PHILADELPHIA BUSINESS JOURNAL

Friday, October 30, 2009 | Modified: Wednesday, November 4, 2009

Funding shortfall stymies tech-transfer capabilities

Philadelphia Business Journal - by Peter Key Staff Writer

Curt Hudson
Michael Cleare says his center is 'now at a level that Penn has never seen before.'

One of the area's economic-growth engines is faltering.

The process of turning discoveries by researchers at area universities into commercial products and services is being hampered by a lack of funding, according to people familiar with it.

"There is an enormous amount of innovation in the Delaware Valley in all sectors of science and business models, but the early-stage financing capability is drying up," said David Freschman, founder and manager of Innovation Ventures, an early-stage venture-capital firm based in Wilmington.

The area has major institutions, led by the **University of Pennsylvania**, that produce a lot of research that can be commercialized. It's also home to entrepreneurs willing to try to turn that research into products and services and large pharmaceutical companies that will buy the companies those entrepreneurs start if they prove successful.

For the research to get turned into companies, however, it first must cross what is colloquially known as the "Valley of Death." That means someone or some entity needs to provide the funding, which is often only a few hundred thousand dollars, to see if a discovery produced by a researcher has the potential to be developed into a commercially viable product or service.

That funding has never been easy to come by and now it's harder than ever to get, despite efforts such as the QED Program, which the **University City Science Center** recently launched to provide proof-of-concept funding to research projects with high commercial potential in the health-care industry.

"It has gotten to be quite a bit more challenging to fund development of these sorts of [very early-stage] technologies," said John Swartley, who is in charge of trying to get entrepreneurs to start companies around technology available for licensing at the University of Pennsylvania's Center for Technology Transfer.

The reason is the problem that's been plaguing the area's venture-capital industry for years — investors are becoming increasingly risk averse. In the space that Swartley navigates, that means they are making fewer bets and placing the ones they do make on technologies that need the least amount of funding to make them ready for commercialization.

Beyond the so-called Valley of Death, the situation isn't much brighter.

Once it has been shown that a discovery can be turned into a product or service with commercial potential, funding is needed to produce and develop the product or service.

That type of funding often comes from the wealthy individual investors called angels, and the economy has them pulling back, too.

Nationwide, angels invested $9.1 billion in the first half of the year, down 27 percent from the amount they invested in the first half of 2008, according to the University of New Hampshire Center for Venture Research.

Locally, Ben Franklin Technology Partners of Southeastern Pennsylvania has been a major provider of seed and early-stage financing, but it's feeling the effect of the state's economic woes.

The technology-based economic-development organization will get $4 million from the state of Pennsylvania this fiscal year, down from $6.9 million last fiscal year.

"Our ability to provide money for new companies is going to be compromised this year," said Anthony Green, the vice president of the technology commercialization group for life sciences at Ben Franklin Technology Partners of Southeastern Pennsylvania.

The amount of money available to develop companies beyond their initial phase also has decreased. To reduce their risk, some venture firms that did that type of early-stage investing curtailed it in favor of putting money in companies that are more developed, or switched to providing mezzanine debt or buyout funding.

That has forced the firms that still do early-stage investing to invest in fewer companies because they know they will likely have to provide the companies they do invest in with multiple rounds.

"We have to carry more and more of our companies across the goal line," Freschman said.

At the same time that funding to commercialize research is drying up, the amount of research being done at area universities is increasing.

In the fiscal year ended June 30, researchers presented Penn’s Center for Technology Transfer with 372 disclosures, which are notices of intellectual property they think has commercial potential, according to Michael Cleare, the center’s director.

That’s up from 240 in the fiscal year that ended a month prior to Cleare’s arrival at Penn in August 2007.

“We’re now at a level that Penn has never seen before,” Cleare said.

That level is likely to be topped soon, thanks to the American Recovery and Reinvestment Act, which provided the National Institutes of Health with $10 billion to underwrite medical research and gave the National Science Foundation $3 billion to fund basic research in fundamental science and engineering.

Penn researchers have applied for 1,403 grants totaling $980 million, of which they have been awarded 293 grants for $163 million as of Tuesday, according to a Web site the university set up to keep track of ARRA money.

While Cleare is happy that they have gotten that money, he’s afraid it will just exacerbate the problem his office is facing now, which is a surplus of good technology and a shortage of investors for it.

“A lot more inventions will get to the stage of us being able to identify them and document them, but a lot of them will just stagnate in the tech transfer office or compete for the same unavailable resources,” he said.

If the federal government decides a second stimulus bill is necessary, Cleare hopes it will contain money for translational research, which is the type necessary to get the discoveries produced by the basic research funded by the first stimulus bill across the Valley of Death.

An economic turnaround would help, too. If the market for initial public offerings and M&As picks up, venture firms might be able to sell off some of the companies in their portfolios, raise new funds and increase their activity.

“Until there’s a lot of exits, they’re just going to protect what they have,” Green said.