

# INNOVATION

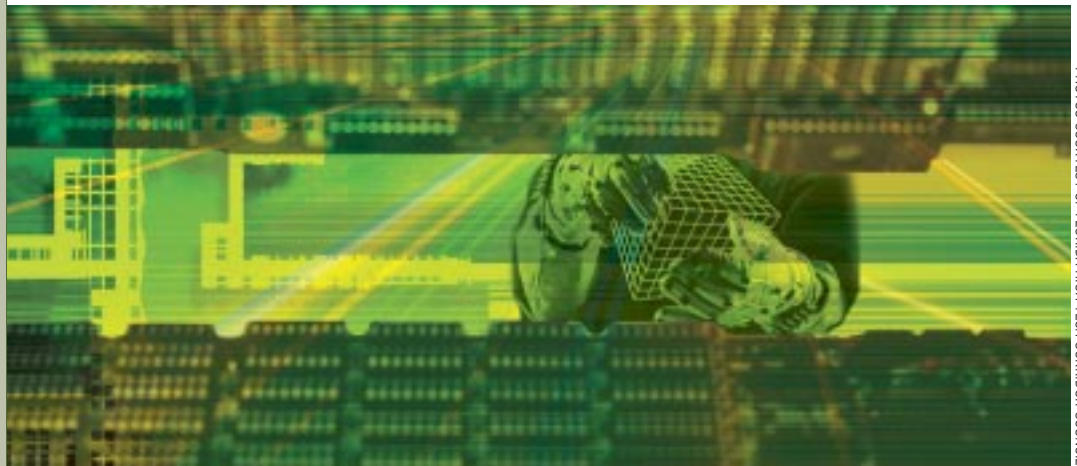
## The Florida High Tech Corridor

By Michelle Knapp

The 21-county region has it all... booming business; recreational activities; beaches; attractions; educational institutions; and tourism. Equally important, though, it boasts thriving aviation and aerospace; information technology; medical technology; microelectronics; modeling; simulation and training; and optics and photonics high tech industry sectors.



*"It's all about quality of life ..."* This opening line of the Florida High Tech Corridor Council's 2003 annual report emphasizes the need for harmony between creativity and industry. With a mission of attracting, retaining and growing high tech industry in the region, and the workforce to support it, the Corridor Council places high value on this need, and strives to fulfill it.



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A good quality of life is essential in attracting new businesses to the region, and to retaining them. The Corridor has a distinct advantage in this arena: the 21-county region has it all ... booming business, recreational activities, beaches, attractions, educational institutions and tourism. Equally important, though, it boasts thriving aviation and aerospace, information technology, medical technology, microelectronics, modeling, simulation and training, and optics and photonics high tech industry sectors. The overall advantages are immeasurable.

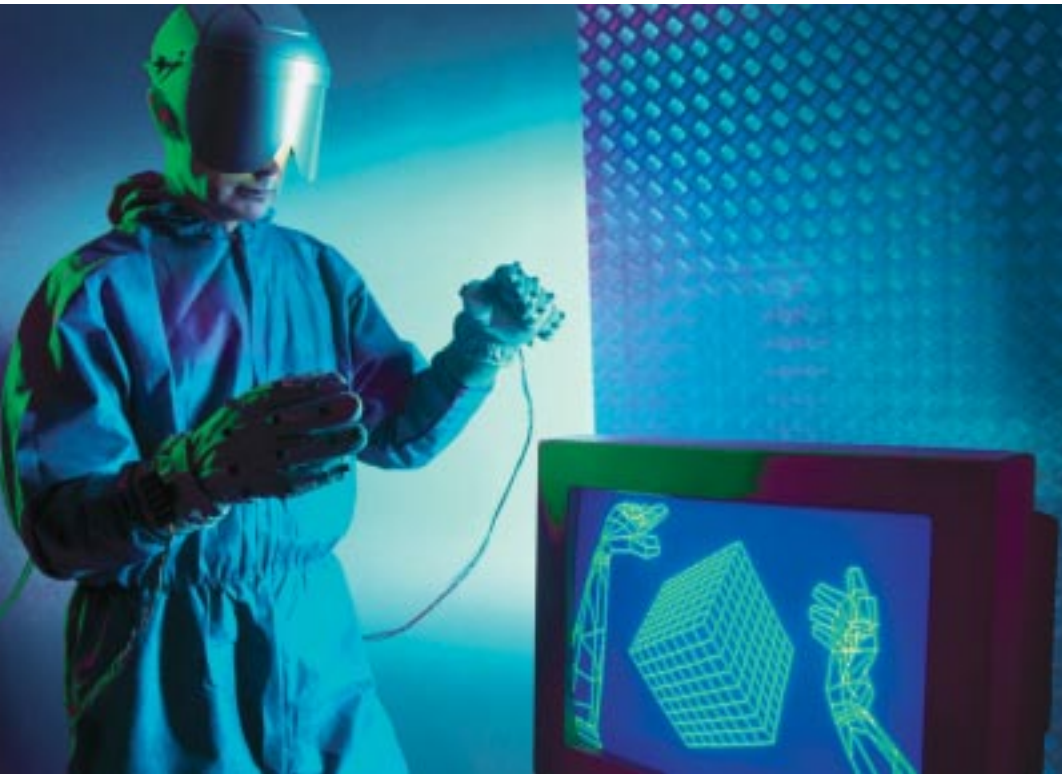
In addition to quality of life, the tech-

nologies that are constantly being developed and utilized in the area foster creativity and innovation all on their own. Groundbreaking scientific research, new applications for robots, innovative technology education programs ... it takes a creative mind to come up with the concept before a scientific mind can put it into action.

If you once thought that "creative types" and "techie" were at opposite ends of the spectrum, you'll no longer think that after reading about some of the area's innovations in the pages that follow.

# AT ITS BEST





## EXCELLENCE IN EDUCATION

The universities within Florida's High Tech Corridor are constantly striving to reach new heights. By thinking outside the box, they have broken countless barriers in scientific and technological research.

These universities — the **University of Central Florida** (UCF) and the **University of South Florida** (USF) — continue to make tremendous strides and have taken solid positions among the nation's top research institutions. This is accomplished through unique partnerships with high tech companies and other research institutions within the region, like the **Florida Institute of Technology**. This year alone, the Corridor Council invested \$3.5 million in such projects, which was matched by \$8 million in corporate and federal funds, for a total of \$11.5 million dedicated to high tech research. Not only do these universities grow in expertise and stature as a result, but students, faculty, industry partners and the surrounding community benefit exponentially.

## WORKFORCE DEVELOPMENT

From electrifying laser demonstrations to virtual reality race car simulators, educators throughout the region continue to be enlightened by techPATH, the Corridor Council's unique educational initiative. In recognition that Florida's high tech future is dependent upon a steady stream of trained workers at all levels, **techPATH** has developed a series of **tech-CAMPs**, where educators gain hands-on experience and use tools for incorporating that knowledge into their K-12 curriculum.

In addition to techCAMPs, techPATH has been instrumental in the creation of innovative high tech degrees, certificates and curricula. These groundbreaking academic programs, offered in concert with UCF, USF and the 11 community colleges serving the region, include an associate's degree in microelectronics manufacturing at Valencia Community College; a biotechnology degree at St. Petersburg Community College; a digital media degree at Daytona Beach Community

College; and photonics technician degree programs in place at various community colleges. Also in the works are an information technology security curriculum at Manatee Community College, a wireless technology degree at Polk Community College and a digital media degree program at Seminole Community College.

Within each of these "2+2 programs," the community college collaborates with one or both of the universities to assure that, after the first two years of a student's college career, there is a program available for them to achieve a bachelor's degree. This provides a seamless educational opportunity, assuring future employers a well-trained workforce.

## AVIATION & AEROSPACE

From NASA's Mars Exploration Rovers (MERs) conducting the most extensive interplanetary exploration in history, to university students helping a partnering company develop safer landing gear for a "gyroplane," some exciting ideas are brewing in this sector. Companies in the Florida High Tech Corridor are at the forefront of many of the industry's paradigm-shifting discoveries.

Numerous aviation and aerospace research advances are being made at the K-12 level as well. One example is the "**Get Smart Program**," or Gateway to Engineering, Technology, Science

and Math Resources for Tomorrow, developed at the Florida Institute of Technology and sponsored by the Corridor Council. This program consists of a video, presentations and industry site visits, and is aimed at encouraging students to pursue technology careers.

## INFORMATION TECHNOLOGY

The Corridor's IT companies are some of the fastest-growing technology companies in the nation. One Orlando company, **Riptide Software**, posted an average growth rate of 6,432 percent over a five-year period. Another company, **Guardian Solutions**, sold its automated video surveillance system to Port Manatee and Port Canaveral, two of the world's busiest ports. Following suit with requests for other Guardian technologies were the United States Marine Corps and the U.S. Department of Defense, and the company only debuted in the marketplace in 2002.

The university system has had a hand in the further development of IT companies within the Corridor. So much so, that both Florida High Tech Corridor partners, UCF and USF, were named among the "Top 100 Technology Transfer Universities" by MIT's *Technology Review* in terms of active patent and licensing activity. In fact, UCF impressively ranked within the top 40! These listings hold significant meaning to the Corridor as they emphasize the impact the universities have on the growth of start-ups within the region.

## MEDICAL TECH

Information technology has changed the face of the medical industry, further fueling the growth of the Corridor's Med Tech sector. Innovations now help protect citizens from a biological attack and allow medical patients to be monitored remotely.

The medical technology sector started out in 2003 with a bang, earning designation as a "**high-impact**" sector by state officials at the BioFlorida industry association meeting. The University of South Florida has enjoyed major successes in the sector, developing a new method for safely and quickly detecting anthrax. Because of this, and many other achievements, the school was awarded a \$323,600 contract from the Florida Department of Health Office of Public Preparedness to teach police officers, firefighters and other "first-responders" how to handle bio-terrorism threats and situations.

## MICRO-ELECTRONICS

The Corridor's microelectronics industry also continues to distinguish itself by the research and development of new

and innovative products. Though growth of industry leaders like **Jabil Circuit**, **Agere Systems** and **Intersil** is still recovering from the economic downturn, all are forging ahead by diversifying products and improving business operations. In fact, Agere Systems recently surpassed the \$100 million mark in total System-on-Chip (SoC) shipments for data storage applications and reported its first quarterly profit since going public, demonstrating that this industry is making its way toward a turnaround.

The Corridor Council and its partners support existing technologies in the microelectronics sector, but they also go out and dream up their own. Both UCF and USF proved this through renewed focus on researching nanostructures — structures that equal



50 nanometers (50 billionths of a meter) or smaller.

## MODELING, SIMULATION & TRAINING

Soldiers fight through a battlefield overcoming the enemy, medical students save lives and teenagers learn how to drive a car, all thanks to the Corridor's modeling, simulation and training (MS&T) industry.

Tapping into the region's military strengths provides many successes for the MS&T industry. For example, Melbourne-based **Symetrics Industries** earned a six-year, \$5.6 million contract to manufacture an electronic chassis for naval aircraft and Orlando-based **Real-Sims, LLC** developed a new low-cost, multi-purpose training product that can easily be configured to emulate the internal cockpit layout of any aircraft.

Innovations such as these keep Corridor companies on the cutting edge of MS&T technological development.

## OPTICS & PHOTONICS

Manipulating light to entertain, fight wars and heal the sick — applications of optics and photonics surround us in our daily lives. At the University of South Florida, researchers are working on various projects that will lead to better disaster reaction capabilities, higher-sensitivity robots that show 3D locations of victims during disaster rescue efforts, and laser-based systems that sense trace amounts of bio agents in the environment.

UCF Professor Peter Delfyett is a world-renowned leader in this sector, smashing the world record for laser data transmission by sending more than one trillion bits of data per second from a single device. (That's 1,000,000,000,000 pieces of information!) UCF is also home to one of only three Schools of Optics in the nation, as well as to the Center for Research & Education in Optics & Lasers (CREOL).

## QUITE A FUTURE

Florida's High Tech Corridor has been on quite a roll and the future looks even brighter. The region has committed itself to an environment that nurtures creativity, as well as technology.

In fact, the advice of noted demographer Richard Florida has become somewhat of a mantra for High Tech Corridor leaders who subscribe to Florida's belief that "human creativity is the ultimate economic resource."

Said Florida High Tech Corridor Council President Randy Berridge: "Our mission is not only to attract, but to retain and grow high tech industry and the workforce to support it. We recognize that the creative needs of knowledge workers are best served in an environment like that of our region — one that rewards innovation, respects diversity and supports exploration."

For more information about the Florida High Tech Corridor, visit [www.floridahightech.com](http://www.floridahightech.com).

## WHAT DOES IT TAKE?



## ENERGY. TO LIVE, WORK, DREAM, SUCCEED.

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