

Making the case for Worcester

From the left, Timothy Coleman, CEO of Blue Ocean Biomanufacturing, and Timothy McGourthy, Worcester's chief development officer, listen as Kevin O'Sullivan, president and CEO of Massachusetts Biomedical Initiatives, talks about proposed biomedical manufacturing space on Union Street in Worcester.



New report touts city as a biomedical hub

By Mark Sullivan
CORRESPONDENT

WORCESTER — The city where the monkey wrench was invented, and where Robert Goddard built his first rocket, once made hoop skirts and crankshafts and the barbed wire that fenced the American West.

Now a campaign has been launched to establish Worcester as a manufacturing center for molecules used in the fight against cancer and other life-threatening illnesses.

Worcester always has been known for "making things," says Kevin O'Sullivan, president and CEO of Massachusetts Biomedical Initiatives, and co-author of a newly released 64-page report that presents the case for the city as a biopharmaceutical manufacturing hub.

Massachusetts is a world leader in biomedical research and development, but a great majority of the molecules used to make the resulting medicines are manufactured out of state, Mr. O'Sullivan and his colleagues observe. They ask: Why not make them in Worcester?

The aim, Mr. O'Sullivan said, is to create "cures and jobs."

Promoting biomedical startups is Mr. O'Sullivan's business. Massachusetts Biomedical

Initiatives, based in Worcester, is a not-for-profit economic development organization that helps entrepreneurs commercialize their science, offering laboratory space to emerging companies at its "incubator" facilities at 55 Union St., 100 Barber Ave., and WPI's Gateway Park at 60 Prescott St.

The renovation of 55 Union St., a formerly vacant Charles River Laboratories building near Lincoln Square, was begun by MBI and Blue Ocean Biomanufacturing Inc. two years ago.

"Kevin and I came in here the first day and we were wearing masks, there was so much soot and dust," said Timothy Coleman, CEO of Blue Ocean Biomanufacturing, which manufactures cancer-fighting drugs in the building today. With support from the National Institutes of Health, three of the four floors at 55 Union St. have been renovated for use by small biotech companies, Mr. Coleman said.

The second floor awaits completion. Meantime, the next phase of the restoration will involve renovation of all five floors of the adjoining building at 57 Union St., Mr. Coleman said. The combined square footage for the two buildings is 160,000, said Mr. Coleman, who estimated the cost of finishing 55 Union St. at \$6 million, and of renovating 57 Union St. at more



Nirav Patel, a scientist with Nemucore Medical Innovations Inc., tests the potency of nanoemulsions on cancer cells at a Massachusetts Biomedical Initiatives lab facility on Union Street in Worcester.

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than \$6 million.

The developers are seeking funding from such sources as the Massachusetts Development Finance Agency, the state's finance and development authority, and the Massachusetts Life Sciences Center, the agency directing a state-funded billion-dollar investment in the life sciences, he said.

The renovation of 55-57 Union St. is part of a

larger public-private effort to establish Worcester as a center of biopharmaceutical manufacturing.

The new report laying out the case is co-authored by Mr. O'Sullivan, of MBI, and Gerry McDougall, head of the Personalized Medicine Initiative at the accounting firm PwC, with an introduction by Worcester City Manager Michael O'Brien.

Stephen Flavin, vice president of academic and corporate development at Worcester Polytechnic Institute, offers a perspective on the biomanufacturing education and training available at WPI's Gateway Park, which opened in 2007. The report's sponsors include the Massachusetts Biotechnology Council and the Foundation for the Advancement of Personalized Medicine Manufacturing.

The report is a "policy statement that says, 'Here's an opportunity to build a piece of the economy that we know we can actually do really well in,'" said Mr. Coleman. "The state doesn't have oil, doesn't have iron, doesn't have gold. What we have are minds."

Mr. O'Sullivan said: "One of the permeating attitudes of the past has been that manufacturing is going South and overseas, and we can't compete. One of the purposes of the report is to prove our constructive critics wrong," he said. "We can establish the beachhead here in Massachusetts, in Worcester."

"At the end of the day, we've got a jewel in Kendall Square and throughout Massachusetts — a lot of research and development and a lot of molecule work. Why are we sending it out of state? If you've got a molecule that you want to manufacture, why do you want to go to North Carolina or China to have it done? You want to have it done here."

Biopharmaceuticals include "vaccines, cell therapies, the whole portfolio of molecules," Mr. Coleman explained last week, as he led a brief tour of Blue Ocean's lab at 55 Union St. As he spoke, a laboratory staffer used a machine called a microfluidizer, which creates nanomedicines, molecular-scale cancer-fighting drugs.

"In Massachusetts, there are 1,200 biopharmaceuticals under development, each one representing a significant amount of future jobs if they can be commercialized and manufactured in this state," Mr. Coleman said. "For every molecule approved, you're looking at 200 to 400 jobs just to support the manufacture of that molecule."

Worcester — with its colleges and universities; WPI's Gateway Park and degree program in biomanufacturing; the University of Massachusetts Medical School; and a trained workforce — offers great promise as a biomedical manufacturing venue, said Timothy P. Murray, president and CEO of the Worcester Regional Chamber of Commerce.

"We have all the ingredients that no other community in the state really has," Mr. Murray said. "It's the logical place."

Mr. O'Sullivan said he placed a copy of the report in the hands of Gov. Deval L. Patrick last week, and met Tuesday with U.S. Rep. James P. McGovern, D-Worcester, who he said has promised to convene a meeting within the month with state and local leaders and business people.

"We've identified in the report what's possible," said Mr. O'Sullivan, and the question to be put to key players at the upcoming meeting will be: "How are we going to make this happen?"

Mr. Coleman said the renovation of the second floor at 55 Union could bring 40 to 50 jobs, and the transformation of 57 Union, between 200 and 400 jobs. What he called a "flexible" manufacturing model will offer the capacity to manufacture multiple drugs on a single platform.

"It allows you one day to manufacture an

antibody for cancer, and the next day to manufacture a vaccine for influenza," he said. Training on this platform is being offered by WPI at Gateway Park a few blocks away.

Mr. Coleman offered a vision of refurbishing the surrounding brownstones to provide "flex" factory space for the manufacturing of the drugs that already are being researched, developed and commercialized here in Massachusetts.

"As their drug progresses through clinical trials and gets to a point to be commercialized, they're going to need their own facilities dedicated to that molecule," Mr. Coleman said. "The idea is to get them started here, then get them expanded in the city. If we have 10 drugs manufactured here, that could be 4,000 (biopharmaceutical) manufacturing jobs in the city of Worcester. We only have 8,800 in the state right now."

Mr. Coleman said the report makes "a very



Timothy Coleman, CEO of Blue Ocean Biomanufacturing, talks about the development of laboratory space at 55 Union St. in Worcester.

strong and solid case" for a change in policy that can take what he and Mr. O'Sullivan have done at 55 Union St. and "nucleate" it, turning a "small public-private partnership" into an "economic powerhouse for the city of Worcester."

The bottom line, said Mr. O'Sullivan, is to create companies and jobs while improving health care.

"The commercialization of science is what we're focused on," he said. "Academic research is great, but at the end of the day, what are we doing with it? We've got to make a product, we've got to create a company, we've got to create a job — that's our mission collectively here. It's not just to play around with molecules."

"How to synthesize in a half-dozen words what we're trying to do here? Create companies, create jobs, grow the economic base of the region — that's the key. Now it's getting it done."

"The greatest satisfaction is getting it done."