

# SENATE STAFF ANALYSIS AND ECONOMIC IMPACT STATEMENT

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

BILL: SB 2278

SPONSOR: Senator Diaz de la Portilla

SUBJECT: Technology Transfer

DATE: March 4, 2002      REVISED: \_\_\_\_\_

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Bimholz</u>	<u>Maclure</u>	<u>CM</u>	<u>Favorable</u>
2.	<u>White</u>	<u>O'Farrell</u>	<u>ED</u>	<u>Favorable</u>
3.	_____	_____	<u>AED</u>	_____
4.	_____	_____	<u>AP</u>	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

## I. Summary:

Senate Bill 2278 results from Interim Project Report 2002-123, *Technology Transfer and Commercialization*, by the Senate Committee on Commerce and Economic Opportunities.<sup>1</sup> The bill directs the State Board of Education to:

- Establish a process to bring together in regular meetings those involved in efforts to improve technology-transfer -- university officials, industry professionals, state economic development officials, and others.
- Consult with certain organizations that work with the academic or business communities on issues related to technology transfer and commercialization.
- Submit annual progress reports to the Governor and the Legislature.

This bill creates the following section of the Florida Statutes: 288.9525.

The bill takes effect upon becoming a law.

## II. Present Situation:

### Definition

“Technology transfer” is a complex way to commercialize technology. When an entity develops a new technology but is not willing or able to bring it to market, the raw technology is transferred to another entity to make a marketable product or service out of it, and to market the product or service. The technology donor may be a university, a business, or the federal government, and the recipient is usually a business.

<sup>1</sup> Senate Committee on Commerce and Economic Opportunities, *Technology Transfer and Commercialization*, Interim Project Report 2002-123, November 2001.

Technology transfer between a university and a business can occur in many different ways. The Council on Governmental Relations describes six major models of technology transfer:

- **Sponsored Research:** Typically, a corporation provides funding for a specified statement of work for a limited period of time.
- **Collaborative Research:** Collaborative research, especially when partially funded by government, enables participants to leverage limited resources in the achievement of mutually beneficial research objectives.
- **Consortia:** In a university-based research consortium, participating companies join forces and contribute resources, often in the form of an annual fee, to support research in a technical area of common interest.
- **Technology Licensing:** Consideration for a university license agreement is offered by a licensee to obtain commercialization rights in intellectual property owned by a university.
- **Start-up Companies:** New companies are established to commercialize a university technology, rights to which are obtained through a license agreement.
- **Exchange of Research Materials:** Material transfer agreements generally stipulate that the materials are provided for research purposes only and not for commercialization.<sup>2</sup>

A more informal type of technology transfer occurs whenever a business uses university faculty as consultants or hires university students.<sup>3</sup>

## **Benefits of Technology Transfer**

### *Economic Benefits*

The licensing of innovations by universities and other research entities added more than \$40 billion to the U.S. economy and supported 270,000 jobs in 1999.<sup>4</sup> Research indicates that “university-industry technology transfer can be a stimulant, precursor, or complement to building a high-skills, high-wage state economy.”<sup>5</sup>

### *Corporate Benefits*

Corporate benefits include:

- Access to expertise not available in a company’s own laboratory
- Renewal and expansion of a company’s technological inventory
- Access to students as potential employees
- Expansion of external contacts for the industrial laboratory
- Expansion of research with universities and with other companies before it becomes competitive
- Leverage of research capabilities within the company

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<sup>2</sup> Council on Governmental Relations, *A Review of University Industry Research Relationships*, at <http://www.cogr.edu/univ.htm>, 1996 (last visited October 9, 2001).

<sup>3</sup> Business-Higher Education Forum, *Working Together, Creating Knowledge: The University-Industry Research Collaboration Initiative*, 2001, p. 21.

<sup>4</sup> Association of University Technology Managers, Inc., *Surveys – Common Questions & Answers About Technology Transfer*, at <http://www.autm.net/pubs/survey/qa.html>, November 13, 2000 (last visited September 23, 2001).

<sup>5</sup> Louis G. Tornatzky, Ph.D., *Building State Economies by Promoting University-Industry Technology Transfer* (Washington, D.C.: National Governors Association, 2000), p.7.

### *University Benefits*

Through technology-transfer, universities:

- Obtain financial support for education and research
- Broaden the experience of students and faculty
- Identify significant, interesting, and relevant problems
- Enhance regional economic development
- Increase employment opportunities for students<sup>6</sup>

Technology may be licensed either to in-state or out-of-state businesses, but that model is less valuable than mechanisms that stem from close collaboration among the university and industries or from the spin-off of local start-up companies generated by the university. Many state governments recognize that these close collaborations tend to attract firms from other states that have an orientation to research and development: “University-industry collaborations can play a central role in economic development efforts.”<sup>7</sup>

### **Existing Statutory and Regulatory Framework**

A number of statutes, regulations, and policies govern technology-transfer activities:

- Public universities in the state may create divisions of sponsored research to administer and promote research programs (s. 240.241, F.S.). Seven state universities have established such divisions.<sup>8</sup>
- Many state universities have established technology-licensing or technology-transfer offices or units to bring university inventions into the marketplace.
- Each university may secure letters of patent, copyrights, and trademarks on any work products (s. 240.229, F.S.).

Florida’s Code of Ethics for Public Officers and Employees (part III, ch. 112, F.S.) can also assist university inventors and the private sector to forge relationships. The code allows an exception to conflict-of-interest prohibitions against university employees’ accepting employment or contracts with firms doing business with the university, if the transaction emanates from the university’s technology-transfer and sponsored-research activities. (See s. 112.313(7)(a), F.S.)

Administrative rules for university employees<sup>9</sup> also govern technology transfer. Together the collective bargaining agreement with the United Faculty of Florida and a university’s rules and policies establish the day-to-day procedures and standards for technology transfer.

### **Related Entities**

*State Board of Education:* The Florida Board of Education oversees the entire K-20 educational system.

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<sup>6</sup> Industrial Research Institute, *A Report on Enhancing Industry-University Cooperative Research Agreements* (Washington, D.C., 1995), p. 1, as cited by the Business-Higher Education Forum, p. 22.

<sup>7</sup> Business-Higher Education Forum, *supra* note 3, at 22-23.

<sup>8</sup> Auditor General, *Assignment by Universities of Intellectual Property and Related Income to University Research Foundations*, Report No. 01-144, May 2001, p. 1.

<sup>9</sup> Under rule 6C-5.945, F.A.C., for example, the Board of Regents prescribed employee ethical obligations, including prohibiting employees from engaging in business transactions in substantial conflict with the performance of their duties.

*Governor's Office of Tourism, Trade, and Economic Development (OTTED):*<sup>10</sup> OTTED works with policy makers and other professionals to formulate and implement coherent and consistent policies and strategies that provide economic opportunities (s. 14.2015, F.S.). Through its monitoring activities, OTTED is also responsible for avoiding duplication and promoting coordinated and consistent implementation of economic development programs.

*Enterprise Florida, Inc.:* Enterprise Florida, Inc., is a partnership between Florida's government and business leaders and is the principal economic development organization for the state (s. 288.901, F.S.).<sup>11</sup> In s. 288.9515(5), F.S., Enterprise Florida is authorized to create "technology commercialization programs in partnership with private enterprises, educational institutions, and other institutions to increase the rate at which technologies with potential commercial application are moved from university, public, and industry laboratories into the marketplace."<sup>12</sup> Enterprise Florida has established the Florida TEC Leadership Council, an appointed group of Florida business leaders which advises the Enterprise Florida Board of Directors on how to improve the state's technology infrastructure (including workforce, education, research, and capital).

*Florida Research Consortium:*<sup>13</sup> A recently created advisory board to ITFlorida.com, Inc., this consortium is composed of volunteer university heads and industry leaders whose goal is to establish progressive research programs at Florida's universities.<sup>14</sup> These programs are to focus on attracting leading scholars and researchers in technology-based disciplines to Florida's universities. Among the responsibilities is to assist technology-transfer offices at member universities and promote various types of collaboration between academia and industry.

*InternetCoast Research Consortium:*<sup>15</sup> The consortium, an InternetCoast committee, was formed in April 2001 to improve collaboration of information technology and telecommunications research among universities and colleges located in Broward, Palm Beach, and Miami-Dade counties.<sup>16</sup> The consortium is to create a structure for collaboration of research and educational activities among InternetCoast universities, colleges, and other entities to:

<sup>10</sup> Senate Committee on Commerce and Economic Opportunities, *International Business Promotion*, Interim Project Report 2002-124, October 2001, p. 3.

<sup>11</sup> See Office of Program Policy Analysis and Government Accountability, "Profile No. 6097," *Florida Government Accountability Report*, at <http://www.oppaga.state.fl.us/profiles/6097/>, February 6, 2002 (last visited March 2, 2002).

<sup>12</sup> Section 14, ch. 93-187, L.O.F., provides that this section is "repealed December 31, 2003, and shall be reviewed by the Legislature prior to that date. The review must be in accordance with criteria set forth in law."

<sup>13</sup> ITFlorida.com, Inc., *Florida Research Consortium*, at <http://www.itflorida.com/tech/consortium.asp> (last visited March 2, 2002).

<sup>14</sup> The Legislature created the Information Service Development Technology Taskforce in June 1999 to focus on the development of state policies that would enable Florida to compete successfully in the information age. The taskforce was dissolved in July 2001. ITFlorida.com, Inc., an outgrowth of the taskforce, is an umbrella, not-for-profit organization that represents Florida's diverse technology community on a statewide basis. ITFlorida.com, Inc., promotes the common interests of its members by doing the following: advocating on behalf of its members and formulating policy recommendations to federal, state, and local government; serving as a clearinghouse for technology-related information; and sponsoring statewide conferences, symposia, and other events focused on issues important to its members and the state. See ITFlorida.com, Inc., *About*, at <http://www.itflorida.com/browse/about.asp> (last visited March 2, 2002).

<sup>15</sup> Leslie J. Croland, Esq., *InternetCoast Research Consortium Committee*, presentation to the InternetCoast, October 5, 2001.

<sup>16</sup> The InternetCoast is a grassroots organization of businesses, organizations, and educational facilities operating in Southeast

- (1) Identify and encourage innovations in core technologies (*e.g.*, information technology, telecommunications, and related disciplines);
- (2) Obtain funding for research and educational activities from a variety of sources;
- (3) Assist in the transfer of technology developed by the InternetCoast educational institutions to the private sector; and
- (4) Create linkages between these activities and appropriate workforce creation initiatives.

*Florida High Tech Corridor Council, Inc.*<sup>17</sup>: This corporation is to work with the University of South Florida, the University of Central Florida, local economic development organizations, local community colleges, and industry leaders to enhance the regional attraction, retention, and growth of high-technology companies.

*Technological Research and Development Authority*:<sup>18</sup> This authority is an organization that allies with NASA, the aerospace industry, and various state entities (*e.g.*, the Department of Education, the Department of Community Affairs, Enterprise Florida) to assist in the transfer of technology to state businesses and educational institutions (ch. 87-455, L.O.F.). The authority also sponsors programs that enhance education, space research, and economic development within the state.

*Florida Space Research Institute*:<sup>19</sup> The institute is a public-private partnership that promotes collaboration among the state's academic institutions, industry, and federal agencies to support statewide space-related education, training, research, and technology development (s. 331.368, F.S.).

### III. Effect of Proposed Changes:

The legislation under consideration creates s. 288.9525, F.S., to address the findings and recommendations of Interim Project Report 2002-123, *Technology Transfer and Commercialization*, by the Senate Committee on Commerce and Economic Opportunities.

The bill directs the State Board of Education to bring about the regular meeting of university officials, industry professionals, state economic development officials, and others involved in technology-transfer efforts. The meetings are to:

- Discuss state technology-transfer issues
- Develop solutions to state technology-transfer problems
- Create mechanisms by which informal university-industry interaction can be increased
- Improve collaboration about technology transfer between universities located in smaller metropolitan areas and those located in larger metropolitan areas.

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Florida. Its five major initiatives are creating awareness of the InternetCoast through branding, increasing the number of knowledge-based workers in South Florida, increasing the number of venture capital companies located in South Florida, increasing the bandwidth in South Florida, and mending the gap created by the digital divide. *See* InternetCoast, *About the InternetCoast*, at [http://www.internetcoast.com/gendocs\\_display.php?id=3](http://www.internetcoast.com/gendocs_display.php?id=3) (last visited December 2, 2001).

<sup>17</sup> Randy Berridge, President, Florida High Tech Corridor Council, Inc., in a letter to the Senate Committee on Commerce and Economic Opportunities, August 16, 2001.

<sup>18</sup> Technological Research and Development Authority, in materials sent to the Senate Committee on Commerce and Economic Opportunities, August 24, 2001.

<sup>19</sup> *See* <http://www.fsri.org/home.html> (last visited December 2, 2001).

While establishing this process, the board must consult with:

- The Office of Tourism, Trade, and Economic Development
- Enterprise Florida, Inc.
- The Florida Research Consortium
- The InternetCoast Research Consortium
- Florida High Tech Corridor Council, Inc.
- The Technological Research and Development Authority
- The Florida Space Research Institute
- Other organizations or individuals that work with the academic or business communities on issues related to technology transfer and commercialization.

The bill requires the board to submit an annual progress report including:

- Specific descriptions of the board's activities
- Descriptions of barriers to technology transfer
- Summaries of how to bring about informal collaboration between universities located in smaller metropolitan areas in the state and those located in the state's larger metropolitan areas
- Specific recommendations to the Legislature regarding proposed statutory or budgetary changes

This act takes effect upon becoming a law.

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

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

#### **V. Economic Impact and Fiscal Note:**

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

To the extent the provisions of this bill increase the amount of technology transfer occurring in the state, businesses and individuals might benefit. University-industry partnerships increase the speed and frequency with which new discoveries move from the

laboratory to the market and “can be a stimulant, precursor, or complement to building a high-skills, high-wage state economy.”<sup>20</sup>

### C. Government Sector Impact:

Technology transfer can be a source of revenue for universities.<sup>21</sup> To the extent the provisions of this bill increase the amount of technology transfer occurring in the state, universities might benefit.

The State Board of Education estimates that it will cost approximately \$35,000 annually to administer the bill’s requirements.<sup>22</sup> The cost estimate is based on the following:

Air travel:	\$225 x 18 (participants) x 6 (meetings per year)	= \$24,300
Lodging:	\$75 x 18 (participants) x 6 (meetings per year)	= \$ 8,100
<u>Incidental:</u>		= <u>\$ 2,600</u>
Total		\$35,000

### VI. Technical Deficiencies:

None.

### VII. Related Issues:

#### Findings and Recommendations from the Interim Report

This bill has been developed out of recommendations from Interim Project Report 2002-123 by the Senate Committee on Commerce and Economic Opportunities.<sup>23</sup> The report finds that:<sup>24</sup>

- With three exceptions, Florida universities perform less technology transfer than many of their peer universities. The exceptions are the University of Florida’s patent generation, the University of South Florida’s company establishment, and the University of Florida’s and Florida State University’s license-income levels. Most of FSU’s and UF’s license revenues are derived from only three products.
- Industry professionals in Florida do not have consensus about a number of important technology-transfer issues, but they generally agree that the issues revolve around certain broad subjects.
- One barrier to technology-transfer activity is that two of the state’s major research universities are in small cities rather than in large metropolitan areas.
- Both the industry and the university must find the means of resolving issues agreeable.

<sup>20</sup> Association of University Technology Managers, Inc., *supra* note 5; Tornatzky, *supra* note 4, at 7.

<sup>21</sup> Senate Committee on Commerce and Economic Opportunities, *Technology Transfer and Commercialization*, *supra* note 1, at 2 and 5.

<sup>22</sup> Florida Board of Education, *Fiscal Analysis, SB 2278*, February 27, 2002.

<sup>23</sup> Senate Committee on Commerce and Economic Opportunities, *Technology Transfer and Commercialization*, Interim Project Report 2002-123, November 2001.

<sup>24</sup> *Id.*, pp. 4-8.

- University officials, industry professionals, and state economic development officials should meet regularly to resolve technology-transfer issues and lay the groundwork for informal interaction among technology-transfer players.

**VIII. Amendments:**

None.

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This Senate staff analysis does not reflect the intent or official position of the bill's sponsor or the Florida Senate.

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