

## TOTAL PRODUCTIVE MAINTENANCE REDUCES EQUIPMENT DOWNTIME AND LOST CAPACITY

**ABOUT LEGGETT & PLATT AEROSPACE MIDDLETOWN.** Leggett & Platt (L&P) Aerospace is a highly-specialized manufacturer of complete turnkey solutions for the aerospace, power generation, ship and submarine building, and hi-tech industries to over 70 international and domestic customers. Recognized as the world leader of fabricated tube and pipe assemblies, precision machining, and gearing, L&P services their customers from a world-class facility located in Middletown, Connecticut, where they perform on-site bending, machining, welding, brazing, pressure testing, FPI and X-Ray processes.

**THE CHALLENGE.** Leggett & Platt was experiencing breakdowns in a specific line of CNC lathe equipment, affecting throughput for a key customer who was also seeking more capacity from L&P. Leadership recognized the impact these breakdowns were having on productivity and overall equipment effectiveness (OEE). The company not only wanted to increase reliability and productivity but also ensure their workforce understood the preventative maintenance tools required to recognize equipment failures in their early stages and drive operational improvements.

**MEP CENTER'S ROLE.** L&P contracted with CONNSTEP, Connecticut's MEP Center and part of the MEP National Network™, to help identify and eliminate or minimize the main causes for their equipment breakdowns. The most problematic of the CNC lathe machines was the focus of this effort, which employed lean manufacturing practices.

Maintenance value stream mapping was performed to improve “wrench time” and eliminate non-value added activities. Opportunities to improve overall equipment effectiveness in the cell line were analyzed, which included determining the percentage of machine availability and level of quality being produced. A third party working with CONNSTEP helped train the L&P facilities manager and maintenance crew on the basics of total productive maintenance (TPM) to understand how to achieve sustainable results.

In collaboration with CONNSTEP, L&P was able to see improvements in the CNC lathe machine which was experiencing the most breakdowns and used learned techniques on other machines in the cell line. Implementing a TPM process significantly minimized downtime of the machine and helped to increase productivity by about 22%. OEE also increased from 39% to 45% and lost capacity was reduced from 61% to 55%. Visual cues and Plexiglas viewing areas on machines were added to more easily identify and assess problem areas with investments avoided of \$250,000.

**"The biggest standout of this process with CONNSTEP was implementing a practice of TPM and applying it to our other machines to really help our efforts to minimize downtime, improve capacity, and meet the needs of our customers."**

-Alec Martone, Manufacturing Engineer

## RESULTS



5 new or retained jobs



\$1,650,000 in new or retained sales



\$250,000 in other



\$6,500 in cost savings

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