Leveraging Technology Transfer

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Connecticut's colleges and universities provide local companies not only with manpower — but with brainpower as well.

In recent years, the process of "technology transfer" has been recognized as a vital way that institutions of higher learning can contribute by moving scientific and technological breakthroughs out of the laboratory and into the marketplace.

Schools throughout the state have joined with state and industry officials to create incubator programs designed to foster the development of new businesses in the high technology, bioscience and medical fields. The latest example is the CTech IncUBator, a partnership between the University of Bridgeport and Connecticut Innovations Inc. (CII), the state's quasi-public authority for technology investing and innovation development.

The CTech IncUBator is Fairfield County's first university-based incubator for high-tech start-ups, and it is now accepting applications from hopeful entrepreneurs for an autumn grand opening.

"Studies have shown that 80 percent of companies that are incubated are still in existence after five years," says Charlie Moret, CII's managing director. "We want to provide linkages to the universities, which results in better innovation and advancement of technologies."

The University of Bridgeport houses the largest graduate engineering school in the state, and its faculty and students are involved in major research projects, says Tarek Sobh, dean of the UB School of Engineering and vice president for research and graduate studies. He cites a current project to develop unmanned aerial vehicles for the U.S. Army, and other projects in the areas of biomedical engineering, nanotechnology and wireless computing. UB is also the home of the Center for Robotic Simulation, a program of the Connecticut Center for Advanced Technologies.

The incubator will initially focus on attracting entrepreneurs in the fields of information technology, digital media, advanced materials and clean tech. Priority will go to projects launched by UB students, alumni or faculty, but the incubator is open to all.

Participating start-ups will receive discounted office space, funding, shared support services, access to mentors and UB research facilities and faculty, student interns, and free or discounted business advice from sponsoring firms.

"A number of companies have agreed to be sponsors, providing free legal, accounting, technical and marketing services," explains Gad Selig, associate dean of business development and outreach in the graduate studies and research division. "And the university will offer help from within the business, engineering, health sciences and design schools. The goal is to stimulate the growth of new companies, hopefully as a source of new economic development."

Popping Up All Over

The UB program is the third university-based incubator started up by CII, which opened CTech at Science Park at Yale in 2008 and recently opened CTech at the UConn Health Center in Farmington.

"We noticed a need for start-up companies to get technical, funding and advisory assistance," says Moret. And the model works: Moret points to an early incubator client, software provider Open Solutions in Glastonbury, which has grown to include nearly 2,000 employees.

Moret also points out that incubator operations provide valuable opportunities to students, who can get in the door as interns and gain valuable experience. "There is great potential for growth in technology transfer," he says. "It's really an ongoing dialog within the community of faculty, students and start-ups."

State Rep. Roberta Willis (D-64) of Salisbury, who co-chairs the Higher Education and Employment Advancement Committee, says the incubator programs work well with other state initiatives, such as the recent creation of new "bioscience zones" in greater Hartford and greater New Haven. The state offers tax incentives to companies that agree to move to or open within the zones, which cluster around schools and other research institutions.

“The idea is to put the companies around education and health care facilities to foster collaboration on research,” Willis says. “You are talking about attracting companies with high-paying jobs that need highly skilled workers.”

Building on Success

In 2008 Connecticut ranked seventh on the State Technology and Science Index, a measure of each state’s technology and science assets, and their ability to leverage those resources to drive economic growth.

Another 2008 study, the Kauffman Foundation’s New State Economy Index, ranked Connecticut No. 2 on its “Knowledge-based Jobs” category. That category measures the number of jobs in each state that require technical know-how, such as information technology; the educational level of the workforce; the number of people employed in managerial, professional and technical occupations; the education level of recent immigrants; employment in high value-added manufacturing sectors; and employment in high-wage traded services.

However, Connecticut economic officials say the state needs to do a better job of fostering research and development in order to maintain those high rankings.

“Connecticut has impressive science and technology resources that include Yale University and the University of Connecticut, as well as major research corporations, financial and insurance companies and manufacturing industries,” according to the Connecticut Economic Strategic Plan developed by the Department of Economic & Community Development (DECD). “The infrastructure is in place for development and fruition of new inventions, but there is room for improvement.

“The state is lacking in overall incubator space, early-stage seed funding, as well as the commercialization services surrounding the universities, relative to comparable states,” the report adds. “Connecticut needs to provide better early funding, as well as market the availability of services if it wants to see growth in high-tech businesses in the state.”

One example of that effort was the $200 million in sponsored research grants the state provided to the University of Connecticut in 2008 alone.

“On the research front, faculty and students are making breakthroughs in a wide range of disciplines, from engineering to education and in promising new scientific fields such as stem cell and fuel cell research and nanotechnology,” a DECD report says of UConn.

The new Stem Cell Institute at the UConn Health Center campus is a prime example of cutting-edge research that promises to result in new businesses and new jobs for Connecticut residents. Another major, current faculty research effort involves nanotechnology, in which materials are examined and manipulated on a molecular scale.

“The leaders of these research efforts are poised to bring to the marketplace invaluable discoveries that have the potential to foster business development and attract industry, as well as positively transform the everyday lives of citizens in Connecticut and beyond,” the DECD report says.

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