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# Baltimore biotech parks grow despite recession

## Some setbacks, but existing lab buildings in Hopkins and UM campuses are filling up

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While some sectors of Maryland's economy struggle to shake free of the Great Recession, the biotechnology parks adjacent to Baltimore's two top teaching hospitals stubbornly continue to add laboratories, offices and — most importantly for the city — jobs.

The gains have been both large and small, and not always along the path or at the pace envisioned when the parks were created. But the growth is unmistakable, fueled by the critical mass of expertise, resources and discoveries at both the Johns Hopkins and University of Maryland Baltimore medical campuses.

Among the most recent arrivals is Frank Diehl, chief scientific officer at Inostics, a German company seeking to perfect a new diagnostic tool for cancer patients. He hopes to have a small lab running next year on the city's east side, at the Science + Technology Park at Johns Hopkins.

The technology was invented at Hopkins, and Diehl says it was always in the cards to bring it back to Baltimore as it matured. "You want to interact with the brightest people," Diehl said by phone from Hamburg. "In oncology, the brightest people are in Baltimore."

Across town, Marco Chacon, CEO at Paragon Bioservices, signed a new lease this fall for 45,000 square feet on two floors at the University of Maryland BioPark, more than doubling his space just a year and a half after locating there.

By late next year he expects to expand his work force to 75 people from 50, doing contract research and preclinical drug production work for clients in Baltimore and beyond.

The region, he said, is a good location for biotech companies because of its "wonderful universities" and the proximity to agencies such as the Food and Drug Administration, National Institutes of Health and Department of Defense. "The future bodes well," he said.

Together, the biotech parks have attracted nearly three dozen tenants, with more than 900 employees. But it hasn't all been easy.

"The drug business is a very risky business," said Dr. David Block, president and CEO of the drug discovery startup Gliknik, at the UM BioPark. People who invest in new jet planes or nuclear power plants know it will be expensive, with delays and cost overruns. "But you also know at the end of the process you're going to have your jet or nuclear power plant."

"What makes drug discovery so challenging is that it's equally expensive, equally as time-consuming, but at the end of the project 90 percent of the projects fail," he said. Getting a successful new drug discovery to market can take 10 to 15 years, and cost hundreds of millions of dollars.

Entrepreneurs seeking their fortunes in the bioparks say they've been able to attract millions in investments in spite of the recession, in part because of state and federal biotech tax credits offered to investors.

But the recession has tightened construction financing. There is a big hole in the ground on West Baltimore Street where UM BioPark developer Wexford Science + Technology was preparing to build a third lab building without first signing an anchor tenant. The 2008 financial collapse halted the excavation. Bankers now want most of the space pre-leased before they'll put up the money.

Tighter money has left both bioparks near capacity in their existing buildings, with developers at pains to assemble the new tenants the banks demand before they can build again.

Christian S. Johansson, Maryland's secretary of business and economic development, sees the glass half-full. "If you look at what the overall economy has been through over the last few years, the fact that you have buildings nearing space limitations, I would call that a pretty encouraging sign."

Maryland's biotech industry got its initial footing elsewhere, especially on Montgomery County's Interstate 270 corridor, closer to the FDA and NIH. "Where we really had untapped assets in this state was in the research institutions in Baltimore," Johansson said. And that's where the growth has finally come.

Both bioparks have had to grapple with community issues. The developers at Hopkins' park spent years relocating, compensating and providing other assistance to people who lived in the park's footprint. They are still wrestling with what kind of housing and amenities to build on the cleared land beyond the labs. To address some of the needs of its own West Baltimore neighborhood, the UM BioPark last year invited Baltimore City Community College to establish a Life Sciences Institute, which is now training an estimated 500 students for laboratory jobs or careers in biotechnology.

Hopkins' biopark, just north of the university's medical campus, is part of the larger redevelopment project being run by the nonprofit East Baltimore Development Inc. The park's developer is the Forest City-New East Baltimore Partnership.

So far, only the Rangos lab-and-office building — 281,000 square feet of a planned 900,000 square feet of lab and office space — has been built, said Scott Levitan, Forest City's senior vice president. And space there is tight.

The leasing continued even in the teeth of the recession, with 90,000 square feet leased just since October 2008, Levitan said. Only 30,000 square feet of lab and office space remain. The biopark has attracted 14 startups and other tenants employing 430 people, with $199 million in capital investment from private, philanthropic and Hopkins sources.

The Lieber Institute for Brain Development signed a lease this year for 30,000 square feet; 60 researchers will move in by summer to study schizophrenia, stem cells and neurobiology. Siemens Imaging has opened a research center there, the Howard Hughes Medical Institute has a research contract administration office and several research support companies have also set up shop. Two more tenants signed up early this month.

"Even if it slows down, which it apparently is not, I have four to six months' worth of [space] left, and some of that is optioned to existing tenants," Levitan said. "So I have my work cut out for me."

Forest City will have to decide soon where and how to build the next lab building. But there's more development coming to the open tracts surrounding the labs.

Levitan said the park has a signed letter of intent for construction of a hotel and retail center across Wolfe Street. More than 260 units of high-rise graduate student housing are going up just north of the Rangos

Building. There's financing in place for a 1,450-car garage, and the state plans to start construction next year on a $180 million Public Health Laboratory at Ashland and Rutland avenues.

But it hasn't all unfolded as many expected it would, Levitan said.

Originally, the park's developers thought about half the research space would be claimed by two or three major pharmaceutical companies, with the rest going to Hopkins institutions.

But as the patents on a small number of "blockbuster" drugs near their expiration, the big companies decided it made more sense to invest in an array of promising startup companies, with the expectation that a few would yield the next blockbusters.

Adjusting to that new market, Levitan said, "requires infinite patience; they have their ups and downs." But when their products take off, "they can be a very rich source of long-term economic growth in your community."

That's Diehl's hope, and that of Inostics co-founder Dr. Bert Vogelstein and his team at Hopkins. Vogelstein's lab invented a way to search a patient's blood plasma and find altered DNA — tiny traces of the genetic mutations that cause cancer.

Inostics plans to develop tests that identify the precise genetic character of a patient's cancer, so doctors can select the most effective treatment from the new generation of targeted, even custom-designed, pharmaceuticals. Drug makers will also need Inostics' tests to design the drugs.

Establishing a lab at Hopkins' biopark, Diehl said, will give his researchers access to tissue and blood samples from cancer patients in Hopkins' clinical studies, and to pharmaceutical companies in the biotech corridor from North Carolina to Boston as they work to perfect the tests.

A U.S. location for Inostics is also required when the company is ready to seek federal certification, perhaps as soon as the end of next year. Baltimore, said Diehl, is "the perfect place to be."

One of the first private biotech companies to take space in the Rangos Building in 2008 was BioMarker Strategies. Like Inostics, the company is developing genetic tests for cancer cells, but with a unique approach. President Scott Allocco believes his technology's use of live cancer cells in those tests can "better characterize those tumors and make predictions about drug therapy."

Allocco conceded that the situation was "really scary" after the financial crash, but funding has increased each year since BioMarker Strategies was founded. The company now has 10 employees and has doubled its space in Rangos, to 2,500 square feet. On Nov. 16, the company announced it had raised $2 million in new investments on top of $4 million raised previously.

Secretary Johansson believes biotechnology is more resistant to the economic cycle than many other industries. "It doesn't matter how the economy is doing; if you have a life-saving medication, you will have a ready, willing and able market."

**Collaborative atmosphere**

Across town, the University of Maryland's five-year-old BioPark is being assembled on 10 acres of land on Baltimore Street, just west of the main campus.

It consists of two commercial laboratory and office buildings totaling 350,000 square feet. The second building is more than 90 percent leased, said James L. Hughes, vice president for research and development at UMB, and BioPark president.

"When we had a feasibility study for the project back in 2003," he said, "the estimation was that we would rent space at about 20,000 square feet a year. And we've been running … well over twice that."

The finished space has attracted more than 20 tenants and 475 workers, including startup companies spun off from both UMB and Hopkins. There are 13 firms doing contract research, drug and medical device development. There are also a Japanese company doing clinical trials, two UMB research centers, a graduate business education site and a work force training center.

Being in a biopark can provide a critical mass of opportunity for entrepreneurs.

"Here in the hallway, I've got to walk past 10 different companies to get to the bathroom or the elevators," Gliknik's David Block quipped. Tenants meet, talk, share ideas, expertise and equipment, and often perform work for each other. "I wouldn't necessarily have predicted much interaction, but as time goes on there's more and more."

Down the street is the state's new 110,000-square-foot Forensic Medical Center, which opened last month with 75 workers. This fall, UMB announced plans to build a $200 million Proton Therapy Cancer Treatment Center in the park. There are also a new, 638-space parking garage and 7,000 square feet of leased retail space, including a cafe, bank and fitness center.

The recession has hurt startups, Hughes said. "A startup company would have been easier to raise money for five years ago, and would have created a bigger operation and employed more people," he said. They've adjusted by raising smaller amounts, and finding efficiencies, such as outsourcing some of their lab work to contract labs like Paragon.

Drug research is what Block, 51, and his staff at Gliknik Inc. are doing. Block's venture began with discoveries by Dr. Scott Strome, now a head-and-neck surgeon and professor at the University of Maryland School of Medicine.

In 2008, Gliknik moved into two fifth-floor lab modules with two employees and two promising drugs. Today he has five employees who have expanded into two more lab modules.

There, they have invented seven more potential medicines. They've bioengineered antibody drugs to increase their power to kill tumor cells. And, they've designed recombinant drugs they say could replace more costly and problematic human blood products now used to treat certain autoimmune diseases.

"They're all pre-clinical," Block said, "but most people who have looked at what we've done in this amount of time, in this limited space, are pretty impressed."

Downstairs, Chacon's Paragon contract lab continues to expand and land new work. In October, Chacon signed a deal to assist the U.S. Army Medical Research Institute for Infectious Diseases, in Frederick, with the development and manufacture of vaccines against the deadly Ebola and Marburg viruses.

His high-tech labs are also providing support to UMB scientists such as Drs. Curt Civin and Myron Levine, who do stem cell and vaccine research.

"Because a good idea is only that," Chacon said. "You need to be able to translate that into something practical. And that is where we come in."