

## UNIVERSITY PARTNER ASSISTS WITH DESIGN OF EXPERIMENTS FOR ADAPTIVE CNC MACHINING CONTROLS

**ABOUT CARON ENGINEERING INC.** Rob Caron founded Caron Engineering more than 30 years ago to develop advanced technology for the computer numerical control (CNC) machining industry to improve performance, productivity and profitability. Caron Engineering, based in Wells, Maine, is an employee-owned company with 30 employees. The company's primary products are advanced retrofit solutions for CNC machines.

**THE CHALLENGE.** Caron Engineering applied to the Maine Technology Institute for funding to assist in the commercialization of a new product. Caron Engineering was looking for a partner to do Design of Experiments with their Tool Monitoring Adaptive Control or TMAC product which protects CNC machines by effectively measuring tool wear in real time. The company challenge was to find an in-state partner who could effectively run tests and collect data for market research on an existing CNC machine. The Advanced Manufacturing Center at the University of Maine (a sub-recipient of Maine MEP, part of the MEP National Network™) provided both the machine and the professional and student workforce required to run the tests and collect the data.

**MEP CENTER'S ROLE.** The Maine MEP/AMC Project Manager coordinated services for Caron Engineering including experiment design, data collection and testing on the company's Tool Monitoring Adaptive Control (TMAC) System, which was installed in one of the Maine MEP/AMC's CNC Machining Centers. While the project was overseen by a professional project manager, students at the Advanced Manufacturing center were instrumental in assisting in completing the deliverables. At project close, Caron Engineering was provided with data reports that they could use in their next steps towards commercialization of the TMAC system.

"Working with Maine MEP/AMC allowed Caron Engineering to bring the TMAC product to market quicker. Maine MEP/AMC helped us get further along in the process. They did a great design of experiments that gave us some really good information, good data, and a very detailed analysis looking at tool wear. I hope to continue the relationship with future projects and prospective employees. Caron Engineering is a growing company, and we're always going to be looking for more engineering talent."

-Rob Caron, President, Caron Engineering

## RESULTS



Received a **\$24,000** grant from the Maine Technology Institute to support the commercialization



Developed data around the TMAC system, which will assist in conducting further market research.

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