Evans & Sutherland.

Founded in 1968, by David C. Evans and Ivan Sutherland, professors in the Computer Science Department at the University of Utah, who were pioneers in computer graphics technology.
The Utah Teapot.

The Utah teapot has been the symbol of computer graphics. It was originally created by Martin Newell in 1975, when he was a Ph.D. student at the University of Utah.
Digital U Companies.

- E&S
- Evans & Sutherland
- Silicon Graphics
- Word Perfect Corporation
- Adobe
- Atari
- Pixar
- Netscape
Serendipity.

OLD MODEL

Individual faculty members making discoveries and those breakthroughs are commercialized.
Versus Strategy.

NEW MODEL

Teams of faculty members from different colleges work together on key societal problems, the university invests resources. If positive results, the state, federal govt. and industry help with continued funding.
New Models.

Higher education R&D expenditures funded by state and local governments, ranked by all R&D expenditures, by R&D field: FY 2022.

#1 University of Texas
#2 Texas A&M
#3 University of Florida
#7 Arizona State University

Source: HERD State and Local Government Funding FY22
Overhaul Innovation Pipeline.

ECONOMIC RESEARCH MULTIPLIER
3x to 5x

ECONOMIC STARTUP MULTIPLIER
10x to 20x

Source: University of Utah, Office of the Vice President for Research
Basic Research Reorganization.

1. STRATEGIZE
   Ideas collected and reviewed

2. ENGAGE
   Working group formed around idea

3. ACTIVATE
   Working group guided to resources

ECONOMIC RESEARCH MULTIPLIER
3x to 5x

Source: University of Utah, Office of the Vice President for Research
## Faculty Economics

### Teaching Faculty

<table>
<thead>
<tr>
<th>Salary</th>
<th>1x</th>
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</thead>
<tbody>
<tr>
<td>Courses Taught</td>
<td>8</td>
</tr>
<tr>
<td>Teaching Productivity</td>
<td>1</td>
</tr>
<tr>
<td>Research/Commercialization Grants</td>
<td>$0 per year</td>
</tr>
<tr>
<td>Graduate Students Funded</td>
<td>0 per year</td>
</tr>
<tr>
<td>Overall Economic Effect</td>
<td>~$265,000</td>
</tr>
</tbody>
</table>

### Research Faculty

<table>
<thead>
<tr>
<th>Salary</th>
<th>2x</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses Taught</td>
<td>4</td>
</tr>
<tr>
<td>Teaching Productivity</td>
<td>1/3 - 1/4</td>
</tr>
<tr>
<td>Research/Commercialization Grants</td>
<td>$500K - $1M per year</td>
</tr>
<tr>
<td>Graduate Students Funded</td>
<td>2 per year</td>
</tr>
<tr>
<td>Overall Economic Effect</td>
<td>~$1M - $1.5M</td>
</tr>
</tbody>
</table>

* Salary numbers may vary, multipliers are approximate.
**Source: Kem C. Gardner Policy Institute Analysis of student, research and commercialization impact.
Innovation Ecosystem.

**Working Groups & Hubs**
Short lifespan, interdisciplinary, currently 400+ faculty engaged in Working Groups & Hubs.

**Examples:**
- Wildfire Research Working Group
- Future of Food Working Group
- Suicide Research Working Group
- Arts & Health Working Group
- Critical Minerals Working Group

**Centers of Excellence**
for future state collaboration and industry partnerships
Funded through state, federal and industry grants.

**Institutes**
Sustained public and private funding for national societal priorities and impact.
Research Growth.

Source: University of Utah, Office of the Vice President for Research

THE UNIVERSITY OF UTAH
Commercialization
Reorganization.

1. **PARTNER**
The U as an industry partner to tackle societal challenges

2. **CULTURE**
Support a culture that values tech transfer and commercialization

3. **STREAMLINE**
Clarify processes for tech transfer to accelerate implementation

**ECONOMIC STARTUP MULTIPLIER**
10x to 20x

Source: University of Utah, Office of the Vice President for Research
TikkunLev Therapeutics – discovered CBIN1 a molecule lost in heart failure. A gene therapy company, announced a new partnership in March 2023 to accelerate innovative heart-failure gene therapy.


LUKE Arm – U Research Foundation licensee since 2022. BIOS provides a novel neural interface for prosthetic limbs to move with natural, intuitive coordination.

MUSE Breast Cancer Treatment – The first patient in the U.S. was treated with the MUSE non-invasive treatment system in February 2023 in a novel clinical trial.

3Helix – U Research Foundation startup since 2020. 3Helix is developing prognostic tests for fibrotic diseases, and tissue regenerative products based on a proprietary collagen targeting platform.

Cardiovascular Research

The Nora Eccles Harrison Cardiovascular Research and Training Institute (CVRTI) provides groundbreaking science that leads to discoveries in new diagnostics and therapies for cardiovascular diseases.

The discovery of CBIN1, a molecule lost in heart failure led to a pursuit of gene therapy to regain the heart’s organization and function.
Technologies developed by University of Utah faculty and students from research have contributed to the launch of **more than 330 companies**. The U ranks among the top-10 public universities for **issued patents** and revenue generation.

**Research To Market.**

**FY 2023**

- **Startups**: 7
- **Invention Disclosures**: 265
- **Patents Filed**: 74
- **Licensing Revenue**: $23.3m
- **Licenses**: 25
- **Patents Issued**: 145
U-ncorn Likelihood.

Universities with Highest Likelihood of Unicorns

Data covers 1,110 US-based VC-backed companies that became unicorns in 1997 and 2021 as well as 1,028 randomly selected US-based VC-backed companies matched only by year of first VC round. We identified universities, where founders of 1,081 unicorns and 961 random sample companies either studied or worked. The odds ratio represents the ratio of the percentage of unicorns to the percentage of random sample companies with at least one founder who studied or worked at this university. This chart includes top 12 universities that are associated with at least 10 unicorns, ranked by the odds ratio of producing a unicorn. The sizes of circles are not to scale with the odds ratios they represent.

SOURCE: Ilya Strebulaev, Venture Capital Initiative, Stanford Graduate School of Business (01/2024)
Let’s Innovate.

How can we engage with you to be more strategic about research that lifts Utah’s economy?
Thank You.