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Grant awarded

Skill growth is program's goal

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CHARLTON- The tiny parts that Miniature Tool and Die Inc. makes are so small that one good puff of air can send them flying.

But that's not enough for Donna M. Bibber and Dennis P. Tully, siblings and company vice presidents who want to take the family-owned business further into the realm of micro- and nanotechnology.

Everything, said Ms. Bibber, the vice president of sales and marketing, is getting smaller and smaller.

"Depending on who I talk to, our opportunity is \$100 million to a billion dollars," she said.

That could mean jobs and opportunity for the region, a factor that led the Central Massachusetts Regional Employment Board to yesterday name Miniature Tool and Die the first company to receive money under a new federal grant aimed at boosting the skills of U.S. engineers.

The Regional Employment Board, WPI and the Massachusetts Manufacturing Extension Partnership are overseeing the three-year, \$3 million grant with a goal of bringing advanced training opportunities to the state's existing engineers.

All of which should unleash a burst of creativity and more economic possibilities, work-force officials said yesterday at a news conference in Worcester.

"As this effort goes forward, the key item to me is the technology that people will develop will also open up a lot of opportunities for other workers," said Edwin B. Coghlin, Regional Employment Board chairman.



Gary Hulecki, a moldmaker, uses visual inspection equipment to analyze a mold cavity at Miniature Tool and Die, 90 Worcester Road, Charlton. (T&G Staff Photos / DAN GOULD)

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Microscopic parts are the result of the molds at Miniature Tool and Die.

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The Massachusetts partnership is one of five entities nationwide to receive funding for skills training from the U.S. Department of Labor. U.S. companies that pay fees to sponsor foreign workers under the H1-B visa program are providing the money.

The program is an attempt to strengthen manufacturing, a sector of the economy that has lost 2.5 million jobs in the last three years, or 80 percent of all private-sector job losses, according to U.S. Rep. James P. McGovern, D-Worcester.

"Unfortunately, the harsh truth is that many of the manufacturing jobs we've lost are lost and gone forever," Mr. McGovern said yesterday. "But this grant offers the best hope I've seen of actually reversing this downward spiral."

Those overseeing the grant hope to provide funding for advanced training of about 390 engineers, said Gregory C. King, of the Massachusetts Manufacturing Extension Partnership in Worcester and lead technical project manager.

Grants are capped at about \$4,000 per employee, and employers must agree to match the government spending on their employees.

"If our first project is any indication of things to come on return on investment, we're going to knock the socks off this

program," Mr. King said.

At Miniature Tool and Die, a 12-person company founded 33 years ago, developing technology to make smaller and smaller components represents a course the company began taking five years ago while developing strategies to survive the flow of manufacturing to foreign markets.

"We said, "We've got to do something different, a niche business," Ms. Bibber said.

Since then, MTD has invested about \$1 million on internal research projects. The company, which makes metal molds, has developed molds so small it can produce 520 parts with just one rice-sized plastic pellet. It has developed metal ejector pins, which push tiny parts out of molds, that are no bigger than a human hair.

The smallest plastic part the company has produced, one it bills as "smallest in the world," weighs 0.00012 grams and has a wall thickness of 15-ten-thousandths of an inch. (The company declined to disclose how the part is used.)

Some of MTD's molded parts have medical applications, such as the opaque plastic cannula that can hold a needle used to deliver medications to diabetic patients.

Additional applications, Ms. Bibber said, will likely involve tiny plates with wells for laboratory uses and micro-electrical mechanical systems, or MEMS.

MTD is still in the early stages of qualifying for a technical skills grant, so officials are not yet sure how much money will be awarded to the company, Mr. King said.

MTD officials, however, say they plan to clear a space at the rear of their 16,500-square-foot headquarters and manufacturing center for a micro laboratory.

Developing micro- and nanotechnology will require the company to license technology in, license technology out and perfect such challenges as how to gently fill metal molds with just enough liquid plastic to produce a part without damaging fragile metal mold structures.

"It is certainly our hope that our business will grow, that our community will grow and new technologies will sprout," Ms. Bibber said.