



## **Research Commercialization:**

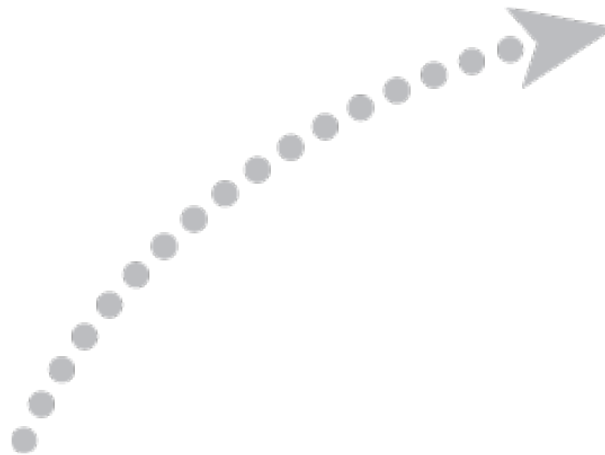
**A mode to enhance impact from academic and industry research**

**Denichiro “Denny” Otsuga, Ph.D.  
Registered Technology Transfer Professional**

# Ways to Show Impact from Your Research



① Research



⑦ Impact

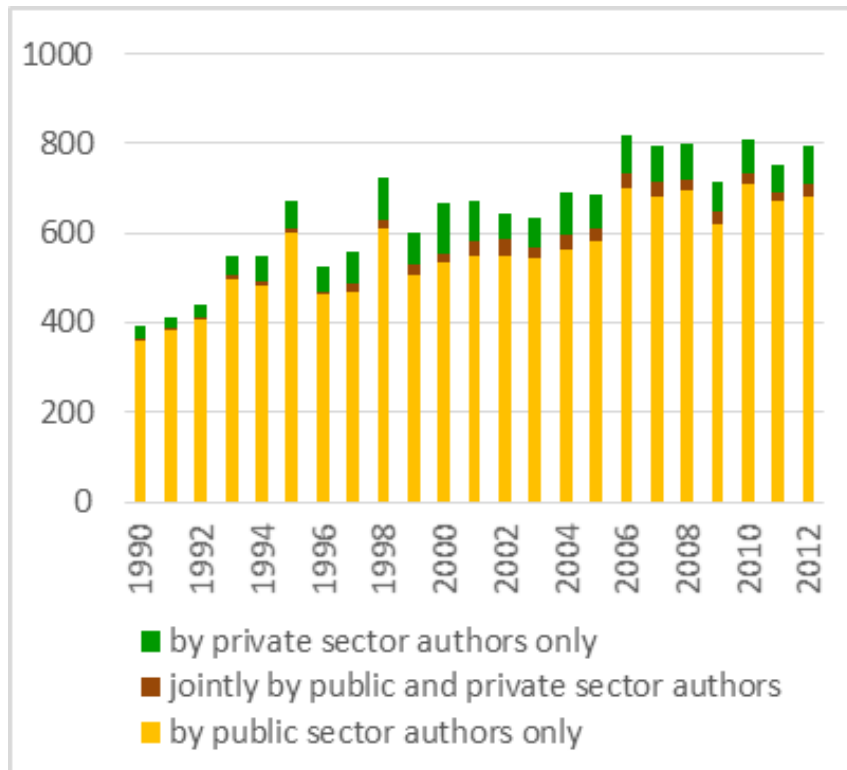
- Grant
- Peer-reviewed Publication
- Patent Publication
- Product
- Etc.

# Research Impact: Academia and Industry

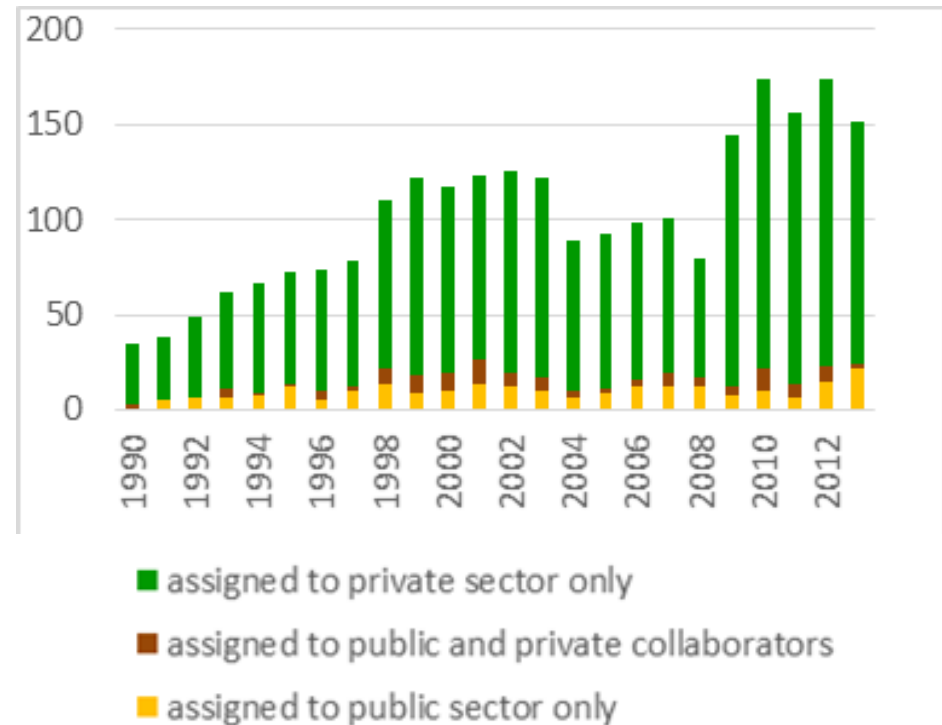


	Academia	Industry
Discoveries	Discovering 'How' things works	Discovering 'What' works
Knowledge Transfer	Peer reviewed manuscripts	Patent applications
Mode of Impact	Impact on society through knowledge transfer	Impact on society through new products/services
"Currency" to Measure 'Success'	Grants (size and number), Publication (quality & number), Patents (social impact)	Products (revenue and number), Projects (scale and number), Patents (quality and number)

# Mode of Publication in Academia and Industry



Scientific and Trade Publications



Patents

# Skills Employers Seek

## Demonstrate Skill and Experience through Actions:

- ❖ Communications Skills (listening, verbal, written)
- ❖ Analytical/Research Skills
- ❖ Computer/Technical Literacy
- ❖ Flexibility/Adaptability/Managing Multiple Priorities
- ❖ Interpersonal Abilities
- ❖ Leadership/Management Skills
- ❖ Multicultural Sensitivity/Awareness
- ❖ Planning/Organizing
- ❖ Problem-Solving/Reasoning/Creativity
- ❖ Teamwork

# Actions that Demonstrate Skills

A black and white portrait of Mark Twain, showing his characteristic wild white hair and mustache. He is looking slightly to the left of the camera with a serious expression. The background is dark, making his face and hair stand out.

**“ACTION SPEAKS LOUDER THAN WORDS BUT  
NOT NEARLY AS OFTEN.”**

**MARK TWAIN**

© Lifehack Quotes

# Famous University Inventions

INVENTION	INSTITUTION	INVENTOR(S)	YEAR
Insulin	Univ. of Toronto	Frederick Banting, Chas Best	1922
Penicillin	Oxford Univ.	Howard Florey, Ernst Chain	1939
Electronic Computer	Univ. Pennsylvania	John Mauchly, J. Presper Eckert	1946
Magnetic Core Memory	MIT	Jay Forrester	1940s
Polio Vaccine	Univ. Pittsburgh	Jonas Salk	1955
Seat Belt	Univ. Minnesota	James Ryan	1963
Gatorade	Univ. Florida	Robert Cade, Dana Shires	1966
LCD	Kent State	James Fergason	1967
Hepatitis B Vaccine	Univ. Pennsylvania	Baruch Blumberg, Irving Millman	1969
MRI Scanner	State Univ. of New York	Raymond Damadian	1977
Kentucky Bluegrass Hybrid	Rutgers Univ.	C. Reed Funk	1977
Laser Cataract Surgery	UCLA	Patricia Bath	1988
Emtriva (HIV Drug)	Emory Univ.	Raymond Schinazi, Dennis Liotta, Woo-Baeg Choi	1996
Lyrica (Neuropathic pain)	Northwestern Univ.	Richard Silverman	2004

# Modes of Transferring University Research to Impact

- Free Flow of Knowledge
- Research Commercialization
  - In-house
  - Collaboration with Industry
    - License
    - Start-up



1 Research



# Steps Between Research and Impact

- Proof of Concept
- Prototype
- Scale
- Production
- Distribution
- Marketing
- Sale
- Use
- Education
- Infrastructure
- Regulatory Compliance
- Improvement

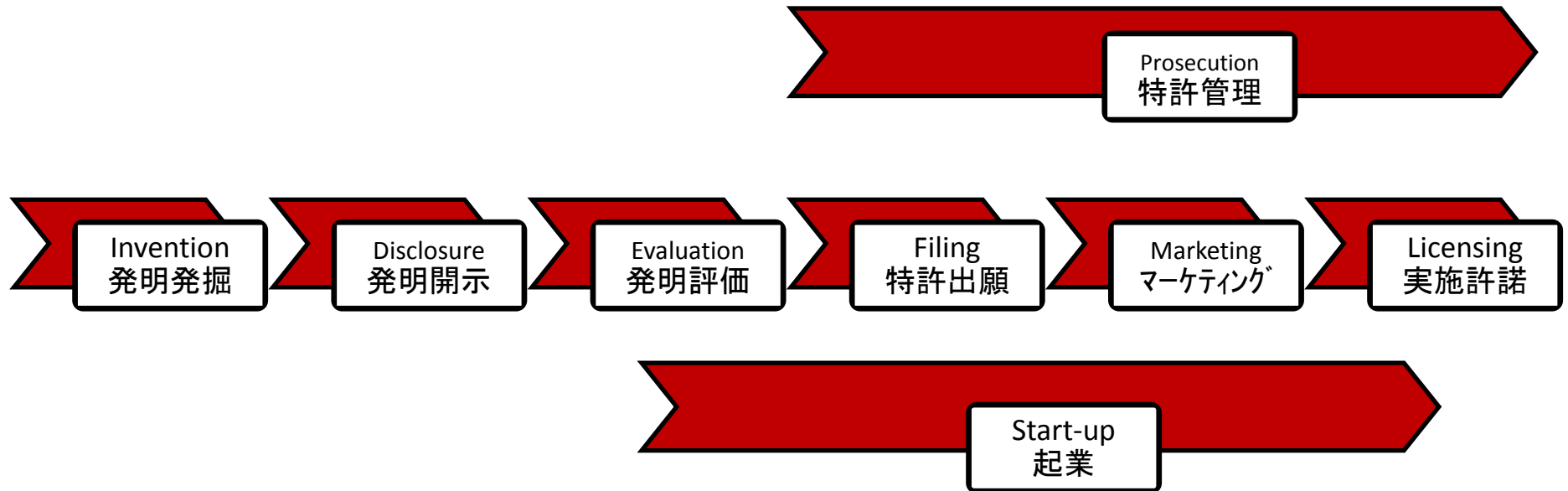


① Research



⑦ Impact

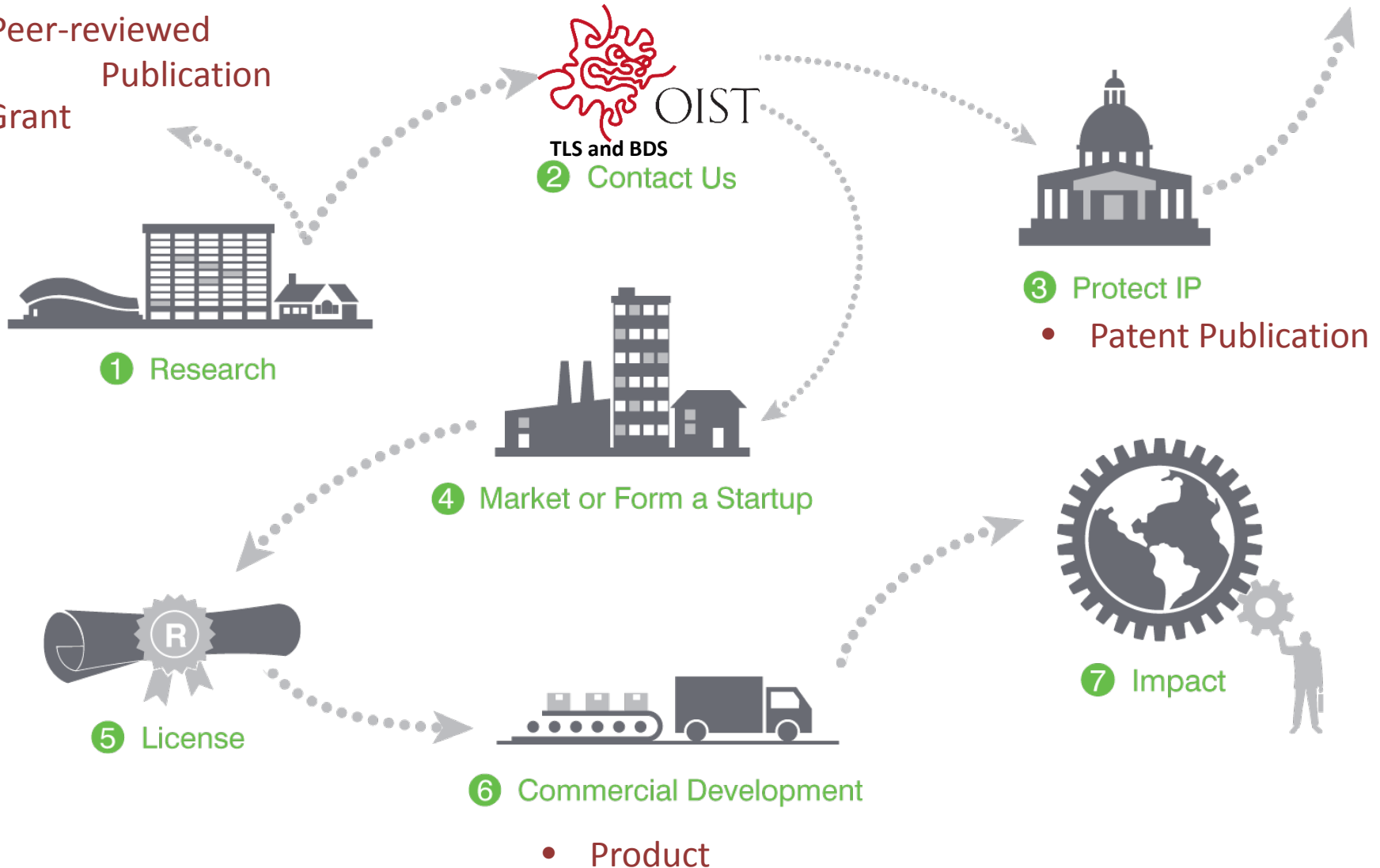
# Process of Research Commercialization at OIST



# TLS and BDS Assistance to Enhance Impact from Research

- Peer-reviewed Publication
- Grant

- Grant
- Peer-reviewed Publication



# Steps Between Research and Impact

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1 Research



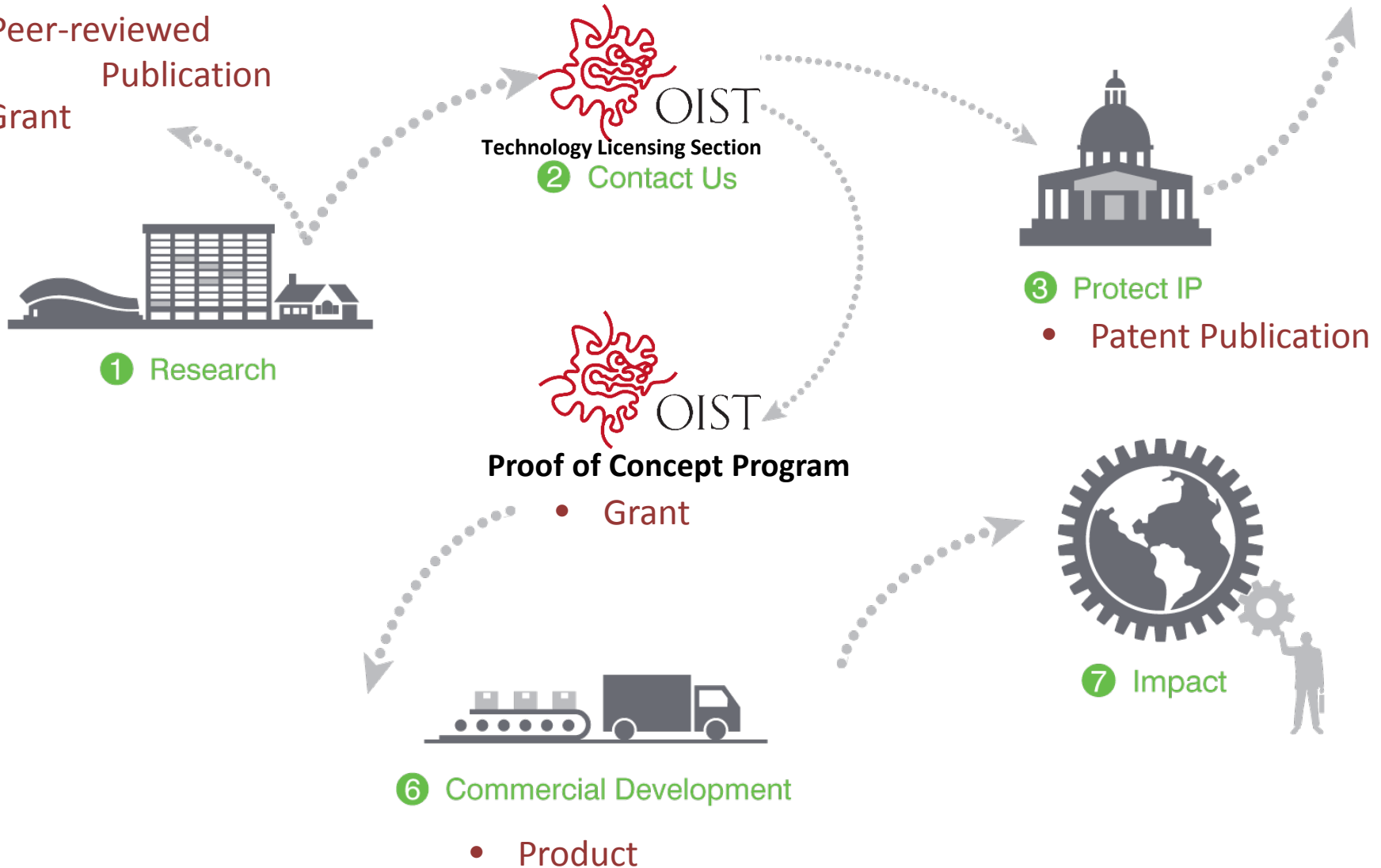
7 Impact

# Active Participation:

## Impact from Research through Proof of Concept Program

- Peer-reviewed Publication
- Grant

- Grant
- Peer-reviewed Publication

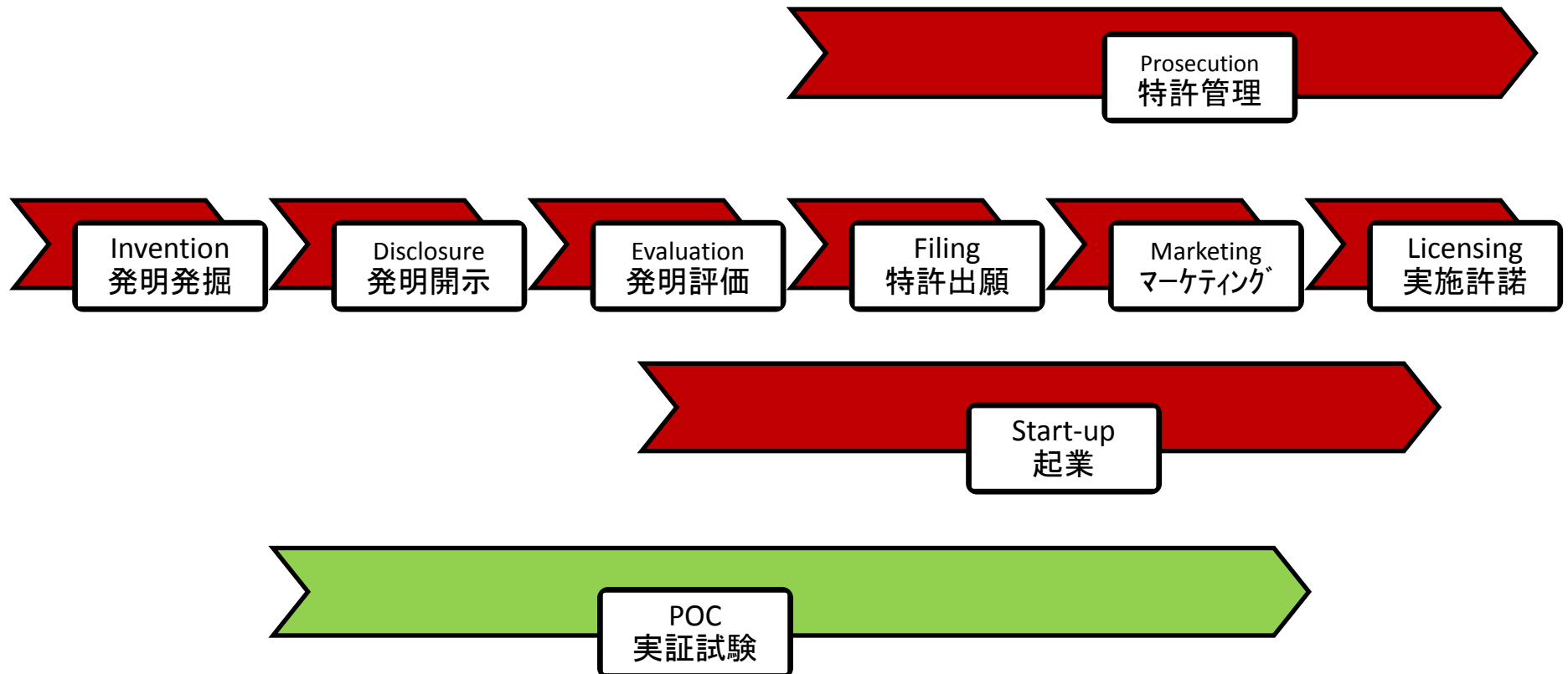


# What is Proof of Concept (POC) Program?

A process designed to enhance the impact of research through focused milestone based research experiments for product development.

Institution	Program Start Year	Project Scale	Outputs
Massachusetts Institute of Technology (The Deshpande Center)	2002	Phase 1 Up to 50K USD Phase 2 Up to 250K USD	110+ Projects 300+ People/Jobs 28+ Startups \$500M+ Capital
University of California, San Diego (The von Liebig Center)	2001	Up to 75K USD	110+ Projects 200+people/Jobs 37+ Startups \$150M Capital

# Proof of Concept (POC) Program to Accelerate Impact



# Research Commercialization and POC

POC Program: Competitive **Grant** to fund **Projects** to accelerate commercialization

Proper Disclosure: Research results transferred in both **academic** and **Patent Publications**

Commercialization: **Products** enhance lives and **Impact Society**

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# Skills Employers Seek

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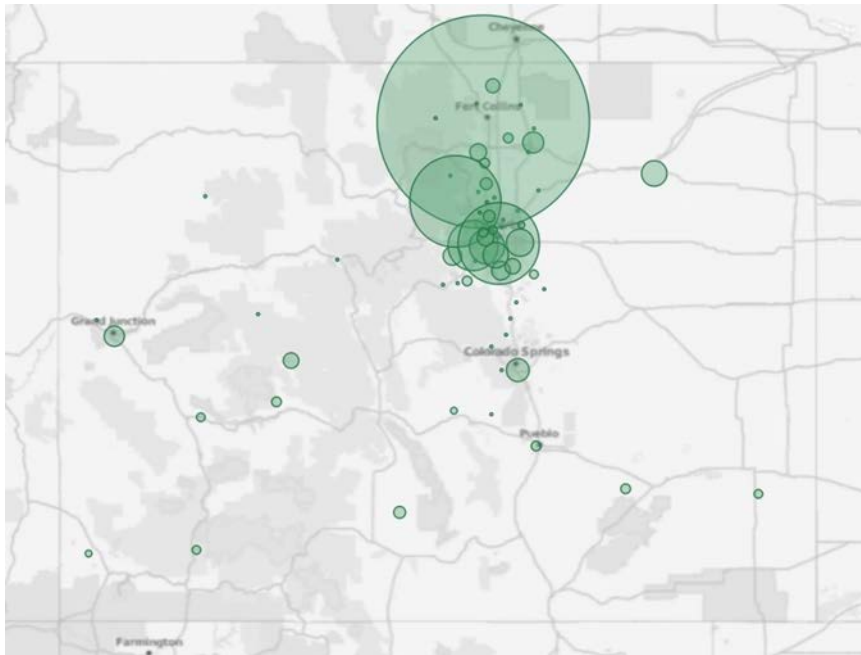
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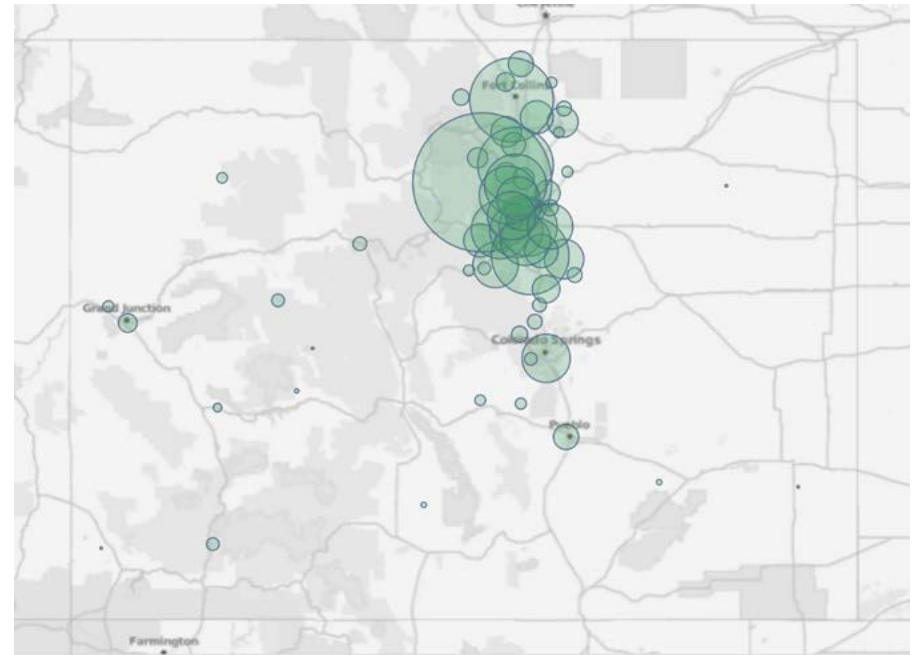
**Mission Statement:**

The OIST Graduate University shall conduct internationally outstanding education and research in science and technology, and **thus contribute to the sustainable development of Okinawa**, and promote and sustain the advancement of science and technology in Japan and throughout the world.

# Impact of Research from Academia and Industry



Location of Authors  
on Scientific and Trade Publications



Location of Inventors  
on US Patents

# OIST Research and Impact

