



# Funding Innovative Research

**Small Business Innovation Research (SBIR)  
Small Business Technology Transfer (STTR)**





# **SBIR/STTR objectives**

**To help start-ups and small businesses transform their high-risk, high impact technologies into marketable products and services that solve real problems.**

# Why should you care about SBIR/STTR?

- Science, technology, engineering and mathematics (STEM) affect every aspect of our lives
- There are very limited sources of funding available for STEM start-ups
  - Business angels
  - Venture Capital
  - Personal resources
- The SBIR/STTR programs provide a non-dilutive source of capital for start-ups
  - The company doesn't give up any equity in exchange for SBIR/STTR funding

# Are SBIR/STTR loan programs? NO!



## **NON-DILUTED CAPITAL**

The funding agency cannot take an equity position or ownership of your firm



## **IP/DATA RIGHTS PROTECTION**

Government can't share your reports or data with anyone outside of the federal government for 20 years

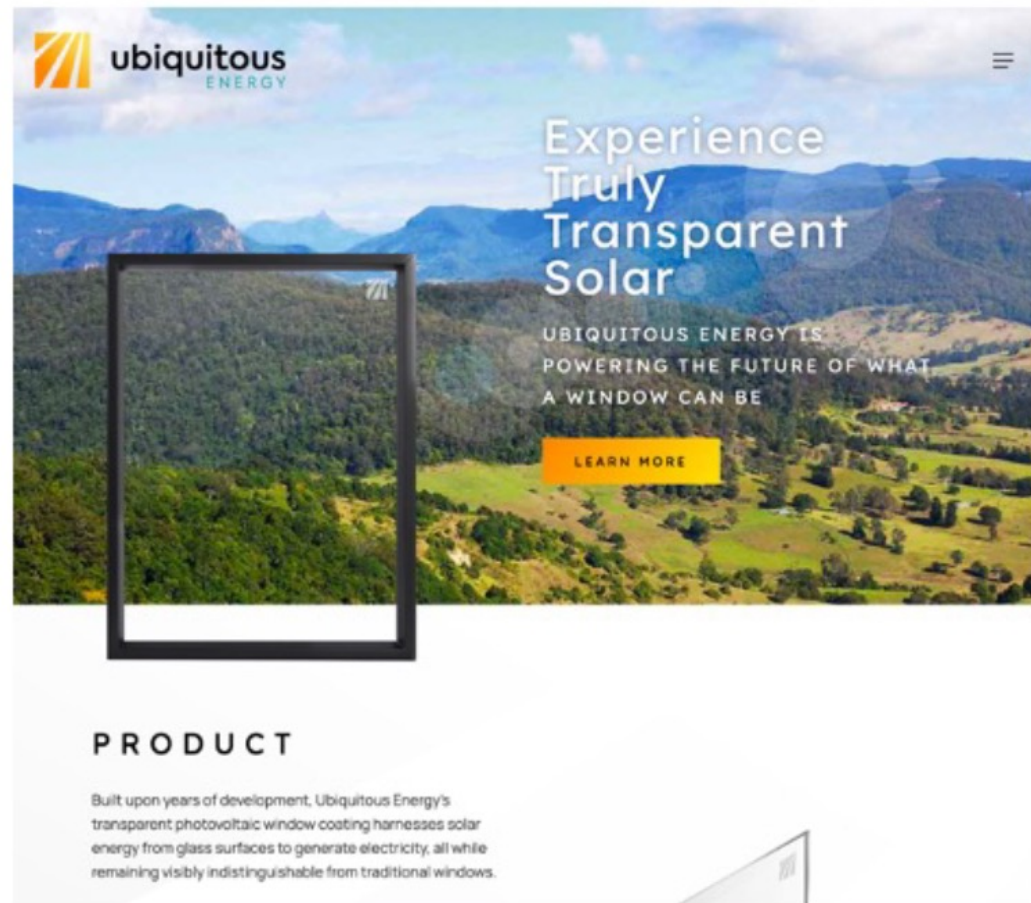


## **DIRECT FOLLOW-ON PHASE III AWARDS**

No need for further competition  
(J&A not required)

<https://www.sbir.gov/tutorials/data-rights/>

# What does an SBIR firm look like?



The image shows a screenshot of the Ubiquitous Energy website. The top left features the company logo, which consists of three orange diagonal lines followed by the text "ubiquitous ENERGY". The main header area has a background image of a mountainous landscape with a window frame overlay. The text "Experience Truly Transparent Solar" is prominently displayed in white. Below this, a smaller line of text reads "UBIQUITOUS ENERGY IS POWERING THE FUTURE OF WHAT A WINDOW CAN BE". A yellow button with the text "LEARN MORE" is positioned below the text. The bottom section of the page is titled "PRODUCT" and contains a paragraph of text describing the company's transparent photovoltaic window coating technology.

**ubiquitous**  
ENERGY

Experience  
Truly  
Transparent  
Solar

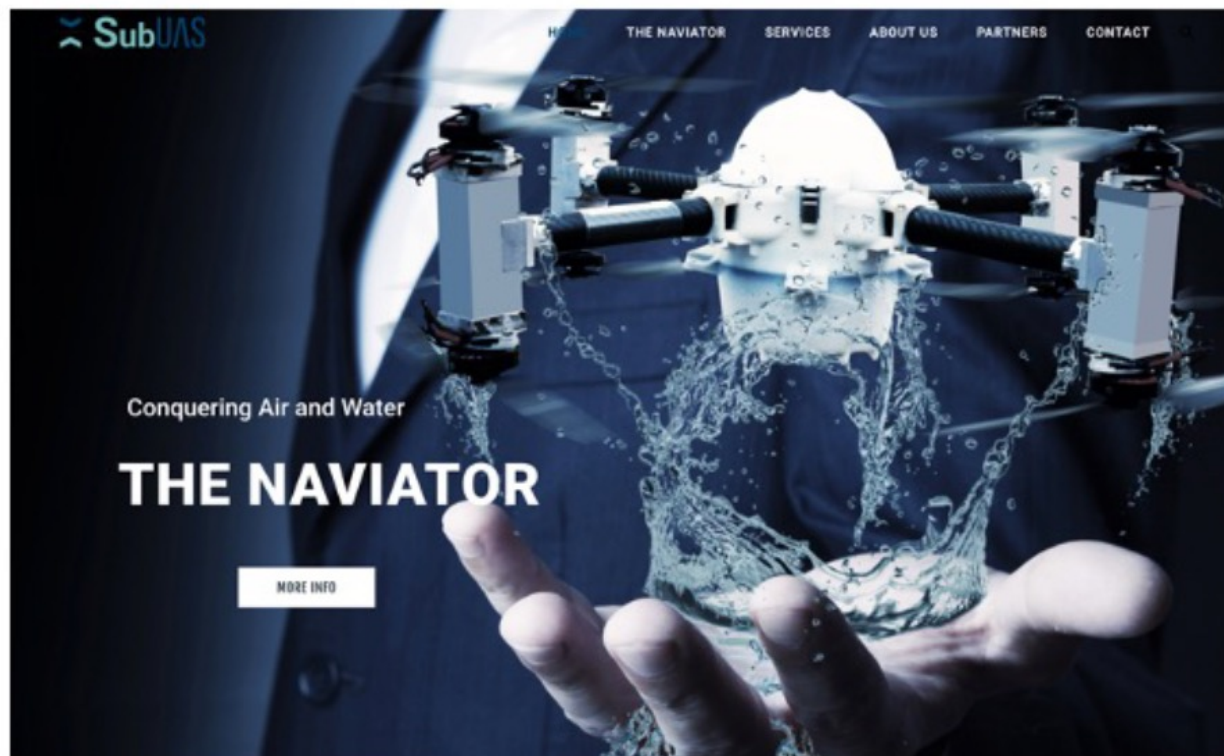
UBIQUITOUS ENERGY IS  
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LEARN MORE

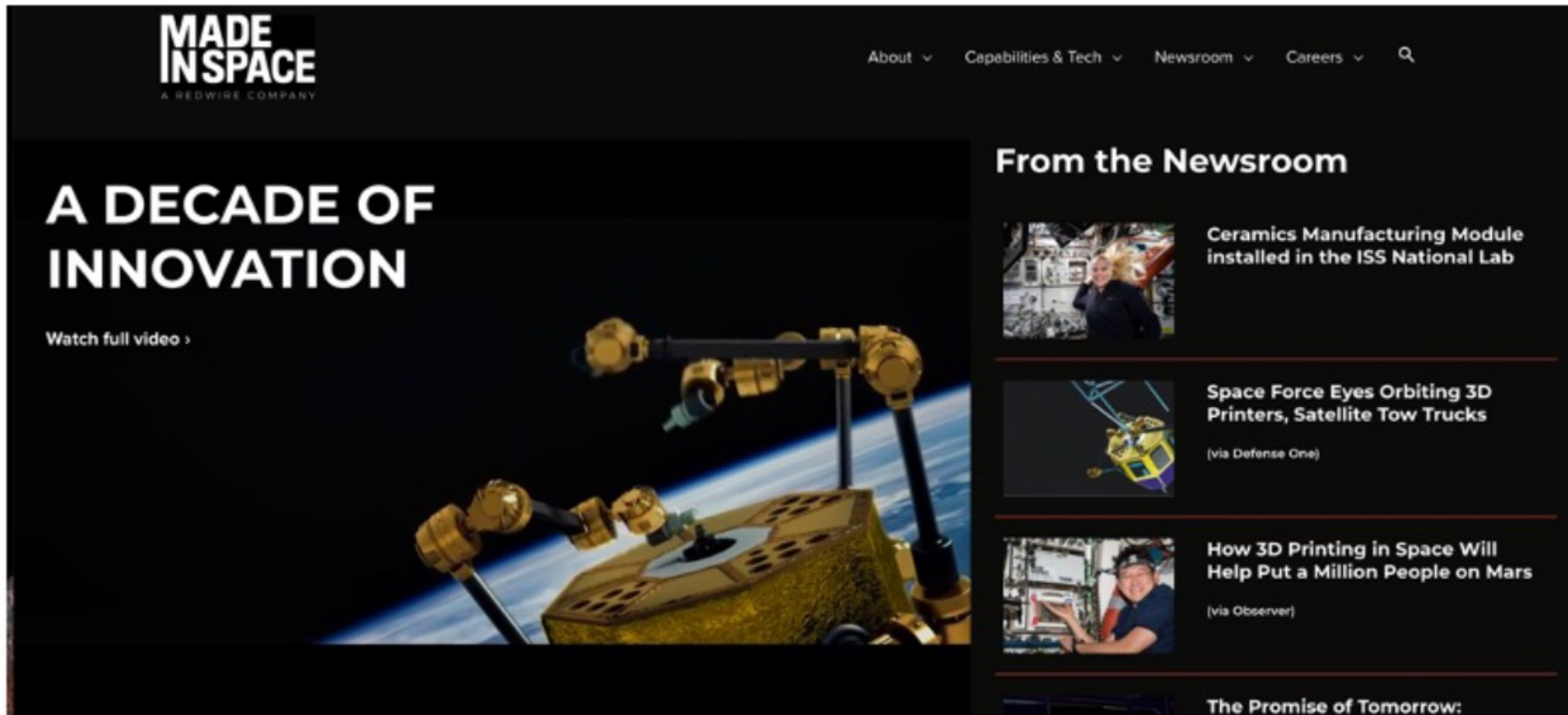
**PRODUCT**

Built upon years of development, Ubiquitous Energy's transparent photovoltaic window coating harnesses solar energy from glass surfaces to generate electricity, all while remaining visibly indistinguishable from traditional windows.

# What does an SBIR firm look like?



# What does an SBIR firm look like?



The screenshot shows the homepage of Made In Space, a Redwire company. The header includes the company logo and navigation links for About, Capabilities & Tech, Newsroom, and Careers, along with a search icon. The main content area features a large hero section on the left with the text "A DECADE OF INNOVATION" and a "Watch full video" link, accompanied by an image of a satellite component in space. On the right, a "From the Newsroom" section lists three articles: "Ceramics Manufacturing Module installed in the ISS National Lab", "Space Force Eyes Orbiting 3D Printers, Satellite Tow Trucks" (via Defense One), and "How 3D Printing in Space Will Help Put a Million People on Mars" (via Observer). A fourth article, "The Promise of Tomorrow:", is partially visible at the bottom.


**MADE IN SPACE**  
A REDWIRE COMPANY


About ▾ Capabilities & Tech ▾ Newsroom ▾ Careers ▾ 🔍


## A DECADE OF INNOVATION

[Watch full video >](#)

### From the Newsroom

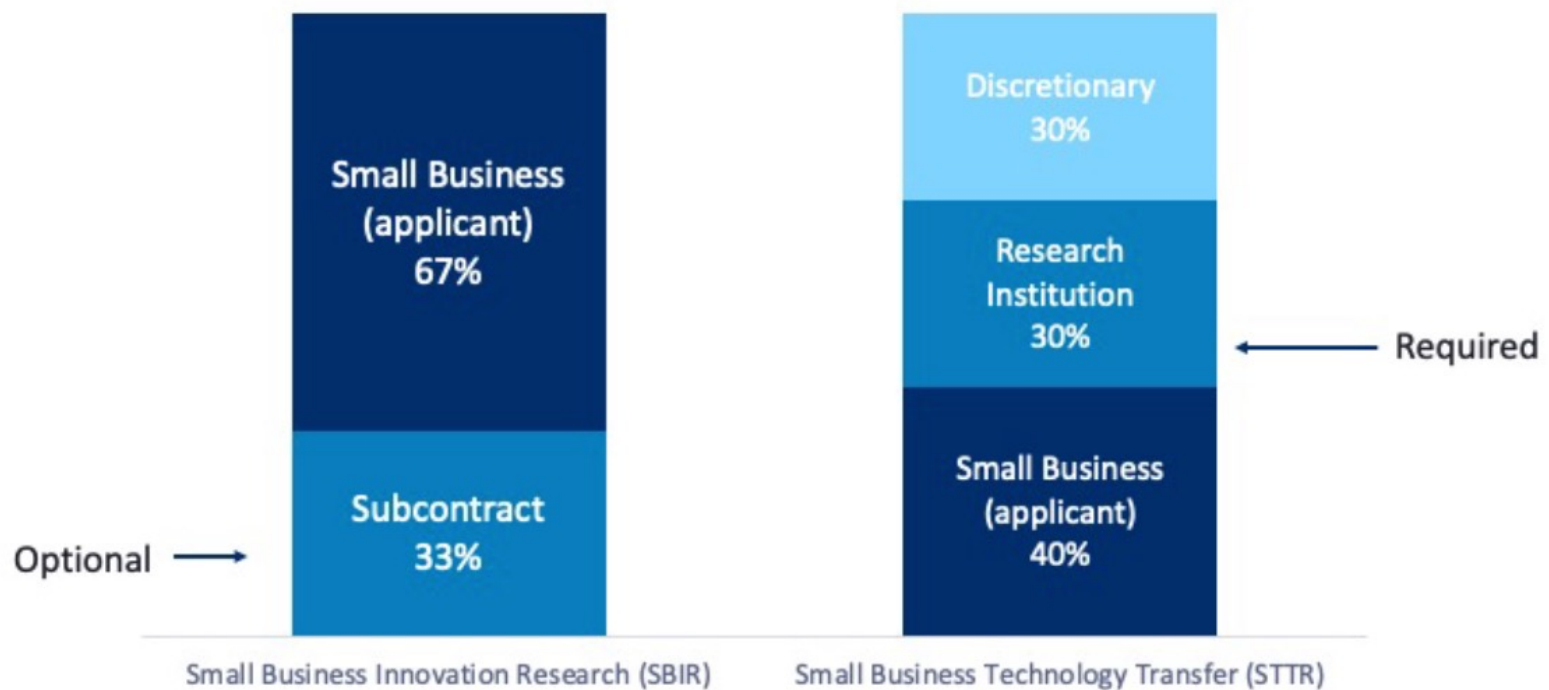
 **Ceramics Manufacturing Module installed in the ISS National Lab**

 **Space Force Eyes Orbiting 3D Printers, Satellite Tow Trucks**  
(via Defense One)

 **How 3D Printing in Space Will Help Put a Million People on Mars**  
(via Observer)

**The Promise of Tomorrow:**

# What's the difference between SBIR and STTR?



**The small business is ALWAYS the applicant and awardee!**



## STTR is a smaller program

- There are 5 agencies that have a Small Business Technology Transfer (STTR) program
- These agencies have over a billion dollars of extramural R&D
- They provide .45% of the extramural R&D budget for STTR awards
- **Five agencies have this program**
  - Department of Defense (DoD)
  - Department of Health and Human Services (HHS)
  - Department of Energy (DOE)
  - National Science Foundation (NSF)
  - National Aeronautics and Space Administration (NASA)

**The small business is ALWAYS the applicant and awardee!**

# Which agencies fund both SBIR and STTR?

- Defense
- Energy
- Health and Human Services
- National Aeronautics and Space Administration
- National Science Foundation



# Which agencies fund SBIR only?

- Agriculture
- Education
- Environmental Protection Agency
- Homeland Security
- National Institute of Standards and Technology\*
- National Oceanic and Atmospheric Administration\*
- Transportation

\* Branches of Department of Commerce (DOC)



## Which program is better? SBIR or STTR

- It depends....
- The SBIR program has more funding than STTR.
- It can be very helpful for a small business to have strong ties with a university.
- The five largest SBIR programs also have an STTR program.
- The Principal Investigator can be from the University, although the applicant is always the small business

## Who **SHOULDN'T** consider the SBIR/STTR programs?

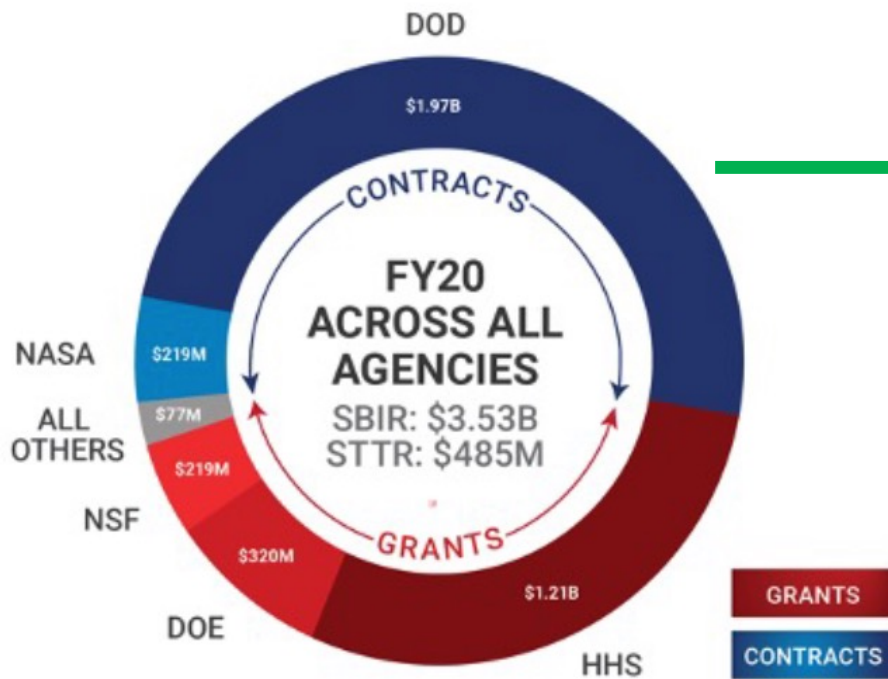


- Needs money for marketing
- Needs money for manufacturing
- Needs money for cash flow
- Doesn't conduct innovative research

# How much funding does SBIR/STTR program provide?



# FY20 SBIR/STTR Budgets (Combined)



Agencies with SBIR and STTR Programs	2020 Budget
Department of Defense (DoD)*	\$1.97 B
Department of Health and Human Services (HHS)**, including the National Institutes of Health (NIH)	\$1.21 B
Department of Energy (DOE), including Advanced Research Projects Agency – Energy (ARPA-E)	\$320 M
National Science Foundation (NSF)	\$219 M
National Aeronautics and Space Administration (NASA)	\$219 M

Agencies with SBIR Programs	2020 Budget
U.S. Department of Agriculture (USDA)***	\$30 M
Department of Homeland Security (DHS)	\$14 M
Department of Commerce (DOC): National Institute of Standards and Technology (NIST)	\$3.7 M
Department of Commerce (DOC): National Oceanic and Atmospheric Administration (NOAA)	\$10 M
Department of Transportation (DOT)	\$12.7 M
Department of Education (ED)	\$7.7 M
Environmental Protection Agency (EPA)*	\$3.7 M

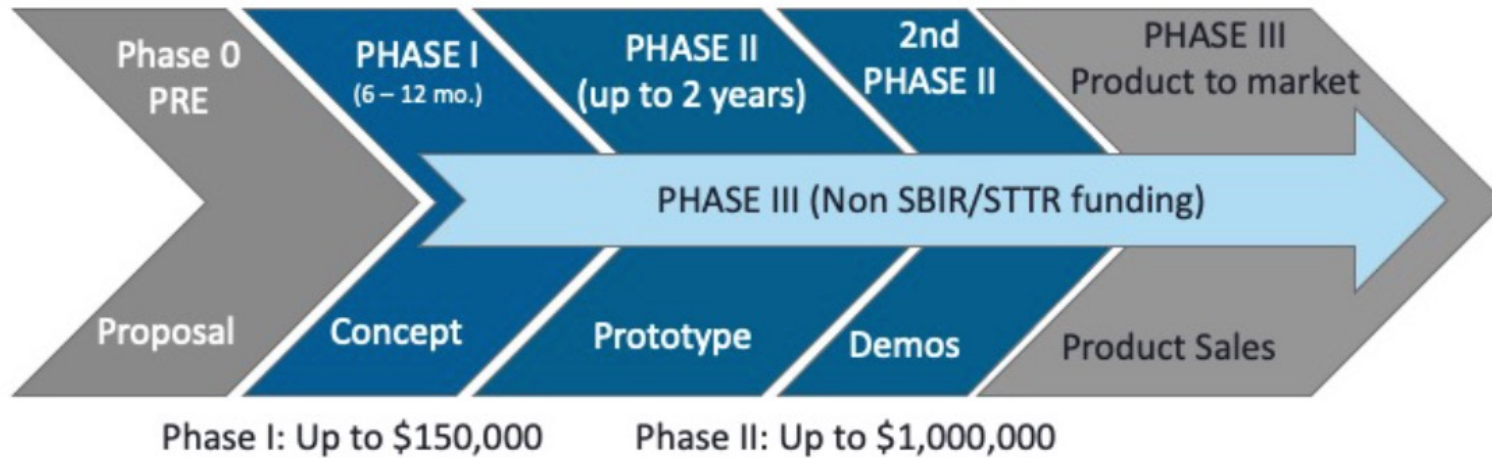
NIH also issues contracts; and, within DOC, NIST uses cooperative agreements.

# Contract vs. Grant



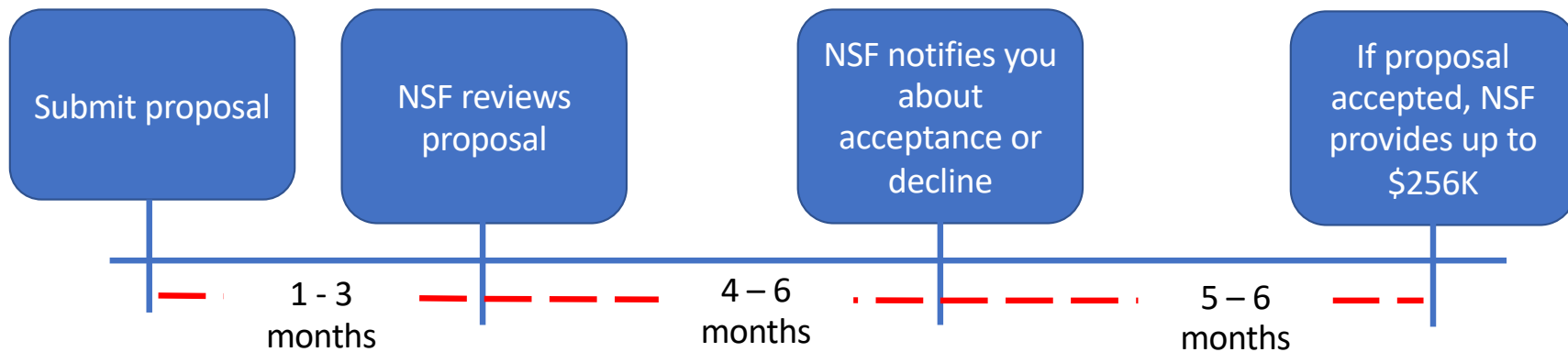


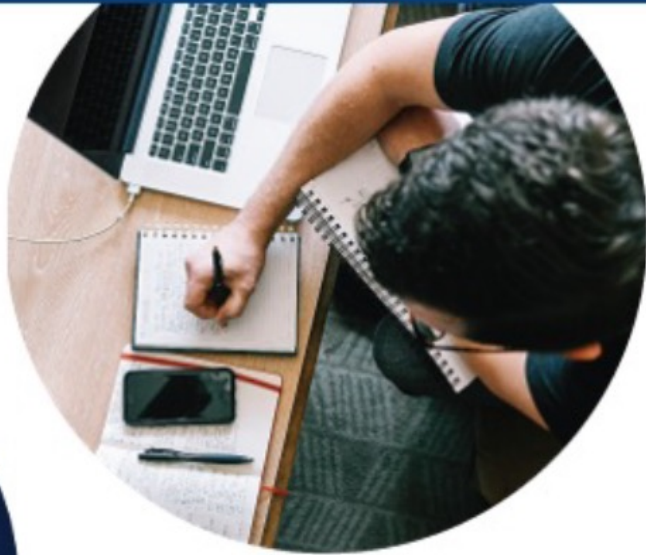
## Only Phases I /II use SBIR/STTR \$\$\$\$



The approval process is lengthy and highly competitive

# TYPICAL PROPOSAL TIMELINE





# How do you apply for funding?



## Start by checking eligibility...

- Company must be for profit, U.S. owned and operated, and under 500 people
- Work must be done in the U.S.
- Focus is on performing R&D – Not purchasing equipment, commercializing a technology that has already been developed, or one that has very low risk and only needs capital

**The small business is ALWAYS the applicant and awardee!**

# Do some topic searches:

And learn which agencies fund different technology areas!

The screenshot shows the SBIR-STTR website interface. At the top, the navigation menu includes 'About', 'Funding', 'Reports', 'Showcase', 'Announcements', and 'Resources'. The 'Funding' menu item is circled in red. Below the navigation, the 'Topic Areas' section is visible, with a search bar containing 'Search Keywords' and a 'Search' button. A red arrow points to the 'Search' button. The search results display a list of funding opportunities, with the first result being 'RFA HI 19-016: Technologies for Healthy Independent Living for Heart, Lung, Blood and Sleep Disorders (R43- Clinical Trial Not Allowed)'. The result includes a 'Release Date: 05-23-2019', 'Open Date: 05-23-2019', 'Deadline: 04/30/20', and 'Close Date: 06-30-2020'. The result also includes a brief description of the funding opportunity and the agencies involved: 'SBIR Phase 1 Department of Health and Human Services National Institutes of Health'.

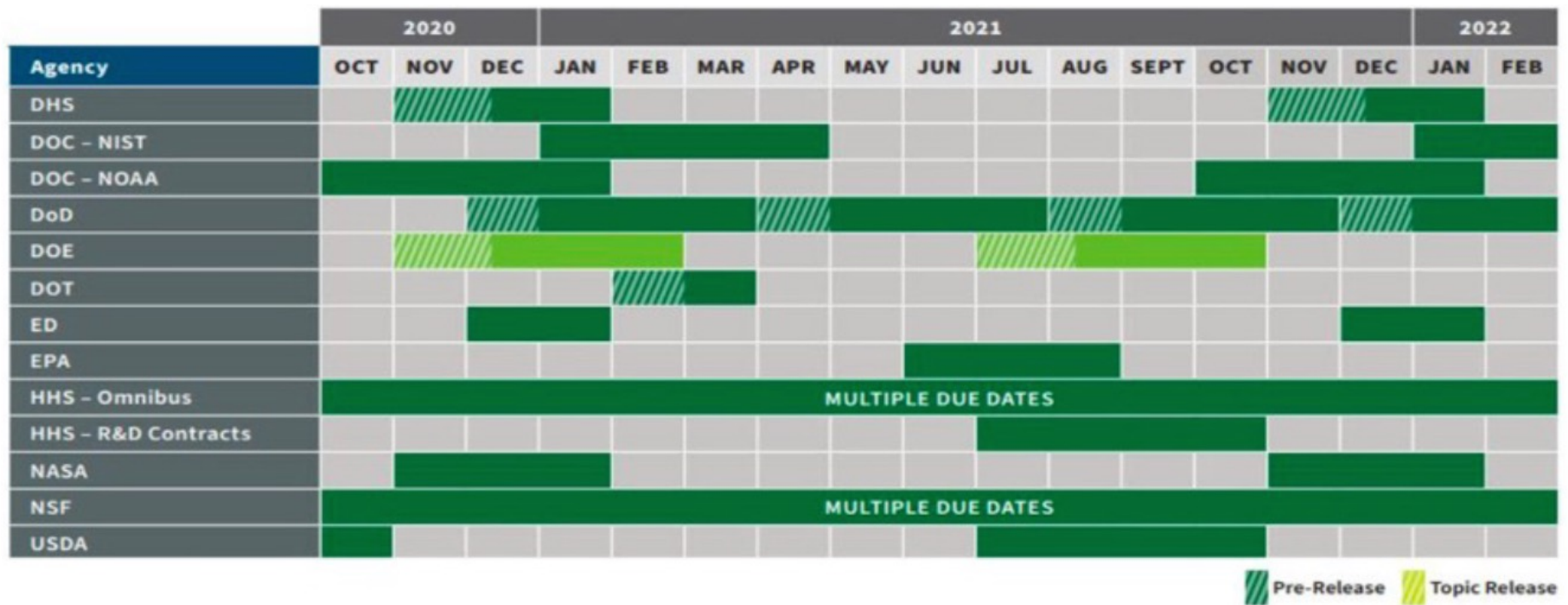


[www.sbir.gov/sbirsearch/topic/past](http://www.sbir.gov/sbirsearch/topic/past)

## Is there a form that I complete?

- NO, you provide a proposal package in response to a solicitation
- There are 11 participating agencies in the SBIR program
- Their solicitations are available for about 10 weeks at a time
- You need to follow the guidelines explicitly
- The SBIR programs do NOT accept unsolicited proposals

# Approximate Schedule



Solicitations are released at different times by each agency

# Online Tutorials

- 55 Courses including:
  - Agency overviews
  - Program basics
  - Data rights
  - IP protection

[www.sbir.gov/tutorials](http://www.sbir.gov/tutorials)

The screenshot displays the 'COURSE 4 FINDING TOPICS' section of the SBA SBIR/STTR Tutorials website. The main heading is 'TUTORIAL 1 HOW DO I FIND THE APPROPRIATE TOPIC?'. Below this, there is a 'FORMATS' section with options for 'Audio/Video', 'Multimedia', and 'PDF'. A 'TOOLS' section includes 'Glossary', 'Links', and 'Quiz'. A 'Hide Options' button is also present. The main content area contains a paragraph explaining that to submit an SBIR/STTR proposal, one must first find a relevant topic at one of the participating agencies. It notes that the programs do not accept 'unsolicited proposals' but instead require a response to one of their current topics. It also mentions that all agencies list their topics in their solicitation or Funding Opportunity Announcement (FOA), with the exception of the Department of Energy which publishes a separate topic list several weeks before it releases its FOA. Below the text is a video player with the title 'SBIR/STTR TOPIC SEARCH ENGINES'. A 'Back to Tutorials' button is located in the top right corner of the tutorial area.

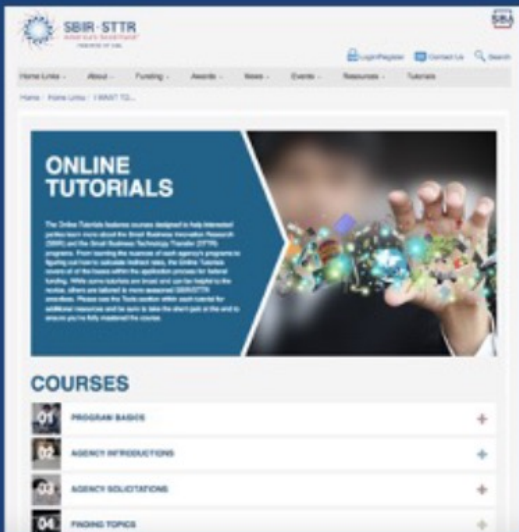


# How do I know when solicitations are released?

**SIGN UP TO RECEIVE ANNOUNCEMENTS FROM AGENCIES**


AGENCY	Website
DHS	<a href="https://sbir2.st.dhs.gov/portal/SBIR/">https://sbir2.st.dhs.gov/portal/SBIR/</a>
DoD	<a href="https://rt.cto.mil/rtl-small-business-resources/sbir-sttr/">https://rt.cto.mil/rtl-small-business-resources/sbir-sttr/</a>
DOE	<a href="https://science.osti.gov/sbir/Funding-Opportunities">https://science.osti.gov/sbir/Funding-Opportunities</a>
DOT	<a href="https://www.volpe.dot.gov/work-with-us/small-business-innovation-research">https://www.volpe.dot.gov/work-with-us/small-business-innovation-research</a>
ED	<a href="https://ies.ed.gov/sbir/">https://ies.ed.gov/sbir/</a>
EPA	<a href="https://www.epa.gov/sbir">https://www.epa.gov/sbir</a>
HHS	<a href="https://sbir.nih.gov/">https://sbir.nih.gov/</a>
NASA	<a href="https://sbir.nasa.gov/">https://sbir.nasa.gov/</a>
NSF	<a href="https://seedfund.nsf.gov/">https://seedfund.nsf.gov/</a>
NIST	<a href="https://www.nist.gov/tpo/small-business-innovation-research-program-sbir">https://www.nist.gov/tpo/small-business-innovation-research-program-sbir</a>
NOAA	<a href="https://techpartnerships.noaa.gov/SBIR">https://techpartnerships.noaa.gov/SBIR</a>
USDA	<a href="https://nifa.usda.gov/program/small-business-innovation-research-program-sbir">https://nifa.usda.gov/program/small-business-innovation-research-program-sbir</a>

# You apply in response to a Solicitation



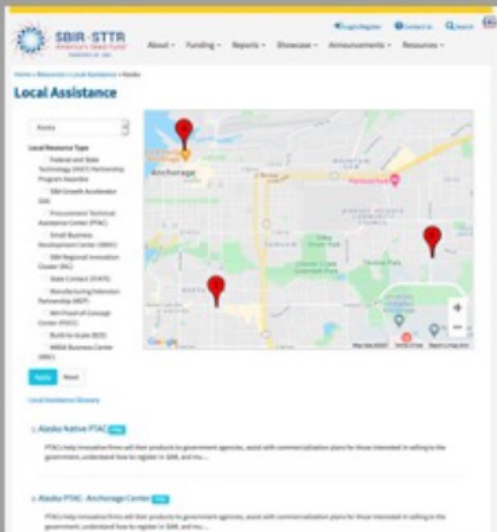
The screenshot shows the SBIR-STTR website interface. At the top, there is a navigation bar with links for Home, About, Funding, Awards, News, Events, Resources, and Tutorials. Below the navigation bar, there is a large banner for 'ONLINE TUTORIALS' featuring an image of a hand holding colorful digital particles. Below the banner, there is a section titled 'COURSES' with a list of four items: 01 PROGRAM BASICS, 02 AGENCY INTRODUCTIONS, 03 AGENCY SOLICITATIONS, and 04 FUNDING TOPICS. Each item has a plus sign to its right.

**Learn About SBIR/STTR**



A glowing blue icon representing a PDF document. It features a large blue arrow pointing downwards, indicating a download action. Below the arrow, the letters 'PDF' are displayed in a bold, white font within a blue rectangular box. The entire icon is set against a dark blue background with a subtle grid pattern.

**Download Solicitations**



The screenshot shows the 'Local Assistance' section of the SBIR-STTR website. It features a map of the United States with several red location pins. To the left of the map, there is a list of local assistance programs, including 'Local Resource Type', 'Funding and Date', 'Agency and Program', 'SBA Growth Accelerator', 'SBA Regional Innovation Center (RIC)', 'SBA Small Business Development Center (SBDC)', 'SBA Regional Innovation Center (RIC)', 'SBA Small Business Development Center (SBDC)', 'SBA Regional Innovation Center (RIC)', 'SBA Small Business Development Center (SBDC)', 'SBA Regional Innovation Center (RIC)', and 'SBA Small Business Development Center (SBDC)'. Below the map, there is a section titled 'Local Assistance History' with two entries: 'Alaska Native PTAC' and 'Alaska PTAC - Anchorage Center'. Each entry has a small icon and a link to the program's page.

**Find Local Assistance**



## Why should you try?

- Significant funding
- Award sizes vary
  - Over \$3M per project potential in 3-4 years
- Off-sets your expenses
- Learn a new skill-set that you can apply repeatedly



# 150 Hours

**Learning to write proposals is an  
investment in one's future**

# What skills are involved with preparing an SBIR/STTR proposal?

- An innovative concept
- Understanding your agency customer's needs
- The application of the scientific method to a work plan
- Developing a business case
- Explicitly following an agencies guidelines
- Multiple registrations
- Developing a team and/or partnerships
- Financial preparation
- Time management



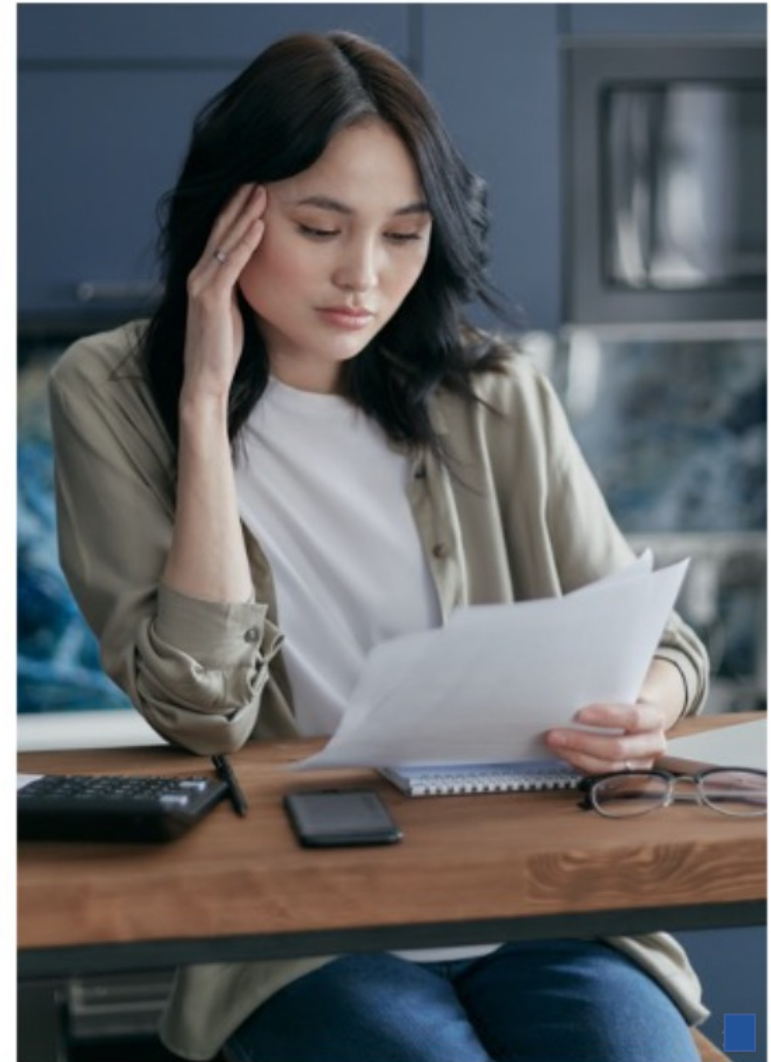
# Required Registrations

- Three registrations are required by all agencies
  - **D-U-N-S number through dun & bradstreet**
    - ... will transition to Unique Entity Identifier (UEI) by April 2022
  - **SAM.gov**
    - Be sure to look for the government identifier
    - No charge to register; caution – many look alike on-line
  - **SBA Company Registration with SBIR.gov**
    - <https://sbir.gov/registration>
- Agencies also have additional required registration that are unique to them



## What are the elements of an application?

- A technical proposal (called by various names)
- A qualified Principal Investigator (PI)
- Resumes of Key Personnel
- Facilities description
- Budget with cost justifications
- Other documents unique to each agency



## Why do proposals get rejected?

- **It's not all about you!**

- There must be synergy between your goals and those of the agency
- You must follow their instructions explicitly
- The project must be genuinely innovative
- You must have the right team and facilities for the project





## What are my chances of winning an award?

- The average award rate for Phase I is 15% across all agencies
- There is variability among Agencies
- Very experienced and novice companies apply
- It takes time to learn how to prepare a winning application



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### Entrepreneur

- Learn how to apply
- Confirm eligibility
- Register my company



### Support Organization

- See awards in your area
- View training opportunities
- Submit an award



### Federal Agency

- Procure cutting edge technology
- Share a success story
- Request an agency login

## Stay In Touch

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<http://bit.ly/JoinSBIRList>

[www.sbir.gov](http://www.sbir.gov)