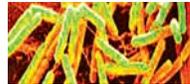


Satellite Systems and Payloads



Florida is home to an impressive array of satellite, launch and satellite ground systems businesses and infrastructure. With a growing regional research and development environment, Florida is positioned to take a leading role in the small satellite commercial, civil and military marketplace, while maintaining its stellar record in large satellite launch and continuing to grow the marketplace with technology innovation.

The Market Horizon

Major advances in microprocessors are making smaller communications and remote sensing satellites cost effective solutions to traditional problems and, especially when grouped into networks and constellations, small satellites offer new possibilities to improve defense, communications, scientific research and environmental monitoring. Pico and nano satellites are especially applicable to crop forecasting and monitoring deforestation, glacier retreat, ozone concentrations and other global observations. Local and worldwide disaster monitoring and support of emergency communications links are possible with small satellites used as radio or optical communications relays. Small satellites can also demonstrate novel micro-system technologies in space and host micro-gravity experiments.

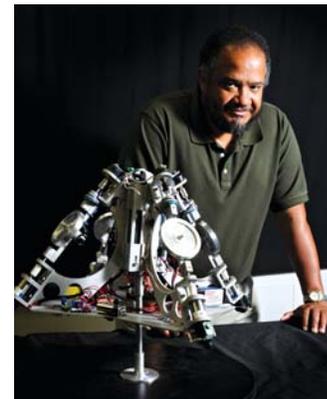
Satellites represent the bulk of all space launch markets and have the broadest applications to consumer and military markets, with concentration on communication and global monitoring. Large satellites will continue to require heavy-lift capability, which Florida's extensive infrastructure supports. In addition to large, typically geostationary satellites, the small satellite sector, including pico and nano satellites, will continue to gain momentum because of their relatively fast, inexpensive options for development and launch on smaller rockets.

Timing

- Sustainable large-scale activities in small (pico and nano) satellites in 36 to 48 months
- Increased market share in large satellites within the decade

Florida's Edge

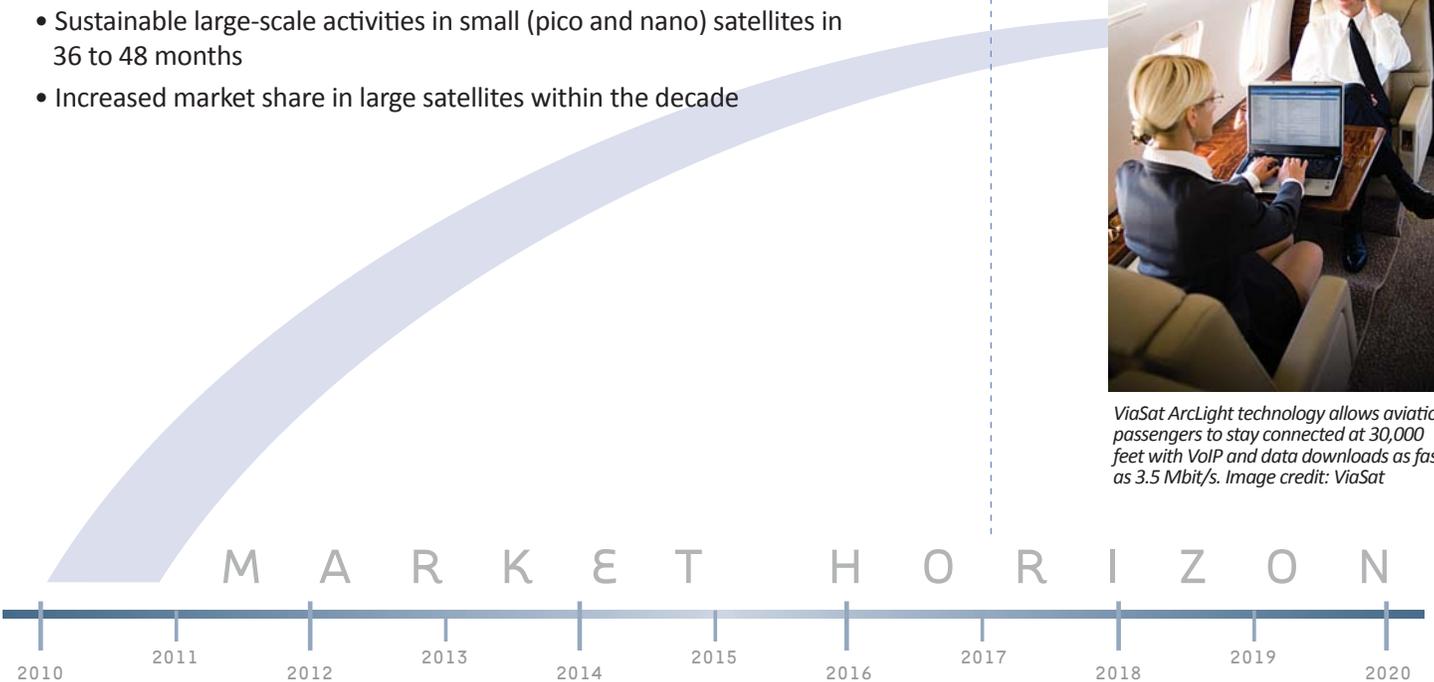
- Extensive launch infrastructure and experience
- Growing research and technology clusters in South and Central Florida
- Workforce trained in quality and safety
- Mature workforce retraining and recertification programs
- Relationships in all launch sectors from civil to military to commercial to university
- Florida's legacy position as a space state—our pride and desire to grow market share



University of Florida engineer Dr. Norman Fitz-Coy and his team are designing satellite prototypes that fit in the palm of a hand, use higher technology to accomplish the benefits of a larger unit, cost much less to build and launch, and theoretically, can be mass-produced. Image credit: University of Florida



ViaSat ArcLight technology allows aviation passengers to stay connected at 30,000 feet with VoIP and data downloads as fast as 3.5 Mbit/s. Image credit: ViaSat



## In Sight and Achievable

- Bring market awareness by linking Florida's excellent infrastructure and growing satellite supply chain activities
- Increase university and community college research and training related to satellite markets
- Continue to streamline commercial launch processes and Air Force Range operations
- Grow highly regarded satellite processing and launch cluster in terms of business environment and workforce
- Net new jobs and investment associated with satellite processing, supply chain and greater launch market share



Astrotech Space Operations technicians work on the solar array of a THEMIS probe. THEMIS consists of five identical probes, the largest number of scientific satellites ever launched into orbit aboard a single rocket. This unique constellation of satellites will resolve the mystery of what causes the spectacular sudden brightening of the aurora borealis and aurora australis. Image credit: NASA

## Tactical Development Strategies

### Create the world's most accessible Gateway to Space for large and small satellites

- With Air Force, develop a highly-regarded, user-friendly launch process for heavy, medium and small lift vehicles from Florida
- Advocate for industry and university efforts within NASA, DoD, NOAA and FAA policy and legislation related to satellite operations, launch and research
- Create consortium of key industry entities supported by Space Florida
- Conduct aggressive marketing nationally and abroad of consortium capabilities
  - Target university and commercial small satellite launch and processing
  - Coordinate efforts with heavy-lift suppliers and Range operator
- Leverage proven performance with established and new satellite providers for business development
- Work with Florida Regions to certify additional commercial launch sites

### Create small satellite launch, processing, research and supply chain cluster in Florida

- Support industry and university technology development in pico and nano satellite technologies
- Facilitate university space missions with industry and government
- Secure buy-in and cooperation from existing industry
- Coordinate industry activities such as workshops, conferences, intern programs, research networks, etc.
- Broker and offer complete service packages from development to launch and satellite operations (with multiple delivery routes)
- Leverage current assets, space industry cluster and culture to position Florida in emerging markets
- Ensure capabilities for quick fulfillment and low cost with safety and security for launch processes

### Nurture technology, development and small business growth focused on nano/pico satellites

- Support research in micro/nano electronics, sensors, propulsion, optics, etc.
- Assist small companies in securing funds for related technology development
- Recruit companies providing related systems and software for relevant information and communications technologies and services



Surrey Satellite Technology LTD has established the world's first space-based disaster monitoring system, the Disaster Monitoring Constellation (DMC). A constellation of seven satellites, the DMC provides emergency Earth imaging for disaster relief under the International Charter for Space and Major Disasters. It covers a wider area and provides images more rapidly than government-controlled remote sensing satellites. Image credit: Surrey Satellite Technology LTD

**Space Florida** was created to strengthen Florida's position as the global leader in aerospace research, investment, exploration and commerce. As Florida's aerospace development organization, Space Florida is dedicated to attracting and expanding the next generation of space industry businesses. Created by the State of Florida as a special district in May 2006, Space Florida serves space-related functions in all three aerospace sectors: civil, military and commercial. Florida's attributes include its superlative workforce, proven infrastructure and unparalleled record of achievement.

