



## West Virginia moves into biotech

April 05, 2004

The biotech industry relies on cutting-edge medical and technological research. With the help of universities like WVU (pictured), West Virginia is throwing off its mantle as an old-world industrial centre and jumping into the biotech fray. *Karen E. Thuermer* reports.

West Virginia is ready to end its reliance on the steel and coal economy of the 1930s and usher in a new age of opportunity by developing and attracting its share of biotechnology.

Chris Kolanko, chief scientific officer for Morgantown start-up MD Biotech, reveals that he could have started his company in the fast-paced biotech corridor between Washington DC and Baltimore, Maryland, where he has connections, and venture capital is available for biotech start-ups.

"The big issue is how much control do you want of your company and how much are you willing to give up to investors," remarks the former Navy officer/scientist. "Operating costs in West Virginia are low, as is the tax base. You can run your business on a shoestring – or in my case, a bootstrap. In West Virginia, you can do what you need to survive, and still find money elsewhere."

### Delivering results

Low costs, good location. It's a pitch many cities and states around the US make.

But as Mr Kolanko found, Morgantown offered close enough access to government sources in Washington DC and its own degree of sophistication when pulling together investors.

"That's the good thing about Morgantown. It's wealthy with medical and legal industries. We were able to launch the company with angel investors through Morgantown Investment," he admits.

The firm, which is involved in bioimaging, biosensor, automation and high throughput technologies, quickly became integrated with West Virginia University (WVU) where it licensed technology and became the first to join WVU's business incubator. Combining that with technology of its own, MD Biotech obtained US Department of Defense Small Business Innovative Research (SBIR) funding.

"We did not have to get another round of venture capital," Mr Kolanko states. "We were able to work through the SBIR program for research dollars."

This was a relief. While future funding was available from West Virginia Venture Capital, Mr Kolanko admits investors in his state are still focused on traditional industries. "They are hesitant about biotechnology and biodiagnostics," he says.

### University support

Ushering in the 21st-century biotech industry has not been easy for West Virginia. The state has faced years of economic hardships.

"There is only so much the State can do to help," Mr Kolanko says. "But they can network us into the right

channels, which they have done.”

One such link is the West Virginia High Tech Consortium (WVHTC) Foundation. Located in Fairmont and started by congressional funding, the consortium helps provide small venture capital to technology-based companies in West Virginia.

“They have been a big plus for us,” Mr Kolanko states. “They have also assisted us with the commercialisation of our products, as well as rapid prototyping.”

A flurry of other activity is also occurring in the state to boost biotechnology. Much centres around West Virginia’s two key universities: WVU and Marshall University.

For starters, WVU and Johns Hopkins University in Baltimore, Maryland, have partnered in establishing an independent not-for-profit international medical research centre called the Blanchette Rockefeller Neurosciences Institute. The Institute focuses on fundamental

cognitive neuroscience and the development of new drugs and diagnostics to treat and diagnose neurological and cognitive disorders.

### **Unique research**

The \$80m research centre is headquartered on the campus of West Virginia University in Morgantown, although research is also conducted at the Johns Hopkins’ Rockville, Maryland campus. The institute is the largest scientific research venture in the history of West Virginia and focuses on human memory and diseases such as Alzheimer’s.

Making the project work is the exchange of researchers, faculty and students between the two universities, as well as university-wide participation and co-operation in the institute’s principal areas of research. The institute also is negotiating a number of collaborations with partners in Asia and Europe, which are expected to attract the best scientific and research minds to the Morgantown, West Virginia and Montgomery County, Maryland, laboratories, creating a worldwide network of research and discovery.

Plans for a building are under way with funding by a \$19.6m Federal grant. Construction of the 85,000 square feet, three-storey research building is scheduled to begin this year, with completion sometime in 2005.

“The construction of the research building on the WVU campus will provide laboratory space to house 30-40 scientists and all their laboratory and administrative support staff – up to 200 jobs after three years,” says Robert M D’Alessandri, MD, president and interim CEO of the institute. “Placing all these researchers in close proximity to one another, and providing them with state-of-the-art labs and equipment, will help spark new collaboration and scientific discovery.”

Marshall University is also laying the infrastructure for biotechnology by building and hiring people for three key facilities: the Edwards Comprehensive Cancer Center, Robert C Byrd Biotechnology Science Center, and the Marshall University Biotechnology Center.

“Currently, we have a proposal into the National Institute of Health (NIH) for a translational research centre at the Cancer Center,” comments Howard Aulick, vice-president for research. Such research is in high demand to fill the critical gap between basic lab research and clinical studies.

“There are translational units across the United States, but there is a crying demand for more. The NIH is trying to stimulate this type of work,” Mr Aulick explains. “We should know if the grant is approved by July.”

Ground has just been broken on the Edwards Center, which will be in place in late 2005 even if grant money for the translational centre is not forthcoming.

The Robert C Byrd Biotechnology Science Center, which will be connected to the existing college of science, is

scheduled to open in mid-2006. This multi-purpose facility will provide laboratory space, have auditoria, and large classrooms for medical students.

"The centre will focus on medical, environment, forensic biotechnology," comments Mr Aulick. "We chose these three because that is where our expertise lies at this time. As we hire, we will be looking to compliment these three disciplines."

The third project, the Biotechnology Development Center, is being located across from the Byrd building. To be completed in mid-2006, it will offer labs and a tech transfer office.

"The goal here is once a discovery is made that has commercial potential, the research will move to the biotech centre where scientists will have access to individuals who understand the business of taking the finding to commercialisation. That includes tech transfer, venture capital, business plans, and market surveys."

### **Proof of concept**

Through NIH, West Virginia also offers the Institutional Development Award (IDeA) Program, which helps develop strategies and policies that enable spin-out to new business.

"The program is connected with the venture capital group that provides Phase Zero seed money – speculative high-risk money up to \$100,000 to put the project through a proof-of-concept phase to make sure its concept is correct," Mr Aulick says. "The program is important because there is a huge gap between what the federal government will provide and what venture capitalists will provide."

According to Mr Aulick, 23 projects are up for review for commercialisation because of the advent of IDeA and seed money.

"Our intent in West Virginia is to find those that are most likely to succeed and get them going," he says.

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Mailing address: Financial Times Business Ltd, Tabernacle Court, 16-28 Tabernacle Street, London EC2A 4DD, UK  
Phone number: +44 (0)20 7382 8000

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