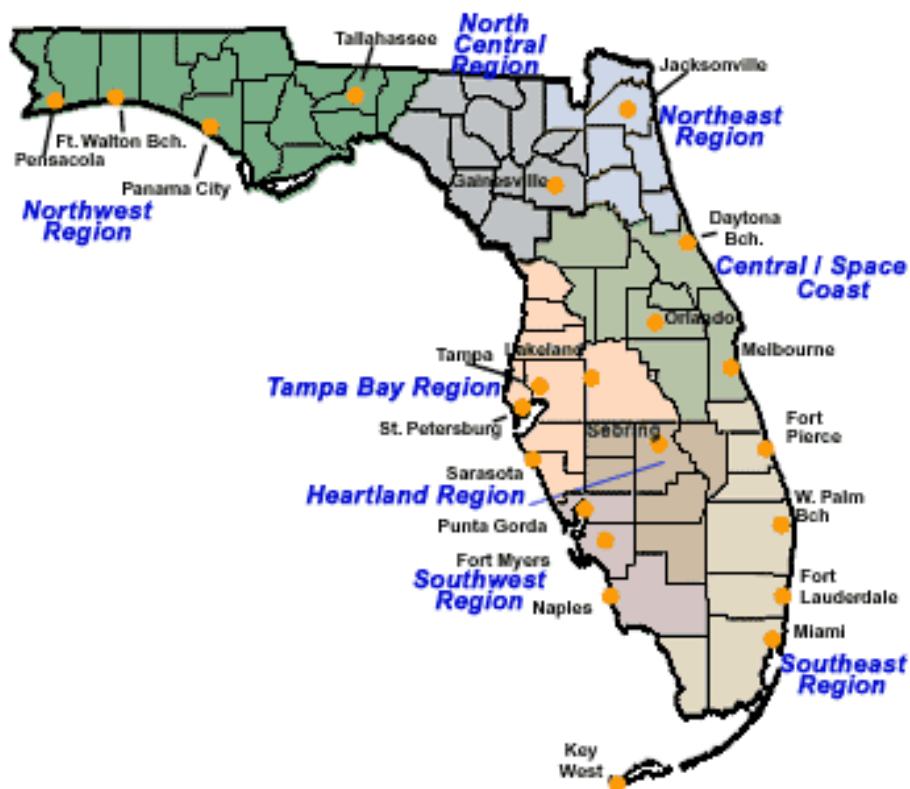


Innovation -- not Euros, Yen, or Dollars -- is the currency of today's global economy. Innovation fuels productivity, attracts investment, and stimulates economic recovery. Where innovation thrives, so will the successful enterprises of the 21st century.

Nowhere else is the spirit of innovation more evident than in Florida. The state's pro-business, pro-technology climate, combined with easy trade access to key growth regions of the Americas, provide ample reasons to locate or expand a business in Florida.

Where would we be today without the innovative companies that are providing the much needed IT products and services and the institutions educating the knowledge base behind it all? Computers, software, the Internet, and e-commerce have become an integral part of our lives. No business can function effectively without this infrastructure.

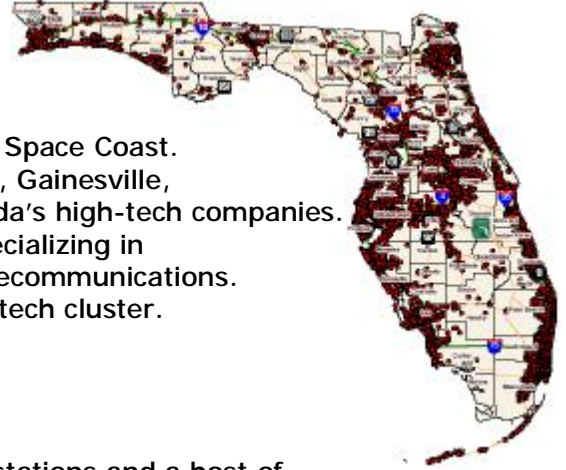
With the birthplace of the IBM personal computer being in Florida's own backyard, and a current ranking status as the 4th largest Cyberstate (*AeA 2005 Cyberstates Report*) for high-tech employment, Florida has always been at the cutting edge of technology and innovation.



Several IT clusters have blossomed in the state as a result of increased cooperation between research institutions and businesses. In these clusters, the talents of multiple organizations are able to build upon each other. Clusters also encourage competition, while attracting and breeding new companies that benefit from specialized labor. Florida has two key areas in which large information technology clusters have developed: [Central Florida](#) and [South Florida](#).

### Central Florida

Florida's *High-Tech Corridor* spans across Interstate 4 from the Gulf of Mexico to the Atlantic Ocean, and the Space Coast. The Corridor includes Tampa, Daytona Beach, Orlando, Gainesville, and Melbourne, and is home to a large portion of Florida's high-tech companies. The Corridor includes a high concentration of firms specializing in optics/photonics, modeling/simulation/training and telecommunications. The [Florida High Tech Corridor Council](#) supports this high-tech cluster.



### South Florida

Thanks to the presence of multiple internet switching stations and a host of Internet companies based in South Florida, the state has been dubbed the "Internet Gateway" to Latin America and has become a platform for testing and evolving the next generation of the Internet. The [InternetCoast](#) organization supports the South Florida cluster.

Some of Florida's key IT industries include:

- **Software & Computer Systems Design & Integration**
- **Modeling, Simulation & Training**
- **Photonics/Optics**
- **Computer Products, Microelectronic and Precision Device Manufacturing**
- **Telecommunications**
- **Digital Media**

Cluster	# Comps	# Jobs	Centers of Excellence
Software & ...	> 1000	60 000	CREAT
MS&T	300	16 000	National Centre of excellence for Simulation & Training
Photonics/Optics	145	9 600	CREOL
Microelectronics	600	33 000	IBM's origin
Telecoms	NA	103 000	

On the following pages you will find more detailed information on each of Florida's key sectors and the companies and educational institutions and Centers of Excellence that are located already in Florida. All Centers of Excellences and Universities highlighted provide links to their website simply by clicking on these.

For more information and sub-sector details follow the following link:

<http://www.eflorida.com/keysectors/it/default.asp?level1=22&level2=114&region=nc>

## Software & Computer Systems Design & Integration

Florida's Software & Computer Systems Design & Integration industry has expanded by over a thousand new companies over the past few years. This rapid industry growth is a reflection of Florida's strong technological assets and dynamic business environment. The vital element for innovation in Florida's Software & Computer Systems Design & Integration industry is the knowledge of Florida's nearly 60,000 workers directly involved in this industry. Software and computer systems design companies reaching their innovation potential in Florida range from developers of applications focusing on computer system support and integration, modelling & simulation, gaming and entertainment, to cutting edge law enforcement/homeland security technologies.

### Companies

Retaining technological leadership is a key challenge to companies in the Software Development industry. Therefore, companies in the industry tend to locate near each other and around educational institutions and professional associations to help pool ideas and facilitate research and development.

A few of Florida's key software development companies include, but are not limited to:

- Citrix Systems
- Electronic Data Systems (EDS)
- Lotus Development Corp.
- Oracle
- Peoplesoft
- Siemens

### Education and Centers of Excellence

The [University of Central Florida](#) (Orlando) is home to the Consortium for Research and Education in the Arts and Technology (CREAT). CREAT is a partnership among the Art, English, Film and Music Departments of the university's College of Arts and Sciences, and is supported by the School of Electrical Engineering and Computer Science, and the Institute of Simulation and Training. The Consortium teaches core courses for the Digital Media program, and also recruits industry partners to get more involved in the university.

The [University of Florida](#) (Gainesville) Digital Worlds Institute serves as a platform to nurture leading edge interdisciplinary research and education. The Institute allows the fields of engineering and arts to work together through the use of digital technology.

[Full Sail](#) (Orlando) offers degrees and hands-on experience in areas required to be successful in the Digital Entertainment industry. Full Sail's instructors have spent several years in the digital entertainment industry, and many continue to remain active in their professional fields. This enables the school to keep abreast of current technologies

[Center for Electronic Communication](#) (Fort Lauderdale), located at Florida Atlantic University, is one of the finest digital art studios at any public university in the United States. The Center's mission is to research and demonstrate the electronic presentation of information in the academic arena. The Center also offers a Master of Fine Arts degree in Computer Arts that is respected by many leading entertainment corporations.

## Modeling, Simulation and Training (MST)

Florida has been the geographic focal point for modeling, simulation and training (MST) development since the 1960s. Beginning with the establishment of Army and Navy simulation and training systems commands in Orlando and followed by the development of major theme parks that utilize the technology, the state is now a world-class center of critical talent in this cutting-edge technology.

Florida is home to the National Center for Simulation and more than 16,000 skilled professionals who work at over 300 Florida firms directly involved in modelling, simulation and training technology. These skilled MST professionals develop applications for industries ranging from aviation to medicine to entertainment.

### Companies

Florida has a solid cluster of MST companies due to the presence of highly trained military forces, strong universities and supportive associations. Companies using Modelling, Simulation and Training technology are able to test products, processes, and/or situations in real-time and in real-environments.

Florida MST companies include, but are not limited to:

- Adaptec
- BAE Systems
- Boeing
- Disney Imagineering
- ECC International
- EER Systems
- Evans & Sutherland
- Lockheed Martin
- Raytheon Systems
- Science Applications International Corporation
- Universal Studios

### Education and Centers of Excellence

In 1985, Governor Bob Graham endorsed the National Center of Excellence for Simulation and Training in Florida. The Center required a partnership among the nation's leading military simulation operations to research, develop, test, evaluate, acquire, coordinate and support training systems for all armed forces, Department of Defense, other government agencies, industry and academia. The Center provided the network of resources essential for the expansion of the MST industry.

Two organizations within the Center, the U.S. Army's PEO for Simulation, Training and Instrumentation (PEO STRI) and the Naval Air Warfare Center Training Systems Division (NAWCTSD), are the cornerstones of Florida's MST industry. The Marine Corps, Air Force, Coast Guard, Department of Justice and NASA also share resources and leverage expertise in MST for aviation, space, surface and subsurface platforms, ground vehicles and maintenance training.

Modelling, Simulation and Training and its related fields require a multi-disciplined, highly technical workforce. Nearly every engineering and science field, including behavioral sciences and education, is involved in complex simulator development. Although universities across the country address each of these disciplines, only a few integrate their courses for simulation systems. The following universities offer a specialized curriculum and leading research programs in the field.

[Embry Riddle Aeronautical University \(Daytona Beach\)](#) is the world's oldest, largest, and most prestigious university specializing in aviation and aerospace. The campus offers state-of-the-art facilities, including the Airway Science Simulation Laboratory, which simulates the elements of the National Airspace System, and the Advanced Flight Simulation Center. The Advanced Flight Simulator Center contains two FAA level-D full-motion simulators and serves as a focal point for the University's relationships with airlines, governments, and corporations.

The [University of Central Florida](#) offers graduate studies in modelling and simulation, with concentrations in seven areas, leading to master's and PhD degrees. The university also houses one of the world's leading research institutions in MST, the [Institute for Simulation & Training \(IST\)](#). The Institute's researchers focus on cutting edge technology and advancements in simulation technology training systems such as military simulation (flight training, intelligent simulated forces and emergency response training), computer animation, computer-based instruction and digitized voice and print.

The [High-performance Computing & Simulation Research Lab](#) is a joint research facility affiliated with the University of Florida, Florida A&M University, and Florida State University, and serves as the NSA Center of Excellence in High-Performance Networking and Computing. The lab is active in computer engineering research with modelling, simulation, and analysis techniques. Lab members have developed the first high-fidelity CAD models for SCI, SCI/RT (i.e. real-time extensions for SCI), Fibre Channel, HiPPI, Myrinet, and other high-speed networks as well as switches, bridges, routers, etc. in support of several lab projects. With these models and new tools being developed to exploit them, next-generation computing and networking systems can be designed and developed by means of rapid virtual prototyping.

The [University of Miami's Center for Research in Medical Education](#) is a designated center for excellence of UM's School of Medicine. Since its inception, CRME has developed, implemented and disseminated medical education skills training programs using advanced technology and simulation. "Harvey", the Cardiology Patient Simulator, is a full size manikin that simulates nearly any cardiac disease at the touch of a button. It has been developed and updated by UM's international consortium of physicians and educators over the last 35 years, and is currently used for training at over 120 medical centers worldwide.

[Daytona Beach Community College \(DBCC\)](#) has launched a new AS Degree Program in simulation technology. The program was developed in cooperation with the simulation industry and with Seminole and Valencia community colleges. DBCC has also partnered with the University of Central Florida to create a "2+2" program to ensure a seamless transition to the BS Degree level in simulation.

## Photonics/Optics

Florida's strength in photonics began with the early development of laser systems in Orlando by Martin Marietta. Today, Florida is home to some of the largest photonics integrators and users. With 145 companies employing approximately 9,600 people ([Source](#)), Florida (particularly along the Corridor) is among the top four optics regions in the nation and will continue to play an important role in the advancement of the industry.

The success of the industry can also be credited to the synergy that exists between photonics companies, educational institutions, professional associations and several high-tech industries that currently exist in Florida, such as aerospace, biosciences and microelectronics. Optics technology is an enabler for these industries.

### Companies

Florida companies regularly cite the availability of specialized optics workers as an advantage to doing business in Florida. Additionally, Florida optics companies indicate that the current infrastructure can support considerable expansion and project a 25% growth per year in annual revenue, through the year 2005.

Some of Florida's photonics companies include, but are not limited to:

- Lambda Physik
- Lockheed Martin
- MeshNetworks
- Nortel Networks
- Northrop Grumman Laser Systems

### Education and Centers of Excellence

**University of Central Florida's** (Orlando) School of Optics/Center for Research and Education in Optics and Lasers ([CREOL](#)) is Florida's center of excellence for research and education in optical and laser sciences and engineering. It is one of only three recognized institutes in the nation dedicated to research in this field. It is a catalyst for technology transfer into the private sector and its research activities are recognized worldwide. Many companies have located to the Orlando area to take advantage of proximity to the Center and the students that it graduates.

The **University of South Florida** (Tampa) is one of the Southeast's leading engineering and technology institutions. USF optics research centers include [Center for Laser Atmospheric Studies](#), which studies laser remote sensing and LIDAR techniques; [Center for Ocean Technologies \(COT\)](#), which focuses on marine sensors; and the [Center for Microelectronics Research \(CMR\)](#). CMR received several contracts from Advanced Research Projects Agency (ARPA) and the Department of Defense (DoD) on the use of lasers for rapid prototyping of custom microelectronics circuits.

The **University of Florida** (Gainesville) faculty members within the colleges of Engineering and Liberal Arts & Sciences manage the [MICROFABRITECH](#) program. The program, funded by the State of Florida and several federal agencies, does basic research on solid-state physics and chemistry, which is applied to the design, testing and characterization of novel optical and electrical materials and devices. The program was also created to attract and educate students in these areas.

## Computer Products, Microelectronic and Precision Device Manufacturing

Since IBM developed its first ever personal computer at its Boca Raton facility in Florida in the early 1980s, advanced computer components and integrated circuits or “microchips”, used in technology-intensive devices for the computer, communications, power generation, medical device, and aerospace/defense fields, have been at the core of Florida’s Computer, Microelectronics & Precision Device industry. The production activities of the nearly 600 companies and 33,000 workers in this IT sub-cluster run the gamut from current mainstream technologies, to advanced technologies of the future. Florida has a unique combination of innovation assets that stem from the intellectual spillover from an array of highly competitive companies and their direct involvement with our research universities.

### Companies

Florida Microelectronics companies include, but are not limited to:

- G.E. Power Systems
- Harris Corporation
- Jabil Circuit
- Mitsubishi Power Systems
- IBM
- Raytheon Systems Co.
- Siemens Westinghouse Power Corp.

### Education and Centers of Excellence

Applied R&D and workforce education are key contributors to the growth of the Florida’s microelectronics industry. State universities conduct much of the groundbreaking, early-stage research, since individual companies often lack the capital and risk tolerance inherent in early development.

In addition to traditional engineering classes offered at universities, the following educational institutions have specialized programs for the Microelectronics industry:

#### [Florida Institute of Technology \(Melbourne\)](#)

The Microelectronics Laboratory at the Institute is an advanced research laboratory fully outfitted with all the equipment and support services required for modern semiconductor research. Research for advanced microelectronic packaging and processes for new metalization techniques and dielectrics are just a few projects being conducted at the lab. The lab is also a teaching laboratory where students are able to complete, fabricate, and test state-of-the-art integrated circuits.

#### [University of Central Florida \(Orlando\) - Advanced Materials Processing and Analysis Center \(AMPAC\)](#)

One of AMPAC’s key goals is to achieve excellence in the fields of microelectronics, lasers and energy technologies by conducting in-depth research and providing comprehensive training and education. AMPAC is also home to the UCF-Cirent Materials Characterization Facility (MCF), a \$10 million dollar facility with state-of-the-art surface and materials characterization equipment.

#### [Tech 4 Consortium Initiatives \(Orlando\)](#)

The Tech 4 Consortium is tasked with ensuring educational needs of companies of the Florida High Tech Corridor are met by local educational institutions. A few of its successful initiatives are the establishment of a [two-year associate degree](#) in semiconductor manufacturing at [Valencia Community College](#) in Orlando and "[Tech Camp](#)," a free one or two-day program that exposes teachers to various high-tech industries and helps them incorporate that new knowledge into their curriculum. Endeavors focus on exposing K-12 students to the high-tech industries and the importance of science and math in these industries.

#### [University of Florida \(Gainesville\) - MICROFABRITECH](#)

University faculty members within the colleges of Engineering and Liberal Arts & Sciences manage the MICROFABRITECH program. The program was developed to attract and educate students and conduct research in elemental and compound semiconductors (III-V and II-VI) and other advanced materials, such as high-temperature superconductors, conducting polymers, Fermion conductors, and magneto-optic materials.

#### [University of South Florida \(Tampa\) - Center for Microelectronics Research \(CMR\)](#)

CMR works closely with industrial partners to conduct research and development in semiconductor materials and devices, and interconnect technology systems. The Center integrates its research efforts into the university's curriculum, as well as facilitates the transfer of these technologies into the business community. The Center's eight laboratories help the organization and its industrial partners accomplish these goals.

## Telecommunications

Florida boasts one of the most advanced telecommunications networks anywhere and has been recognized as a hub of connectivity. The concentration of high-tech businesses in the state delivers unprecedented bandwidth, high-speed performance, and best-in-class services to Internet users around the world. The Internet has had a significant impact on international business due to its ability to facilitate communication and streamline processes. Equipped with numerous undersea fiber optic cables, a high-tech telecom talent pool of more than 103,000 workers, and a high concentration of web portal and Internet related companies, Florida has become the world's Internet gateway to Latin America, the Caribbean and Europe.

Florida has the distinct advantage of having multiple Network Access Points (NAP), which is a major intersection of the Internet that allows the exchange of enormous amounts of data among networks of local and regional access providers. Due to the NAPs, the state is able to provide secure, reliable, and redundant connectivity. Florida also houses the AMPATH network, which connects research and education networks in Latin America and other countries to U.S. and non-U.S. research and education networks via the Internet2 Abilene network. Superior reliability, enormous bandwidth, and leading edge technology come together in Florida to connect Latin America to the world.

### Companies

Florida Telecommunications companies include, but are not limited to:

- AT&T
- Bellsouth Cingular
- Motorola
- Nortel Networks
- Qualcomm
- Siemens Information & Communications Networks

### Education

Florida's universities are ensuring that the state remains at the forefront of technology in this industry. Seven Florida universities are charter members of the Internet2. The Internet2 is a cooperative effort of member institutions working together with government, private member companies and educational institutions to facilitate the development of tomorrow's Internet. The seven Florida universities are:

[Florida A&M University](#)  
[Florida Atlantic University](#)  
[Florida International University](#)  
[Florida State University](#)  
[University of Florida](#)  
[University of Central Florida](#)  
[University of South Florida](#)

Florida International University is also working on a project in collaboration with Global Crossing (GC) and other telecommunications carriers called the [AmericasPATH \(AMPATH\) network](#). Using terrestrial and submarine optical-fiber networks, AMPATH will connect the research and education (R&E) networks in South and Central America, the Caribbean and Mexico to Internet2 and Next Generation Internet (NGI) networks in the U.S. and other countries. The AMPATH project is allowing participating countries to contribute to the research and development of applications for the advancement of Internet technologies.

## Digital Media

Digital technologies in Florida are a powerful ingredient in linking the state's creative environment to the technology intensive industries of Modelling, Simulation and Training, and Software Development. Florida's Digital Media companies such as those in digital arts, gaming, interactive media, design, film and video, and software are creating an exciting and dynamic environment of collaboration.

### Companies

Florida's Digital Media companies develop truly innovative products, with nearly 250 utility patents issued over the past few years focusing on the advancement of technologies to be used in interactive video, amusement devices, education and demonstration tools, and video gaming. Florida is ensuring a strong source of innovation for future Digital Media applications and devices.

A few of Florida's key Digital Media companies include, but are not limited to:

- Digitec Productions
- eMerge Media; Electronic Arts Inc
- i.d.e.a.s. at Disney-MGM Studios
- Indra Systems, Inc.
- Kosmo Studios
- Multichannel Ventures, LLC (MCV)
- Project Firefly Animation Studios
- NBC Universal; ActiveTek
- Bonefish Films; Cyberscapes, Inc
- Real Digital Media; Teranex, Inc

### Education and Centers of Excellence

Education is key to developing the required skills necessary to continue the advancement of the IT industry. The following university programs produce graduates with skills necessary to quickly fulfil entry level to advanced positions in IT.

[Florida Agricultural & Mechanical University](#)

[Florida Atlantic University](#)

[Florida Gulf Coast University](#)

[Florida International University](#)

[Florida State University](#)

[University of Central Florida](#)

[University of Florida](#)

[University of Miami](#)

[University of North Florida](#)

[University of South Florida](#)

[University of West Florida](#)