

MACHINE OPTIMIZATION AND TRAINING

ABOUT MCQUILLEN MANUFACTURING. McQuillen Manufacturing is an aerospace contract manufacturer operating out of 75,000-square-foot facility in Honeoye Falls, New York. The company is an industry leader in complex, 5-axis machined high-mix, low-volume production all the way to high volume, including long-term blanket orders. McQuillen specializes in 5-axis machining high-mix, low-volume production all the way to high volume, including long-term blanket orders. McQuillen utilizes automation and lights-out machining on nearly all of their production cells to improve throughput and spindle utilization. They are ISO9001 and AS9100 certified and ITAR registered.

THE CHALLENGE. McQuillen Manufacturing was formed in 2013 and relocated to their current location in 2019. New machines were added into the new space with more contracts in aerospace and defense that targeted even higher precision, repeatability and efficiencies for components of higher complexity. To keep up with the expansion of orders and personnel, process optimization and training were critical. McQuillen turned to NextCorps, part of the New York MEP and the MEP National Network™, for help.

MEP CENTER'S ROLE. NextCorps strategized with McQuillen Manufacturing to support a series of projects. For this productivity improvement project, partnerships were developed with Innovated Solutions and Machine Laser Calibration. Process gauging implementation allows for in machine part measurement and adjustment to guarantee that every part produced is in tolerance according to the manufacturing specifications. Probing system implementation was effective in optimization through accurate tool length and diameter measurements with automatic tool offset calculation and correction. Specific training was provided in NX CAD/CAM (Siemens based computer aided design/manufacturing) system targeted at feature-based machining and NX CAM turbomachinery add-on.

"Choosing only one project to review is difficult given the working relationship we have with the regional MEP, NextCorps. This productivity improvement project helped to reduce setup times by up to 30% in addition to higher precision for complex parts. Training was also provided to both production and engineering teams to increase their knowledge base and capabilities related to Advanced 5 Axis Machining. We look forward to doing more projects in the future."

-Rob McQuillen, President

RESULTS



5 jobs created at entry and higher levels



\$400,000 new sales growth in aerospace and defense industries



\$300,000 in capital to further improve complex machining capabilities



\$100,000 through reduced setup times and in machine quality measurements

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