

**The Florida Senate**  
**BILL ANALYSIS AND FISCAL IMPACT STATEMENT**

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Higher Education Committee

BILL: CS/SB 2526

INTRODUCER: Higher Education Committee and Senator Posey

SUBJECT: The Space Industry

DATE: April 8, 2008                      REVISED: \_\_\_\_\_

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Pugh</u>	<u>Cooper</u>	<u>CM</u>	<b>Favorable</b>
2.	<u>Harkey</u>	<u>Matthews</u>	<u>HE</u>	<b>Fav/CS</b>
3.	_____	_____	<u>TA</u>	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

**Please see Section VIII. for Additional Information:**

- |                              |                                     |   |
|------------------------------|-------------------------------------|---|
| A. COMMITTEE SUBSTITUTE..... | <input checked="" type="checkbox"/> | Statement of Substantial Changes        |
| B. AMENDMENTS.....           | <input type="checkbox"/>            | Technical amendments were recommended   |
|                              | <input type="checkbox"/>            | Amendments were recommended             |
|                              | <input type="checkbox"/>            | Significant amendments were recommended |

**I. Summary:**

This bill would create the multi-university Space Technology and Research Diversification Initiative (STRDI) to develop space research and applied technology programs offered by a consortium of universities. The STRDI program would be established within the Governor's Office of Tourism, Trade and Economic Development (OTTED) and supported by Space Florida.

STRDI would be centrally administered by two university partnerships, the Joint Institute for Space Exploration Research and the Spaceport Research and Technology Institute. The aim of STRDI is to provide space-related research, technology development, and educational opportunities to broaden Florida's space economy.

This bill amends s. 331.3051, F.S., and creates s. 331.365, F.S.

## II. Present Situation:

### Space Florida's Mission

Space Florida is responsible for promoting the development of a sustainable aerospace industry, space infrastructure, and educational opportunities for people interested in working in the industry. Among the elements in the Space Florida's 2007 strategic plan are:

- Broadening Florida's presence in the space industry beyond launch activity to include the research and development (R&D), design, manufacturing, assembly, testing, launch, and servicing of space vehicles;
- Claiming a large share of the emerging global market for horizontal launches, including suborbital space tourism, transportation and cargo, and orbital payload delivery;
- Expanding and focusing use of the Space Life Sciences Laboratory;
- Establishing a Center of Excellence for Aerospace; and
- Providing focused funding support to the most relevant and worthwhile education programs.<sup>1</sup>

In 2001, Space Florida's predecessor agency, the Florida Space Authority, broke ground on what was originally called the Space Experiment Research and Processing Laboratory (SERPL), but which has since been renamed the Space Life Sciences Lab (SLS Lab). Now owned by Space Florida, the SLS Lab is a world-class laboratory with all the capability and systems necessary to host International Space Station experiment processing, as well as associated biological and life sciences research. The SLS Lab is valued at \$23.4 million, according to Space Florida's FY 06-07 Financial Statements, and collected \$1.26 million in rental fees.

### Florida's Centers of Excellence Program

In 2002, the Legislature passed the "Florida Technology Development Act"<sup>2</sup> that directed the State Board of Education to designate Centers of Excellence at state universities. The purpose of the centers is to stimulate university research and commercialization efforts in high-tech fields. In 2003, the State Board of Education designated three centers: the Center of Excellence in Biomedical and Marine Biotechnology at Florida Atlantic University; the Florida Photonics Center of Excellence at the University of Central Florida; and the Center of Excellence in Regenerative Health Biotechnology at the University of Florida. Each center received \$10 million from the state to fund its activities.

In 2006, the Legislature provided \$30 million for an expanded Centers of Excellence Program,<sup>3</sup> now designed to foster and promote the research required to develop commercially-promising, advanced, and innovative science and technology and to transfer those discoveries to commercial sectors. The law established the Florida Technology, Research, and Scholarship Board within the Board of Governors of the State University System to recommend to the Board of Governors methods for implementing and administering the Centers of Excellence Program. In November 2006, the Board of Governors disbursed the entire amount to five universities to advance various research projects:

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<sup>1</sup> Space Florida, "Strategic Business Plan," Version 2007-2, March 31, 2007, p. 13, readable at [http://www.spaceflorida.gov/docs/Strategic\\_Business\\_Plan-2007-2.pdf](http://www.spaceflorida.gov/docs/Strategic_Business_Plan-2007-2.pdf)

<sup>2</sup> Ch. 2002-265, L.O.F.

<sup>3</sup> Ch. 2006-58, L.O.F.; See also s. 1004.226, F.S.

- The Center of Excellence in Advanced Materials at Florida State University (\$4 million);
- The Florida Center of Excellence for Biomolecular Identification and Targeted Therapeutics at the University of South Florida (\$8 million);
- The Center of Excellence in Ocean Energy Technology at Florida Atlantic University (\$5 million);
- The FISE Energy Technology Incubator at the University of Florida (\$4.5 million);
- The Center of Excellence in Laser Technology at the University of Central Florida (\$4.5 million); and
- The Center for Nano-Bio Sensors at the University of Florida (\$4 million).

In 2007, the Legislature provided \$100 million for additional Centers of Excellence Programs.<sup>4</sup> The Florida Technology, Research, and Scholarship Board is scheduled to meet April 9-10 to select its list of new Centers of Excellence. The Board of Governors is meeting in May to formally select the new centers.

Among the proposals submitted are two related to space. A joint proposal by the Florida Institute of Technology, Embry-Riddle Aeronautical University, and Florida State University seeks \$18.6 million to create a “Joint Institute for Space Exploration Research.” According to the Board of Governors, out of a score from 1-10 on external review (with 10 being highest), the proposal received a 4.3 for scientific merit (tied with four other proposals for 33rd in that list) and a 7.3 for economic development potential (tied with two other proposals for 16th in that list).

A proposal by the University of Central Florida and the University of Florida seeks \$15 million in funding for a “Center for Advanced Space Technology.” According to the Board of Governors, out of a score from 1-10 on external review (with 10 being highest), the proposal received a 7.3 for scientific merit (tied with three other proposals for 12th in that list) and an 8.3 for economic development (tied with two other proposals for 5th in that list).

### **The Space Technology and Research Diversification Initiative (STRDI)**

The Space Technology and Research Diversification Initiative (STRDI) was developed to merge the focus of the two space-related initiatives proposed by multi-university teams into a single program.<sup>5</sup> STRDI would be a centrally coordinated university R&D program that would include four inter-related focus areas:

- Spaceflight Biomedical Countermeasures and Astrobiology;
- Spaceflight Engineering Technology, Policy and Experimentation;
- Spaceport and Range Technology Development and Commercialization; and
- Space and Upper Atmospheric Science.

### **III. Effect of Proposed Changes:**

The act is entitled the “Space Technology Research and Diversification Initiative (STRDI) Act.”

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<sup>4</sup> Section 154A of ch. 2007-72, L.O.F.

<sup>5</sup> Edward Ellegood, “SDRDI: A Multi-university Initiative to Diversify and Expand Florida’s Involvement in Space Research and Technology,” Embry-Riddle Aeronautical University.

The bill expands Space Florida's responsibilities for space and research development. Space Florida is directed to assist the development and operation of STRDI by:

- Providing advisory support for defining the focus and scope of multi-university projects;
- Providing access to the Cape Canaveral Spaceport and other facilities, including, but not limited to, the SLS Lab for research and program management; and
- Supporting grant funding for projects that support the state's objectives for space industry expansion and diversification.

The Space Technology and Research Diversification Initiative (STRDI) is established within the Office of Tourism, Trade and Economic Development (OTTED). The university-led initiative would develop high-impact space research and applied technology programs to advance the state's interests in space industry expansion and diversification.

STRDI's research would be performed by a consortium of universities, with a main campus located in Brevard, Volusia, or Orange County, although STRDI would be administered at the SLS Lab by the Joint Institute for Space Exploration Research (a petitioner for a 2008 Centers of Excellence) and the Spaceport Research and Technology Institute (a joint venture of ASRC Aerospace and the University of Central Florida).

STRDI would focus on the following areas:

- Spaceflight biomedical countermeasures to address problems with sustained human spaceflight and exploration, as well as for human commercial spaceflight;
- Research, technology, policy and engineering support for new government and commercial programs, and microgravity research;
- Spaceport and range technologies and commercialization, including earth, moon, and Mars spaceport technologies that are NASA priorities;
- Space and upper-atmosphere science research, including undergraduate-oriented micro-satellite and space instrument design; and
- The recruitment of out-of-state, world-class space researchers to Florida universities.

The STRDI partners are directed to use their best efforts to maximize matching investments from NASA, the Department of Defense, the space industry, and other organizations.

#### **IV. Constitutional Issues:**

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

**V. Fiscal Impact Statement:****A. Tax/Fee Issues:**

None.

**B. Private Sector Impact:**

If STRDI is funded and implemented, and proves successful in training students for aerospace careers or develops new technologies that can be commercialized, the space industry may financially benefit from having a skilled and talented workforce, as well as equipment and technologies that improve the safety and efficiency of space flight.

**C. Government Sector Impact:**

The bill would create a new program that would require funding to implement, as evidenced by the Centers of Excellence proposals submitted by the entities who would serve as STRDI's administrators. However, the bill does not provide an appropriation.

**VI. Technical Deficiencies:**

None.

**VII. Related Issues:**

None.

**VIII. Additional Information:****A. Committee Substitute – Statement of Substantial Changes:**  
(Summarizing differences between the Committee Substitute and the prior version of the bill.)**CS by Higher Education, April 8, 2008:**

The committee substitute does not define STRDI as a collaboration between the Joint Institute for Space Exploration Research and the Spaceport Research and Technology Institute but requires those two entities to administer STRDI.

**B. Amendments:**

None.