



***Innovent Technologies:***  
**SMED Success Supports High Mix,  
Low Volume Production Environment**  
*A GBMP Client Case Study*

Since 1991 Innovent Technologies, of Peabody, Massachusetts has manufactured customized substrate handling products for the semiconductor, LED and solar industries. Serving some of the industry's leading companies, Innovent provides contract manufacturing, engineering and assembly services for high-mix, low volume product lines. The Peabody plant offers a full range of facilities for fabrication and manufacturing, logistics, cleanroom assembly and testing. Innovent prides itself on offering engineering services that improve customers' designs, allowing for greater manufacturability, lower cost, and improved performance.

In 2012, Bob Elliott, GBMP Continuous Improvement Manager, was introduced to Innovent by another of his clients, GT Solar (now GT Advanced Technologies), who is also a customer of Innovent. Bob subsequently began some targeted work at Innovent. Using a small grant from the Massachusetts Workforce Training Program Express Grant program, Bob provided some foundational lean training plus a basic 5S course aimed to improve workplace organization, and then assisted Innovent with two days of Changeover Reduction (SMED) training and practice. After some quick exposure to the theory and methodology behind changeover reduction, Bob took the team into the plant and they observed and filmed a changeover on one of Innovent's machines, a Mazak Nexus 510C Vertical Machining Center. The group then reviewed and discussed the video footage and began to break it down with an eye for ways to improve it. Bob left the team with homework, challenging them to identify more opportunities to cut time and steps out of the changeover. When Bob returned a few days later for day 2 of the SMED activity, the team was excited to tell Bob they estimated their improved changeover method could reduce changeover time by more than 50%. Now it was time to put the new method to the test.

Performing the changeover using the team's new process, they were able to cut the time by 54%! They then brainstormed some other improvements and estimated the additional changes would cut another 11% off the original changeover time. With a little time to spare on that second day, the team took their new learning into one of the assembly areas. After examining operations in

that area from the perspective of flow and value, changes were made that took assembly times from 17 minutes down to 9 minutes!

Inspired by what just a few days of targeted lean work can offer to employees and processes in a business that prides itself on accommodating high-mix/low volume production, Innovent is currently in the process of securing additional grant funds to help extend their lean learning/practice.

VP/General Manager, John Flinn had this to say about the early successes at Innovent; "I initially wanted Bob to tell us all of the answers. I quickly realized that for long term success, the team needed to buy into the process in order for it to become part of the culture. Our employees are now continuously looking to eliminate wastes and drive out potential quality problems because of the basic training that we all received. As a result of our experiences with Bob and GBMP, we are looking to expand our training to keep improving."

GBMP'S Bob Elliott echoed those thoughts. "I think the Innovent team discovered that when you really spend the time to look at the details of a changeover or an assembly process it is quite easy to see waste. The video camera doesn't lie and makes time anchor steps like walking and searching really stand out. Once people can see the waste, it becomes really exciting to watch the ideas for improvement emerge, and the sense of accomplishment that results as the team experiments with new ways. I am looking forward to helping Innovent continue their efforts."

For more information about Innovent Technologies please visit [www.innoventtech.com](http://www.innoventtech.com)

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