



autm

Transforming Ideas into Opportunities

Support TTO's Can Provide To Faculty Driven Startups



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Technology Transfer & Startups (Our role as a Facilitator)

Technology transfer is the process by which new inventions and other innovations created in those institutions' labs are turned into products and commercialized through:

1. Licensing patented IP to corporations, and
2. Creation of start-up companies, often license the IP created by faculty.



A startup is a temporary organization designed to search for a repeatable and scalable business model.

— Steve Blank —

Driving the Innovation Economy Academic Technology Transfer In Numbers

From 1996 to 2017, up to...

\$1.7 trillion

contributed to
U.S. gross
industrial
output



\$865 billion

contributed to
U.S. gross
domestic
product



5.9 million

jobs supported



420,000+

inventions disclosed...

100,000+

U.S. patents issued...



to research institutions since 1996

13,000+

start ups formed



67%

of university
licenses are to
start-ups and
small companies



200+

drugs and vaccines
developed through
public-private partnerships
since **Bayh-Dole Act**
enacted in 1980



For more information visit
www.autm.net

This information was compiled from AUTM and the Biotechnology Innovation Organization: The Economic Contribution of University/Nonprofit Inventions in the United States, 1995-2002; June 2019 as well as the AUTM 2018 Licensing Activity Survey and Statistics Access for Technology Transfer Database, www.autm.net/SATL, and the Academic Patent Licensing Helps Drive the U.S. Economy, Washing.com, June 29, 2017.



Support that TTO's Can Provide To Faculty Driven Startups

Contents:

1. The License Deal: Understanding wants, needs and goal for the business
2. Conflict of Interest Management
3. Support in the recruitment of CEO candidates
4. Helping startups to build a rapport (Exposure) - Coaching roles of TTOs
5. Support on SBIR/STTR Grants
6. Support through Innovation Programs
7. Networking and finding finance to build the company
8. In the event of a “collapse”

THE UNIVERSITY OF DELAWARE IS A RESEARCH-FOCUSED UNIVERSITY WITH A WIDE ARRAY OF PROGRAMS, DEPARTMENTS, SCHOOLS, CENTERS AND MANY AFFILIATED ORGANIZATIONS.

Main campus:	Newark, Delaware
Athletics:	21 NCAA Division I teams
Established:	1743
President:	Dennis Assanis



UD Research Facts and Figures

OUR IMPACT 2019 EXPENDITURES RANKINGS

Our Impact

The University of Delaware is a significant driver of the region's economy, spurring \$2.8 billion in economic activity in Delaware and \$4.7 billion throughout the Northeast Corridor, a new report estimates. The report — created by Econsult Solutions Inc. (ESI) and commissioned by UD — examined the impact and multiplier effects of the University's annual operations and capital investments. To quantify the economic impact UD makes on the region, the report highlighted key areas of distinction, including local engagement, scholarship, innovative research and entrepreneurial successes. In the innovation arena, UD achieved accomplishments like these over the past decade:



Download the Impact Report
How the University of Delaware Produces Economic and Social Value at the Local, Statewide and Mega-Region Level. Produced by Econsult Solutions, Inc. published August 20, 2018.

490

Invention Disclosures

132

Patents Issued

65

Licenses Issued

30

Start-up Companies Formed

FOR EVERY \$1
INVESTED BY THE STATE,
UD GENERATES
\$23
IN DELAWARE'S
ECONOMY

#1 AMERICA'S FIRST
STUDY ABROAD PROGRAM
SET OFF ON
JULY 7, 1923
+30% OF UD STUDENTS
STUDY ABROAD



Affordable education
UD was named on Kiplinger's 2015 list of Best Values in Public Colleges.

[Read More](#)

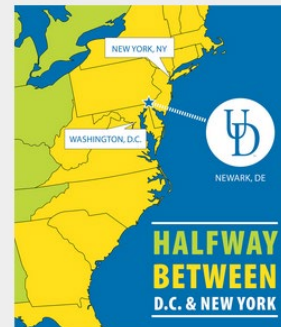
4,493

Employees at UD

\$17.1 M

UD's anticipated
financial aid
commitment to
Delaware students for
2019

24,120
Total enrollment



Global partnerships
From JPMorgan Chase to Honda, UD knows the importance of collaboration.

JPMorgan Chase's Innovation center

632,000

Square feet of new
office, lab, collaboration
space under
construction at STAR
Campus



Among best in nation
UD's Physical Therapy graduate program is No. 1 in the United States.

[Program details](#)

5,683

Degrees awarded in 2017

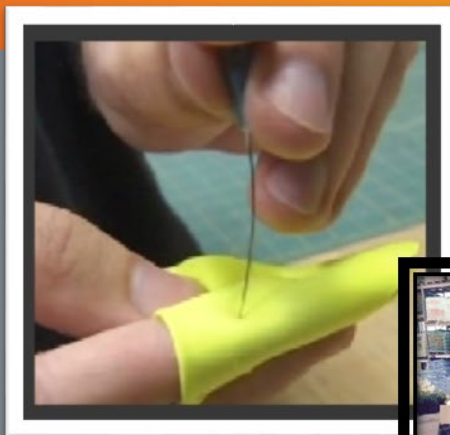
MORE THAN
100

STUDY ABROAD PROGRAMS
IN OVER 40 COUNTRIES



130+

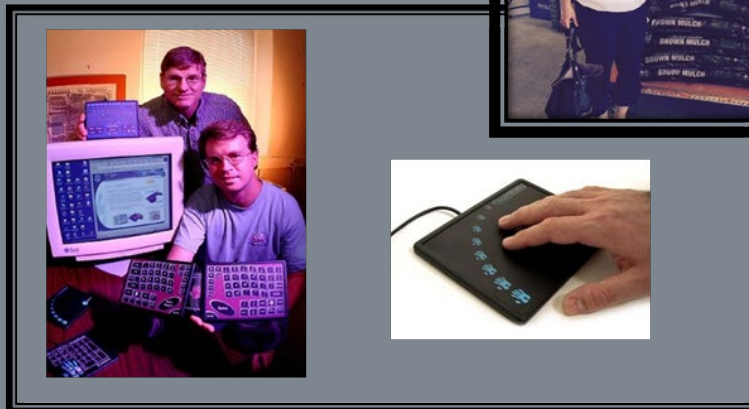
patents issued and 26
start-ups created
through UD research
since 2009



Shear Thickening Fluid Technology
Norm Wagner – STF Technologies
LLC

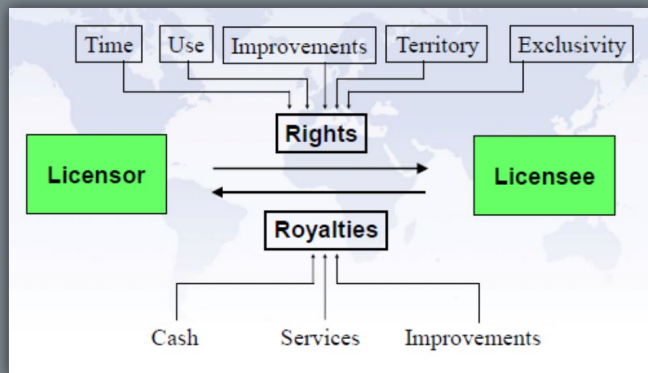


Biological Plant
Microbes for enhanced
growth – Harsh Bias /
Janine Sherrier
- BASF



Touch Screen - John Elias and Wayne
Westerman
Fingerworks / Apple

The License Deal: Understanding wants, needs and goal for the business



- License structure: equity/royalty balance (back loaded)
- Striking the right balance (% of equity), to satisfy founders, investors, and the university.
- Other aspects to consider: Negotiating University's participation in:
 - Funding rounds, Board participation
 - Upfront, Milestone, Phantom costs (patent prosecution, litigation...)

Conflict of Interest Management

Faculty often sits on both sides of the table
Management is the only strategy

BEST PRACTICES:

Crafting start-up licenses with COI concerns in mind
Establishing regular communication with faculty to address COI issues

- Financial relationships should be outlined
- Protection against improper use of grant funds
- Use of university resources: equipment, space, personnel, databases etc.
- Faculty's University and start-up roles should be defined – time commitment issues
- Consulting arrangements and agreements should be in place

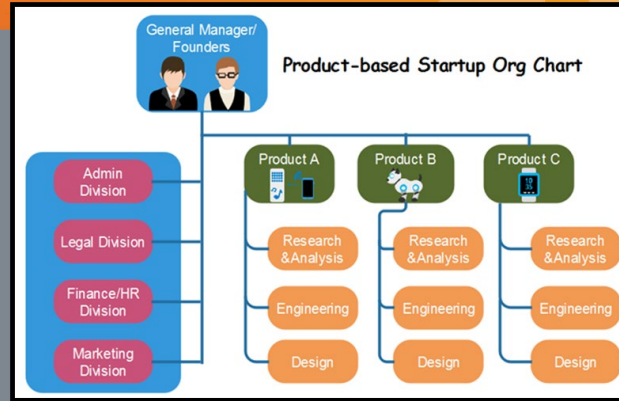


Support in the recruitment of CEO candidates

- Filling the CEO Gap: Proven Strategies for Attracting Seasoned Leadership for University Start-Ups
 - Assist the startup in identifying a competent CEO
 - Assist the startup in clarifying expectations of CEOs and CTOs
 - Governance
 - Setting equity sharing and commercialization expectations
 - Guide CEOs and CTOs in the event of a “breakup”?



Attributes & functions of CEO: Different from a CTO



- The mindset of a CEO is customer driven & NOT technology driven. Amenable to pivot
- All start-up CEOs believe that they have 3 roles:
 1. Strategize (drive the mission and vision of the company)
 2. Bring together human capital (team) - selection & motivation
 3. Ensure Secure finances for its operations

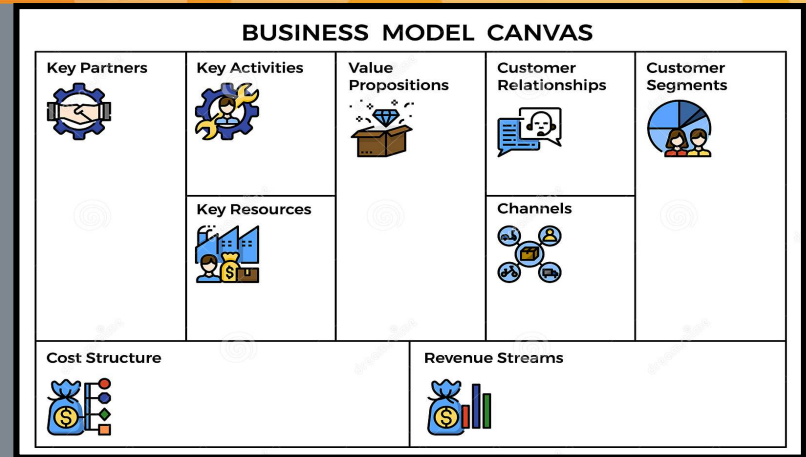
Why Most Startups Fail?

- No. 1 Reason for failure: Building something that no-one wanted
- Success of start-up based on customer need to solve a problem and NOT the faculty's invented technology.



Helping startups to build a rapport

Coaching roles of TTOs



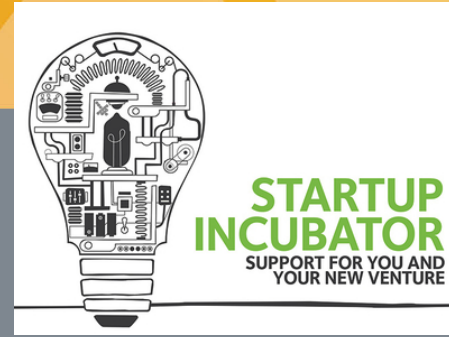
- Involving in iCORPs programs
- Business / Pitch Competitions – coaching to pitch
- Networking with investors
- Applying for Federal Funds SBIR/STTR

SBIR / STTR



- Coaching in the application process
 - Pre-Proposal Work
 - The confusion about the differences between STTR and SBIR funding
 - Requirements for Phase I, II and III funding for each program
 - Clarifying eligibility requirements including:
 - Topic/Solicitation identification
 - Proposal Preparation
 - Mistakes to avoid
 - What to expect and when to expect it
 - Best practices for crafting the technical narrative and research strategy sections
 - Budget reviews and concerns
 - Obtaining letters of support and what information they should include
- Avoid fraud and abuse

Support through Innovation Programs



- **Accelerator:** Accelerators work closely with corporates who partner with the concept. Startups are selected on the basis that they match the partner and investor requirements.
- **Incubator:** Assist the startups with much longer term business development by providing startups with the time and resources to design and build an efficient and sustainable business model.
- **Student innovation centers:** Creating space, expert support, and financing for students who are building ventures that may originate outside the university's laboratories.

Networking and finding finance to build the company



- Proof-of-Concept Centers
- Angel and VC - University Partnerships
- University VC Funds
- Crowd sourcing boot camps
- Tax Credit

In the event of a “collapse”

- Good Start Ups Go Bad:
 - Trust issues
 - Leadership setbacks
 - Managing negative media and publicity
 - Technology failures
 - When IP valuation lower than expected/ patent infringement challenges
 - Capital factors
- License Renegotiation / Termination clauses:
 - Non-performance
 - IP challenges
 - Bankruptcy
 - Breach of contract
 - Royalty payment issues
- Handling post- termination issues:
 - Sublicenses
 - Return of IP, research materials, data, inventory



Thank You!



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