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Perception and Communication

By Sarwar A. Kashmeri

For the Valley News

My last two columns dealt with the Upper Valley's manufacturing industry and its economic impact on the region. I had assumed this was a decaying industry headed for extinction, and have been pleasantly surprised to learn that it is not. The large machine-tool builders of Windsor and Springfield, Vt., have gone out of business, but precision machining, on the other hand, continues to be one of the Upper Valley's major employers. It is a growth industry with one serious hurdle: a lack of candidates to fill scores of open positions. This column deals with some of the reasons behind the shortage.

"If there is one thing our industry has done, it's a really poor job of promoting and selling it, of making people aware of what it looks like today," Warren Garfield, plant superintendent at Lovejoy Machine Tool of Springfield, told me.

Many parents still have visions of machine shops from 50 years ago and "want their kids to go into a different industry where they will not get a finger cut off or come home every day smelling of oil," said Rebecca Roisman, student services coordinator at Claremont's Sugar River Valley Regional Technical Center.

The reality is just the opposite.

"Precision manufacturing is thriving, not dying. It is very technical now and requires a lot of high-level skills and creative thinking," said Nina Moore, Timken Aerospace's manager of organizational advancement. "Machine shops are bright, cheerful, colorful places, a very pleasant environment. Those are the messages we have to convey to the community to encourage people to look at manufacturing as a viable career."

Perhaps it is time to do away with the label "machinist" and its association with low-level skills. But the obsolete perception remains, and while changing it will not be easy, it is possible to begin turning it around.

Charen Urban's economics class in Newport High School is full of bright, engaged students. I had an opportunity to speak to them a few days ago about their perceptions of modern manufacturing, which were quite dismal. Newport based Latva Machine Inc. let me borrow two samples of precision-machined parts that it makes for the Department of Defense. The students looked at these and were clearly impressed with their quality and the fact that they were made a few miles from their high school.

We looked at pictures of Latva Machine's bright machine shop and its computer-controlled machine tools, which had produced the parts. The students' interest was clearly piqued. When they found out that today's manufacturing jobs pay an average of \$54,000 (including benefits) -- which is above the average national salary -- they lit up like light bulbs. Soon, the class intends to visit Latva Machine, and perhaps some of them will continue pursuing their new-found interest in manufacturing.

Changing perceptions will require proactive communications by the manufacturing industry, but the media can be of significant help. Just about everyone I spoke with felt the media mostly carried one side of today's manufacturing story. The migration of jobs overseas makes news headlines, but the transformation of the industry into a high-technology profession gets little or no coverage.

Yet, it is this makeover into precision manufacturing that has given the Upper Valley's thousands of machinists a level of job security their predecessors did not have. Operating computer driven robotic machine tools that cost upward of \$500,000 each, Lovejoy Machine Tool's workers produce sophisticated, custom tools for less than Japan or China.

It is a great story and ought to appeal to any high school student who loves computers, "but we don't even get a chance to make our pitch," a disappointed Garfield said. "Kids aren't even interested enough to come see what we are all about."

This level of computerization has a flip side -- boredom. Precision machinists are by nature creative people, but computer-controlled machine tools can hold tolerances of tens of thousands of an inch all day without any human intervention. Companies now recognize this "boredom" as a management problem, and have begun to counteract it. At Timken, for instance, instead of one-operator-one-machine units, the company has introduced "cells" in which one operator oversees multiple computer-driven machines.

Ironically, the Upper Valley has itself to blame for pushing precision machining down the slippery slope to boredom, as I learned at the American Precision Museum in Windsor. The museum contains the largest collection of historically significant machine tools in the nation, and is housed in the 19th century Robbins & Lawrence Armory. It was here that the idea of manufacturing with interchangeable parts was perfected. Before "the American system of precision manufacturing" -- as the Europeans called this Windsor invention -- each rifle was individually made and its parts were not interchangeable. Robbins & Lawrence perfected the technology to build machines that mass-produced identical, interchangeable parts. With this invention, the company was able to complete an order of 10,000 rifles for the United States Army 18 months ahead of schedule.

Manufacturing with interchangeable parts powered America's industrial leadership and made possible today's computerization of precision manufacturing.

Sarwar A. Kashmeri of Reading, Vt., advises corporations on communications and marketing strategy and is a fellow of the Foreign Policy Association. This twice-monthly column explores the Upper Valley's "business climate," focusing on the issues and conditions affecting the region's economic health. Kashmeri can be reached at skashmeri@aol.com.

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