

Office of Commercialization and Industrial Relations (OCIR) Annual Report for FY 2014



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Introduction

Technology Commercialization is a vital component of economic development efforts as it takes innovation from the mind or laboratory to the marketplace. New technologies conceived at universities, laboratories, and in the R&D divisions of the private sector produce a knowledge-based economy. However, to have true social and economic impact, additional value must be created. Commercialization is the process that infuses innovation with successful business implementation and adds jobs and revenue to the tax base.

Texas State University's commercialization and industrial activities are coordinated by the Office of Commercialization and Industrial Relations (OCIR) within the Office of the Chief Research Officer (CRO). The mission of the OCIR is to enhance and promote Texas State's applied research and development activities, assist in the capture of research and development funding, enhance the entrepreneurial platform of the university, and provide resources for the support and enhancement of education with relevance.

Fiscal year 2014 marked the fourth year of the OCIR operations. The processes for industrial contracts, invention disclosures, and filing patents are well established, and the OCIR's overarching objectives are being met. This annual report provides an overview of OCIR's role and its accomplishments. It covers two distinct activities: Industry Activities and Intellectual Property Management and Commercialization.

Industrial Activity

This past year, contacts were made and meetings were arranged with Texas State researchers and industrial partners for possible collaborations. Faculty and Staff were provided current Texas State policies and procedures for working with industries.

Contracts

- University Industry Partnership Agreements were used to combine the resources and talents of the University with industrial partners to establish long-term research, development, and commercialization partnerships.
- The OCIR reviewed and negotiated the terms and conditions for industry related agreements such as Nondisclosures, Sponsor Research Agreements, University Industry Partnerships, and Service or Testing Agreements.
- The OCIR worked closely with the Office of Sponsored Programs and the TSUS legal office to ensure that the terms of research contracts supported the university's mission.
- The OCIR worked closely with the Office of Research Compliance to ensure compliance with all Federal and State laws and University policies.

During fiscal year 2014, Texas State collaborations with private industry increased. The results of industry activities include:

- 14 Sponsored Research Agreements;
- 8 University Industry Partnerships;
- 4 Service or Testing Agreements; and
- 21 Nondisclosure Agreements.

Intellectual Property (IP) Management and Commercialization

Technology Transfer Activity

- The OCIR contacted, discussed, encouraged, and assisted Texas State researchers in submitting invention disclosure forms which, upon recommendation of the IP Committee, could be filed quickly as provisional patents to initiate early IP protection.
- The OCIR contacted, negotiated, and signed agreement(s) with outside entities for market analysis and patentability of the submitted invention disclosures.
- The OCIR facilitated several meetings with faculty and TreMonti Consulting, LLC to provide basic information about the process of commercialization.
- The OCIR coordinated with the inventors, outside entities, and the IP Committee to determine filing decisions for patent applications. The inventor was informed of all actions related to their disclosure.
- The OCIR contacted and negotiated with outside counsel to file patent applications and resolve litigations between faculty and industrial partners.
- The OCIR contacted companies and presented Texas State's available technologies as appropriate.

Invention Reporting

Texas State is a Rising Star on the entrepreneurial and commercialization horizon in Central Texas. As an incentive to help increase the entrepreneurial and commercialization efforts at Texas State, the OCIR announced a stipend of \$250 to a lead inventor who submits an Invention Disclosure Form in the period January 2014 through August 2014, and has their invention disclosure recommended by the Intellectual Property (IP) Committee for filing a patent application. During fiscal year 2014, 15 inventions were disclosed by faculty and researchers, an increase of 114% over the number of invention disclosures received in FY 2010 (Table 1). The results of commercialization activities since inception in May 2010 include:

- 59 Invention Disclosures received.
- 29 Provisional Patents filed.
- 14 full Patent Applications filed.

Year-end Statistics With Comparison to Prior Years (Table 1)

Metric	FY10	FY11	FY12	FY13	FY14
Invention Disclosures	7	12	12	13	15
Provisional Applications Filed	2	7	5	5	7
Patents Applications Filed	1	1	3	2	7

Licensing and Related Activity

Texas State's licensing process is designed to achieve two goals: (1) bring additional "margin of excellence" research funding to Texas State and (2) put the inventions of Texas State's faculty to work for the maximum benefit of society. Texas State's process makes licensing easy, convenient, and straightforward. Texas State will work with the licensee to custom tailor an agreement to meet their specific needs.

A license agreement gives the licensee the ability to use Texas State's IP rights for a technology in order to develop that technology for commercialization. Texas State license agreements typically include the following elements:

License Fee
Patent Cost Reimbursement
Development Period
Royalties

During the fiscal year 2014, Texas State entered into two new exclusive licensing agreements with SioTeX Corporation and Applied Epitaxial Materials, Inc.

Startup Company Formation

During fiscal year 2014 two companies, SioTeX Corporation (SioTeX) and Applied Epitaxial Materials, Inc., were formed. SioTeX is a student start-up company. It is a specialty chemical and performance materials manufacturer of a drop-in replacement for fumed silica called Eco-Sil. The production cost of Eco-Sil is 70% lower than that of conventionally produced fumed silica. Eco-Sil is a performance enhancement additive for many products. In the paint industry, it plays an important role as a strengthener, viscosity modifier, and pigment extender. Eco-Sil will also be used to improve the properties of tires and plastics. It has been repeatedly produced at the laboratory scale. Eco-Sil complies with the international industrial standard ISO 3262-20 for use of fumed silica in paints. A detailed manufacturing scalability analysis confirms that the laboratory process can be easily scaled to meet SioTeX production demands.

Applied Epitaxial Materials, Inc, (AEMI) was started by a faculty member, Dr. Edwin Piner. The goal of AEMI is to be the worldwide leader in III-Nitride epitaxy solutions for power, RF, and LED applications. Its mission is to provide these industries with solutions to application-specific epitaxial challenges through focused development of production worthy epi-wafers. Commercial industries will be serviced by AEM, Inc. through both focused prototype co-development and broad based cross licensing of technology.

Support of Research Initiative

The OCIR/Formosa Plastics Professorship (Formosa Professorship) was established to recognize a tenured faculty member's scholarly contributions at Texas State toward multidisciplinary scientific and technological solutions of industrial and environmental problems. Per the MOU establishing the Formosa Professorship, candidates may be from a variety of backgrounds including Biology, Chemistry and Biochemistry, Economics, Engineering Technology, Finance, Geography, Physics, the Materials Science, Engineering and Commercialization Program, and the School of Engineering as well as certain university centers, programs, and schools at Texas State.

The Formosa Plastics Corporation Faculty Fellowship provides a yearly research stipend of \$12,000 that can be used to cover teaching expenditures (course release with prior approval of the department chair), research expenditures, or to supplement salary.

Economic and Entrepreneurial Outreach

Entrepreneurship Working Group

The level of student and faculty activity, classified as entrepreneurial in nature, has increased significantly at Texas State. All indications are that this activity will continue and increase in the coming years. In addition, financial support for entrepreneurial (innovation) activity is increasing from state, federal, and private sources.

With this in mind, Texas State established an Entrepreneurial Working Group (EWG) to address the following areas:

1. Compilation of programs currently underway focused on either commercialization and/or entrepreneurship.
2. Compilation of initiatives and/or programs being actively considered.
3. Identification of new opportunities, especially as related to obtaining outside funding.
4. Compilation and review of existing policies impacting new initiatives, an example being crowdfunding.
5. Recommendations for processes and strategies to support an innovation environment.
6. Others areas as needed.

Membership of the working group consists of one member from each college including the Graduate College and other individuals including Directors, Entrepreneur in Residence, etc.

3 Day Startup

The Center for Entrepreneurial Action in the McCoy College of Business Administration hosted a 3 Day Startup program in fall of 2013. This program is open to all Texas State University students at no charge and is intended to complement their studies. 3 Day Startup teaches entrepreneurial skills to the students in an intense hands-on environment. This proven program provides them the tools needed to start successful companies. Participants of this program gain experience in cross-disciplinary collaboration, brainstorming and ideation, group productivity, ad-hoc leadership, and decision-making under time constraints that stimulate creativity and innovation.

Development of Unique Incubator Facility



Texas State's 58 acre Science, Technology and Advanced Research (STAR) Park was established in 2011. The first building was financed through a three-way partnership with the City of San Marcos, Texas State University, and a \$1.85M award from the U.S. Economic Development Administration (EDA). STAR One, completed in November 2012, is a 20,000 sq. ft. unique facility designed to meet the need for wet labs in Central Texas. It also serves as an incubator and accelerator for Texas State University spin-outs as well as spin-ins from outside

Texas State. Currently, five firms are located in the building as well as the new Advanced Polymers and Nanomaterials Lab, the offices of the Small Business Development Center, the Office Commercialization and Industrial Relations, and STAR Park management.

The OCIR and STAR Park work closely in the following areas of commercialization activities:

- Encourage technology commercialization from public investment in research.
- Stimulate the formation of new technology or innovation focused businesses in the State.
- Stimulate economic development and competitiveness in San Marcos, Hays, and Caldwell Counties, and the State of Texas, through collaborations with regional and state entities.
- Establish Texas State and the State of Texas as recognized centers for technology commercialization and innovation.

Due to the OCIR and STAR Park overlapping activities relative to commercialization, the directors and AVPR meet weekly to discuss the delineation of responsibilities and to coordinate the commercialization efforts. In addition to our organizational discussions, a number of steps have been taken to ensure strong operational communications. The Executive Director of STAR Park was added to the Intellectual Property Committee for the OCIR and Director, Commercialization Services serves as a member of the STAR Park Commercialization Advisory Council (CAC).

Student Entrepreneurship

In collaboration with the McCoy College of Business Administration and the college of Science and Engineering, doctoral students from the Materials Science, Engineering, and Commercialization (MSEC) program have the opportunity to compete for startup office and laboratory space in STAR One. Student-led teams selected through an internal business plan completion are given access to MBA students and specialized space where they can explore new products and processes with the potential of creating new enterprises.

Other Initiatives

STAR Park, the OCIR and MSEC program hosted a meeting of the Semiconductor Equipment and Materials International (SEMI) Texas Chapter on February 15, 2013. A total of 22 firms attended the event. The outcome has been a request from SEMI that we develop a more formal relationship with the Texas Chapter, which will result in at least one event per year at the Texas State campus. The Executive Committee of SEMI Texas now plans on holding one meeting per year at Texas State. The committee met at Texas State on August 15, 2014 with 8 companies attending.

STAR Park Forum

Texas State University and the Greater San Marcos Partnership arranged a half day forum to explore Texas State University's STAR Park. It was held on September 5, 2013 with 200 area business, governmental and academic leaders attending. The second annual Innovation Summit is scheduled for November 5, 2014.