Texas Higher Education coordinating Board

Major Policy Discussion: Research, Development, and Innovation

Commissioner Harrison Keller, Ph.D. October 26, 2023







Texas University Classifications: Institutions with research expenditures





Texas is ranked 3rd in academic R&D expenditures in the U.S.



But Texas R&D expenditures are not keeping up with economic growth



Texas Higher Education coordinating board

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Tech Innovation & Commercialization Plan

TIP Strategies: Jon Roberts, John Karras, Katrina Parkey Major Policy Discussion October 26, 2023

The Competition is Fierce for Innovation & R&D











A company is considered an associated startup company if it was formed dependent on licensing the institution's technology.









Benchmarking Data Preview: 5 Takeaways



Business supplied just 7% (\$463M) of 2020 R&D funding for Texas higher education institutions. Over half (54%) came from federal, state, and local government.¹



Life sciences (60% of R&D funding) and **engineering** (16%) make up the top two fields of study for 2020 R&D funding at Texas higher education institutions.¹



Since 2018, **10%** of equity venture funding investments in Texas originated from **in-state investors.** Nearly three fourths (73%) originated from within the US but outside of Texas, and the remaining 17% originated internationally.²



In 2020, Texas ranked 4th in number of disclosures received, but **30th in number of disclosures** received per \$1M academic R&D performed.³

National Science Foundation, National Center for Science and Engineering Statics, Higher Education Research and Development Survey 2020; TIP Strategies, Inc.

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Over the last 10 years, the **Department of Defense awarded over 48% of the total SBIR & STTR funding** (\$601M out of \$1,243M) going to Texas companies.⁴

> Crunchbase; TIP Strategies, Inc; Data for 2023 are YTD as of April II. AUTM Statistics Access for Technology Transfer Database (STATT); TIP Strategies, Inc. US Small Business Administration; TIP Strategies, Inc.

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3. 4.



Stakeholder Engagement: Themes			
UNIQUE APPROACHES TO TECH TRANSFER	There is no regulatory roadblock from state policy–each tech transfer office values flexibility and steers away from standardization.		
START WITH THE PROBLEM	Instead of trying to fit IP into a market, we need to increase the "market pull" of IP out of universities.		
VALIDATE COMMERCIAL NEED	Additional resources are needed to technically and commercially validate IP.		
ADDRESS BUSINESS TALENT SHORTAGE	We lack the Texas business talent and serial entrepreneurs to form and run startups dependent on university IP.		
CONNECT TO ECONOMIC DEVELOPMENT	We have an opportunity to connect this work to the state's target industries to make our university IP "sticky."		





1. Translating Research into Economic Benefit

The **technology transfer process** translates research discoveries and inventions into commercialized products in the marketplace, generating economic value for the state's economy and benefits to all Texans.

These recommendations will work to **remove frictions between idea and market entry.**

For example:

- Diversify R&D funding streams
- Provide proof of concept funding
- Pool external support from experts (e.g., review group of IP lawyers, accountants, industry leaders)



Note: Graphic adapted from MIT's Technology Licensing Office



3. Addressing Foundational Supports

These recommendations will address the broader components of successful regional innovation.

For example:

- Support and prepare students for STEM careers
- Train for middle skill credentials of value connected to the state's target industries
- Retain Texas STEM graduates and research doctorates within the state
- Collaborate on statewide efforts to enhance and expand broadband





Roles for Implementation

STATE-LEVEL

- How can THECB assist higher education institutions with a continuum of supports for technology development and commercialization?
- How will this shape legislative priorities for 2025?



INSTITUTIONS

How can higher education institutions strengthen their connections to their regional innovation ecosystems?



LOCAL INNOVATION PARTNERS

How can ecosystem partners improve collaboration with their higher education institutions to move research from labs into the marketplace?

Deliverables				
	Decemb	February 2024		
Benchmarking & Investment Data	Report	Data Dashboard	Technical Appendix	
 Delivered an interactive <u>data</u> visualization with benchmarking and risk capital data 	 Will publicly release at Higher EDge (similar to the look of Building a Talent Strong Texas) 	 Will include additional <u>indicators</u> beyond R&D funding and research doctorates 	 Release February 2024 with chapters on Texas's competitive position, best 	
	practice case studies, and more			
			 Will facilitate webinar for higher education institutions 	

