their jobs. Fixed workstations, once considered an innovative solution on the warehouse floor for data entry and other tasks, are now holding employees back. Now more than ever, workstations need to be mobile, equipped with advanced power systems and essential devices, and brought to the point of task to streamline processes, reduce downtime, increase productivity, and improve safety—all in keeping with the goal of maximum efficiency and minimum quality defects.

A perfect storm of waste



Mobilized power workstations help to reduce motion waste, and enable more efficient picking, packing, and receiving in the warehouse.

Key to the benefits of mobilized workstations is their ability to eliminate waste. The disparate, siloed nature of most production facilities creates space for a perfect storm of waste—motion waste, transportation waste, and time waste—leading to a reduction in output, an increase in process deviation or damage, and ultimately, decreased profits. Quality operations, for example, often a unit separate from manufacturing, can be an area of tremendous waste with a product having to leave the manufacturing floor for quality control review and then return back again. Process disruptions such as this lead to motion and transport waste and increase the likelihood of product damage. Yet, by mobilizing inspection and testing equipment, employees can execute these tasks directly on the manufacturing line for greater accuracy and efficiency, thus mitigating risk and reducing production time—by half, in some cases.

This seems like a simple solution, but the challenge has been the need for power for the devices that must be mobilized—from laptops and other devices, to printers or barcode scanners. If an employee has to traverse the floor to recharge a battery, then the steps saved from the manufacturing floor to the quality control site aren't really worth the effort. Manufacturers and distribution centers looking to mobilize workstations should consider if their battery systems are advanced enough to provide lengthy operation, as well as enable them to be easily swapped out directly on the workstation. By mobilizing computing power and bringing it to the point of task, manufacturers and fulfillment centers can address key pain points to eliminate or minimize problems *before* they occur and slow down an already challenging holiday season.

By applying a lean analysis, one of the world's largest e-commerce providers identified the bottlenecks to faster and more accurate operations in the distribution center, and as usual the biggest culprit was motion waste. Outfitting employees with the mobile computing power needed to process, receive, pick, pack, and ship orders with fewer steps on the factory or distribution floor not only alleviated movement waste, but it also reduced errors and significantly reduced the risk of deviation or damage.

As another example, a leading international food manufacturer realized that it could drastically simplify and optimize its dispatch process by applying lean principles. In the traditional process, an associate would unload and sort from a trailer, select items to dispatch, count the trays and stacks of items, walk to a fixed terminal to print tags, then walk back to the item and place tags on stacks. Moving to mobilized workstations enabled the manufacturer to print tags for items directly from the workstation and apply them all from the

same location. This reduced 88 wasted minutes a day on the operation, or \$40 per employee, and improved accuracy because walking tags back and forth leaves room for lost tags or paperwork.

Bringing technology resources to the point of task while integrating lean practices in your improvement plans enables you to identify, define, and measure the root causes of your process pain points, evaluate options, and systematically create solutions that can boost production and efficiency—especially during a time of e-commerce overload and supply-chain disruption that has the potential to put a damper on the holiday spirit.

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