



TEXAS A&M UNIVERSITY
Engineering



Texas A&M Engineering
Experiment Station

Translation Strategies for Internal R&D : *Texas A&M NSF I-Corp Hub*

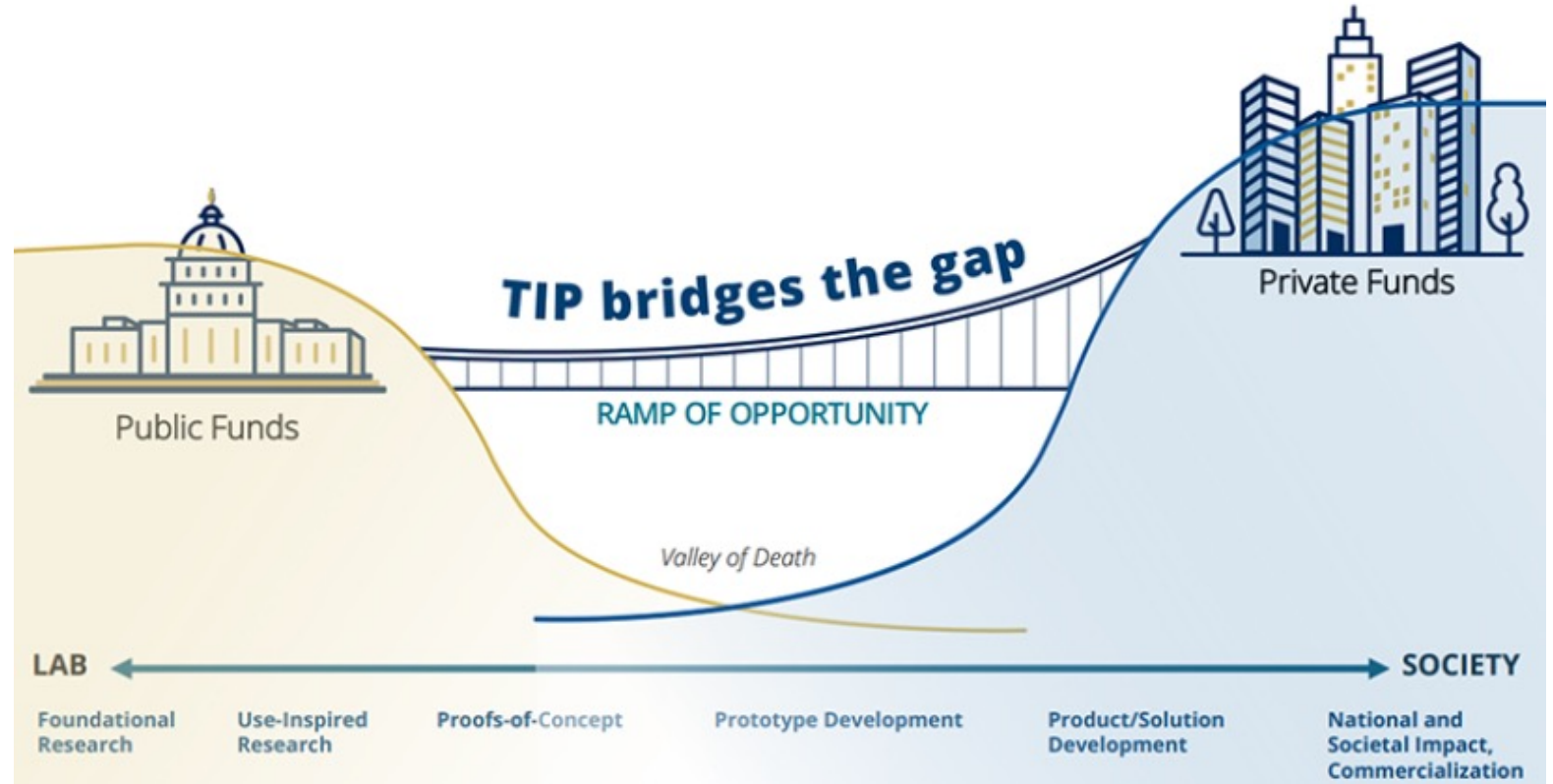
Accelerating Market & Technology Maturation

TARC Meeting, March 8th , 2024

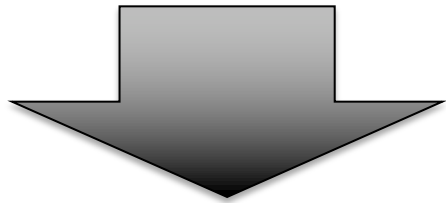
Saurabh Biswas Ph.D.
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Texas A&M University, College Station, Texas, USA
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Challenges of translating Deep Tech Innovations

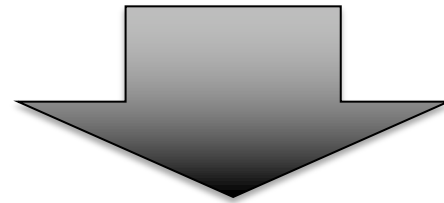
1. Long R&D Cycle
2. Complex customer & stakeholder needs
3. Extensive IP Portfolio
4. High Capital Needs
5. Challenging talent acquisition
6. Shifting market hype-cycles
7. Regulatory issues
8. Prototyping & Scale-up



How do you Address/ Mitigate/ Manage



**TECHNOLOGY
RISK**



**MARKET
RISK**

NSF I-Corp Programming



NATIONAL INNOVATION NETWORK – I-CORPS™

The National Innovation Network is a network of universities, NSF-funded researchers, established entrepreneurs, local and regional entrepreneurial communities, and other federal agencies that help researchers learn how to translate fundamental research to the marketplace.

This is an interactive graphic.

Click the buttons or tabs next to the regions below to display more information and view participating institutions. If you would like to download a standard PDF, [click here](#).



[Click to View Full Map](#)

[Click to view ALL Hubs](#)

[Click to view 2022 Hubs](#) ●

[Click to view 2021 Hubs](#) ●

[Click to view Sites ▲ and Nodes ■](#)

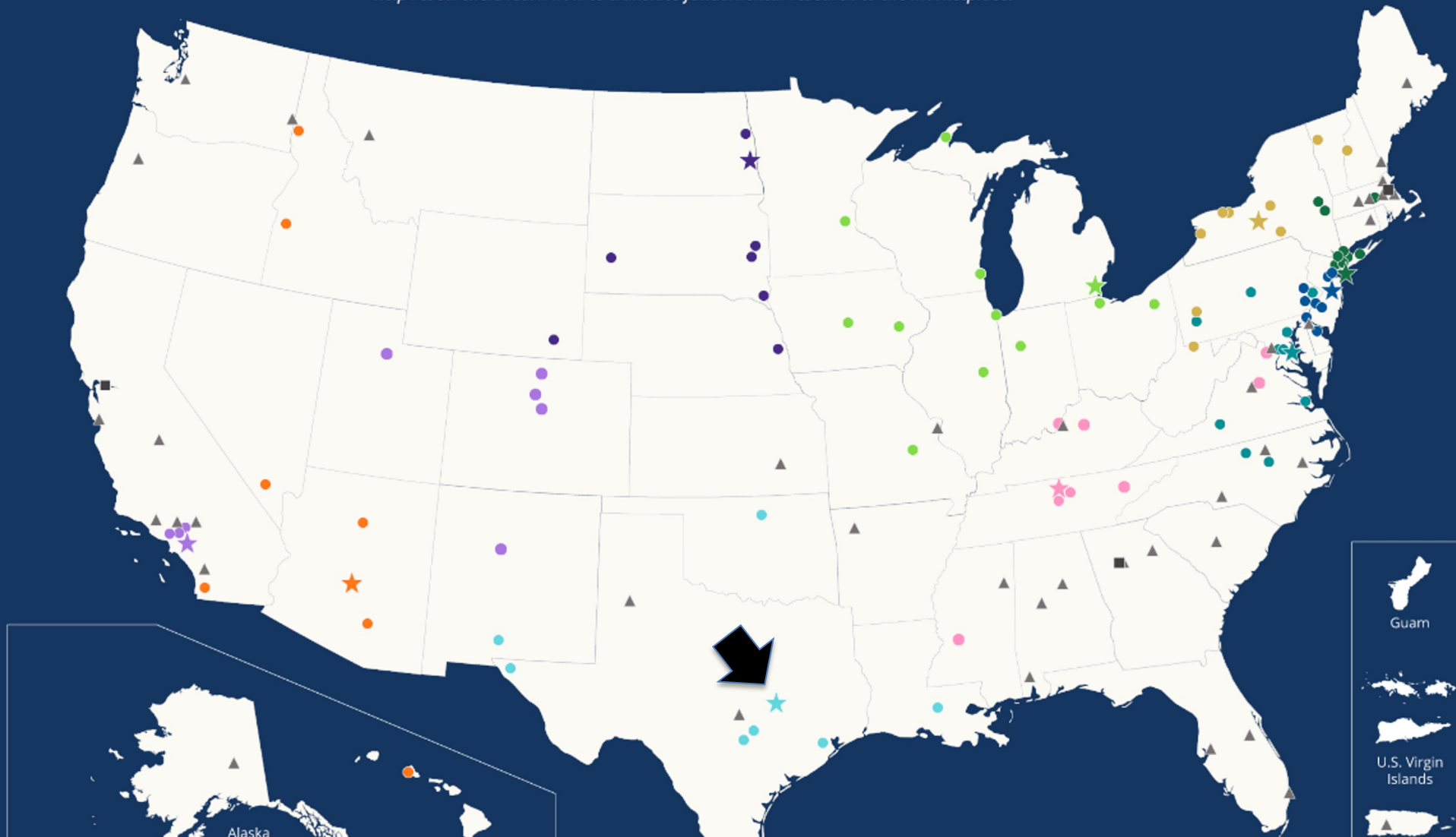
REGIONAL HUBS ★ Lead Institutions within Hubs

2022 AWARDS

- Desert and Pacific Region**
Award Number [2229385](#)
★ Arizona State University
- Great Plains Region**
Award Number [2229452](#)
★ North Dakota State University
- Interior Northeast Region**
Award Number [2229430](#)
★ Cornell University
- Mid-South Region**
Award Number [2229521](#)
★ Vanderbilt University
- Southwest Region**
Award Number [2229453](#)
★ The University of Texas at Austin

2021 AWARDS

- Great Lakes Region**
Award Number [2048612](#)
★ University of Michigan
- Mid-Atlantic Region**
Award Number [2044502](#)
★ University of Maryland College Park
- New York Region**
Award Number [2048498](#)
★ The City University of New York
- Northeast Region**
Award Number [2048602](#)
★ Princeton University
- West Region**
Award Number [2048703](#)
★ University of Southern California



Since 2021, **\$150M** have been invested in I-Corps Hubs

SPURRING INNOVATION

The NSF I-Corps™ Hub: Southwest fosters entrepreneurial thinking in academic research to create a thriving innovation ecosystem throughout the region.

I-Corps Outcomes



[Ref](#)

I-CORPS™ PROGRAM AT A GLANCE | CUMULATIVE OUTCOMES

	 Extend academic and SBIR/STTR researcher focus beyond the laboratory and accelerate the societal and economic benefits of basic research projects leading to commercialization.	 Accelerate the translation of biomedical research to the marketplace by training NIH-funded SBIR/STTR awardees.	 Increase use-inspired and application focus of energy innovation by National Laboratory staff and researchers.
MISSION			
FISCAL YEAR (FY) STARTED	2012	2015	2016
PILOT LAUNCHED	Fall 2011	Fall 2014	Fall 2015
TEAMS TRAINED ¹	2,546	317	188
WOMEN TRAINED	1,589	242	105
UNDER REPRESENTED GROUPS TRAINED ²	2,082	296	N/A ³
ENTREPRENEURIAL LEADS TRAINED	3,070	318	224
STARTUP BUSINESSES FORMED	1,380	305	19
SUBSEQUENT FUNDING RAISED ⁴	\$3.166 B	\$635 M	\$151 M

NSF I-Corp Program



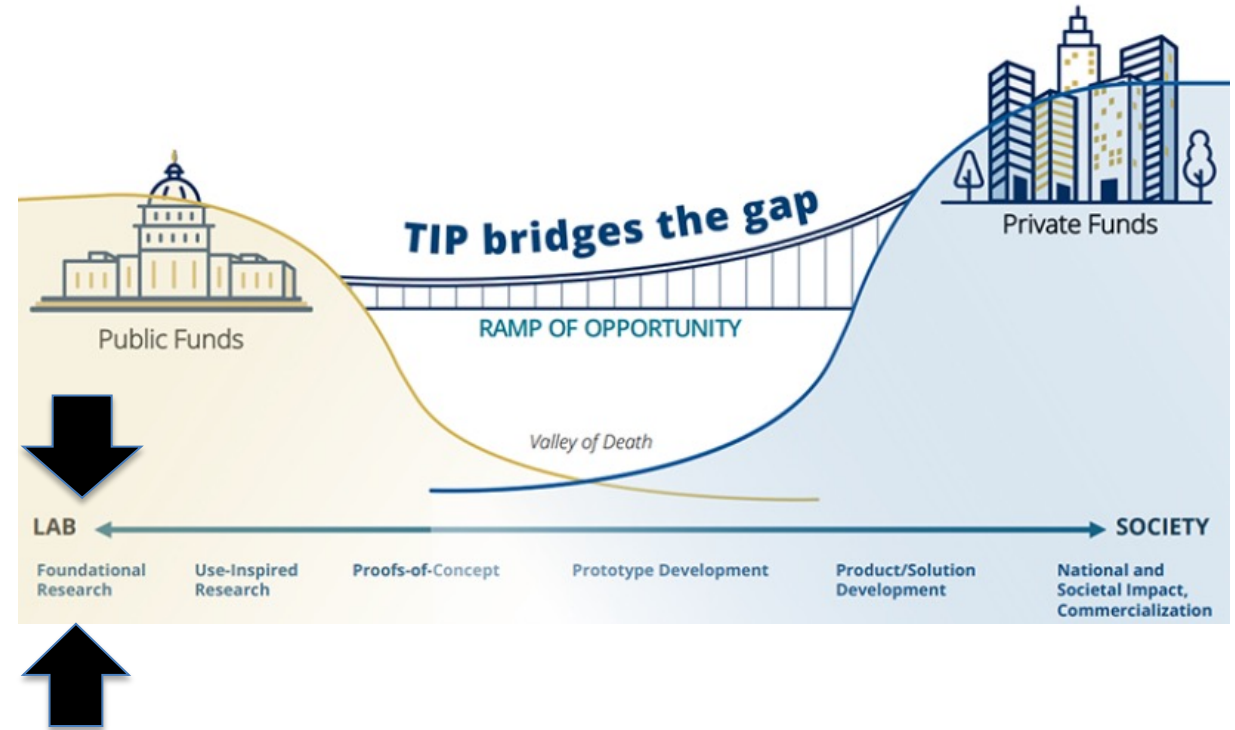
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From 2023 transition to I-Corp Hubs (2023 – 2027)

- SOUTHWEST NSF I-Corp Hub awarded (5yr /\$15M funding)
- **Texas A&M I-Corp Hub**, founding team member of Southwest Hub
- 10-yr I-Corp history at Texas A&M as prior NSF Node & Site.



- National statistics: 2500+ Teams, 7800+ participants, 1380 Start-ups, \$3.16b funding raised
- Texas A&M National I-Corp Teams: 60 Teams, 20 start-ups
- NSF, NIH & DOD I-Corp

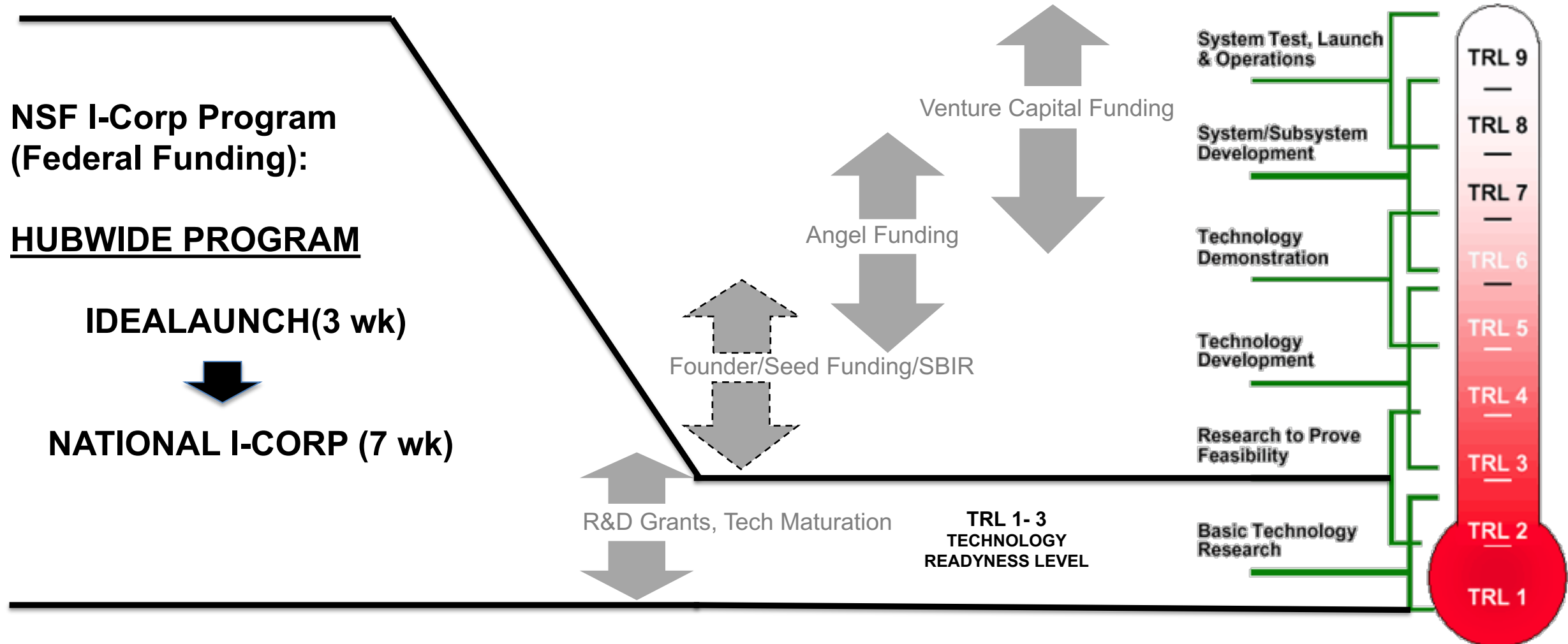
Concept to Product Roadmap



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PROGRAM ROADMAP



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YEAR-ROUND RECRUITING FOR SPRING, SUMMER & FALL COHORT
COHORTS FILLING VERY FAST: NOW RECRUITING FOR SUMMER & FALL



Research Projects



IDEALAUNCH

**NATIONAL
I-CORPS**



**Translational Proposals,
Invention Disclosures,
Sponsored Research, Start-up
Formation**

**Grand funded, Self funded,
Institutionally funded**

**3wk Program,
Recruiting**

**7 wk Program,
\$50K award**

WHY IDEALaunch & NATIONAL I-CORP



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Develop an understanding of where/why your technology has value and to whom



Find potential beachhead markets for your technology



Gain an appreciation for what it takes to commercialize technology and overcome barriers to adoption

Expand your network of like-minded peers, mentors, customers, and potential investors



Learn about entrepreneurial approaches that reduce time to market and increase access to resources and capital



\$50,000 NSF grant

1 PAGE EXECUTIVE SUMMARY + 30 MINUTE INTERVIEW + 5-PAGE NARRATIVE (After NSF confirms selection)

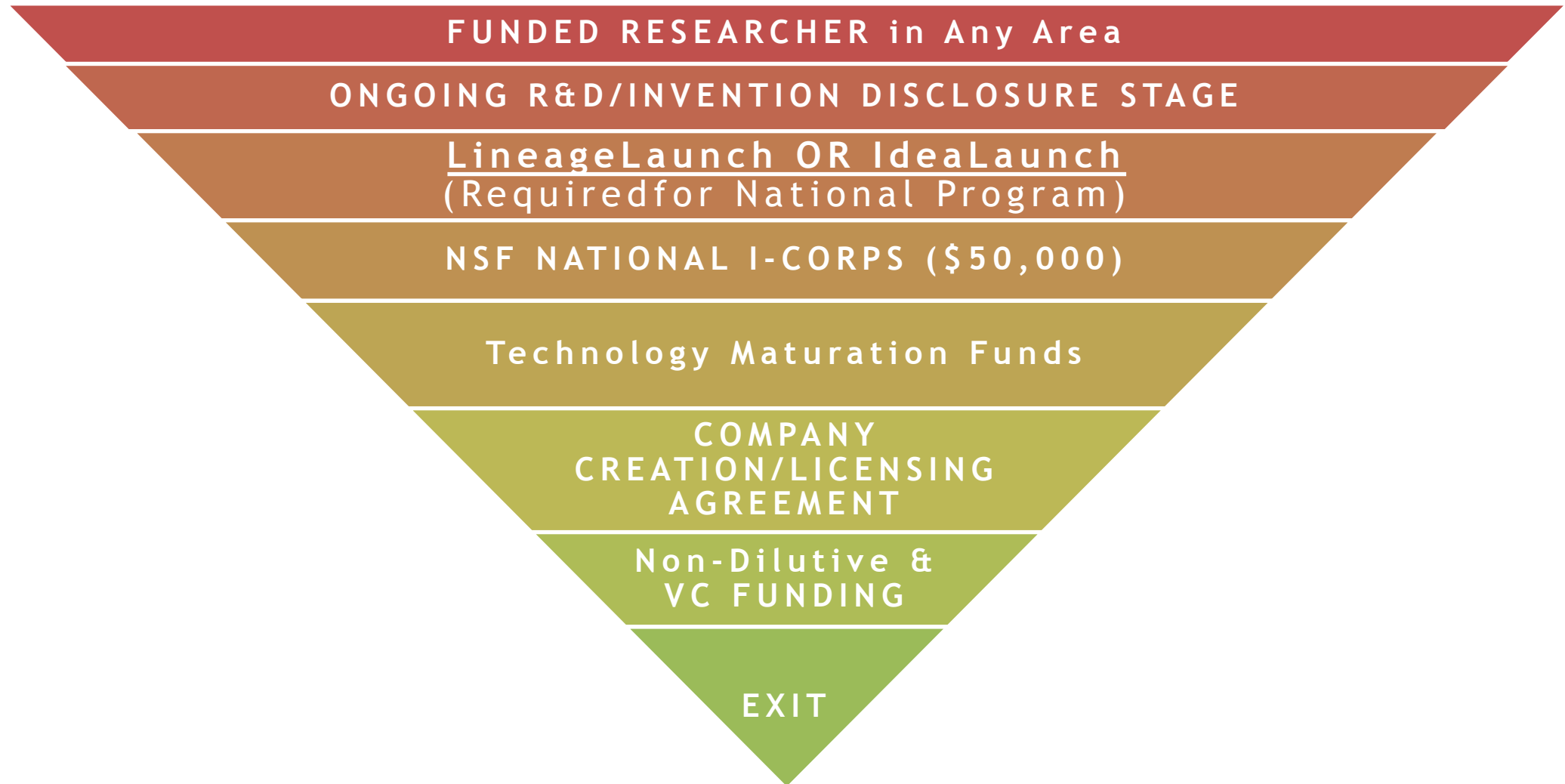
I-Corp Funding Roadmap



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PROGRAM ELIGIBILITY



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PATHWAY 1

ESTABLISHED LINEAGE WITH NSF

- The team/PI already has a demonstrated NSF funding history
- The NSF award must be current or did not expire >5 years ago
- The 3-member team composition must be acceptable to NSF
- Team must attend a LineageLaunch ahead of national cohort application.

PATHWAY 2

REGIONAL LINEAGE THROUGH AN
I-CORPS HUB

- If there is no demonstrated NSF Lineage, the team must successfully complete an IdeaLaunch Regional Program prior to applying
- The team must also achieve endorsement from the Core Instructor(s) of the IdeaLaunch program

REQUIREMENTS

- Be university-based IP
- Demonstrate commercial promise for translation into a product, process, or service
- Relate to at least one previously awarded NSF grant

AND/OR

- Be a “deep tech discovery” from fundamental STEM-based research

LINEAGE FOR NATIONAL I-CORP PROGRAM

FORMAT & TIMING:

PRE-LAUNCH WEBINAR (1.5 HOURS)

What to Expect & Prepare

OPENING WORKSHOP (1 DAY)

Lectures & Exercises

MID-TERM WEBINAR (HALF DAY)

Report Outs & Review

CLOSING WORKSHOP (HALF DAY)

Report Outs & Next Steps

DETAILS:

- Optional office hours are offered during the program
- Graduate Student or Post-docs (EL- Entrepreneurial Lead) required to attend
- Faculty (TL- Technical Lead) encouraged but attendance not required
- Industry mentor not required
- Participants will attend focused workshop & conduct 30 interviews in 3 weeks
- 2024 schedule in place: Cohorts filling up
- Lineage for participating in National I-Corp

OPENING WORKSHOP

3.5 DAYS - BOOTCAMP STYLE

WEEKLY SESSIONS/OFFICE HOURS

5 WEEKLY SESSIONS + REPORT OUTS

- *DISTRIBUTION CHANNELS*
- *CUSTOMER RELATIONSHIPS*
- *REVENUE MODELS*
- *PARTNERSHIP STRATEGY*
- *KEY RESOURCES/COSTS*

CLOSING WORKSHOP

2 DAYS - LESSONS LEARNED REPORT OUTS

TEXAS I-CORP HUB CONTACT: IDEALAUNCH & NATIONAL PROGRAM
LENAE SCROGGINS, PROGRAM MANAGER, lenae@tamu.edu

PARTICIPANTS



TEXAS A&M UNIVERSITY
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ENTREPRENEURIAL LEAD (EL)

WHO THEY ARE:

- Graduate students, postdoctoral scholars, or staff members with relevant knowledge of the technology or market and a commitment to investigate the potential opportunity for commercialization
- Undergraduates are rarely accepted

WHAT THEY DO:

- Drives the customer discovery process and support the transition of the technology into the marketplace if it demonstrates commercial viability
- Commits approximately 30 hours/week to I-Corps program

TECHNICAL LEAD (TL)

WHO THEY ARE:

- Individual involved in creating the technology that forms the basis of the team's business concept OR possesses a high level of relevant technical expertise
- Often a faculty member with PI status

WHAT THEY DO:

- Leads project management efforts
- Plays a key leadership role as a scientific advisor or chief technical officer
- Commit approximately 10 hours/week to I-Corps program

INDUSTRY MENTOR (IM)

WHO THEY ARE:

- Experienced entrepreneur, intrapreneur, or corporate innovator

WHAT THEY DO:

- Guides the team, navigates industry sectors, and assists with industry connections
- Commits approximately 5-10 hours/week to I-Corps program

TEAMS DO NOT HAVE TO IDENTIFY AN IM PRIOR TO APPLICATION BUT ARE ENCOURAGED TO DO SO

MY ASK TODAY



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- PLEASE IDENTIFY A CAMPUS CHAMPION/POINT OF CONTACT
- **SPREAD THE WORD**
- PLAN CAMPUS VISIT & OFFICE HOURS FOR INTERESTED FACULTY (REMOTE IS ALSO AN OPTION)



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TEXAS A&M HUB FACULTY LEAD**

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