

Responding to the NACIE Challenge

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The University of Toledo

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The UT Goal: Helping a Rust-Belt Region Transform and Prosper

- Mid-Size University (#166 in NSF rankings)
 - Toledo in distress and searching for solutions (compare to Boston, Washington DC, Bay Region)
 - UT only local university in Toledo
 - Community Leaders looking for ways to alter the development trajectory
 - UT Provides:
 - Leadership to region in planning for the future
 - Serves as convener and connector to national and state programs
 - Supports regional development efforts to attract and retain industry
 - Helps build human capital
 - Addresses challenges facing community life (e.g., human trafficking)
 - Attracts external research funding to community
 - Works with local industry on collaborative research and student placement
 - Licenses technology to local industry
 - Produces university spinoff companies
 - Supports local entrepreneurship through incubation efforts
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The University of Toledo--Profile

- Founded in 1872
- 21,000 students
 - 16,876 undergraduate students
 - 4,624 graduate students
- 5,990 employees
- 1,193 faculty members
- 1,341 International Students—major countries China, India, Saudi Arabia
- Almost \$50 million in research
- 125 patents
- Endowment of \$250 million
- Academic Programs
 - 230 Undergraduate Programs
 - 175 Master's Programs
 - 63 Doctoral Programs
- President- Lloyd A. Jacobs, M.D.



UT's Efforts To Promote Regional Economic Development

- 2000--Reorganized Office of Research and developed plan to build selected areas of research focus:
 - Solar energy
 - Environmental sciences
 - GIS/Remote Sensing
 - Astrophysics
 - Biomedical
 - STEM education
 - 2001--Developed Technology Transfer Office
 - 2004--Took leadership for NW Ohio Solar and Greenhouse Industry clusters
 - 2005--Established the Clean and Alternative Energy Incubator and the UT Incubation Program
 - 2010--brought the research office, technology transfer office and business support programs under one roof at the incubator (easy access to public and free parking)
 - 2010--Established UTIE with \$10 Million in seed funding
 - 2011--formalized “Lab to Launch Process”
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State of Ohio Promotion of Faculty Entrepreneurship

- 2000--Ohio Senate Bill 286
 - Ohio Third Frontier Project
 - Shifting focus toward short-term commercialization
 - More programs directed toward entrepreneurship and Ohio for-profit companies
 - Ohio Board of Regents
 - Less funding to support basic research
 - More attention focused on technology transfer and commercialization
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UT Spinoff Companies from (2000-2012)

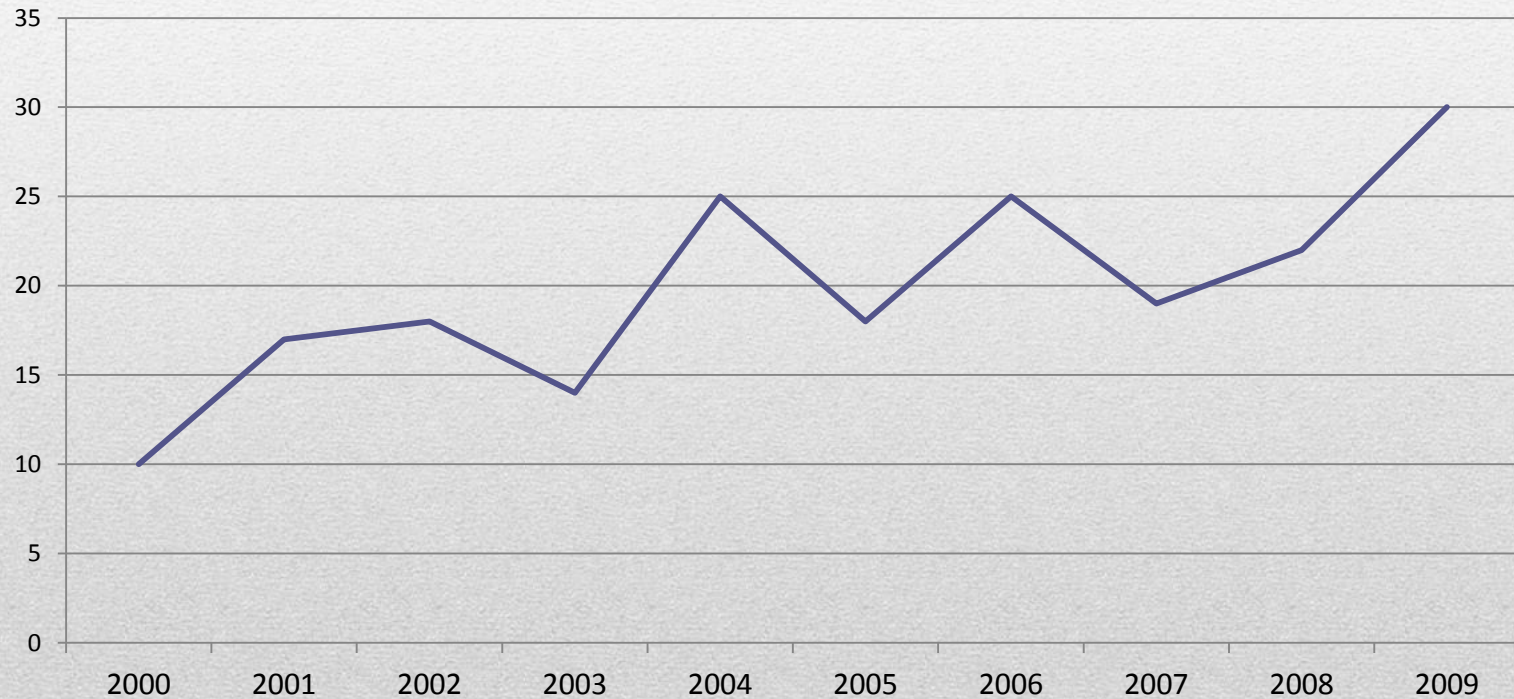
Name	Start Year	Technology	Faculty Discipline	Still in Business?
Gene Express	1998	DNA technology	Medicine	Yes
Schneider & Morse	2001	educational tools	Medicine	Yes
Mithridion	2002	Neurological Compounds	Pharmacy	Yes
Innovative thin Films	2004	Solar panel coatings	Chemistry	No
Hi-Genomics	2004	Plant Biotechnology	Biology	No
The Turning Point	2005	Exercise Devices	Engineering	Yes
Freedom Meditech	2006	Non-invasive glucose monitoring	Engineering	Yes
Spinal Designs	2006	Products & Services for orthopedic surgeons	Medicine	Yes
Xunlight Corporation	2006	Thin film PV	Physics	Yes
SuGanit Systems	2007	Biomass Energy	Engineering	Yes
Xunlight 26	2008	Thin film PM	Physics	Yes
ADS Biotechnology	2008	Blood volume expander	Medicine	Yes
Esclapeus Biopharmaceuticals	2008	Small molecule intervention for obesity	Medicine	No
Innovative Water Technology	2008	Flash evaporation spray technology	Chemistry	No
Green Energy Systems by Total Compliance	2009	Methods to clean combustion streams	Engineering	No
Acense LLC	2009	Electrical Equipment Sensors	Engineering	Yes
Gamma Spine	2010	Spinal replacement devices	Engineering	Yes
NuMe Health	2010	Special Medical foods	Pharmacy	Yes
Excellent Energy Solutions	2011	Flywheel technology	Engineering	Yes
AccuGenomics	2011	Gene Expression Tests	Medicine	Yes
Osseocap, LLC	2011	CaP based bone cement	Engineering	Yes
IriSense, LLC	2011	noninvasive measurement of glucose	Engineering	Yes
Imhoteq Biotechnology	2012	Portable biosensor systems	Medicine	Yes
Digital Therapeutics	2012	Development of treatments for orphan diseases	Medicine	Yes
PMT Vascular, LLC	2012	Percutaneous mechanical thrombectomy device	Engineering	Yes
APTECHLABS, LLC	2012	Development of a glycosylated albumin diagnostic monitor for use in diabetes	Engineering	Yes
NaK-ATPase Technologies, LLC	2012	Diagnostics and Treatments for therapeutic targets	Medicine	Yes

Spinoff Companies from Ohio Universities Compared to Total Institutional R&D Expenditures

University	R&D Expenditures (2000-2010)	Total Number of Spinoff Companies (2000-2010)	\$ R&D Expenditures/Total Spinoff Companies (\$1,000s)
University of Akron	479,646	27	17,764
Kent State University	214,084	9	23,787
University of Toledo	506,038	17	29,766
Bowling Green State University	84,201	2	42,100
Ohio University	352,566	5	70,513
University of Cincinnati	1,692,945	21	80,616
University of Dayton	648,955	7	92,708
Case Western University	3,115,189	31	100,489
Ohio State University	5,920,825	58	102,083
Wright State University	447,154	1	447,154

Source: NSF and AUTM

Number of University Spinoff Companies in Ohio, 2000-2009



Source: AUTM, 2012

Some Questions Relating to the University's Role in Promoting Economic Development in a Lagging Region?

- Is developing faculty spinoff companies the best use of faculty members' time with respect to promoting regional development?
 - Is faculty member spinoff company development likely to make a difference to a regional economy compared to other alternatives?
 - Does business development activities of faculty members enhance or detract from their research programs?
 - How does business development efforts effect the norms of open science?
 - Do we have good metrics on the success of university spinoff firms—sustainability and growth?
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Thank You!

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