Land, Sea, Space – Motion Sensors of Elizabeth City Filling the Niche

Work with NC State poises workforce for productivity

Motion Sensors, Inc. of Elizabeth City hadn't sought assistance for the traditional benefits of lean manufacturing including a reduction of waste or improved production capacity; they sought lean to help improve their people. The northeastern North Carolina company was experiencing difficulty finding workers equipped with problem-solving skills. Their lean goal was simple - add to the skill sets of their existing workforce. Their results were much broader.

Angelia Elliott works on a sub-sea sensor which can withstand 7,000 pounds per square inch.

The family-owned business with 17 employees produces motion sensors that measure motion based on a ferrous metal target. For this reason, the sensors are also referred to as magnetic pick-ups and can be found in a variety of applications including, railway and transit for braking, harnessing and communication.

With the help of Rex Raiford, extension specialist for the North Carolina State University Industrial Extension Service (IES), Motion Sensors was able to invest in their workforce through the Incumbent Workforce Development Program. The funding benefits businesses by enhancing the skills of employees, thereby increasing employee productivity and the potential for company growth.

Marcy Bergman, president and owner deems the Incumbent Workforce Development Program, one of the best programs available in the state. "Workers benefit, but so does the company," said Bergman. "It provides an opportunity to remain competitive."

With the help of IES, they did just that — not only did the workforce skill level rise, but simultaneously, production, quality and efficiency improved as well.

Competitive edge

One of the initial projects led by Jim Kurian, IES lean specialist transformed the company from that of a push-system to a pull-system. A pull-system links orders to scheduling and production, shipping only what the customer orders. Through this change, their lead times from receipt of an order to shipping the order went from two weeks to four days.

A push-system produces finished product that could sit on shelves wasting valuable space for a potential order that may or may not be placed. The company reduced on-hand inventory by 95 percent.

Traditional benefits-check

Kurian also led the workforce through set-up reductions in their computer numerical controlled (CNC) lathe area. CNC is a computer "controller" that reads commands and drives a powered mechanical device typically used to fabricate components by the selective removal of material. The process took a set-up that required 1 ½ hours to perform, down to 50 minutes. As is often experienced, the true benefit was increased workplace organization and process standardization.

Sandra Critz solders at Motion Sensors at which exceptional fine motor skills are required.

Once learning the process, the company immediately applied it to all other CNC machines in the plant. “It is always a pleasure to return to Motion Sensors to see how they have continued to build upon the lean principles that we first introduced in 2006,” said Kurian.

“Jim is extremely knowledgeable and lets us come to our own conclusions,” said Bergman. “And thanks to that, the results are much better.”

Bergman appreciates the lean principles her people absorbed adding that since it is such a small company, she now takes comfort in knowing that her workforce is more empowered. “Everybody’s involvement makes a big difference,” she said.

About Motion Sensors

Historically, Motion Sensors’ market has been turbine flow metering, which measures speed and propulsion aiding in things like oil and natural gas exploration. You may also find their sensors in aerospace and military applications such as nuclear submarines and space shuttles. The company produces approximately 500 sensors per month and up to 200 different models. They pride themselves on providing customized solutions.