

Innovations

If You Build It, Will They Come?

In a now-classic scenario, jobs leave a company town when the company folds. But some relatively small urban centers, like Kalamazoo and Pittsburgh, are building biotech incubators in a bid to save their economies in the wake of industrial upheaval. They are modeled on biotech centers such as Boston, South San Francisco, San Diego, and New York, which are blessed with a strong innovation environment, capital networks, and a pool of experienced managers. Following distinctively regional efforts, Kalamazoo and Pittsburgh are at different stages in their economic evolutions.

Although each early-stage biotech company creates only a small number of jobs directly, the type of jobs created and the highly skilled professionals these companies may attract, as well as their multiplier effects, make biotech the choice of regional developers. The challenge these cities face is how to build enough critical mass that will sustain a biotech industry over the long term.

Stick Around Kalamazoo

By the time Pfizer bought out Pharmacia (formerly Upjohn), Kalamazoo's biggest employer at 6,500 people, in a \$60 billion dollar deal in 2002 and gutted its Kalamazoo R&D operations, Michigan had already lost 200,000 jobs, mainly in the manufacturing sector. That left the area not only with fewer employment opportunities but also confronting the threat of losing some of its most skilled and educated scientists and engineers, a population essential to attract high profit margin industries.

In a contingency plan set up in 1998, a consortium of public and private businesses and academics had formed a development agency, "Southwest Michigan First" (SMF), focused on the life sciences. \$13 million was committed to build a 58,000 square-foot wet laboratory, dubbed the Southwest Michigan Innovation Center (<http://www.kazoosmic.com/>).

When Pfizer announced the bad news, SMF launched an ad campaign called "Stick Around." With a \$10 million state pharmaceutical R&D credit and equipment donated by Pfizer, the fund seeded some startups and recruited about 200 scientists and other skilled workers from the departing drug company. Nine new research and technology firms were created in the process. Currently, the Southwest Michigan Innovation Center has 15 start-up tenants. One of the most successful is Kalexsyn which was started by two former Upjohn chemists and performs contract medical chemistry work.

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Douglas R. Morton, Jr., CEO of the Southwest Michigan Innovation Center is a chemist and former Pfizer vice president. "Kalamazoo has a pretty rich heritage in health care and life science," Morton says, citing firms like the medical device company Stryker and service providers Aftac and MPI Research. Although Michigan has a distinct advantage of low costs in living and business, the historic lack of venture fund money remains a barrier. High stakes individual investors, known as angels, are new to the regional biotech scene as well.

"The angel community does not have the length of time and experience in investing in life sciences companies. They are unfamiliar with the high-risk/high-reward nature of investing in life sciences to the same degree that an angel residing

in Boston or South San Francisco," Morton says. Valuations are another challenge for companies outside of coastal areas where valuations tend to run higher for the same technology.

Morton said that another issue is that although Kalamazoo doesn't lack people with technical skills, they need to concentrate on developing a core of entrepreneurial leaders. It is difficult to recruit more people with the right skills because life science is a high-risk proposition and no alternative exists in the geographic area if a company fails. "The challenge for us is to build a critical mass and density of opportunities that will encourage people to stay and relocate to the area," says Morton.

Despite these problems and Kalamazoo's small size, the city boasts wealth and connections. Local venture funds Apjohn Ventures and TGap Ventures are supplemented by the \$50 million Southwest Michigan Life Science Fund, oriented as a local economic development fund rather than one aimed strictly at providing return on investment as well as a venture fund of funds run by the state of Michigan. "The Life Science Fund has already gotten a lot of notoriety. We've had people write in from the coasts asking if they can join up. We say, 'Sure, if you can relocate!'" says Morton.

Viable ideas are the lifeblood of any incubator. Morton's team scans the area universities and also seeks technologies outside of Michigan. "By fourth quarter, our facility will be completely full. In our view, that is a measure of some degree of success. Now the challenge is to flesh out the pipeline," Morton says.

Pittsburgh

Pittsburgh, formerly known as a steel town, is in the process of transforming itself into a biomedical center. Former Governor Tom Ridge committed \$33 million to build the Pittsburgh Life Sciences Greenhouse, a public/private economic

partnership comprising the University of Pittsburgh, Carnegie Mellon University, and the Commonwealth of Pennsylvania along with private funds.

Like Michigan, Pittsburgh was also facing hard times. "The major employers had tanked," says Margaret McDonald, Assistant Vice Chancellor for Academic Affairs at the University of Pittsburgh, Health Sciences. "The Greenhouse was the result of various task forces over a number of years. The universities were a potent force behind this initiative."

Pittsburgh has a few advantages over Kalamazoo. It has a strong base of universities with long traditions of biochemistry and chemical engineering and so harbors an intrinsic mass of scientists. Pittsburgh also is geographically and culturally closer to the East Coast and its venture capital and entrepreneurial culture. The steel industry left Pittsburgh decades ago, so the city has experience in shifting its economic base from one industry to another. Michigan's wounds are still fresh.

"The good thing about Pittsburgh is that the city is still contained enough so that all of the right people know each other," says McDonald. As in Michigan, Pittsburgh also has a lack of venture capital. "In the dearth of that, ironically our health system, the University of Pittsburgh Medical Center, a large regional network, is making lots of money," says McDonald. "It is reinvesting that money both in biomedical research at the university level and in its own investment arm, the UPMC Strategic Business Initiative."

"Biotech needs four conditions to survive: money, connections, IP [intellectual property], and management," says D. Lansing Taylor, cofounder of biotech companies Cellumen, Cellomics, and Biological Detection Systems and currently a board member of the Greenhouse. Cellumen was established last year and recently received funding from a venture firm, PA Early Stage Partners. Taylor pointed out that Pittsburgh is a more affordable place to do business. In a place like Boston, companies compete for the same people, driving up the salaries and cost of operations. "I've started at least three companies here be-

cause I believe in Pittsburgh; I consider the universities, R&D, and regional commitment outstanding, but bringing in good management is a challenge. With the right opportunity, people come. Capital is tougher as venture capitalists like to be close to their investments. Twenty years ago, San Diego was not the hot spot for biotechnology; they worked hard to attract it," Taylor says.

Biotech, Not Zeppelins

Tom Petzinger, cofounder of Launchcyte, a for-profit Pittsburgh biotech incubator now located in the Greenhouse, is a former business writer for the Wall Street Journal. Four years ago, he and colleagues started Launchcyte with ten people and dedicated facilities.

"The incubator's primary objective is creating value for private investors," says Petzinger. "If in doing so, we serve a regional economic development objective, that is great. But the latter is not the principal objective. An opposite scenario could work so long as the secondary objective [i.e., creating value for the investors] is treated with respect. There is no point in wasting common resources on businesses that have no viability."

"In the early stage of development, the technologies that are being commercialized are premature, and the risks are high," Petzinger says. "That has been the case in everything we have done. It is not easy to find an investor to shoulder the burden of technology risks as investors would rather shoulder the burden of market risk and competitive risk. This is where organizations like the Greenhouse or the Michigan Initiative can really fill an important gap."

According to Petzinger, the business model for a biotech startup should be focused on accumulating intellectual property and then harvesting value in an exit, either by licensing intellectual property or selling it to a pharmaceutical company, which would then undertake the more expensive clinical trials and FDA approvals. It is far less likely to build a biotech business model based on revenue.

To date, none of the original companies formed at Launchcyte have

folded, but the business model has changed. "We ceased being an incubator," says Petzinger. Launchcyte's staff has shrunk to Petzinger and an office manager. "I learned that what is most important is selecting technologies appropriately, putting in the right teams, and sending them to market." At the end of 2003, Launchcyte received a \$1 million cash infusion from the University of Pittsburgh, University of Pittsburgh Medical Center, and private investors. Launchcyte is essentially functioning now as a parallel entrepreneur in pursuit of multiple opportunities simultaneously. It is more a venture capital fund "but heavy on the venture and light on the capital," Petzinger quips. Launchcyte has invested around \$12 million dollars in its original five companies; currently a sixth one is being formed. "Every one of the companies drives its market," Petzinger says. "Three of them have revenues, real money from the marketplace. That is the best source of financing in the world."

Petzinger remembers that when he was working in Allentown, Pennsylvania and the steel mills went away, local officials considered creating jobs by luring in, among other industries, a dirigible factory. "Zeppelins, like the Hindenburg," Petzinger recalls. "This is better."

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