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Lifeflood for manufacturing

Medical device industry promises stable growth in state's declining manufacturing base

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The way Mark Tauscher sees it, good times in the medical device industry are on the verge of getting better. Much better.

Medical device companies have always succeeded here because of a convergence of universities and hospitals that offer venues in which to test and market products, says Tauscher, president and CEO of PLC Medical Systems Inc. in Franklin, which sells a medical device laser that helps repair an ailing human heart.

But the medical device market is poised to reach much higher, he said, driven by such industry leaders as Natick-based Boston Scientific Corp. and its new medication-coated stents.

"It's just getting better," he said. "Because people understand it's a real business with real products."

In the face of a drastically shrunken manufacturing base that's only started to recover, the medical device industry -- a broad sector ranging from high-tech lasers to artificial knees or surgical tools -- has emerged as a potential, stable sector that can help the Bay State stem manufacturing losses and even be a driver of future manufacturing growth.

From 1998 to 2002, the medical device industry has increased its manufacturing base almost by default. Despite the late 1990s' boom and corresponding bust, employment levels for the sector only dropped by a net few-hundred people, from 20,542 to 20,365 during that time span, even as the overall Massachusetts manufacturing base shrank from 418,000 people to 348,900, said Alan Clayton-Matthews, an economist with the University of Massachusetts Boston. Translated, medical device manufacturing represented close to 6 percent of the state's total manufacturing base in 2002, versus just under 5 percent in 1998.

What's more, Clayton-Matthews says, the U.S. Census Bureau and Bureau of Labor Statistics data he compiled show medical device manufacturing employment remained relatively stable, even as the overall number of medical device companies in the state decreased from 257 in 1998 to 217 in 2002. The decrease isn't unusual, he said, because consolidation is commonplace as larger medical products companies typically buy startups to acquire new technology.

A crucial selling point

Stability is a crucial factor in the face of state efforts to spur growth in manufacturing for medical devices, life sciences and other high-tech areas with everything from tax rebate incentives, grants and other economic-development initiatives legislators approved late last year. In the aftermath of the high-tech boom and bust, stability matters because it offers the possibility of growing something far less volatile and more durable. And with baby boomers aging, the demand for new medical devices is expected to grow.

"The state clearly sees the manufacturing of medical devices as a critical growth area for the state of Massachusetts," said Scott Sarazen, MassDevelopment's senior vice president for life sciences. "We see it leveraging the other things we have here, allowing new products to get developed leveraging biosciences, pharmaceutical sciences, nanotechnology" and other technologies.

Clayton-Matthews helped compile a Massachusetts Medical Device Industry Council report to be released on May 4 that's expected to contain his conclusions on employment and other factors that will suggest the industry is not only stable but poised for long-term expansion.

The full report, to be released at the trade group's eighth annual conference, is expected to show an industry that's on the verge of major growth, thanks to healthy venture investment and an increasing number of patents.

"We will use it to tell our story and remind public policy makers that the device industry is strong here and all indications are that it's continuing to grow," said MassMedic president Tom Sommer. "It's an important industry for the state's economic development portfolio."

Among the report's findings:

- Massachusetts was second only to California as far as medical device venture capital investment between 2001 and 2003, with 76 deals. California reported 292.
- Overall medical device patents awarded in Massachusetts jumped from 448 in 2002 to 559 in 2003, revealing the highest level of patent growth among the state's major medical device competitors.
- Overall, Massachusetts' medical device patents from 2001-2003 fell only behind California and Minnesota. California reported 1,927 medical device patents in 2003 and Minnesota claimed 616.

Clayton-Matthews cautions that he doesn't expect a surging medical devices industry but rather one that grows gradually, reined in by production automation that will limit the need for a large number of employees.

But he expects those jobs to be high-paying, citing 1999 Census data that showed Massachusetts medical instrument workers made an average \$50,211, compared with an average \$44,438 salary for the overall manufacturing sector. That's also higher, he said, than the \$41,758 average annual salary in 1999 for all U.S. medical instrument workers.

In addition, insiders say medical devices continue to offer reliable investment because the period between investment and product launch can take just a few years, a much shorter time span than for biotechnology drugs.

"The nature of this industry is, it doesn't take 10 years before you know you have something," Sarazen said.

Industry veterans

Meanwhile, a number of emerging or older medical device companies are poised to add to the industry in a number of ways.

Mandayam "Srini" Srinivasan, for example, is a senior research scientist at the Massachusetts Institute of Technology and head of MIT's Touch Lab, which looks at how to build robotics and other devices to allow humans to "touch" things virtually. Most recently he became founder and president of Yantric Inc., which launched last November with a \$2 million federal grant to develop devices such as a surgical simulator, a robotic medical device that lets surgeons practice procedures virtually.

Srinivasan said he sees the medical device industry growing as medical procedures become more complex, requiring more advanced, high-tech tools to accomplish microscopic surgeries and new equipment to help train surgeons properly.

"Even in minimally invasive surgery, there is a demand for smarter instruments," Srinivasan said.

Tim Surgenor, president and CEO of Cyberkinetics Inc. in Foxborough, said he sees medical devices growing more steadily in Boston because of the high concentration of technology. Cyberkinetics is just getting started on its first FDA-approved clinical trial for its new chip to be implanted on the brains of quadriplegics to help them use a computer just by thinking.

"You're seeing more and more companies getting started because there is so much development that gets invented (in the region)," he said. Cyberkinetics' technology grew from research at Providence-based Brown.

MicroCHIPS inc. in Bedford is a 5-year-old startup developing an implantable drug-delivery device about the size of a silver dollar that could help patients with congestive heart failure, osteoporosis and preventing clotting after major surgery.

Company founder John Santini, who is also its president and chief scientific officer, said he sees the industry expanding as medical devices increasingly include biotech components, the way Boston Scientific did and he's trying to do.

"The next great expansion for medical devices is combination products," he said.

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