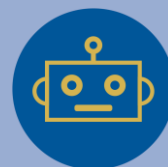
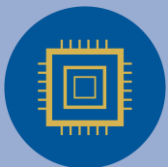


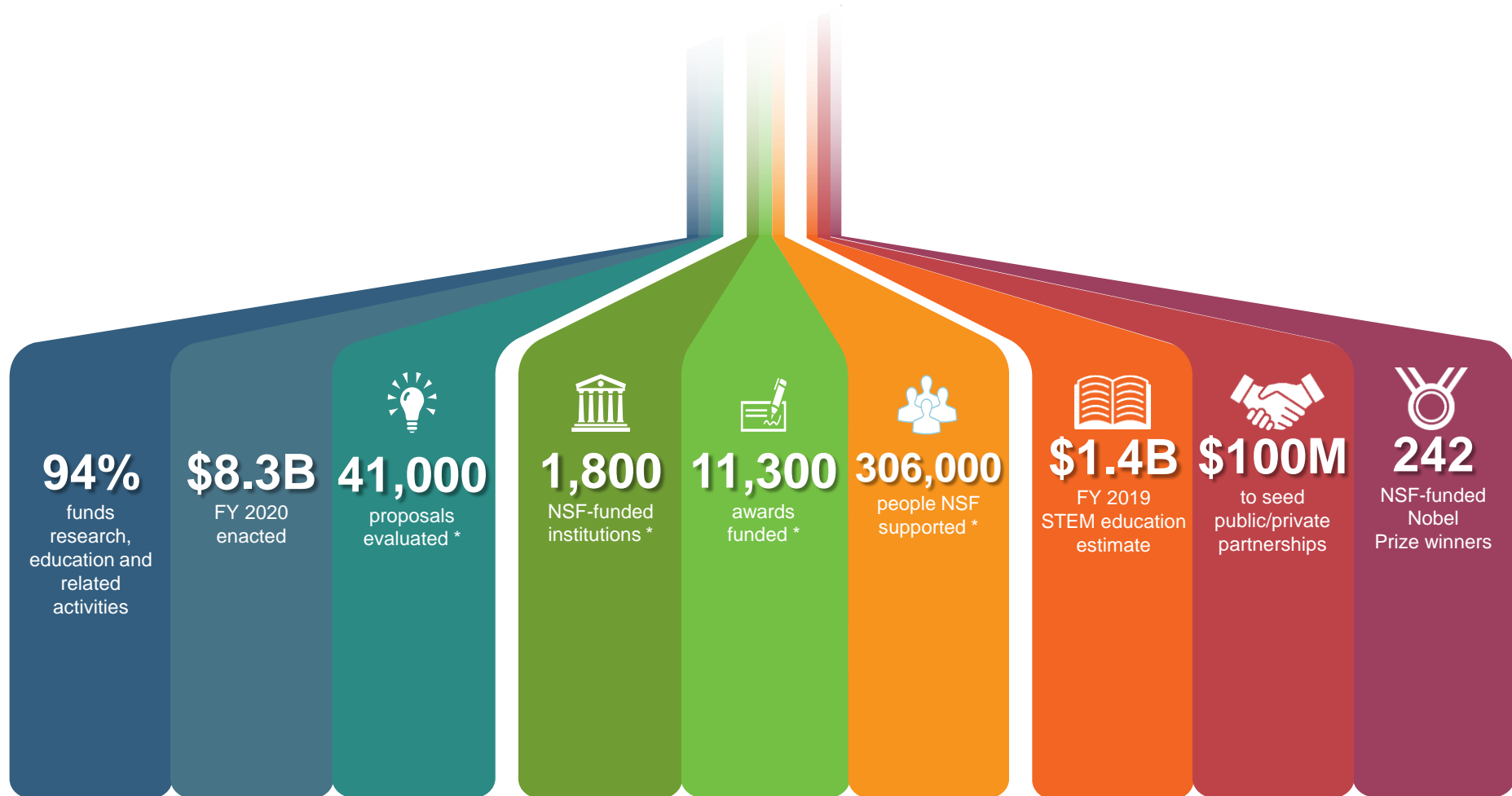
NSF Webinar Series: Funding for Startups and Small Businesses

Henry Ahn and Alastair Monk
Program Directors

Industrial Innovation and Partnerships (IIP)
National Science Foundation



NSF by the Numbers



** Numbers shown are based on FY 2019 activities, the last full year of data.*



NSF supports all areas of science and engineering



Biological Sciences



Engineering



Mathematical & Physical Sciences



Computer & Information Science & Engineering



Geosciences (including Polar Programs)



Integrative Activities



Education & Human Resources



Social, Behavioral & Economic Sciences



International Science and Engineering



Basic Research
\$8B



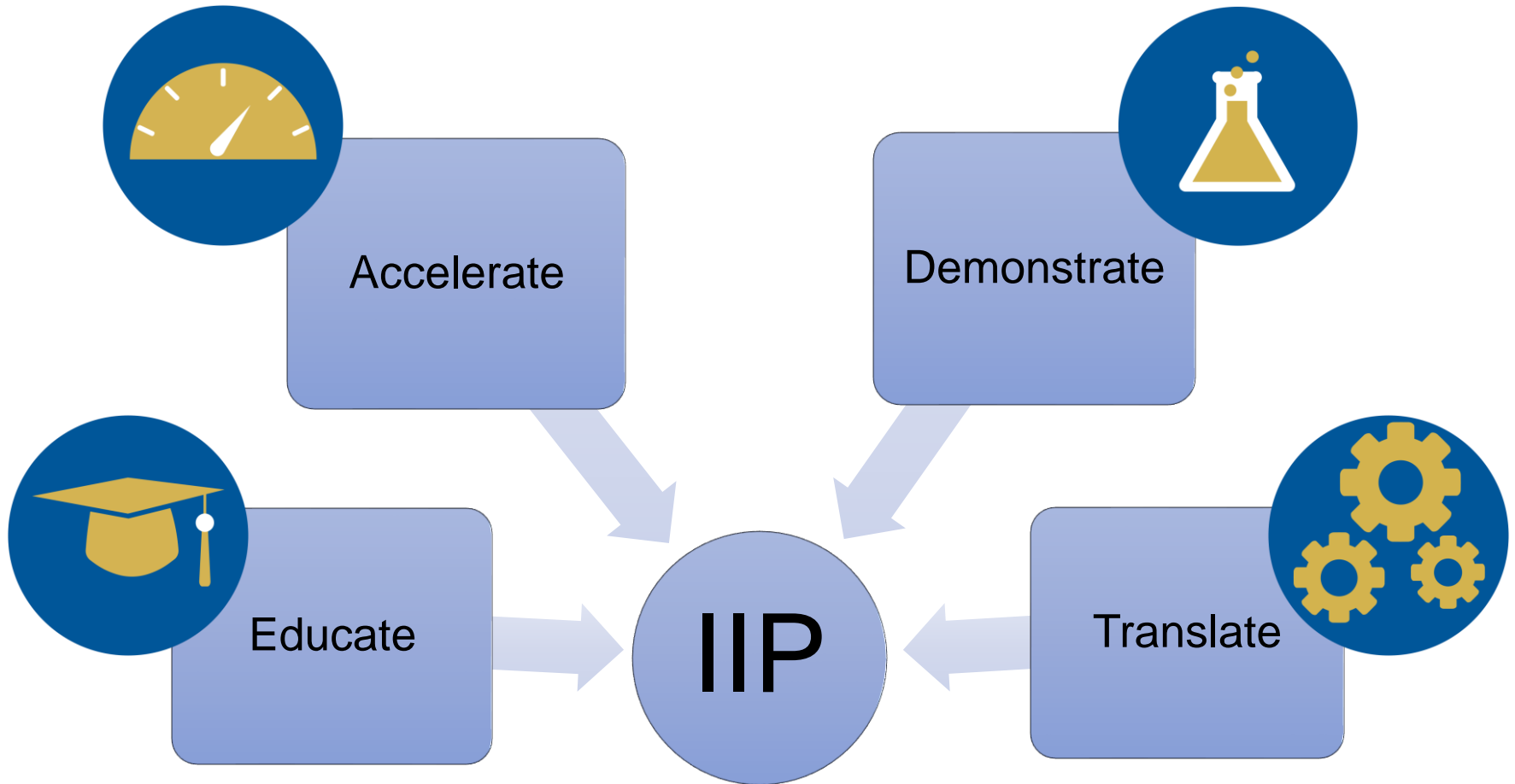
**Division of
Industrial
Innovation and
Partnerships**

\$272M
Translational R&D



Technology
Translation,
Partnerships,
and Impact

What does IIP do?



IIP Programs

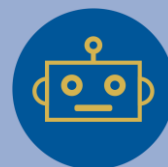
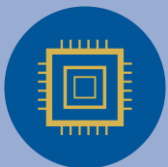
America's Seed Fund (SBIR/STTR)

Innovation Corps (I-Corps™)

Partnerships for Innovation (PFI)

IUCRC

GOALI / INTERN



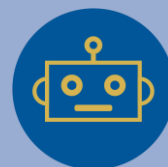
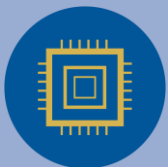


America's
SEED FUND
SBIR.STTR

Small Business Innovation Research (SBIR)

Small Business Technology Transfer (STTR)

FY2018
NSF total = **\$197 M**

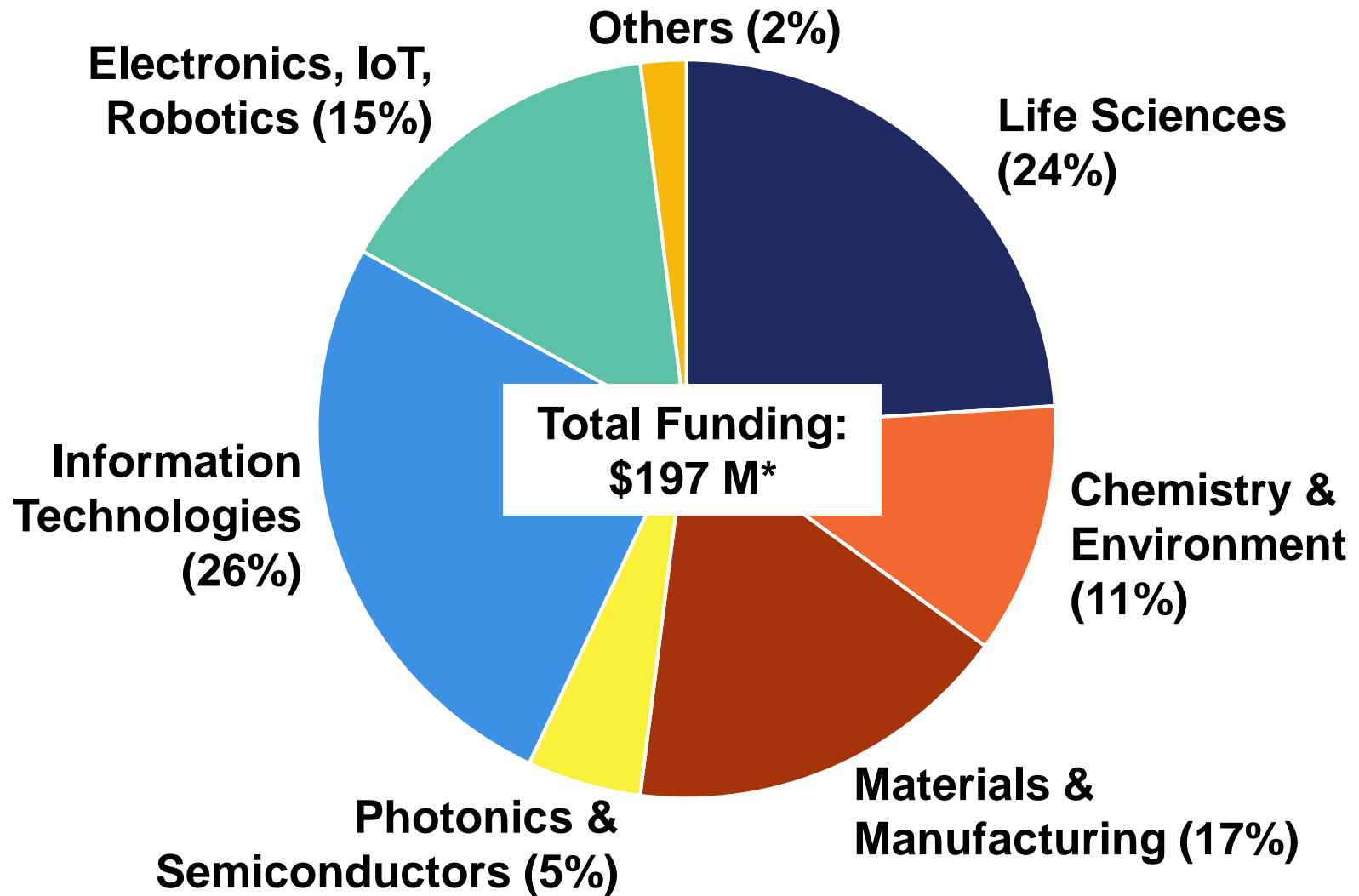


America's Seed Fund (SBIR/STTR)

- Funding for Startups
- Up to \$1.75 M in R&D funding to develop transformative, deep tech, high-impact technologies
- Transforms scientific discovery into products and services with commercial and societal benefit



SBIR/STTR Funding by Topic Area FY18



*excludes outreach & admin funds

Funding Phases

Phase I

Feasibility Research

6-12 Months

\$256,000



Phase II

Research Toward Prototype

24 Months

\$1,000,000



Phase IIB

Third-Party Investment Plus

1:2 NSF Match

(up to \$500,000)



Recent Phase I Awardee Stats

- 91% - never had an SBIR/STTR Phase II award (from any agency)
- 85% - five or fewer employees
- 72% - founded in past three years
- >75% - first-time SBIR/STTR winners



Portfolio since 2014 shows (as of Feb. 2020):

- \$9 billion in follow-on institutional (equity) financing
- 107 successful exits (acquisitions, mergers, IPOs)

([NSF Award Search](#))



How to Get Started ...

- Step 1 in the application process:

Submit a Project Pitch

<https://seedfund.nsf.gov/project-pitch/>

- Get started any time for fast feedback (hear back within 3 weeks)
- Purpose is to assess **fit** with the program – not a review
- Good fit => Invitation to submit a full proposal



Review Criteria for Full Proposals

- **Intellectual Merit**
- **Commercial Potential**
- **Broader Impacts**

Read full review criteria:

<https://seedfund.nsf.gov/resources/review/peer-review/>

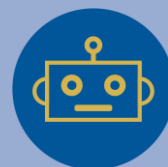
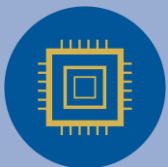


Biomedical Technologies and Medical Devices

- Development of novel products, processes, or services that will enable the delivery of high-quality, economically-efficient healthcare in the United States and globally
- Biomedical Technologies subtopics include;
 - Diagnostic Assays
 - Medical Imaging
 - Monitoring Devices
- Medical Devices subtopics include;
 - Implantables
 - Orthopedic
 - Rehabilitation Devices
 - Sensors
 - Wearables

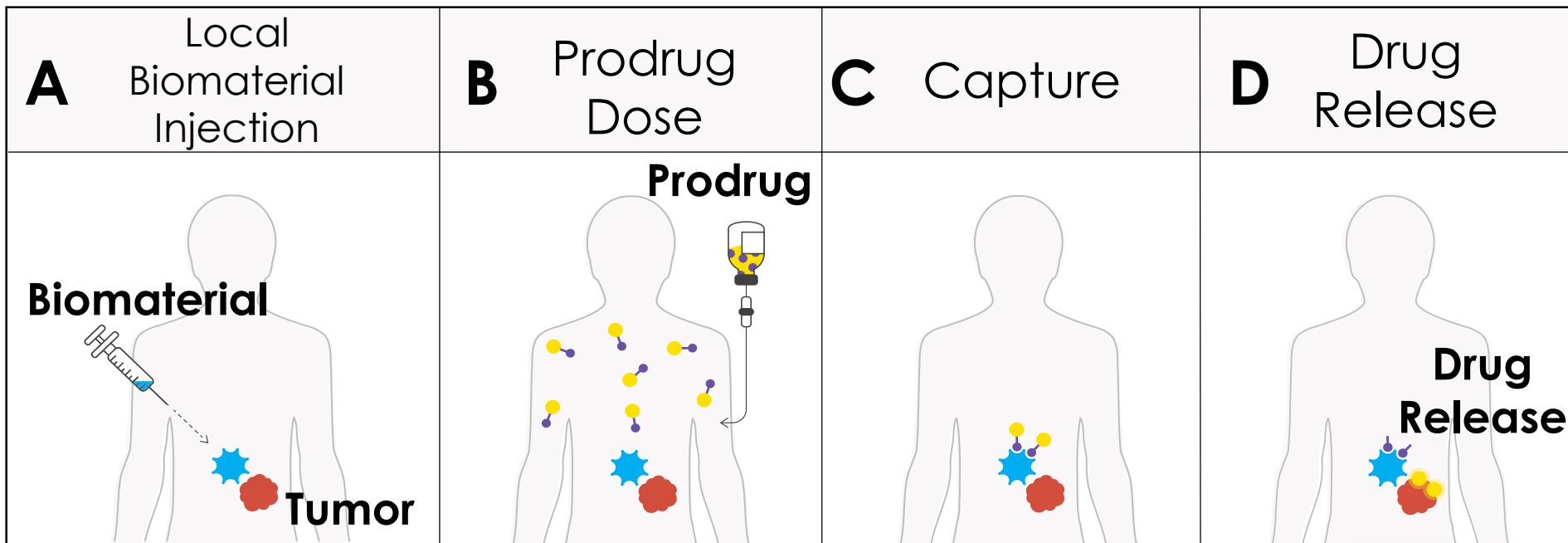
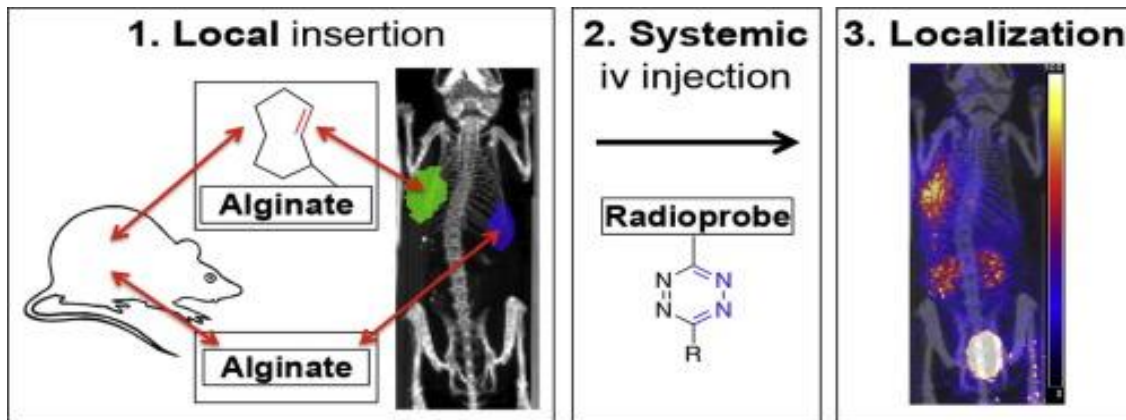


Examples



INNOVATIONS IN SIGHT



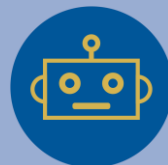
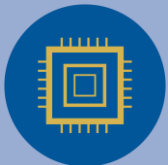


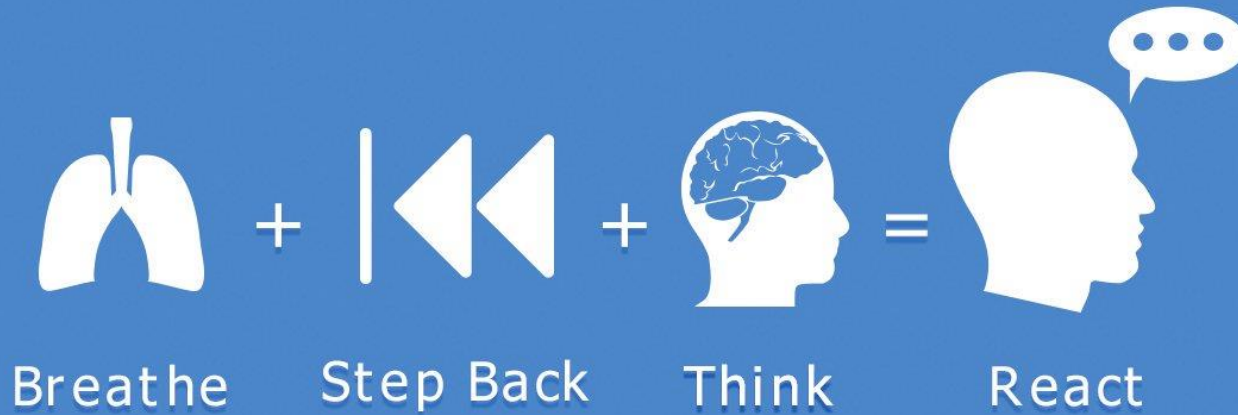
Digital Health

- Known also as smart health
- Focused on development of digital technologies to address;
 - Individual health
 - Healthcare efficiency and delivery
 - Day to day living needs
 - Societal needs
- Broad domains and subtopics include;
 - Clinical decision support (DH1)
 - Healthcare System Workflow (DH2)
 - Medical diagnostics (DH3)
 - Personalized software solutions and mhealth (DH4)
 - Other digital health innovations (DH5)



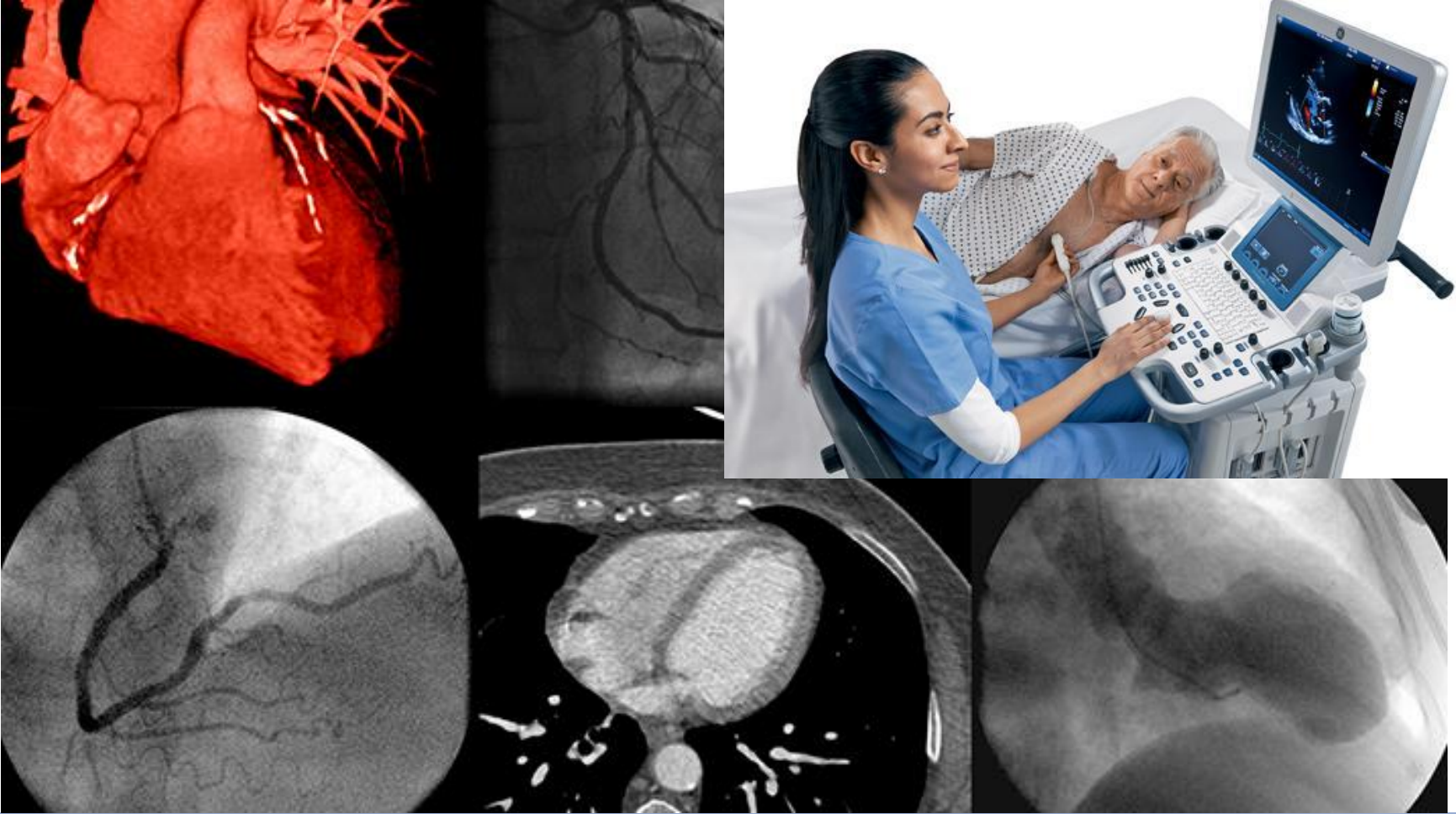
Examples

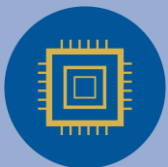






BAYLABS





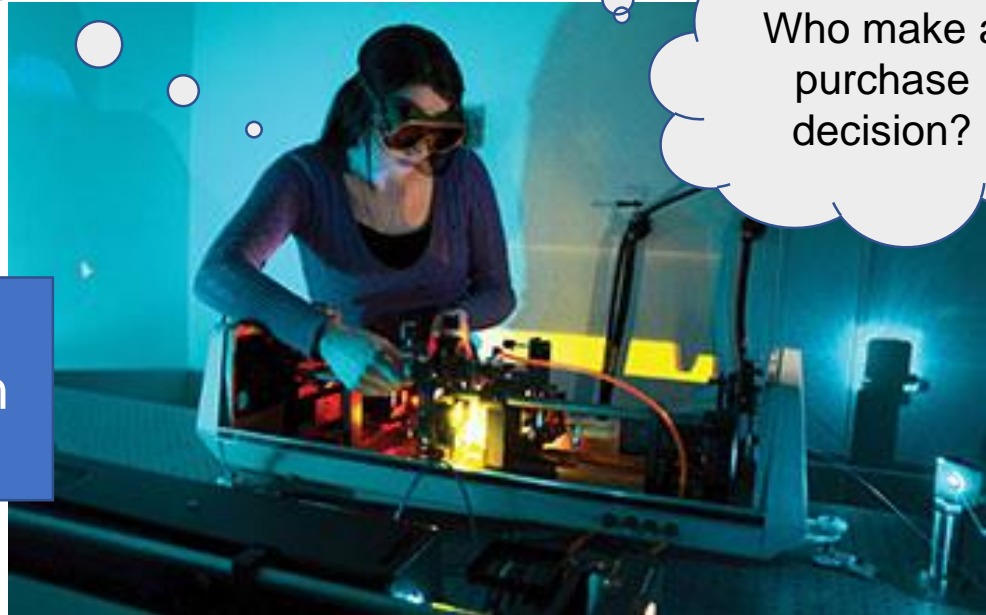
I have a great idea! Does anyone care?!

What problem does this solve for my customers?

Do customers want something more efficient – or smaller - or cheaper?

Who make a purchase decision?

The answers are not in the lab and not even on campus



I-Corps isn't... and is....

- It isn't:
 - Selling, pitching, grant writing, business plans
- It is:
 - Focus on **Technology-Market Fit**
 - Team-based
 - 7 weeks, 100+ customer interviews
 - Deliverable: “GO” or “NO-GO” decision – pivot!

I-Corps Teams Award:

7 weeks

100+ Interviews

\$50,000

www.nsf.gov/icorps



I-Corps

- Translation of fundamental research to the marketplace
- Train NSF-funded faculty, students, and other researchers in innovation and entrepreneurship skills.
- Help researchers gain valuable insight into entrepreneurship, starting a business or industry requirements and challenges.

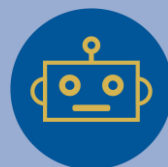
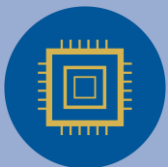
Outputs

- 1600+ NSF Teams since 2013
- Nearly 800 startups created

FY2018
NSF total = **\$33M**



Partnerships for Innovation (PFI)



Partnerships for Innovation (PFI)

- First step in advancing research toward marketplace
- Prototyping awards for researcher with history of NSF awards
- Does not require employment at a small business
- Open to any technology area covered by NSF
- Coupled with I-Corps

PFI-RP:
Requires partnership
36 months
\$550,000

PFI-TT:
1 institution
18-24 months
\$250,000

FY2018
\$20.7M



Which risks does IIP address?



Accelerate
(Market)

Demonstrate
(Technical)



IUCRC
PFI

Educate
(Skills)

IIP

Translate
(Financial)



PFI
INTERN



America's
SEED FUND
SBIR.STTR





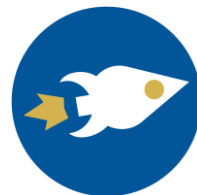
The need to support commercialization of deep technologies is profound.



NSF supports basic research across all disciplines, IIP focuses on translation of the research outcomes.



IIP programs support R&D toward commercialization.



Our portfolio includes technologies that are transforming industry and society.

Want to Learn the Review Process Better? Consider serving as a reviewer.

- Email us with your CV/resume
 - Henry Ahn (Hahn@nsf.gov)
 - Alastair Monk (amonk@nsf.gov)
- Indicate the areas of expertise (technical or commercial, and technical discipline)
- We are particularly interested in enhancing the diversity of our panels



Questions?

sbir@nsf.gov

www.nsf.gov/eng/iip/about.jsp

@NSFSBIR

