Innovation and Commercialization Ecosystems

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Associate Vice President, Executive Director
Technology & Venture Commercialization
University of Utah
Impact of commercialization

- $750 million in wages generated annually
- Ranked #1 for university commercialization in the U.S. by Milken Institute
- Over $400 million in follow-on investment funding to start-ups
- Over 16,000 Jobs created

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Know what you bring to the ecosystem...

Top 7 Disclosing Departments at University of Utah (2011-2018)

<table>
<thead>
<tr>
<th>Department</th>
<th>College</th>
<th>Disclosures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioengineering</td>
<td>College of Engineering</td>
<td>170</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>College of Engineering</td>
<td>136</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>Health Sciences</td>
<td>86</td>
</tr>
<tr>
<td>Surgery</td>
<td>Health Sciences</td>
<td>66</td>
</tr>
<tr>
<td>Huntsman Cancer Institute</td>
<td>Health Sciences</td>
<td>64</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>College of Engineering</td>
<td>63</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>College of Engineering</td>
<td>62</td>
</tr>
</tbody>
</table>
Who brought you there...

College of Engineering Disclosures at University of Utah (2011-2018)

<table>
<thead>
<tr>
<th>Department</th>
<th>SCI</th>
<th>CEE</th>
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</tr>
<tr>
<td>Mechanical Engineering</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Metallurgical Engineering</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Materials Science &amp; Engineering</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>School of Computing</td>
<td></td>
<td></td>
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</table>
What they want...

College of Engineering Licenses at University of Utah (2011-2018)

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<tr>
<th>Department</th>
<th>Licenses</th>
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<tbody>
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<td>Bioengineering</td>
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<tr>
<td>Electrical and Computer Engineering</td>
<td>20</td>
</tr>
<tr>
<td>Materials Science &amp; Engineering</td>
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</tr>
<tr>
<td>Metallurgical Engineering</td>
<td>5</td>
</tr>
<tr>
<td>SCI</td>
<td>5</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>4</td>
</tr>
<tr>
<td>EGI</td>
<td>2</td>
</tr>
</tbody>
</table>
What it takes to get there...

College of Engineering Disclosures per $1 million at University of Utah (2011-2018)

- Electrical & Computer Engineering: 2.571
- Mechanical Engineering: 2.132
- Metallurgical Engineering: 1.467
- Materials Science & Engineering: 1.387
- Chemical Engineering: 1.016
- Mining Engineering: 0.871
- Bioengineering: 1.514
- Nano Institute: 0.857
- Utah Nuclear Engineering: 1.000
And what you’ll get out of it (and when)...

Total Licensing Revenue at University of Utah

- $1,850,003
- $92,619,88

Key:
- FY 11-17 Revenue from FY 11-17 Disclosure
- FY 11-17 Revenue from pre FY 2011 Disclosure
Commercialization process
Ecosystem realities
An ineffective innovation formula

**Good Idea**
+ 
**Individual Heroism**
+ 
**Serendipity**
=
**Breakthrough**
Extremes on the innovation spectrum

- Ad Hoc Innovation Efforts
- Large Innovation Factories
Regional innovation ecosystems

- Talent
- Access to Markets
- Risk Capital
- Ideas
- Networks
- Business Environment
Business environment

• Relationships
• Trust
  • Introductions
  • CDAs
  • Legal agreements
• Entrepreneurial culture
  • Failure
• Regional industry expertise, focus
• ‘Politics’ of the ecosystem

If you want to go fast, go alone.
If you want to go far, go with others.

African proverb
Ecosystem stakeholders

- Connectors
- Entrepreneurs
- Industry executives
- Economic developers
- Angel investors
- Venture capitalists
- Corporations
- Government
- Advocacy/membership organizations
- Professional services providers
- Accelerators
- Incubators
- Others
Ecosystem connectivity

- Connectors
- Entrepreneurs
- Industry executives
- Economic developers
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Connectors

• Who are they

• Why do they do it

• Are you one
  • Should you be
Entrepreneurs

- First time vs. serial
- Technician as entrepreneur
- Industry/sector expertise
- Technology expertise
- Current vs. deferred compensation requirements
- Build to sell vs. lifestyle
Industry executives

• Licensee
• Research sponsor
• Would-be entrepreneur
• Would-be investor
• Would-be partner
• Would-be acquirer
Economic developers

- Job creation
- Training programs
- Seed capital for programs
- Seed capital for startups
Angel investors

- Source of capital
- ‘Smart’ money
- Experience
- Relationships
- Formal angel groups
- Triage
- [Interim] management
Venture capital

- Team
- Market
- Technology

- Investment thesis
- Relationship
Corporations

- Licensee
- Research sponsor
- Joint development
- Student employment
- Corporate venture
Government

• Funding

• Training
  • iCorps

• Regulations
  • advocacy
Advocacy / membership organizations

- Networking
- Information
- Promotion
- Advocacy
Professional service providers

• In-kind support
• Network
• Diligence/triage
Accelerators

- Training
- Mentorship
- Capital
- Resources
Incubators

- Space
  - Affordable
Your programs

What is the purpose

• Engagement
• Ecosystem development
• Growth
• Filling gaps