



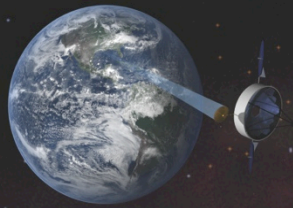
Small Business Innovation Research Small Business Technology Transfer

Gynelle C. Steele
Mission Directorate Liaison

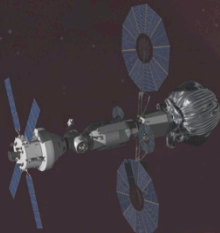
September 27, 2016



Technology Path to Pioneering Space



Asteroid
Retrieval
Mission



Hypersonic
Inflatable
Aerodynamic
Decelerator



Supersonic
Aerodynamic
Decelerator



Optical
Communications

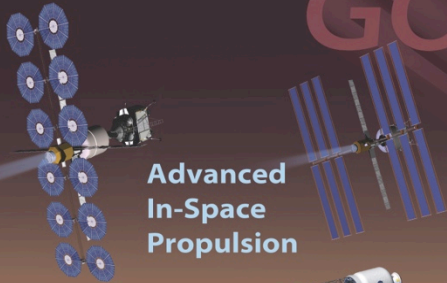


GO

LAND

LIVE

Advanced
In-Space
Propulsion



Supersonic
Retropropulsion



Environmental
Control &
Life
Support
System



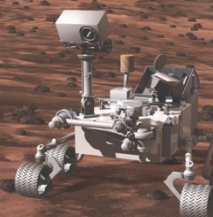
Surface Power



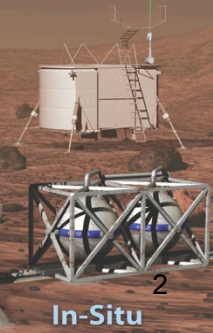
Next
Generation
Spacesuit



Robotics &
Autonomy



In-Situ
Resource
Utilization



The SBIR & STTR Programs



Small Business Innovation Research (SBIR)

- A set-aside program for small business to engage in Federal R&D – with potential for commercialization
- 3.0% of Federal agencies Extramural R&D budgets greater than \$100M per year (FY 2015 ~ \$2.9) . Growing to 3.2% by 2017.

Small Business Technology Transfer (STTR)

- A sister set-aside program to facilitate cooperative R&D between small business concerns and U.S. research institutions – with potential for commercialization.
- 0.45% of the extramural research budget (>\$250 million) for all agencies with a budget greater than \$1B per year

Eligibility Requirements



Small Business Innovation Research (SBIR)

- 1 Organized for-profit U.S. business
- 2 At least 51% U.S. owned by individuals and independently operated
- 3 500 or fewer employees
- 4 PI's primary employment with small business during project
- 5 Intellectual Property Agreement

Small Business Technology Transfer (STTR)

- 1 Formal Cooperative R&D Effort with a U.S. Research Institution
- 2 Minimum 40% by small business, 30% by U.S. Research Institution
- 3 Small business is Prime, PI can be from SBC or Research Institution
- 4 Other SBIR Requirements Apply

11 Participating Federal Agencies



SBIR + STTR Programs



Department of
Defense (DoD)



Department of
Health and Human
Services (HHS)



Department of
Energy (DoE)



National Aeronautics
and Space
Administration (NASA)



National Science
Foundation (NSF)

SBIR Program only:



Department of
Agriculture
(USDA)



Department of
Education (DoEd)



Department of
Transportation (DoT)



Environmental
Protection
Agency (EPA)



Department of
Homeland Security
(DHS)



Department of
Commerce
(DoC)

Why Participate in SBIR/STTR?



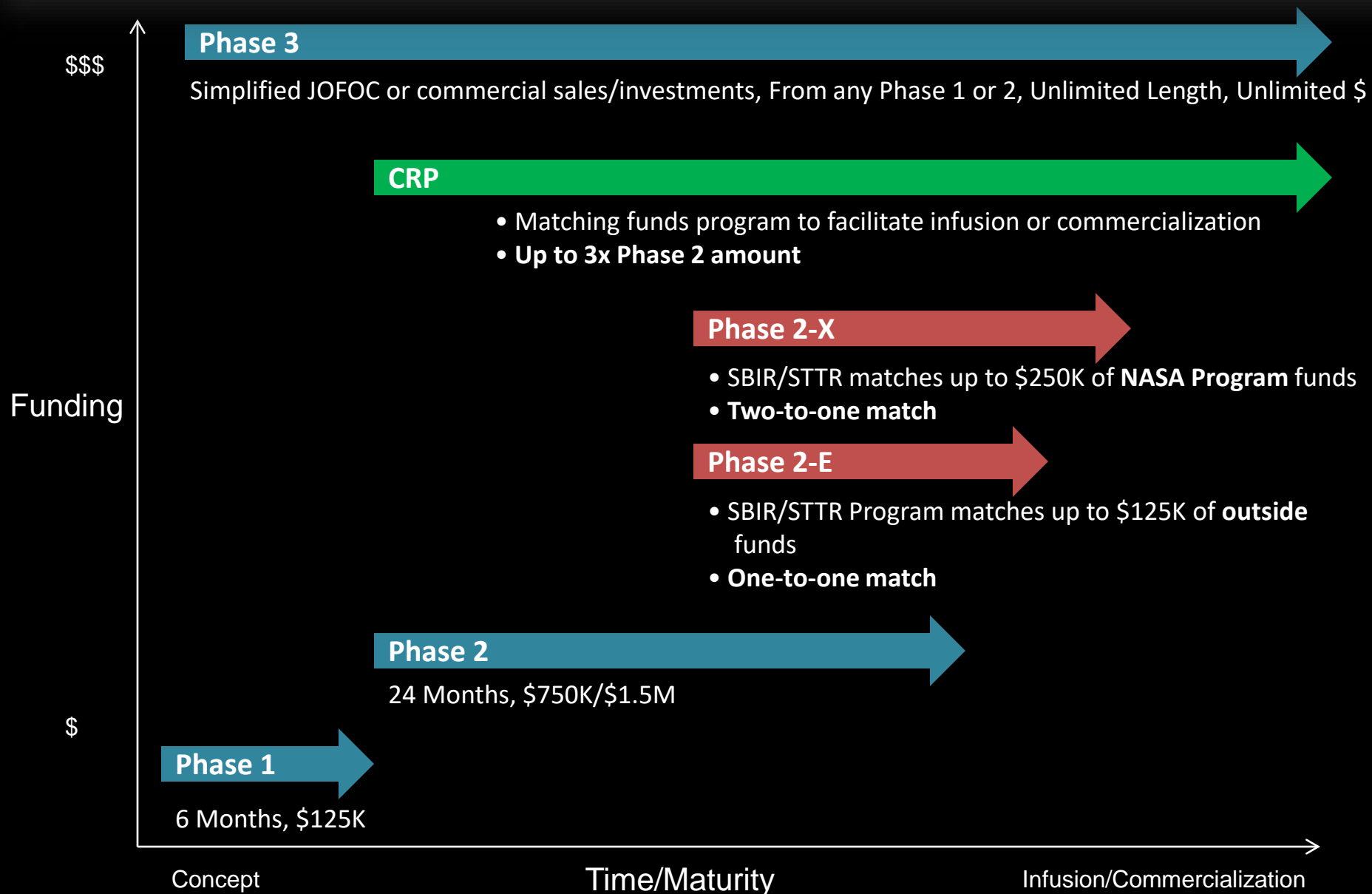
1. Over \$2.25 Billion available every year
2. Funds are NOT A LOAN - no repayment - up to \$1.5M capital
3. Small businesses retain intellectual property rights
4. Provides seed money to fund high risk projects
5. Develop working relationship & credibility with government R&D
6. Fosters partnerships with large corporations and academia
7. Provides recognition and visibility for your business
8. Participation attracts venture capital and other funding sources

Program Background



- NASA's SBIR and STTR programs have awarded over \$3.3B to research-intensive American small businesses to date.
- Engineers and scientists from over 12,000 Firms in all 50 States, DC and Puerto Rico have participated
- On average each year 1,700 NASA scientists and engineers support the program performing technical reviews

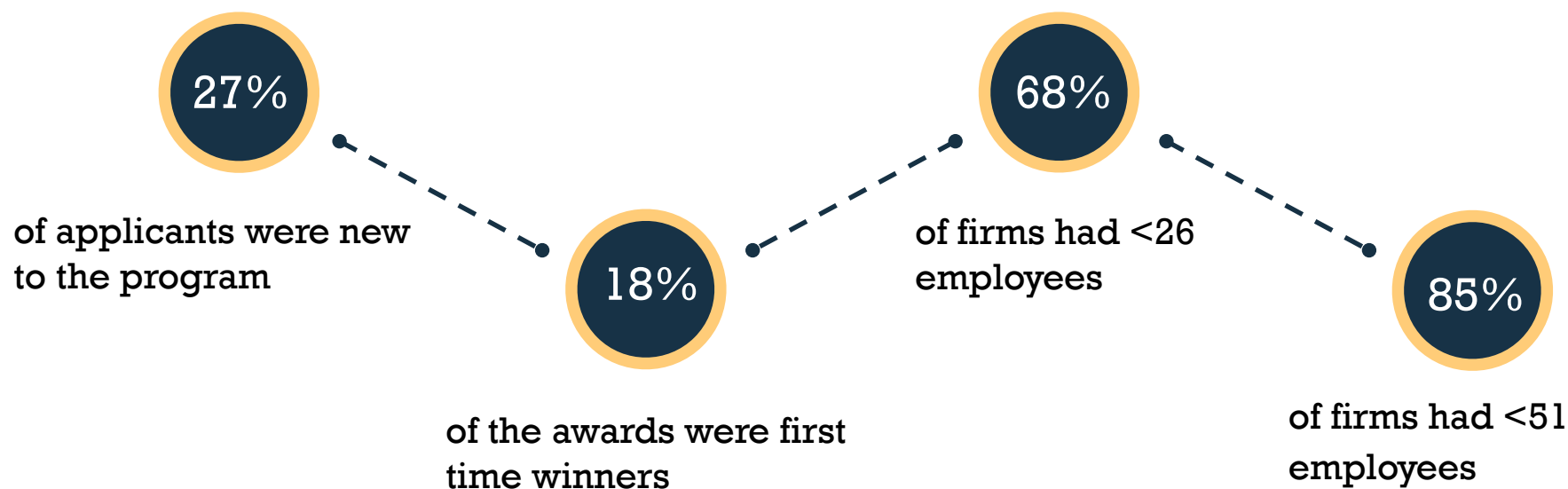
SBIR/STTR Integrated Portfolio



Participating Firms



FY 16 Phase I SBIR/STTR Awards



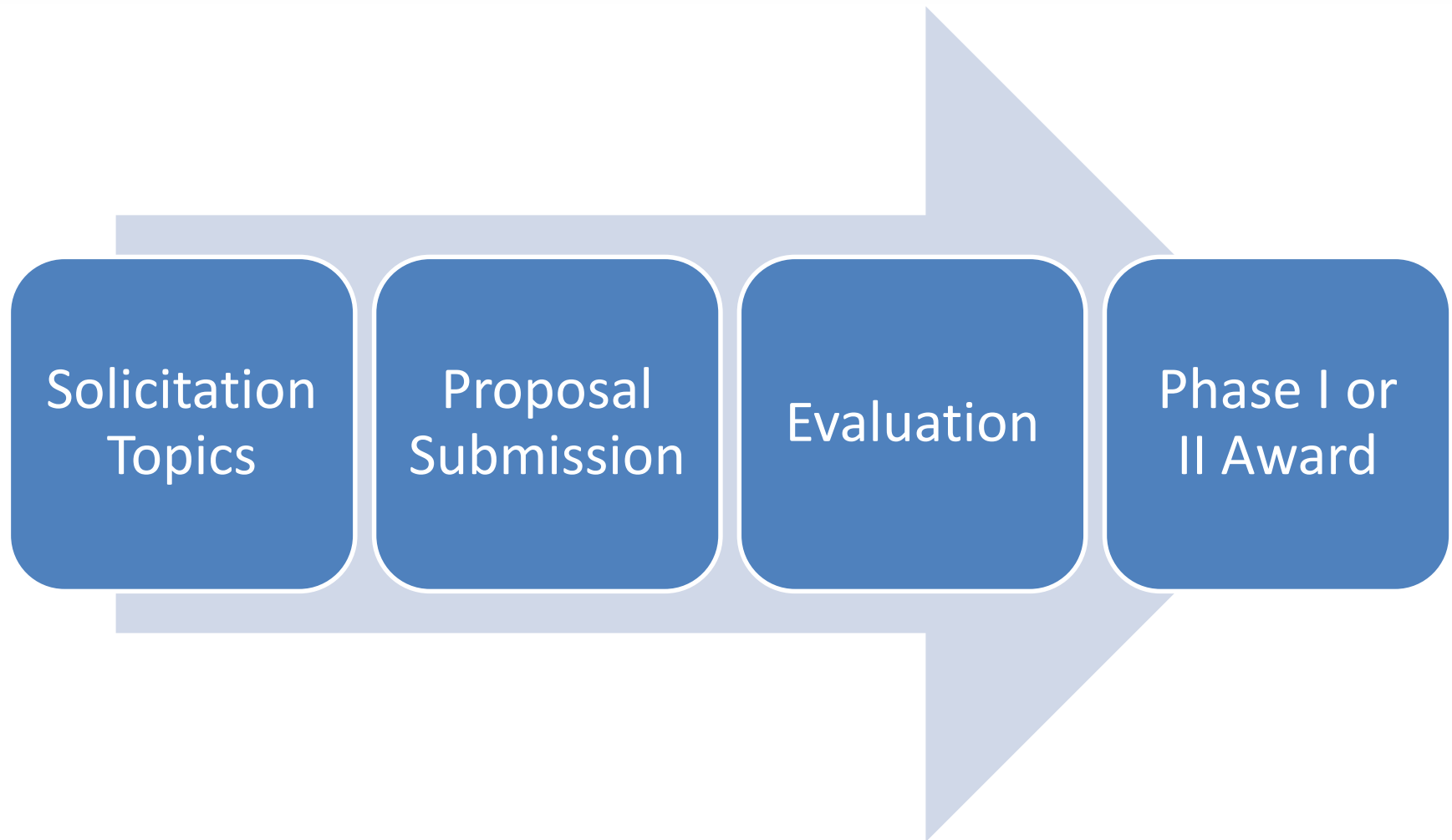
Proposal Submission



The screenshot shows the NASA SBIR/STTR website. The top navigation bar includes links for HOME, ABOUT SBIR/STTR, SOLICITATIONS, SCHEDULE & AWARDS, HANDBOOKS, MULTIMEDIA, and CONTACT US. The 'HANDBOOKS' dropdown menu is open, showing 'SBIR/STTR Awardee Firm's EHB' and 'SBIR/STTR Proposal Submission EHB'. The 'SBIR/STTR Proposal Submission EHB' link is highlighted with an orange arrow. Below the navigation bar, the main content area features 'NASA's TECHSOURCE' and 'AWARD DATABASE'. The 'TECHSOURCE' section has a search bar and a 'SEARCH' button. The 'AWARD DATABASE' section also has a search bar and a 'SEARCH' button. A tooltip for the 'SBIR/STTR Proposal Submission EHB' link states: 'Electronic Handbook used by firms to submit their Phase I & Phase II proposals'.

Click on 2nd link to submit Proposal and follow on-screen instructions

Typical Application Process



Proposal Requirements



HOME ABOUT SBIR/STTR ▾ SOLICITATIONS SCHEDULE & AWARDS ▾ HANDBOOKS ▾ MULTIMEDIA ▾ CONTACT US

[Home](#) >> [Solicitations](#) >> NASA SBIR/STTR 2016 Program Solicitation



Cover

Noteworthy Changes

▶ Chapter 1 Program Description

▶ Chapter 2 Definitions

▼ Chapter 3 Proposal Preparation Instructions and Requirements

3.1 Fundamental Considerations

3.2 Phase I Proposal Requirements

3.3 Phase II Proposal Requirements

▶ Chapter 4 Method of Selection and Evaluation Criteria

▶ Chapter 5 Considerations

▶ Chapter 6 Submission of Proposals

▶ Chapter 7 Scientific and Technical

3. Proposal Preparation Instructions and Requirements

3.1 Fundamental Considerations

Multiple Proposal Submissions

Each proposal submitted must be based on a unique innovation, must be limited in scope to just one subtopic and shall be submitted only under that one subtopic within each program. An offeror shall not submit more than 10 proposals to each of the SBIR or STTR programs. An offeror may submit more than one unique proposal to the same subtopic; however, an offeror shall not submit the same (or substantially equivalent) proposal to more than one subtopic. Submitting substantially equivalent proposals to several subtopics may result in the rejection of all such proposals. In order to enhance SBC participation, NASA does not plan to select more than 5 SBIR proposals and 2 STTR proposals from any one offeror under this solicitation.

STTR: All Phase I proposals must provide sufficient information to convince NASA that the proposed SBC/RI cooperative effort represents a sound approach for converting technical information resident at the Research Institution (RI) into a product or service that meets a need described in a Solicitation research topic. SBCs shall submit a research agreement with a Research Institution. This agreement must be completed online through the form provided in the submissions handbook.

3.2 Phase I Proposal Requirements

3.2.1 General Requirements

Click on 3.2 for Phase I Proposal Requirements

Required Registrations



SBA Company Registry

- All applicants to the program are required to complete their registration at SBA's Company Registry prior to submitting an application.
Link: <https://www.sbir.gov/registration>

NAICS Registration

- SBIR/STTR firms are required to register under a *North American Industry Classification System* (NAICS code), which classifies the economic sector, industry and country of their business. Registration in SAM requires a NAICS code. To identify your firm's NAICS code(s), please visit www.census.gov/eos/www/naics.

SAM Registry

- To participate in the SBIR/STTR program, firms must register in the System for Award Management (SAM) database prior to proposal submission. For new firms, the registration process may take up to five business days to complete. Please visit www.sam.gov for more information and to register or update your registration.

Checklist before Submitting Application



- ☐ Submit proposal prior to the deadline
- ☐ Perform the “Endorse Proposal” step, which is the final step in the submissions process
- ☐ Make sure you meet the format requirements (margin and font size, page limitation)
- ☐ Have the RI register correctly (STTR Requirement)
 - ☐ For STTR proposals the RI needs to endorse the Research Agreement prior to your proposal being complete and submitted
 - ☐ RI will need to create an account in the Proposal Submission EHB
 - ☐ register under your firm using your EIN, State, and PIN so they are attached to your proposal correctly
 - ☐ choose the RI option at the bottom of the page when entering their name, email, phone etc

Proposal Evaluation



Proposals are evaluated on these factors:

1. Scientific/Technical Merit and Feasibility
2. Experience, Qualifications and Facilities
3. Effectiveness of the Proposed Work Plan
4. Commercial Potential and Feasibility
5. Price Reasonableness

Fraud, Waste and Abuse

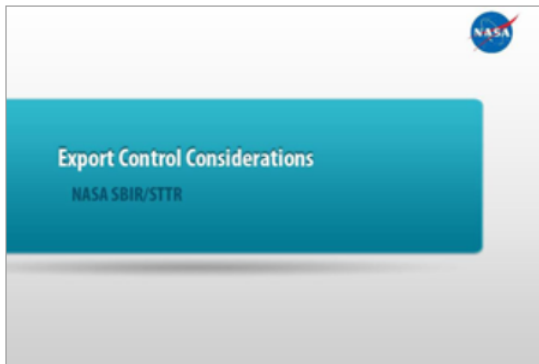


HOME ABOUT SBIR/STTR ▾ SOLICITATIONS SCHEDULE & AWARDS ▾ HANDBOOKS ▾ MULTIMEDIA ▾ CONTACT US

[Home](#) >> Training Resources

Training Resources

ITAR Training

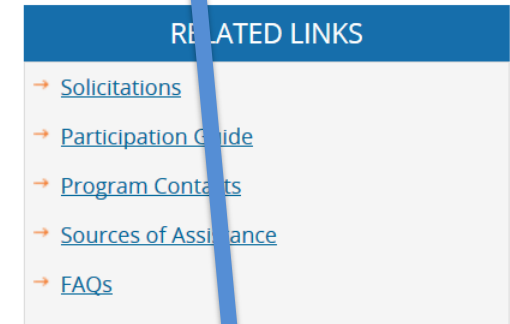


This instructional ITAR training module familiarizes firms participating in the SBIR and STTR programs with ITAR and Export Control regulations.

Fraud, Waste, and Abuse Training



Recipients of an SBIR/STTR award are expected to report known cases of Fraud, Waste, and Abuse to the NASA Office of Inspector General (OIG). This training module defines fraud, waste, and abuse; provides examples of each; and gives instructions on what to do if you suspect fraudulent activity, waste, or abuse.



Click on Multimedia → Training Resources → FWA Training

How to Win?



Know Your Customer

Review last year's solicitation and review the titles and some abstracts of the winning proposals in your area of interest

If there is a pre-solicitation on the Web read, and comment on the text (DoD has one, NASA does not)

Talk to the people in your technical area who write subtopics and review proposals at the agency where you intend to submit your proposal

- Find their technical emphasis, needs, and interest

- Solve a sponsors problem

- Align your technology/proposal to the sponsor's final needs

Suggest a Topic

SBIR/STTR Subtopics are written for small business by researchers and managers

Topics solicit innovative ideas to solve technical challenges

Each topic is carefully reviewed each year

SBIR/STTR Programs seek private sector input in selecting and refining potential topic areas for future SBIR and STTR solicitations

Tips & Reminders



Tips

- Start early and do your homework
- Lay out the evaluation criteria and write to satisfy them
- Don't pad the proposal to get to the 25 page limit
- Don't subcontract Government facilities or equipment with SBIR funds
- Comply with Conflict of Interest rules
- Prepare your proposal in accordance with the solicitation instructions or your proposal may be rejected administratively
- Submit your proposal electronically prior to the final 24 hour rush.

Reminders

- The PI is not required to have a Ph.D., but is required to have expertise to oversee project scientifically and technically
- Applications may be submitted to different agencies for similar work, but awards may not be accepted from different agencies for duplicative projects

How to Win?



Follow the Directions



Read the directions from the sponsoring agency

Address all areas that will be scored in the evaluation by that agency

Don't underestimate the importance of commercialization

Mark appropriate proposals as “Proprietary” never “confidential”.

Mark only those pages that must be protected.

Form A Team

If appropriate, form a team with universities or other companies

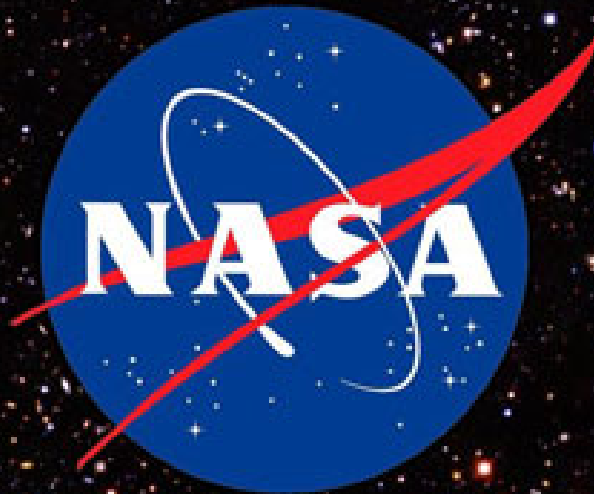
Get advice from your local small business advisory resources

Get an independent review of your proposal prior to submission

Contact NASA SBIR/STTR



www.sbir.nasa.gov



NASA Announcement of Opportunity 2014-000937

Email: sbir@reisys.com



BACKUP

SBIR/STTR Homepage



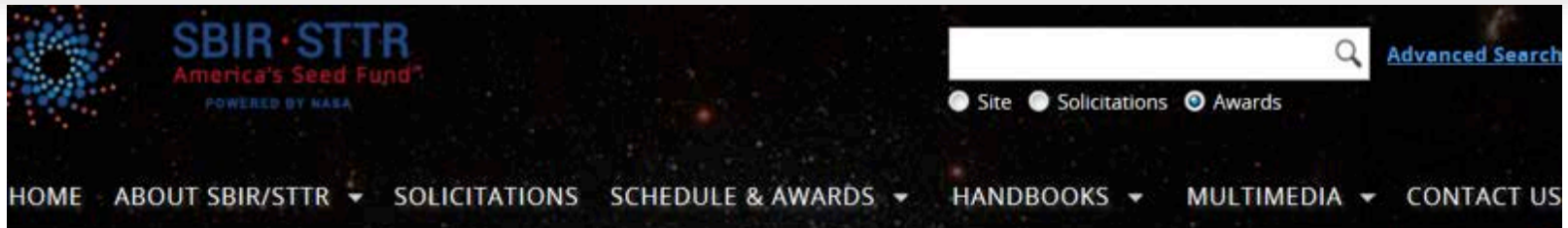
The screenshot shows the SBIR/STTR homepage. At the top is the NASA logo and the text "SBIR/STTR Small Business Innovation Research / Small Business Technology Transfer". Below this is a navigation bar with links: HOME, ABOUT SBIR/STTR, SOLICITATIONS, SCHEDULE & AWARDS, HANDBOOKS, MULTIMEDIA, and CONTACT US. A search bar is also present. The main content area features a large image of a Star Wars spaceship. Below this is a section titled "In the News" with the headline "NASA and Star Wars: The Connections Are Strong in This One" and a "Read More" button. At the bottom, there are three columns: "Proposers" (with links like SBIR/STTR Basics, SBIR/STTR Schedule, etc.), "Awardees" (with links like SBIR/STTR Schedule, SBIR/STTR Firms Library, etc.), and "Demographics Data" (with links like State-based Statistics, Award Search, etc.).

Access the PY 2016 Solicitations
(Next release date *November 2017)

Information for NEW firms available under "Proposers"

SBIR/STTR program analytics

Program Schedule and Selection Announcements



[Home](#) >> Schedule & Awards



Program Schedule and Selection Announcements

Rows with a light blue background indicate an open Solicitation

Program Solicitation	Open Date	Close Date	Selection Announcement Date
NASA STTR 2015 Phase II Proposal Period only STTR 2015 Phase I awardees eligible to apply	May 06, 2016	Jun 17, 2016	Aug 24, 2016*
NASA SBIR 2016 Phase I Solicitation	Nov 12, 2015	Feb 01, 2016	Apr 28, 2016*
NASA STTR 2016 Phase I Solicitation	Nov 12, 2015	Feb 01, 2016	Apr 28, 2016*
NASA SBIR 2015 Phase II Proposal Period only SBIR 2015 Phase I awardees eligible to apply	Nov 05, 2015	Dec 17, 2015	Mar 15, 2016*
NASA SBIR Select 2015 Phase II Proposal Period only SBIR Select 2015 Phase I awardees eligible to apply	Nov 05, 2015	Dec 17, 2015	Mar 15, 2016*
NASA SBIR 2015 Phase I Solicitation	Nov 14, 2014	Jan 28, 2015	Apr 30, 2015
NASA SBIR Select 2015 Phase I Solicitation	Nov 14, 2014	Jan 28, 2015	Apr 30, 2015
NASA STTR 2015 Phase I Solicitation	Nov 14, 2014	Jan 28, 2015	Apr 30, 2015

* Dates are scheduled but are subject to revision

SBIR Assists in Emergency Communication Systems



Popular with U.S. military and intelligence agencies, the systems have been used in missile ranges, severe weather, and emergency response situations.

SRS Technologies

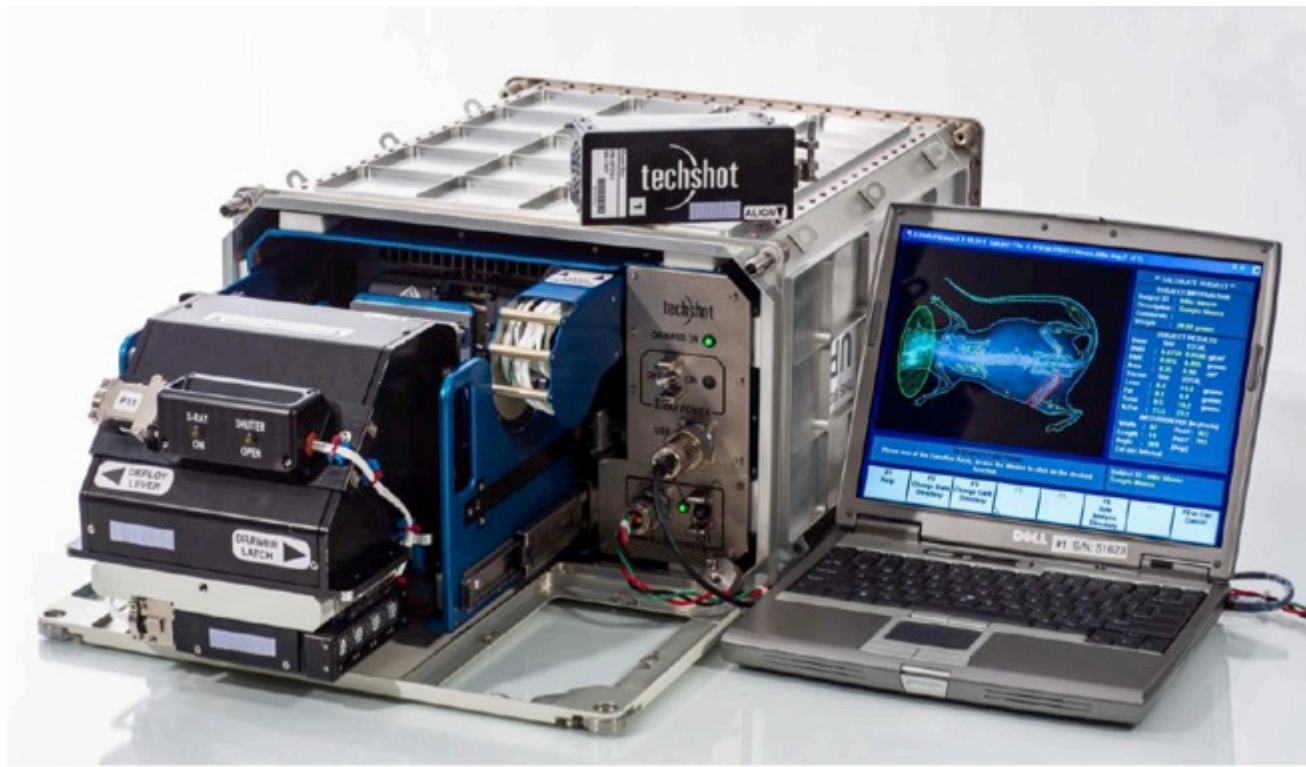


Bone Desitometer



The first x-ray machine flew up to the ISS in 2014. It has allowed NASA to study bone density in rats and can potentially be used to assess the extent of bone injuries in astronauts.

Techshot, Inc.



Farming in Space



Aboard the International Space Station, there is a deployable fresh-food production system called VEGGIE. Astronauts use the system to grow red romaine lettuce and in the summer of 2015 sampled the first ever space-grown crop.

ORBITEC



SBIR Technologies on Curiosity

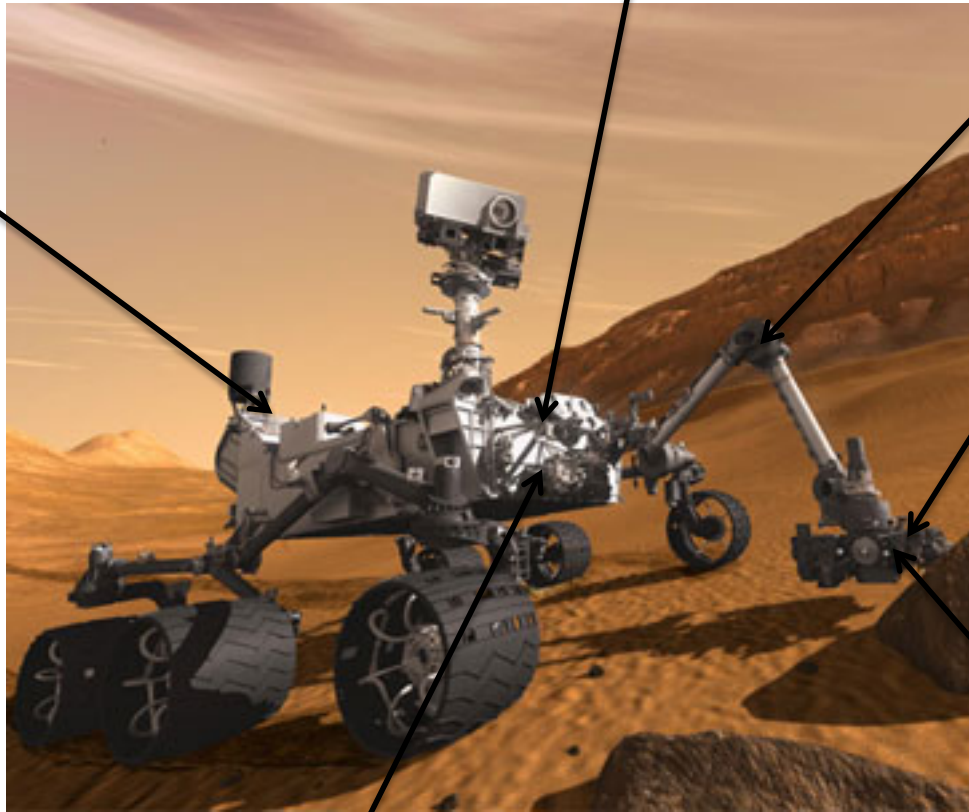


Yardney Technical Products

Lithium ion
batteries

Creare

Space-qualified vacuum pump



Starsys Research, Boulder, CO

Gearboxes for robotic arm

Honeybee Robotics

Dust removal tool

inXitu

Chemistry
and Mineralogy
experiment (CheMin)
instrument

GrammaTech

Software for rover operations