



Mixed thoughts about high-tech industry push

By John Yellig

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Sunday, November 7, 2004

A copy of the Triangle Business Journal, a newsweekly covering the technology-rich economy of central North Carolina, sits on a table in the waiting room of the University of Virginia Patent Foundation. The publication reports on the business climate in Raleigh, Durham and Chapel Hill, three cities that owe much of their good fortunes to their top-tier research universities, North Carolina State University, Duke University and the University of North Carolina at Chapel Hill.

With public and private investment, the universities have been successful in commercializing faculty research, making the Triangle, as the region is known, one of the leading centers of high-tech business in the United States.

While leaders of the patent foundation, a not-for-profit corporation that protects, licenses and markets UVa's intellectual property, don't foresee Central Virginia becoming another Triangle anytime soon, they have tried to increase commercialization of the research conducted at the university and thereby expand the region's economy.

While most in the business and research communities applaud the work the foundation has done in patenting faculty research, some believe it should work more aggressively to commercialize those patents.

"Speaking as someone

who wanted to get the technology out there and get it used, it was pretty difficult to work with them," Andrew Grimshaw, founder and chief technology officer of software company Avaki, said.

When Grimshaw, a computer science professor at UVa, tried to commercialize his computer programs in 1998, he received some assistance from the university, such as lab space, but depended largely upon outside organizations and donors to get his company running, he said. Avaki is now based in Boston and has clients around the

world.

Spin-off

Recognizing the need to better take advantage of commercial opportunities such as Avaki, the patent foundation created Spinner Technologies Inc. in 2000. Spinner is a for-profit subsidiary of the foundation tasked with helping faculty start-ups to market.

"Spinner was formed by the patent foundation and the university in recognition that faculty entrepreneurialism had really become a national movement," executive director Robert MacWright said. "We wanted to embrace that, and the patent foundation has given an absolute preference to licensing inventions to faculty start-up companies since 1998."

The university, not faculty inventors, owns the rights to intellectual property developed with UVa resources. In exchange for equity in a new company, Spinner licenses the intellectual property to faculty entrepreneurs. Spinner also provides the new company with office and laboratory space, available at three facilities: the Corridor One Building and the Corner Building, both on West Main Street, and the Emerging Technology Center at the University of Virginia Research Park at North Fork.

All of the physical facilities are leased to the company at discount rates or, in exchange for a 5 percent to 10 percent stake, provided free for the first year or until the company raises \$1 million in financing.

The lab space is an important step in a research and development company's path to profitability. In order to qualify for federal Small Business Innovative Research grants, a primary source of funding for many R&D startups, a company must do 60 percent of its research in its own lab.

"We help reduce the hurdles, and in some ways the risk, that these companies encounter, so they have a greater chance of success," Spinner general manager Andrea Alms said.

Since it was founded, Spinner has helped start nine companies, Alms said. Spinner's goal was to start 30 to 50 companies in its first five years, according to news accounts of its founding in 2000.

Scary propositions

Several insiders in the local high-tech sector voiced complaints about Spinner and the foundation, but declined to speak on the record because of their ongoing relationships with the organizations.

One person complained that Spinner scared venture capitalists away from investing in spin-offs because of its equity holdings in the new companies. Venture capitalists want to be able to invest in a company without having to share influence with another shareholder, the person said.

MacWright defended Spinner's business plan, saying the close relationship is good for the fledgling companies.

"Most companies find it helpful that we do take some equity. It makes them feel that the university is supportive of the venture," he said. "Compared to other universities, I think the amount of equity we take is quite small."

Another insider said the foundation has too many lawyers and not enough businesspeople guiding its decisions, and therefore "doesn't have much business acumen."

Alms said Spinner's for-profit business model means spin-offs have the help and entrepreneurial advice they need.

"We [Spinner] understand what it's like to be a company, so our companies can't ever say 'you don't understand,'" she said.

Dave Martin, CEO of the intellectual property analysis firm M-CAM and founder of the Charlottesville Venture Group, said that while the patent foundation is in the top 10 percent of university technology transfer offices nationwide, it still has room for improvement.

The foundation is too passive in licensing its patents, he said, adding that the foundation relies too heavily on a business discovering the existence of a faculty member's patent, rather than actively putting that patent in the hands of the licensee, he said.

"The likelihood that your patent is going to be licensed is under 1 percent," said Martin, a former faculty member in the Medical Center's departments of radiology and orthopedic surgery.

He added that the problem is not unique to UVa. "None of the universities in Virginia, and very few nationally, have the means to represent and warrant that the patents that they have are of any good business value. They don't have the means of making patents available to businesses that might be interested. They rely on discovery."

In the instances where the foundation does actively shop an invention around, it oftentimes exposes the university to significant losses because in attempting to determine the patent's marketability, the foundation exposes the substance of an invention without filing a patent, Martin said.

"The university loses phenomenal amounts of potential revenue," he said. "I think the intent of what they do is very good. I think the way they do it probably destroys more value than it helps create."

Successful startups

David Kalergis, a faculty member who successfully started a company without financial assistance from the foundation, said the university shouldn't be regarded as the be-all, end-all of startup capital.

"In terms of actual investment in small companies, I think that's a role for private investors," he said. "How do [university staff] make decisions among their faculty without getting caught up in charges of favoritism?"

Kalergis's company, Diffusion Pharmaceuticals, is developing a drug to treat cellular oxygen deprivation. The company recently secured \$2.1 million in private investment and \$1.2 million from the U.S. Office of Naval Research.

"We're living proof there is other money out there," he said.

In 2002, North Carolina invested \$42 million in biotechnology venture capital funds and \$40 million in complementary programs designed to spur biotech growth. West Virginia invested \$25 million in venture capital funds that same year.

The Virginia General Assembly recently passed the biotech commercialization loan fund, which makes state money available for universities to expand their biotech research.

There's one catch, however, Mark Herzog, executive director of the Virginia Biotechnology Association, said.

"The downside is they passed the structure ... but at the moment they didn't fund it," he said, adding that he expects it to be funded in 2005.

Charles Hamner, chairman of the patent foundation's board of directors, retired in 2002 as president and chief executive officer of the Biotechnology Center in Research Triangle Park, N.C. In his 14 years at the center, he helped the Triangle grow from a biotech backwater to one of the top five life-science states in the United States.

While the sector has contracted somewhat since 2000, North Carolina is home to 150 biotech companies that generate \$3 billion in revenue and employ more than 18,000 people, according to the center's 2003 annual report.

Hamner said UVa is taking significant steps beyond its initial foray into research commercialization, and urged faculty and investors to be patient with its levels of

investment.

"You can't put a lot of money in at first," he said. "You have to do this in baby steps. ... The whole business of Spinner is going to be an experiment for about three years before they can get things going."

He noted that the Triangle's success comes after decades of hard work.

The Research Triangle Park, founded in 1959, sputtered along in the early 1960s until 1965, when IBM and the National Institute of Health Sciences moved in, according to the RTP Web site. The park then experienced an expansion that saw 21 companies set up shop there by 1969.

The future of technology transfer at UVa is still being hammered out, and exciting days could be on the horizon, Hamner said.

"People are waiting to see how aggressive the university is going to be about commercializing technology," he said. "It's sort of a wait-and-see game right now."

"All of this is kind of new. This is not a standard operating thing for any university."

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