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Article published May 15, 2011

Made here

MEDICAL DEVICE MANUFACTURERS KEEPING IT HOME

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WORCESTER — There's a carpeted nook in the offices of ECI Biotech that's scheduled to morph in the coming weeks into something that public officials swoon over — a manufacturing facility.

ECI Biotech will construct a pint-sized plant with a controlled environment where a small number of workers will make enzyme-based sensors about the size of a dime. The sensors will go into medical devices developed by ECI Biotech's partners to detect bacterial infections.

It's the kind of technology that could be produced overseas, but ECI Biotech founder and Chief Executive Mitchell C. Sanders wants it made here.

"We're better off keeping it here and doing it here," Mr. Sanders said.

His outlook is shared by others in medical device manufacturing who argue that the offshore production of some devices, particularly the final assembly of components, could start returning to the United States as the weak dollar and rising labor costs in China whittle away financial advantages long enjoyed by overseas factories. Piracy of intellectual property and concerns about quality in a highly regulated industry also influence thinking about where device makers should manufacture, according to John Boyd Jr., principal of The Boyd Companies Inc., a research firm in Princeton, N.J., that recently compared the financial cost of medical device manufacturing in 55 cities in the United States and nearby countries.

"Most U.S. manufacturing in China will never come back," Mr. Boyd said. "However, it's not so cut and dry with the life sciences."

Medical devices is a broad industry category that includes everything from tongue depressors to heart pumps. In Massachusetts, the industry employs about 25,000 people. Exports from Massachusetts medical device companies totaled about \$3.6 billion last year, or about 13 percent of all Massachusetts exports, according to a study by Deloitte Development LLC.

Massachusetts companies make high-value devices, and companies that look overseas for production may find themselves drawn back to Massachusetts because of quality issues, said Thomas J. Sommer, president of MassMEDIC, the Massachusetts Medical Device Industry Council.

"As one manufacturer said to me, 'It's all right for us to have consumer goods like mobile phones and gaming equipment manufactured in a low-cost site, but that doesn't mean there's necessarily a quality advantage in having medical devices manufactured there,'" Mr. Sommer said.

For some medical device makers, moving production offshore can be a lesson in the school of "hard knocks" about the unanticipated costs of transportation, taxes, duties, engineering, inventory management and cash management, said Matt Giza, general manager of Cogmedix, a West Boylston medical device contract manufacturer that is part of Coghlin Companies Inc. of Worcester.

"You'd be surprised how many people try to offshore with this grand illusion of savings," Mr. Giza said.

Boston Consulting Group expects U.S. manufacturing in general to expand in the next five years because wages in China are growing about 17 percent a year and the value of the Chinese currency is rising. Those forces make American plants with higher worker productivity look more attractive, according to the consulting firm.

The first products to return will likely be those that sell in moderate volumes and require less labor, Boston Consulting Group Partner Michael Zinser said in an email.

"As the economics erode, we would expect that qualitative factors, such as the longer supply chain, intellectual property protection, level of complexity and the amount of regulatory requirement will become increasingly more important for many organizations making these investment decisions," Mr. Zinser wrote. "We would expect them then to take a step back and more closely explore their options."

Options in North America range from high-cost sites in California's Silicon Valley to low-cost centers in South Dakota or the U.S.-Mexican border, according to The Boyd Group's study. The Worcester-Marlboro area ranks as the 13th most expensive area, with the cost of operating a 175,000-square-foot medical device plant with 325 workers totaling about \$27.2 million a year.

Yet the Worcester-Marlboro area possesses the advantage of lower operating costs than the Boston area and access to the same pool of intellectual talent, Mr. Boyd said. The availability of property tax breaks for businesses, the presence of Worcester Polytechnic Institute and rail access to the port of Boston help, too, he said.

"There's a case to be made for Worcester," Mr. Boyd said. "An abundance of industrial space, lower costs. I like this property tax exemption, and there are some companies in Worcester doing interesting things."

Mr. Sanders of ECI Biotech, the privately held business that specializes in enzyme-based sensors, expects to spend \$175,000 to create the manufacturing space where his workers will be able to turn out up to 1 million sensors a year. ECI Biotech rents its 11,700-square-foot center off Prescott Street for a thrifty \$15 per square foot and operates with a small staff of 12 full-time workers, about 10 part-time employees and eight college interns.

The company has funded itself with a combination of private investment, federal grants and state loans and grants since its creation 13 years ago. Mr. Sanders expects ECI Biotech to post \$7.9 million in revenue in 2012, with about half of the revenue coming from product sales.

It's possible that ECI Biotech's sensors could be produced overseas if they get used in products such as food packaging that require large volumes and low costs, Mr. Sanders said. But he wants to keep the production in Worcester for high-value products such as medical devices.

"Global partnerships allow us to go anywhere," Mr. Sanders said. "Worcester really allows us to stay here and be successful."

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