

Ripples of Research

Florida High Tech Corridor Council's applied-research program has funded collaborations between more than 300 corporate partners and participating universities, resulting in a \$1.3 billion ripple effect of economic impact in the 23-county region.





Harris Corporation

Florida High Tech Corridor university researchers partnered with Harris Corporation on more than 25 research projects to develop advanced radio and telecommunications systems.

Like the proverbial stone tossed into a pond, Florida's focus on job creation and on rebuilding its innovation economy is being aided by the ripple effect of a unique applied-research program that for nearly 15 years has brought high tech industry into partnerships with three of the nation's largest research universities.

According to a study by Innovation Insight Inc., applied research partnerships with universities are playing a substantial role in Florida's economic recovery as companies large and small report jobs, new product lines, research funding and profitable contracts—all as the result of their working relationships with the Florida High Tech Corridor Council's (FHTCC) three partner institutions.

The Council's Matching Grants Research Program (MGRP) has been recognized nationally and internationally for its impact on competitiveness by providing matching dollars to fund applied research on the campuses of the University of Central Florida (UCF), the University of South Florida (USF) and the University

of Florida (UF). Faculty members and graduate students work side-by-side with industry researchers to solve problems that can facilitate process and lead to commercialization.

"This program has created a ripple effect of job creation, company start-ups and attracted revenue that comprises a significant portion of our state's economy," says FHTCC President Randy Berridge. "It's staggering to think about what our economy would look like were it not for this investment in applied-research partnerships."

The study concluded that the state-funded research program has leveraged \$54 million over 14 years to create a direct and indirect economic impact of \$1.3 billion in the 23 counties that make up the Corridor, in addition to generating an equivalent impact of 3,276 jobs downstream.

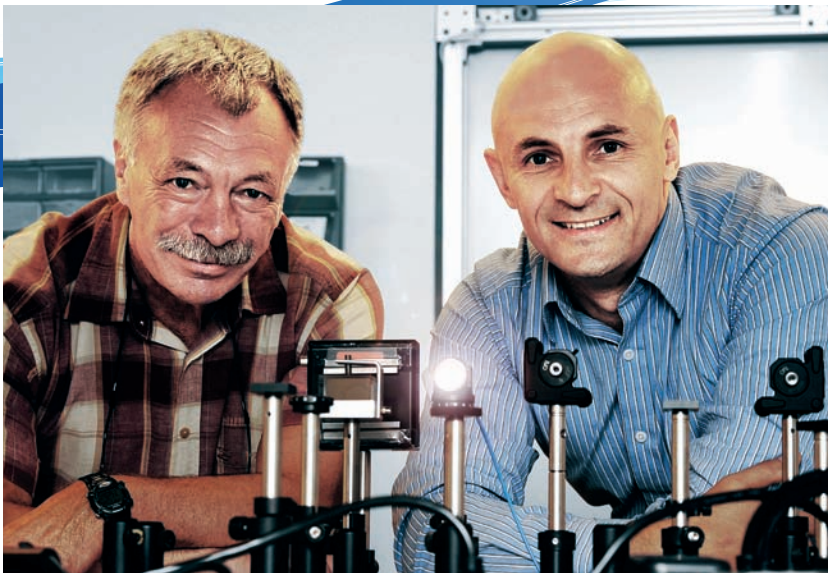
Innovation Insight President Guy Hagen says, "Proportionately, the MGRP is shown to create one job in the Florida economy for every \$16,189 invested in the program. In 2009 alone, the

program had an impact of more than \$77 million in state economic output and 187 direct, indirect, and induced jobs."

The study utilized subtractive analysis, which removes the program's investments and outcomes from the Florida economy. This is the most common and widely accepted method for documenting the impact of an existing economic program, company, or activity (see chart on page 33).



Harris Corporation, a leading provider of satellite communications, has developed dozens of new technologies thanks to collaborations with FHTCC.



Jacquie Brundt, UCF

UCF Professor Leon Glebov (left) founded OptiGrate in 1999. The photonics company is now led by President and CEO Alexei Glebov (right).

In a presentation to Florida's new Governor Rick Scott, UCF President John Hitt, a co-founder of the Florida High Tech Corridor Council, said, "I'd suggest that any savvy investor would want to invest in a program that for \$54 million has drawn nearly \$900 million in additional business and returned more than half the original state investment in tax receipts."

The study utilizes reports from many of the 300 corporate partners who have participated in the MGRP and have documented direct outcomes that have made a substantial financial impact on their business.

One such partner, Harris Corporation, a Fortune 500 company headquartered in Melbourne, has partnered with FHTCC on more than 25 research projects since 1998, totaling \$4.4 million in Corridor and corporate funds and in-kind investments. Those collaborations produced technologies and innovations that were connected with at least 18 different Harris projects and technology areas valued at approximately \$101 million.

"Our 12-plus-year partnership with FHTCC has reaped far more benefits than we imagined," says Kent Buchanan, chief technology officer and vice president of engineering for Harris Corporation. "The Matching Grants Research

Program has supplemented our R&D efforts with not only significant financial investment—it has also provided our research teams with ready access to leading scientific experts and outstanding high tech students at partner universities right here in Florida."

Small research firms have utilized the MGRP for similar return on investment. Photonics start-up OptiGrate in Orlando has leveraged the Corridor Council's investment of more than \$600,000 in 20 projects to attract \$8.6 million in contracts and grants downstream. The company's success in securing Small Business Innovation Research (SBIR) grants equates to a 14:1 return on investment.

"Advanced research is vital for the growth and competitiveness of

The Matching Grants Research Program has leveraged \$54 million over 14 years to create a direct and indirect economic impact of \$1.3 billion in the 23 counties that make up the Corridor.

small high tech companies such as OptiGrate," says Dr. Alexei Glebov, CEO of OptiGrate Corp. "The MGRP funding helped to leverage the U.S. government investments in technology development and was invaluable for successful conversion of lab technologies into marketable products."

FHTCC's MGRP reaps benefits not only for participating companies, but also for the State of Florida, which provides funding for the Council. According to the study, the direct and indirect creation of jobs and companies generated a return of \$34.3 million in state tax receipts.

As Harris Corporation's experience suggests, the creation of new technologies is at the heart of job creation.

A USF research project that began with Layton Bioscience's search for a drug to treat Tourette syndrome has resulted in a mega deal involving pharma giant AstraZeneca PLC and Targacept Inc. The initial \$250,000 Council investment in the research created a new treatment for depression, and could mean a nearly three-quarters of a billion dollar investment by the two companies and a long-term source of revenue to the USF Foundation.

"This is what everybody waits for when a university is engaged in technology transfer, to get something that really makes a difference to society," says Karen Holbrook, USF's vice president for research and innovation. "It isn't about doing research because it's exciting, but because it makes a difference. Particularly in a public institution, everything we do is for some purpose. This is just dynamite."

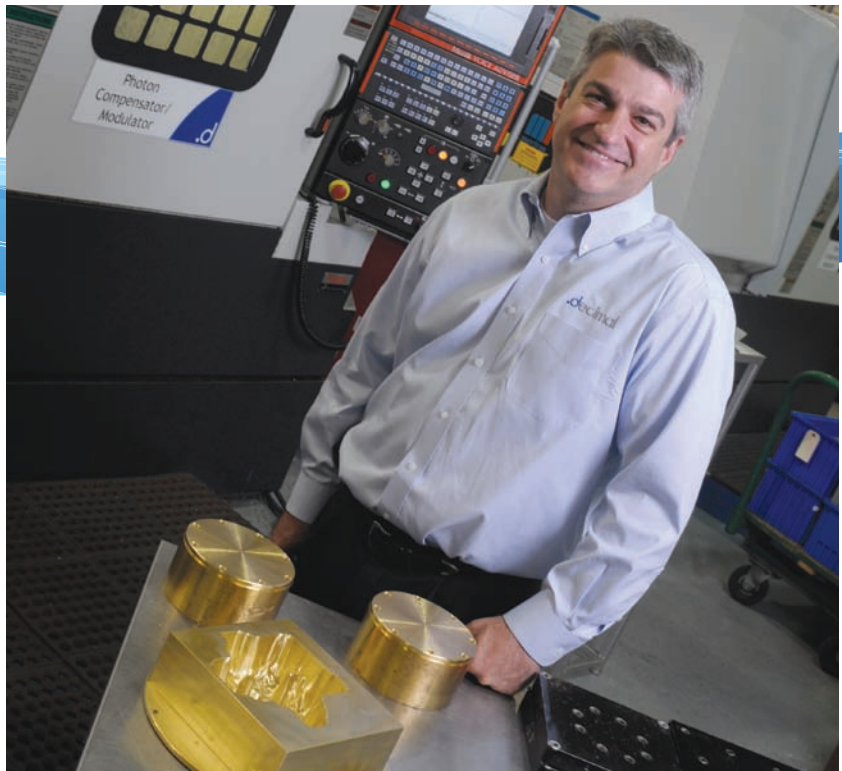
Yet another example at USF is the development of the world's first-ever window capable of generating electricity. In effect, USF physics professor Xiaomei Jiang's research resulted in the use of the world's smallest working organic solar cells to turn windows into power plants. Unlike traditional solar systems, cells developed

by New Energy Technologies Inc. allow their application to windows without restricting the passage of light through glass surfaces.

"We're always keen to see innovations in our laboratories turn into meaningful commercial products," says Valerie McDevitt, assistant vice president for research at USF's Division of Patents and Licensing. "We very much look forward to the commercial development of New Energy's SolarWindow technology, which, if successful, could transform the way in which we view the use of solar energy for our homes, offices and commercial buildings."

St. Petersburg-based energy giant Progress Energy points to three MGRP projects within the energy efficiency, alternative energy and energy storage arenas, saying that they are directly linked to the sustainable development of electric transportation. Corridor funding of under \$250,000 directly contributed to new jobs that included eight full-time positions and research positions for four graduate students, and also contributed to the education of a minimum of 30 undergraduate students who have used the infrastructure within design projects.

Seminole County-based .decimal Inc., which makes custom radiation therapy products, added three employees to its Research and Development department.



Phelan Eberhack

Richard Sweat, president of .decimal, attributes much of the custom radiation therapy company's growth to a project funded by FHTCC's Matching Grants Research Program.

One was a graduate student who worked on the company's MGRP project while earning Master's and Doctoral degrees at UCF. Exposing employers to potential future hires is one of the goals of the program, says Corridor Council President Randy Berridge. "We're demonstrating the incredible potential of the students coming out of our universities, and employers are getting to see them in action ... almost as if it was an audition."

Richard Sweat, president of .decimal, added that, despite the impact of automation, "I believe this research was critical to maintaining our manufacturing competitiveness, thereby helping us keep current jobs. Also, we purchased the building across

the street to help us grow into the precision-machining market, so I plan to add jobs in 2011 to help support that initiative."

Science Applications International Corporation (SAIC), a mainstay of Central Florida's massive modeling, simulation and training community, has partnered on five MGRP projects it credits with job creation and job retention. "We estimate that the results of the five projects have generated an additional 10 jobs to date," says SAIC Group Senior Vice President Beverly Seay, adding that the company protected another five positions and anticipates adding more in the coming two years.

For more information on the MGRP, visit www.floridahightech.com/research.php.

MGRP IMPACT DETAILS

Impact	Output	Employment	Labor Income	Total Value Added
Direct Effect	-\$822,353,792	167	\$11,721,596	-\$23,765,568
Indirect Effect	-\$408,534,464	-2,516	-\$124,552,112	-\$221,514,752
Induced Effect	-\$117,929,704	-927	-\$37,176,948	-\$68,657,664
Total Effect	-\$1,348,817,920	-3,276	-\$150,007,456	-\$313,937,920