

THE PLAIN DEALER

Third Frontier program invests about \$300 million in Northeast Ohio

Granting our wishes

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The Third Frontier Project is beginning to reap big returns in Northeast Ohio.

Halfway through its 10-year life, the project to develop the state's technology economy has invested nearly half its grants - about \$300 million worth - in Northeast Ohio institutions, organizations and companies.

Third Frontier is helping to develop entrepreneurs who want to start or expand technology companies in the region. It's also attracting corporations that want to develop industries or make technologies here.

In addition, Third Frontier helps companies get their technologies ready for market, attracting venture capital from national firms that until a few years ago turned up their noses at Northeast Ohio.

"It's not just that it has helped fund startups, but it has helped make one of the most important cultural changes we've needed in our region," said Tom Waltermire, chief executive of Team NEO, the regional marketing and business attraction group.

"That is, remembering that we became successful because entrepreneurs 100 years ago were so darn good at making products that they turned into giant companies," he said.

Former Gov. Bob Taft outlined his hopes for Third Frontier in his February 2002 State of the State address. The state's first frontier, Taft said, was agriculture and its second, manufacturing. Its third frontier would be knowledge and innovation.

"Thousands of Ohioans are now exploring the next frontier - in science, medicine, technology, information and communications," Taft said. "But we're not moving fast enough to keep pace with our competitors or replace jobs lost to productivity. It's time for bold, decisive action."

Taft and the state legislature set up Third Frontier, a \$1.6 billion project to create wealth and jobs in Ohio by investing in technology research, company formation and commercialization.

So far, Third Frontier has made \$633 million in grants. By the end of 2006, the project had disbursed \$190 million of that, said John Griffin, Gov. Ted Strickland's technology director and a member of the Third Frontier Advisory Board. Grantees have attracted an additional \$1.5 billion with that money, Griffin said.

Hallmarks of the project are 13 Wright Centers of Innovation - centers of research and commercialization excellence in technologies from stem cells to fuel cells - as well as programs for commercialization, early stage capital and entrepreneur support.

The nature of Third Frontier also is its hallmark - it's collaboration among state government, academic institutions and business.

Fifty-five percent of Northeast Ohio's Third Frontier money has gone to biomedical and bioscience projects. Sliced another way, the medical device industry in the region has received 39 percent of the project's grant money.

A \$60 million grant for a Global Cardiovascular Innovation Center at the Cleveland Clinic, awarded to a cadre of institutions, organizations and companies in November, gave a big boost to the region's biomedical grant number.

Don Brown, chief executive of Arteriocyte Inc., a Cleveland company that is developing stem cell therapies, said Third Frontier has been the "critical lifeblood" to his company.

Mary Laughlin and Vincent Pompili, Case Western Reserve University School of Medicine faculty and clinicians at University Hospitals Case Medical Center, started Arteriocyte in early 2004.

The company is commercializing stem cell treatments for tissue damage caused by "ischemia," or lack of adequate blood supply. A heart attack or artery disease might cause ischemia.

Grant helps

complete clinical trial

Arteriocyte got its first Third Frontier money - \$600,000 of an \$8 million grant to the Center for Stem Cell and Regenerative Medicine in Cleveland - in May 2006. The grant helped Arteriocyte complete an early-stage clinical trial of its stem cell therapy about a year ago.

In December, the company also won about \$1 million from the Clinic's cardiovascular center award. This second Third Frontier grant could help get Arteriocyte's therapy through its next set of trials.

In the meantime, Brown - an experienced health care company executive who lives in Boston and commutes to Cleveland - has acquired rights to stem cell harvesting, growing and delivery technologies from three other universities.

Now, Brown is importing another enabling technology that could launch his company from the development stage to the commercial stage by giving it a product to sell.

"A significant amount of this work could not have been done, and would not have been in Ohio, had it not been for the Third Frontier award and the continued support that we've gotten from Third Frontier," Brown said.

Bob Schmidt, founder and chief executive of Cleveland Medical Devices and Orbital Research, both in Cleveland, has been adept at getting commercialization grants from Third Frontier.

Cleveland Medical Devices, which often goes by the name CleveMed, has received four commercialization grants totaling \$765,000. Orbital Research, which develops advanced systems, aerodynamics, and medical and micro device technologies, has received two commercialization grants, totaling \$350,000.

Third Frontier was "critical" to getting Orbital Research's medical device electrodes cleared for sale by the Food and Drug Administration, said Fred Lisy, the company's president. A Third Frontier grant for Orbital's pressure sensor led to a \$1 million contract with the U.S. Department of Energy, Lisy said.

Yet another grant was "crucial for resolving the technical challenges" of CleveMed's NeuroSense monitor, which evaluates the effects of anesthesia on patients during surgery, said Tatjana Zikov, product manager of the company's NeuroWave Division.

Third Frontier is helping to create a fuel cell industry in Ohio by attracting, connecting and organizing developers, companies and suppliers.

Cleveland center

received \$18 million

One of the most visible signs of this effort is the Wright Fuel Cell Center in Cleveland, which won an \$18 million Third Frontier grant in 2003 - one of the first Wright centers to be awarded.

The fuel cell center has become a testing laboratory for industry and universities, said Lyndy Rutkowski, operations manager for the Wright Fuel Cell Group. Though it is not an incubator, the center is temporarily housing operations of two fuel cell developers - Contained Energy Inc. and HydroGen Corp.

Contained Energy received a \$1 million Third Frontier grant earlier this year. HydroGen, which moved its headquarters to Cleveland from Pittsburgh in 2005, received a \$1 million grant last year.

Rolls-Royce Fuel Cell Systems, which recently opened its North American fuel cell headquarters at Stark State College of Technology in North Canton, also chose Ohio because of Third Frontier, said George Harker, Wright Fuel Cell Group's executive director and a technology transfer professional at Case.

The fuel cell operation of the British power system company recently won a nearly \$1 million grant from Third Frontier for its Stark County development operations.

Harker and Rutkowski have been trying to connect developers with academicians and potential suppliers. Even non-fuel cell manufacturers want to join the industry, they said.

"One reason I was excited to come here was Third Frontier," said Harker, who left the Georgia Institute of Technology earlier this year.

Economic development organizations and venture capital funds in Northeast Ohio have received millions of dollars from Third Frontier.

The program has granted \$27.5 million to 21 early stage investment funds or nonprofits that help get companies ready for venture investments. "What Third Frontier should be recognized for is helping stimulate the building of the whole risk capital infrastructure," said Walter Plosila, vice president of the Cleveland-based Technology Partnership Practice of Battelle, the science and technology research consultant in Columbus, which helped shape Third Frontier.

Venture developer

gets four grants

JumpStart Inc., Northeast Ohio's venture developer, has won four Third Frontier grants, said Ray Leach, the organization's chief executive. JumpStart invests time and money in companies that promise above-average growth, helping them attract venture capital investments.

A little more than \$9 million of JumpStart's Third Frontier grant money will be invested in the region's very early stage companies through 2010, Leach said.

Another \$1.4 million supports JumpStart's management and investment-making operations through the same period, and \$1.7 million will support new entrepreneurial programming beginning in the fall. About 36 percent of JumpStart's resources come from Third Frontier.

From mid-2004 to Dec. 31, 2006, JumpStart and its portfolio companies have had a \$40.3 million economic impact on Northeast Ohio, according to a recent analysis by Cleveland State University.

"If the Third Frontier didn't exist, JumpStart wouldn't exist as we know it today," Leach said. "It would be smaller and dramatically less capable than it is today."

Two of JumpStart's grants have NorTech's name on them as lead recipient. Dorothy Baunach, president and chief executive of the technology company developer, spends much of her time educating state officials about the kind of support that technologies and entrepreneurs in Northeast Ohio need.

Baunach credits Third Frontier for making investments that are "at scale." That means they are big enough to build and equip a Wright center or create an industry.

"So instead of dribbling in \$100,000 or half a million dollars here, there, we're saying, 'Let's focus on things and go after it,' " she said.

Baunach, Leach and Baiju Shah, president and chief executive of BioEnterprise Corp., which develops health care and bioscience companies, measure the success of Third Frontier money by how much venture capital it attracts to the region.

The private sector - largely venture capital firms and individual investors - have invested more than \$500 million in the region's companies in the last three years, Baunach said. Much of that is tied to Third Frontier.

About 60 percent of these venture investments have come from outside the region, Baunach said. That means venture investors are starting to take notice of Northeast Ohio.

BioEnterprise, which keeps track of health care venture investing in the Midwest, said Ohio companies attracted nearly \$200 million in venture capital in the first half of this year alone.

Several of these companies have received money from Third Frontier or benefited from its programs.

"Third Frontier money has been critical to creating distinctive startups that draw venture capital to Ohio," Shah said.

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