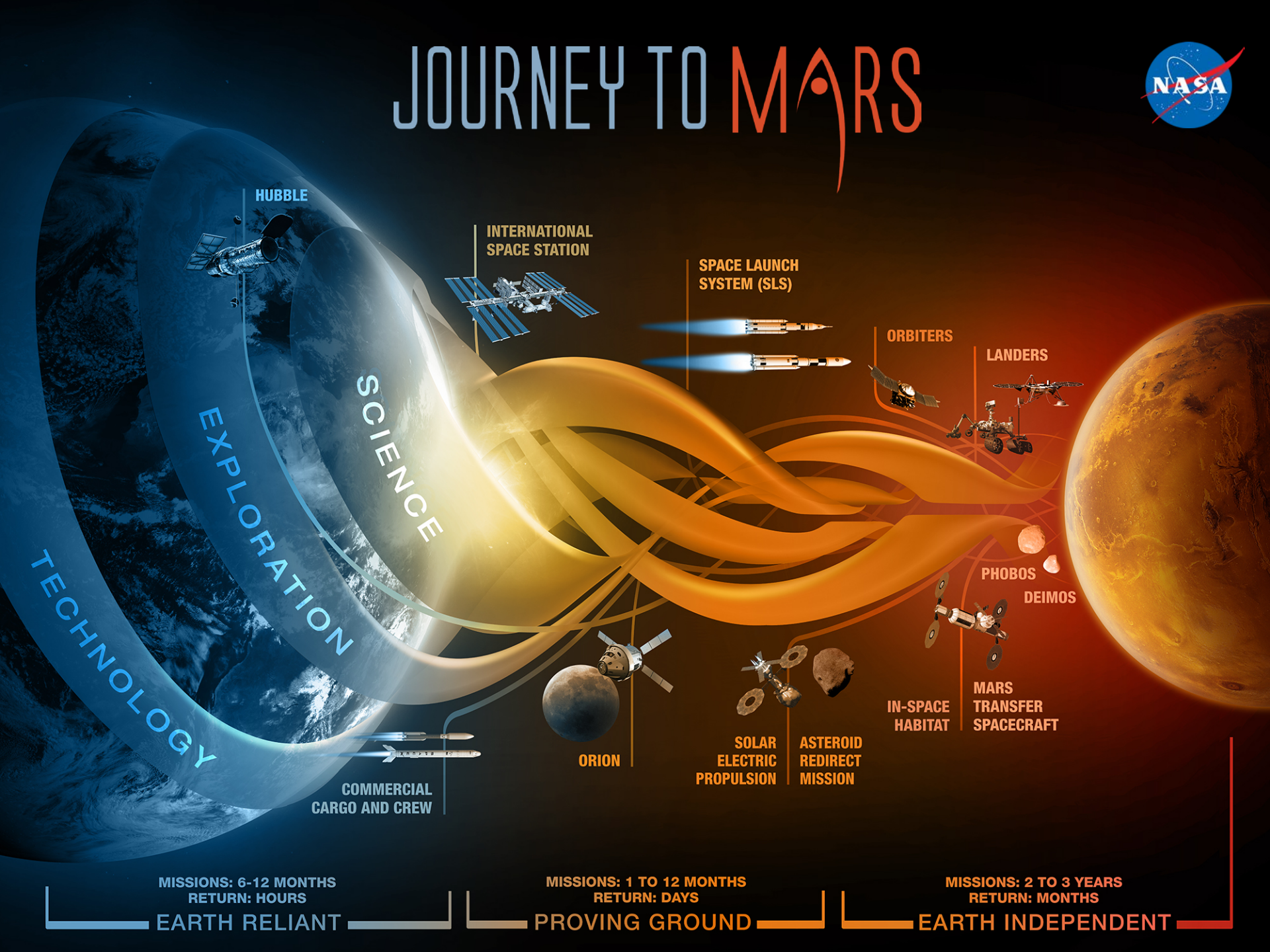
National Aeronautics and
Space Administration

Small Business Innovation Research
Small Business Technology TRansfer

Dr. Joseph Grant
Deputy Program Executive

March 22, 2016

JOURNEY TO MARS



Space Technology

http://www.nasa.gov/directorates/spacetech/home/index.html

- The nation's investments in space technology enable NASA to make a difference in the world around us.
- The Space Technology Mission Directorate (STMD) is responsible for developing the crosscutting, pioneering, new technologies and capabilities needed by the agency to achieve its current and future missions

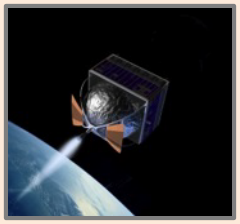
Space Technology Portfolio

http://www.nasa.gov/directorates/spacetech/home/index.html

Transformative & Crosscutting Technology Breakthroughs

Game Changing Development (ETD/CSTD)

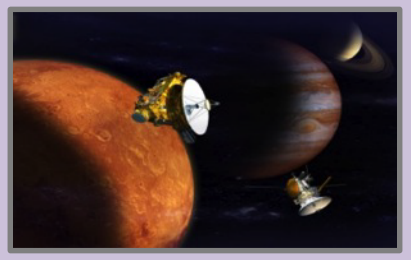
Technology Demonstration Missions (ETD/CSTD)



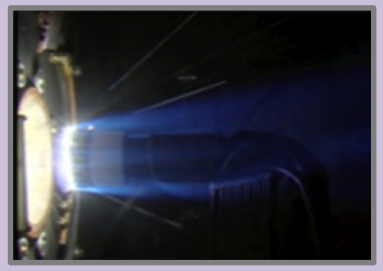
Small Spacecraft Technologies (CSTD)

Pioneering Concepts/ Developing Innovation Community

Space Technology Research Grant (CSTD)



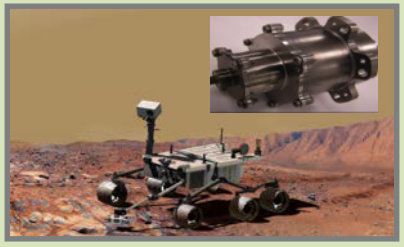
NASA Innovative Advanced Concepts (NIAC) (CSTD)



Center Innovation Fund (CSTD)

Creating Markets & Growing Innovation Economy

Centennial Challenges Prize (CSTD)



Small Business Innovation Research & Small Business Technology Transfer (SBIR/STTR)

Flight Opportunities Program (CSTD)

Overview

- NASA invests nearly $200M in the SBIR/STTR program. Every technology development investment dollar is critical to the ultimate success of NASA's mission
- Ultimate objective **is** to achieve productization through commercialization or infusion of critical technologies into NASA
- Mission Directorates establish high priority needs and existing gaps
- NASA Centers are home to NASA's development projects, research facilities, and Subject Matter Experts and therefore play a critical role.

NASA SBIR/STTR Mission

Stimulate technology innovation by strengthening the role of innovative SBCs in Federal R&D

- Stimulate technological innovation
- Use small businesses to meet federal research and development needs
- Encourage participation in innovation and entrepreneurship by minority and disadvantaged persons
- Foster technology transfer through cooperative R&D between small businesses and research institutions
- Increase private-sector commercialization of innovations derived from Federal research and development funding
- STTR seeks to bridge the gap between basic science and commercialization of resulting innovations

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)

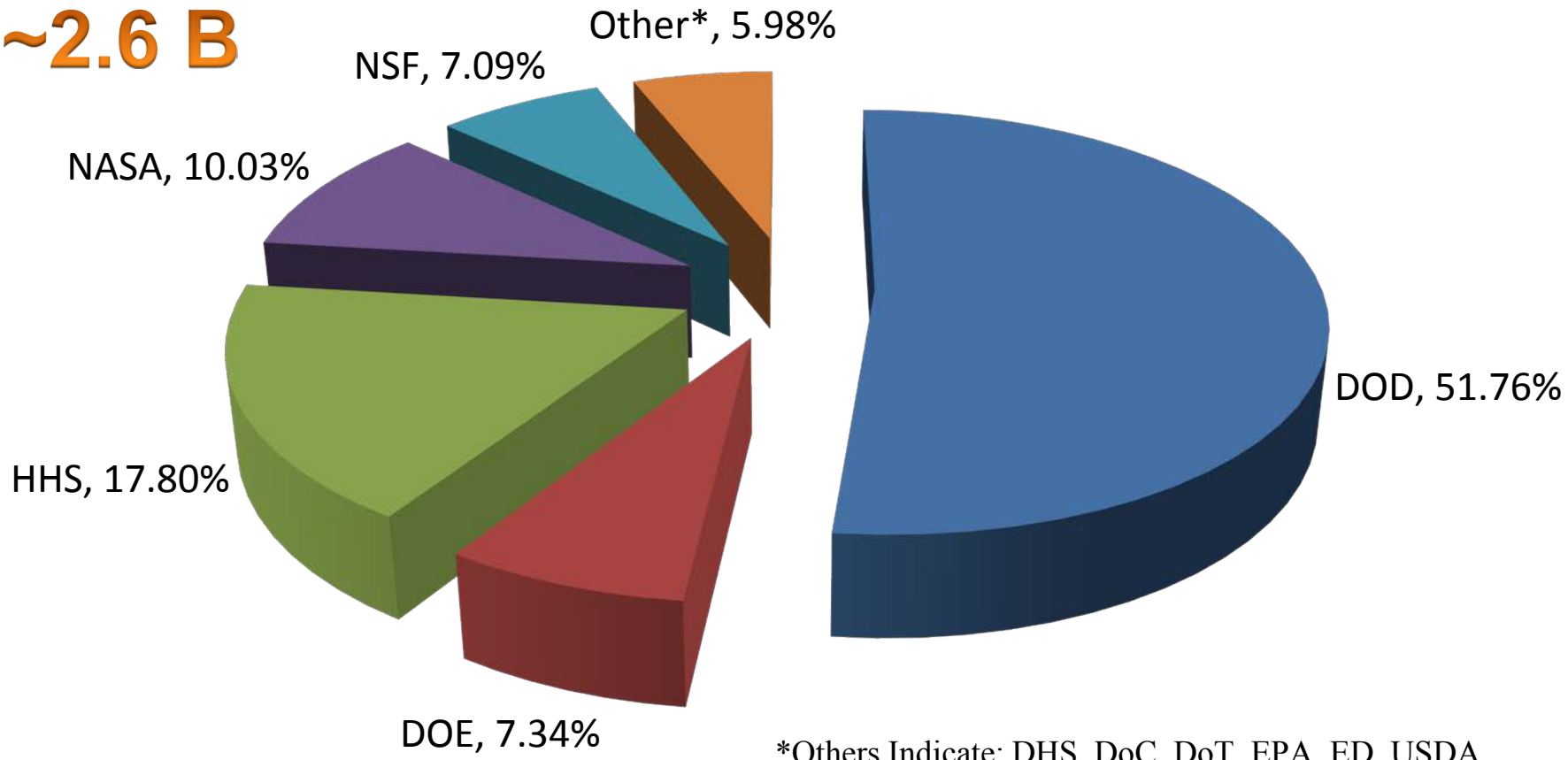
Environmental Protection Agency (EPA)

Department of Homeland Security (DHS)

Department of Commerce (DoC)

Percentage of SBIR/STTR Awards by Agency (last 4 years)

SBIR/STTR Agency Funding FY2015 ~2.6 B



*Others Indicate: DHS, DoC, DoT, EPA, ED, USDA,

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

Structure of the Programs

Phase I: Concept

- Award Guideline: $125K
- Duration: 6 months (SBIR)
  12 months (STTR)

Phase II: Full Research, R&D to Prototype

- Award Guideline: $750K
- Duration: 24 months
  - Phase II-E

Phase III: Commercialization/Infusion

- Non-SBIR/STTR funds
  - Contract from NASA program, other agency, prime contractor

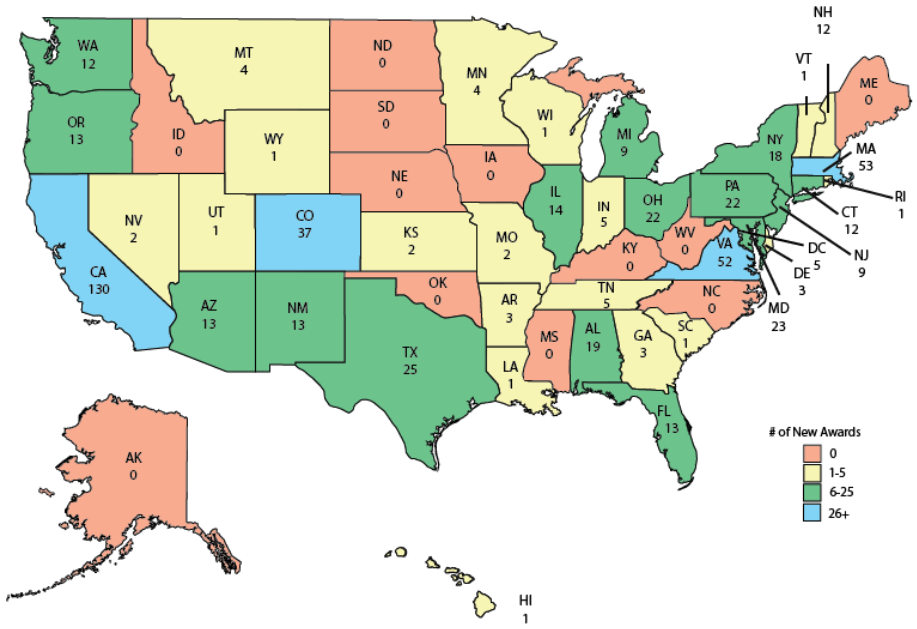
NASA SBIR/STTR Budget

Award Budget FY16:

SBIR: $161.5M **STTR:** $24.9M

- SBIR is 3.0% and STTR is .45% of extramural R&D budget in FY16 (Oct 1)
  - In FY17, NASA will increase the SBIR investment to 3.2%

Fiscal Year 2015 SBIR/STTR Awards (Phase I, II, & II-E)



FY 15 Awards At-A-Glance:

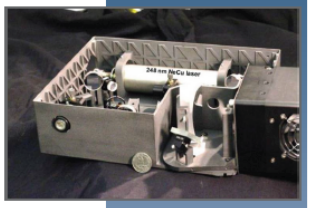
- SBIR Awards: 325 Phase I and 119 Phase II; 7 Phase I Selects and 10 Phase II Selects
- STTR Awards: 50 Phase I and 21 Phase II
- Phase II-E Awards: 31 SBIR/STTR Phase II-Es were awarded, leveraging $5.36 M funds from non-SBIR sources

Quarterly Rpt. 2016 Qtr. 1 SBIR

Small **B**usiness **I**nnovation **R**esearch

FY 2016 • QTR 1

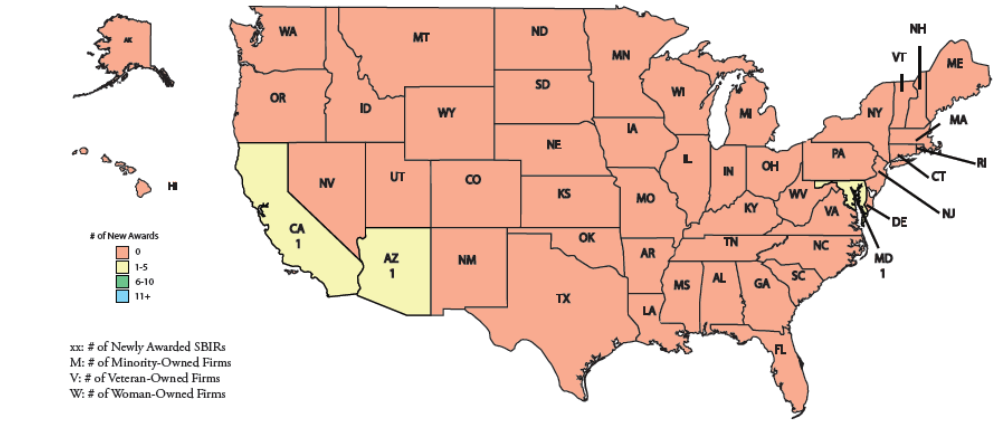
- FY 2016 Annual Budget: $158.5
- Selection Announcement for 2015 Phase II: 137 SBIR and Select Proposals
- Selection Announcement 2016 Phase I: April 28, 2016



DEEP ULTRAVIOLET (UV) LASER

This deep UV (248.6 nm) laser, to be provided by Photon Systems, is the key enabling element of the JPLmanaged Scanning Habitable Environments with Raman & Luminescence for Organics and Chemicals (SHERLOC) instrument, which NASA has selected for development as part of the instrument suite on the Mars 2020 mission.

Photon Systems, Inc.



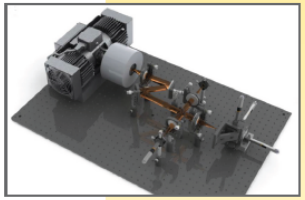
xx: # of Newly Awarded SBIRs
M: # of Minority-Owned Firms
V: # of Veteran-Owned Firms
W: # of Woman-Owned Firms

Jan	Feb	Mar	Apl	May	June
2016 SBIR Phase I & SBIR Select Phase I Solicitation Period		2016 SBIR Phase I & SBIR Select Phase I Evaluation		2016 SBIR Phase I & SBIR Select Phase I Selection Announcement	2017SBIR Phase I & SBIR Select Phase I Solicitation Development
2015 SBIR Phase II & SBIR Select Phase II Evaluation		2015 SBIR Phase II & SBIR Select Phase II Selection Announcement			

Quarterly Rpt. 2016 Qtr. 1 STTR

Small Business **T**echnology **TR**ansfer
FY 2016 • QTR 1

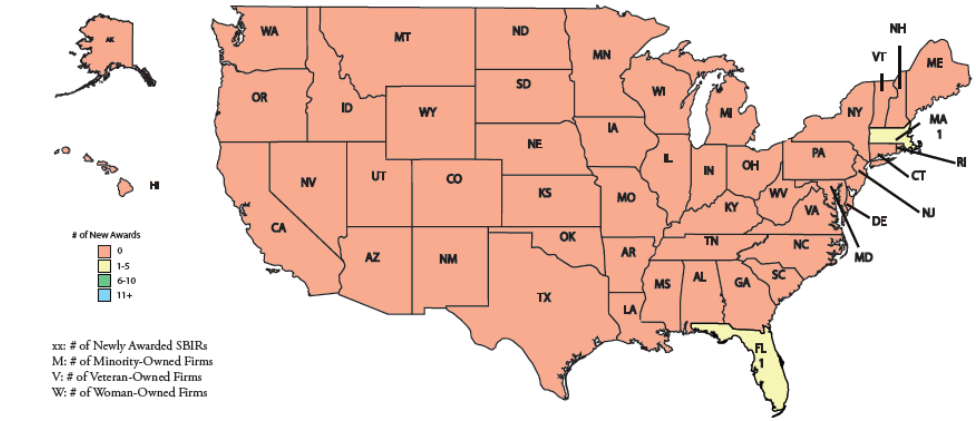
- Selection Announcement for 2015 Phase II: August 24, 2016
  - Selection Announcement 2016 Phase I: April 28, 2016



Longwave Apparatus Including Quantum Cascade Laser (QCL) Technology

The Terahertz Quantum Cascade Laser (QCL) systems is used for imaging, spectroscopy and heterodyne receivers. Milliwatt average power levels are available in a range of frequencies from 1.9 to 5 THz. The compact systems are turnkey, operate cryogen free and require no optical alignment.

LongWave Photonics, LLC



xx: # of Newly Awarded SBIRs
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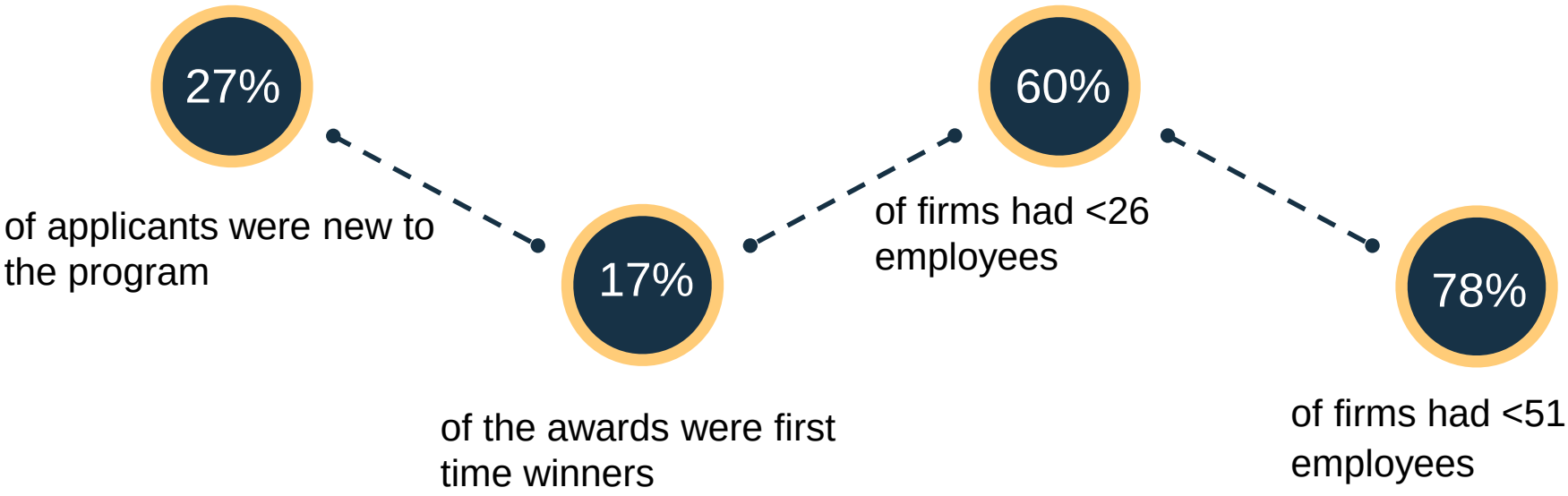
Jan	Feb	Mar	Apl	May	June
2016 STTR Phase I Solicitation Period	2016 STTR Phase I Evaluation			2016 STTR Phase I Selection Announcement	2017 STTR Phase I Solicitation Development
					2015 STTR Phase II Evaluation

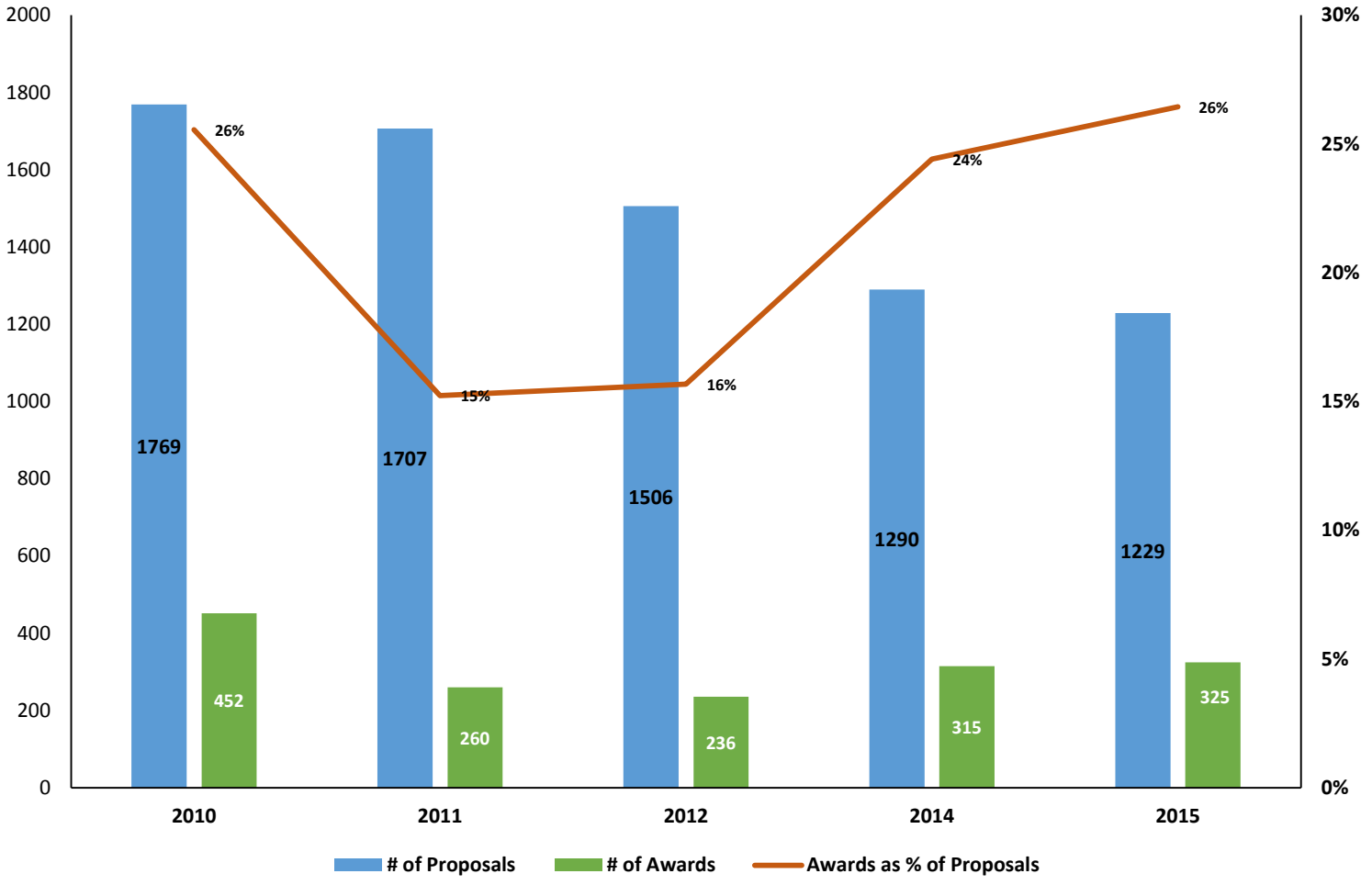
Participating Firms

FY 15 Phase I SBIR/STTR Awards



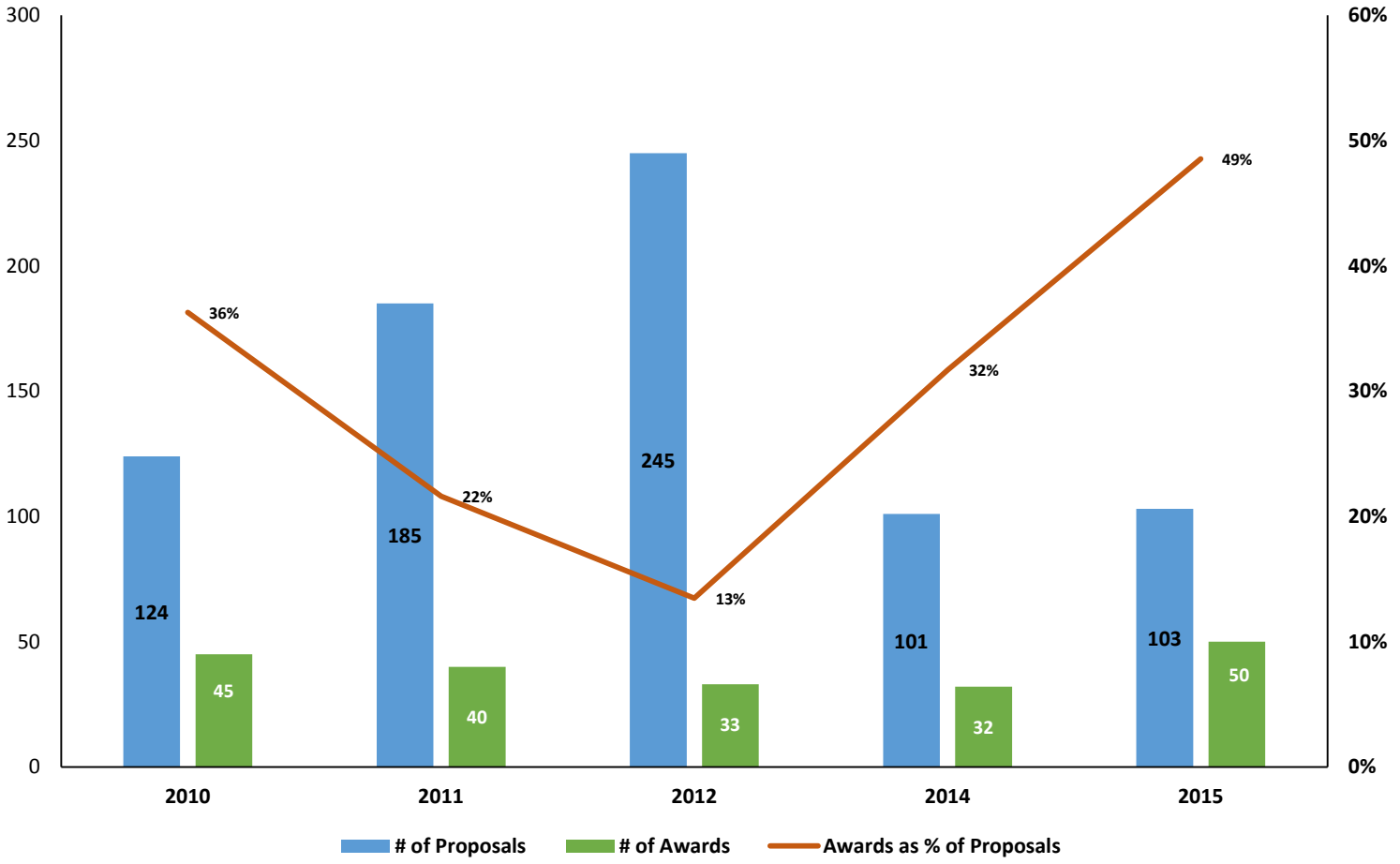
SBIR Proposals vs. Awards

Phase 1
Proposals vs. Awards for SBIR



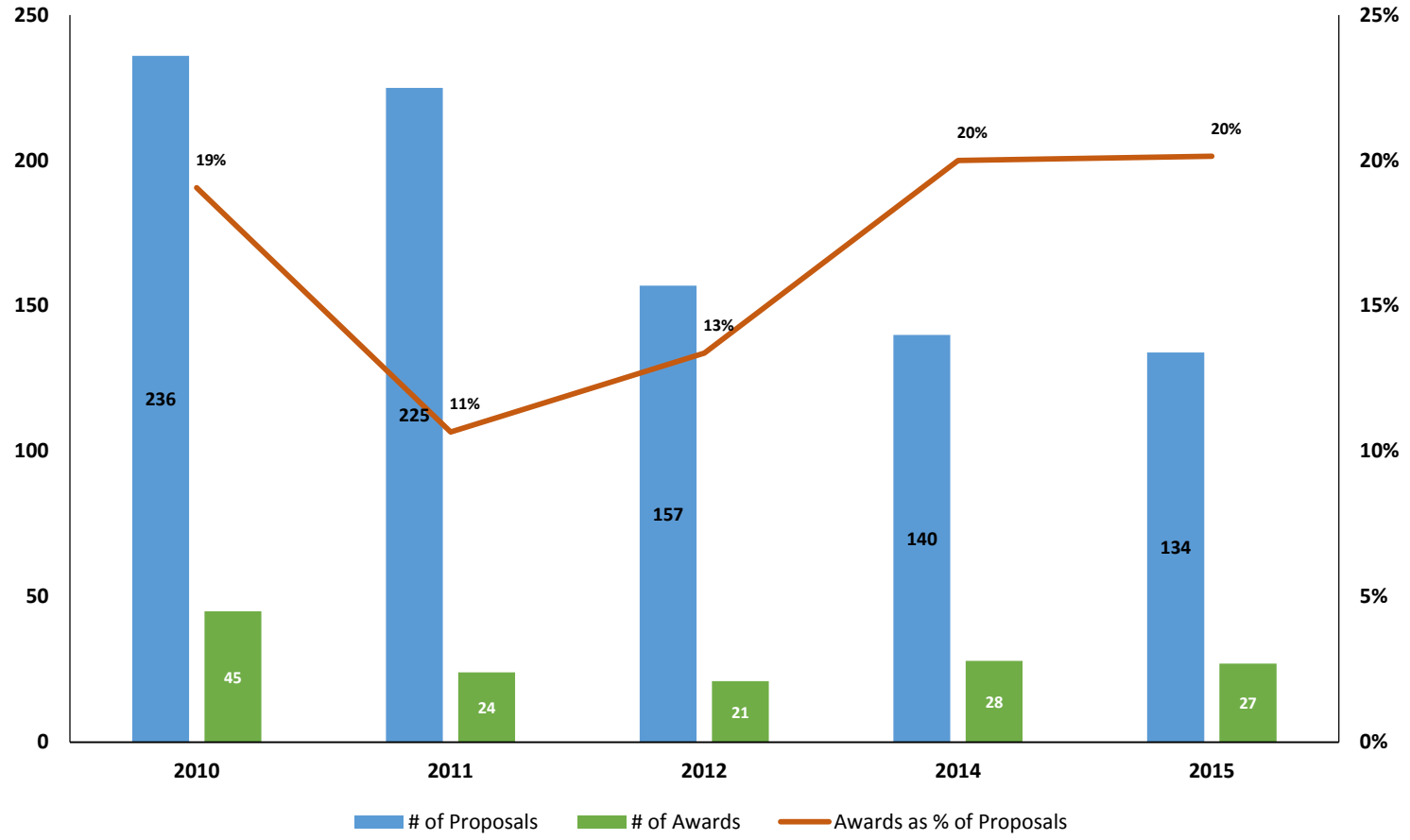
STTR Proposals vs. Awards

Phase 1
Proposals vs. Awards for STTR



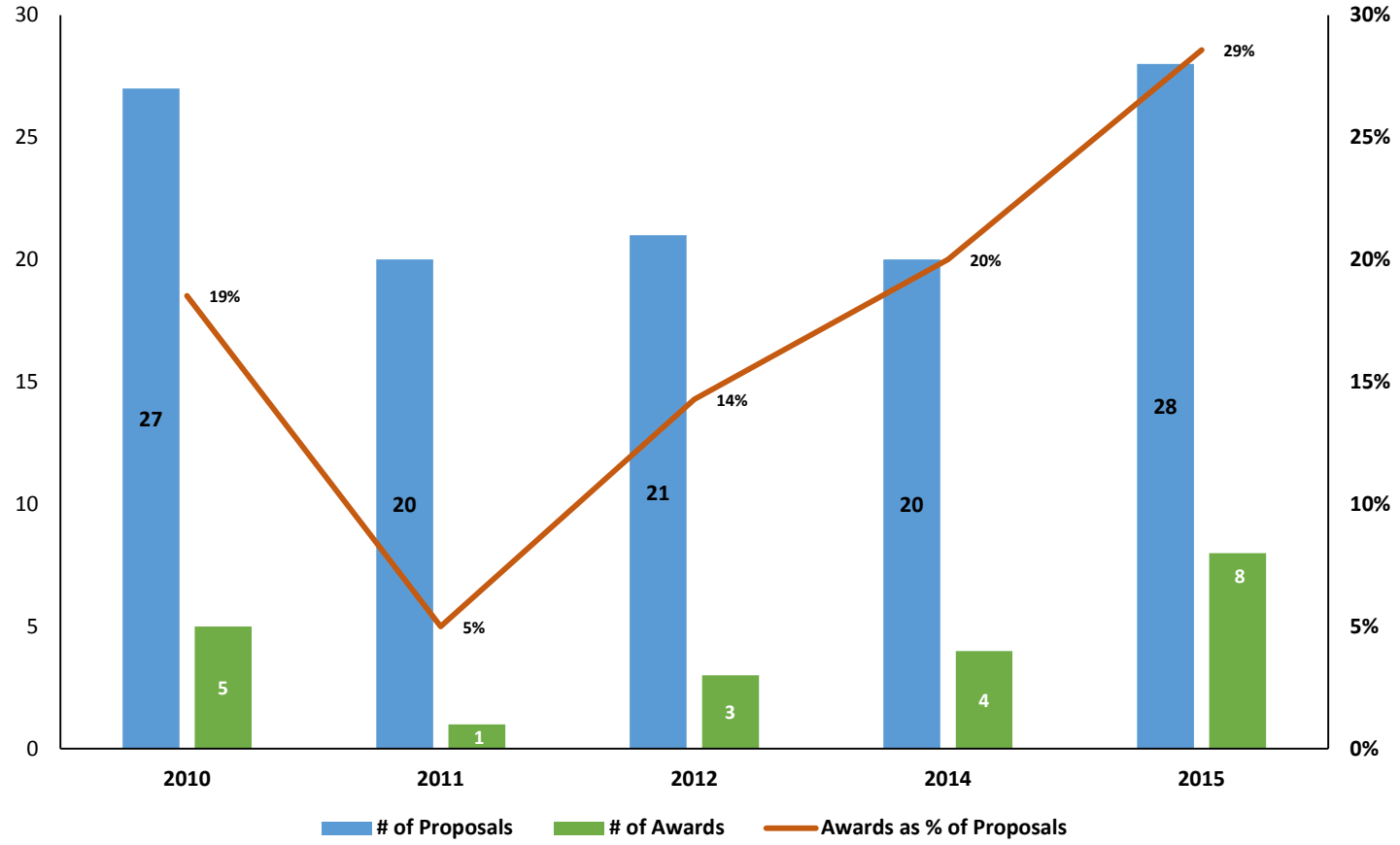
SBIR Proposals vs. Awards for Disadvantaged Firms

Phase 1



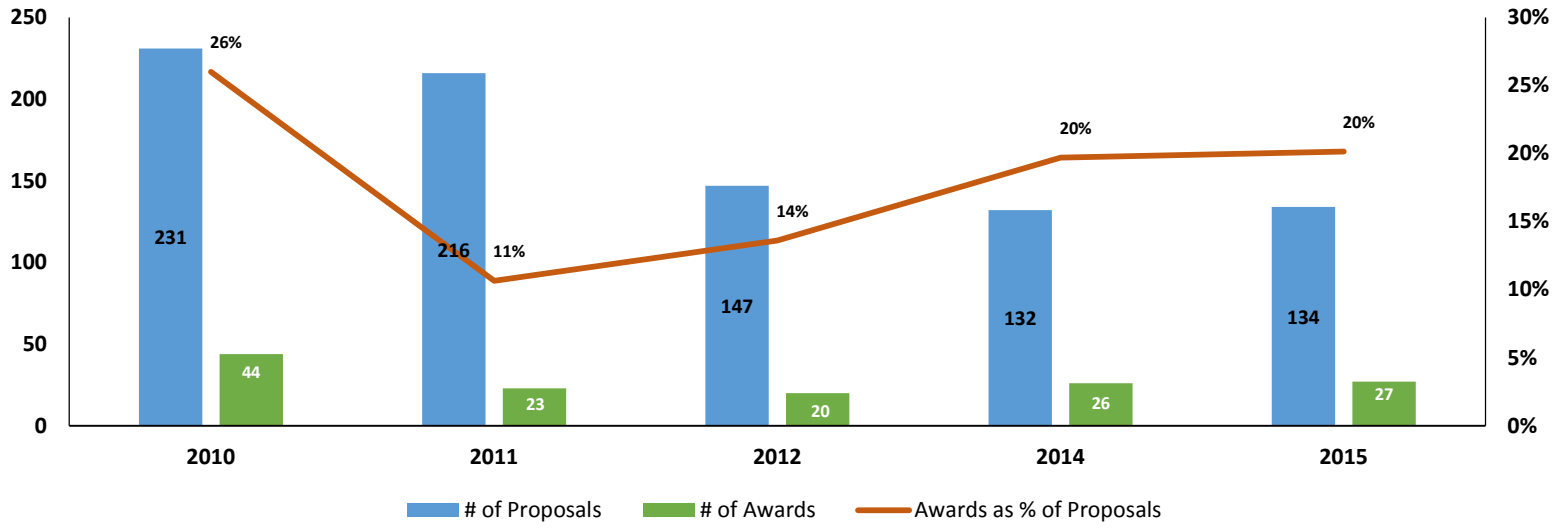
SBIR Proposals vs. Awards for Disadvantaged firms within the area

Phase 1

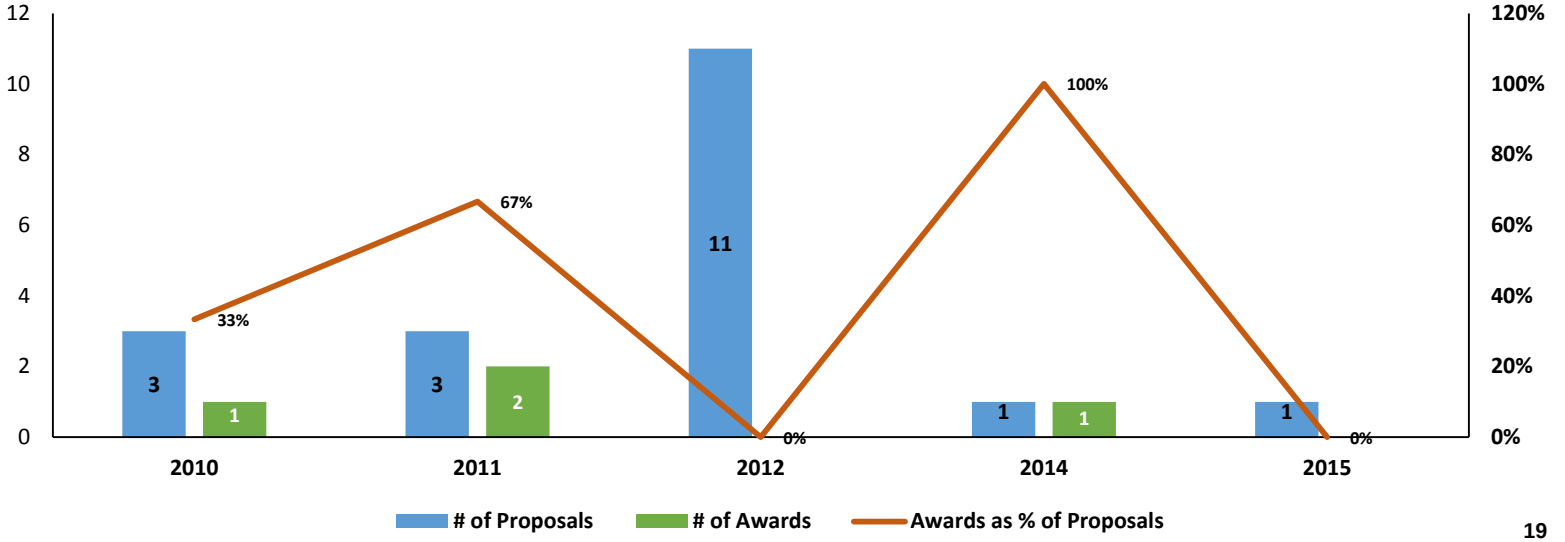


STTR Proposals vs. Awards for Disadvantaged Firms

Phase 1
Proposals vs. Awards for Disadvantaged firms



Phase 1
Proposals vs. Awards for Disadvantaged firms within the area



SBIR & STTR Topic Areas

Small Business Innovation Research (SBIR)

Aeronautics Research Mission Directorate (ARMD)

- Topic A1 Aviation Safety
- Topic A2 Unmanned Aircraft Systems
- Topic A3 Air Vehicle Technology
- Topic A4 Ground and Flight Test Techniques and Measurement

Human Exploration and Operations Mission Directorate (HEOMD)

- Topic H1 In-Situ Resource Utilization
- Topic H2 Space Transportation
- Topic H3 Life Support and Habitation Systems
- Topic H4 Extra-Vehicular Activity Technology
- Topic H5 Lightweight Spacecraft Materials and Structures
- Topic H6 Autonomous & Robotic Systems
- Topic H7 Entry, Descent, and Landing Technologies
- Topic H8 High Efficiency Space Power Systems
- Topic H9 Space Communications and Navigation (SCaN)
- Topic H10 Ground Processing & ISS Utilization
- Topic H11 Radiation Protection
- Topic H12 Human Research and Health Maintenance
- Topic H13 Non-Destructive Evaluation

Science Operations (SMD)

- Topic S1 Sensors, Detectors and Instruments
- Topic S2 Advanced Telescope Systems
- Topic S3 Spacecraft and Platform Subsystems
- Topic S4 Robotic Exploration Technologies
- Topic S5 Information Technologies

Space Technology (STMD)

- Topic Z1 Space Technology for Cross-Cutting Applications Topic
- Topic Z2 Cross Cutting Advanced Manufacturing Processes for Large Scale Bulk Metallic Glass Systems for Aerospace Applications

Small Business Technology Transfer (STTR)

- Topic T1 Launch Propulsion Systems
- Topic T2 In-Space Propulsion Technologies
- Topic T3 Space Power and Energy Storage
- Topic T4 Robotics, Tele-Robotics and Autonomous Systems
- Topic T5 Communication and Navigation
- Topic T6 Human Health, Life Support and Habitation Systems
- Topic T7 Human Exploration Destination Systems
- Topic T8 Science Instruments, Observatories and Sensor Systems
- Topic T9 Entry, Descent and Landing Systems
- Topic T10 Nanotechnology
- Topic T11 Modeling, Simulation, Information Technology and Processing
- Topic T12 Materials, Structures, Mechanical Systems and Manufacturing
- Topic T13 Ground and Launch Systems Processing
- Topic T14 Thermal Management Systems
- Topic T15 Aeronautics

Program Eligibility Criteria

Eligibility Criteria

Is your business organized as a for-profit company?

- An SBIR/STTR small business (no more than 500 employees) awardee must be a business concern – it must be organized as a for-profit concern and meet all of the other requirements for a "business concern" in 13 C.F.R. § 121.105.

Is your principal place of business located in the United States?

- All businesses that apply for the SBIR/STTR program must be for-profit companies located in the US.

Must I own a company to receive an SBIR/STTR award?

- SBIR/STTR awards go only to small, for-profit, firms that meet the above definition of an SBC. This includes sole proprietorships.

  - For information on starting a business, please visit http://business.usa.gov/start-a-business.

In addition:

- For SBIR, the primary employment of the principal investigator must be with the small business, and the proposing firm must perform at least 2/3rds of the R&D work in Phase I and at least 1/2 in Phase II

- For STTR, the proposing firm must perform at least 40% of the work with the collaborating research institution performing no less than 30%.

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

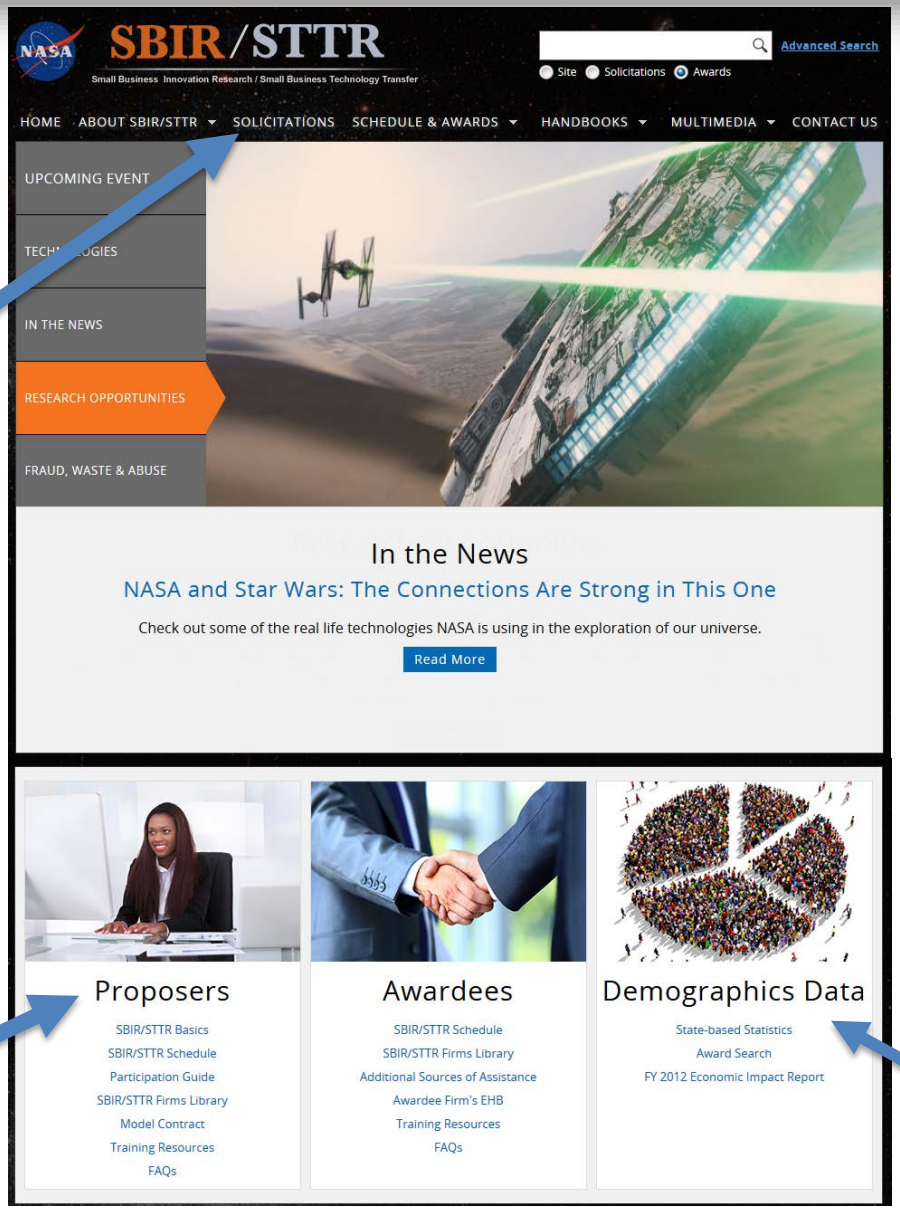
- SBIR/STTR firms are required to register under a *North American Industry Classification System* (*NAICS* code), which classifies the economic sector, industry and country of their business. Registration in SAM requires a NAICS code. To identify your firm's NAICS code(s), please visit www.census.gov/eos/www/naics.

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.

SBIR/STTR Homepage

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



Information for NEW firms available under "Proposers"

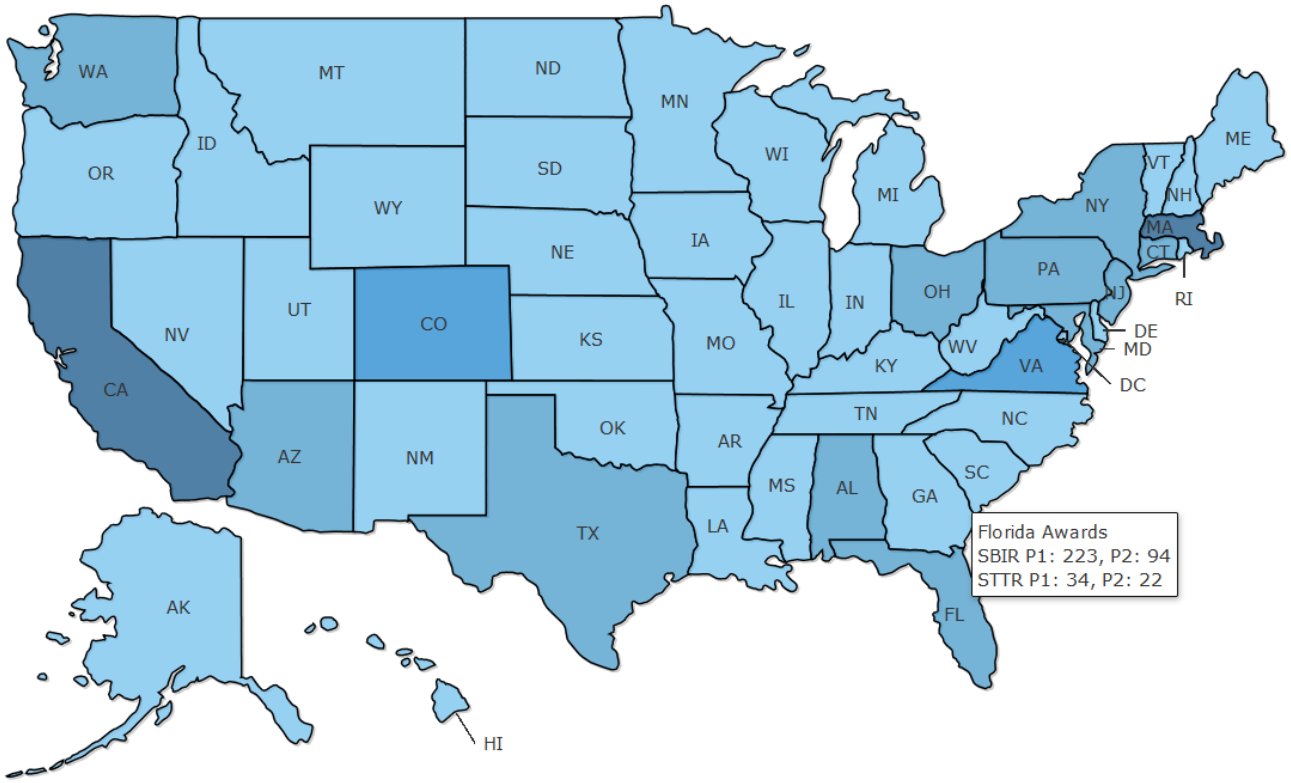
SBIR/STTR program analytics

State-Based Statistics

Home >> State-Based SBIR/STTR Statistics

State-Based SBIR/STTR Statistics

Click on the desired State to retrieve proposal and award statistics for that State.



State Statistical Data for NC

Home >> State-Based SBIR/STTR Statistics >> North Carolina Statistical Data

State Statistical Data: North Carolina

(View Info on State Technical Assistance Programs)

	SBIR	SBIR Select	STTR	SBIR, STTR, and SBIR Select
Number of Proposals	357		26	383
Number of Awards	61	0	2	63

SBIR & STTR

Download as csv

Year	# of Phase 1 Proposals	# of Phase 1 Awards	# of Phase 2 Proposals	# of Phase 2 Awards
2014	11	2	1	
2012	9	1	1	1
2011	8	2	2	2
2009	7	2	2	1
2008	4	1	1	1

Submission Process

Submission Requirements

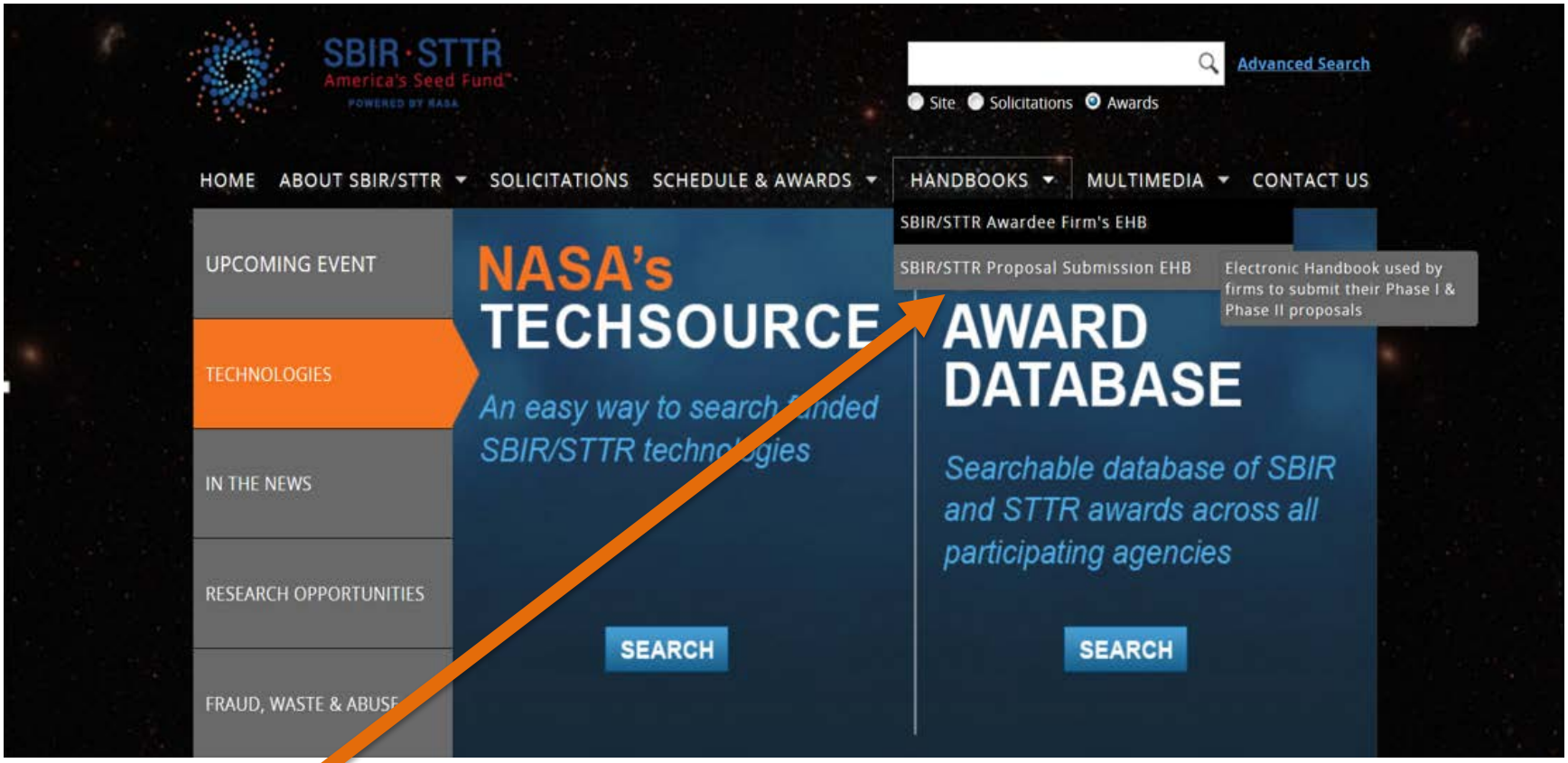
NASA uses electronically supported business processes for the SBIR/STTR programs. The firm must have Internet access and an e-mail address. Paper submissions are not accepted.

Link: http://sbir.nasa.gov

Submission Process

SBCs must register in the Electronic Handbook (EHB) to begin the submission process. The Proposal Submission EHB will guide the firms through the steps for submitting an SBIR/STTR proposal.

Proposal Submission



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

Requirements for Contracting

5.1.2 Requirement for Contracting

To simplify making contract awards and to reduce processing time, all contractors selected for Phase I and Phase II contracts shall ensure that:

(1) All information in your proposal is current, e.g., your address has not changed, the proposed PI is the same, etc. If changes have occurred since submittal of your proposal, notify contracting officer immediately.

(2) Your firm is registered with System for Award Management (SAM).

(3) Your firm is in compliance with the VETS 100 requirement. Confirmation of that the report has been submitted to the Department of Labor is current shall be provided to the contracting officer within 10 business days of the notification of selection for negotiation.

(4) Your firm HAS NOT proposed a Co-Principal Investigator.

(5) STTR selectees should provide a copy of their executed Allocation of Rights Agreement to the contracting officer within 10 business days of receiving notification of selection for negotiation.

(6) Your firm is required to provide timely responses to all communications from the NSSC Contracting Officer.

(7) All proposed cost is supported with documentation such as a quote, previous purchase order, published price lists, etc. All letters of commitment are dated and signed by the appropriate person. If a University is proposed as a subcontractor or a RI, the signed letter shall be on the University letterhead from the Office of Sponsored Programs. If an independent consultant is proposed, the signed letter should not be on a University letterhead. If the use of Government facility or equipment is proposed, your firm shall submitted a signed letter from the Government facility stating the availability, cost if any, and authorizing the use of it, and a signed letter from your firm justifying the need to use the facility.

From the time of proposal notification of selection for negotiation, until the award of a contract, all communications shall be submitted electronically to NSSC-SBIR-STTR@nasa.gov.

SBA Firm Registry

Home >> Solicitations >> NASA SBIR/STTR 2016 Program Solicitation

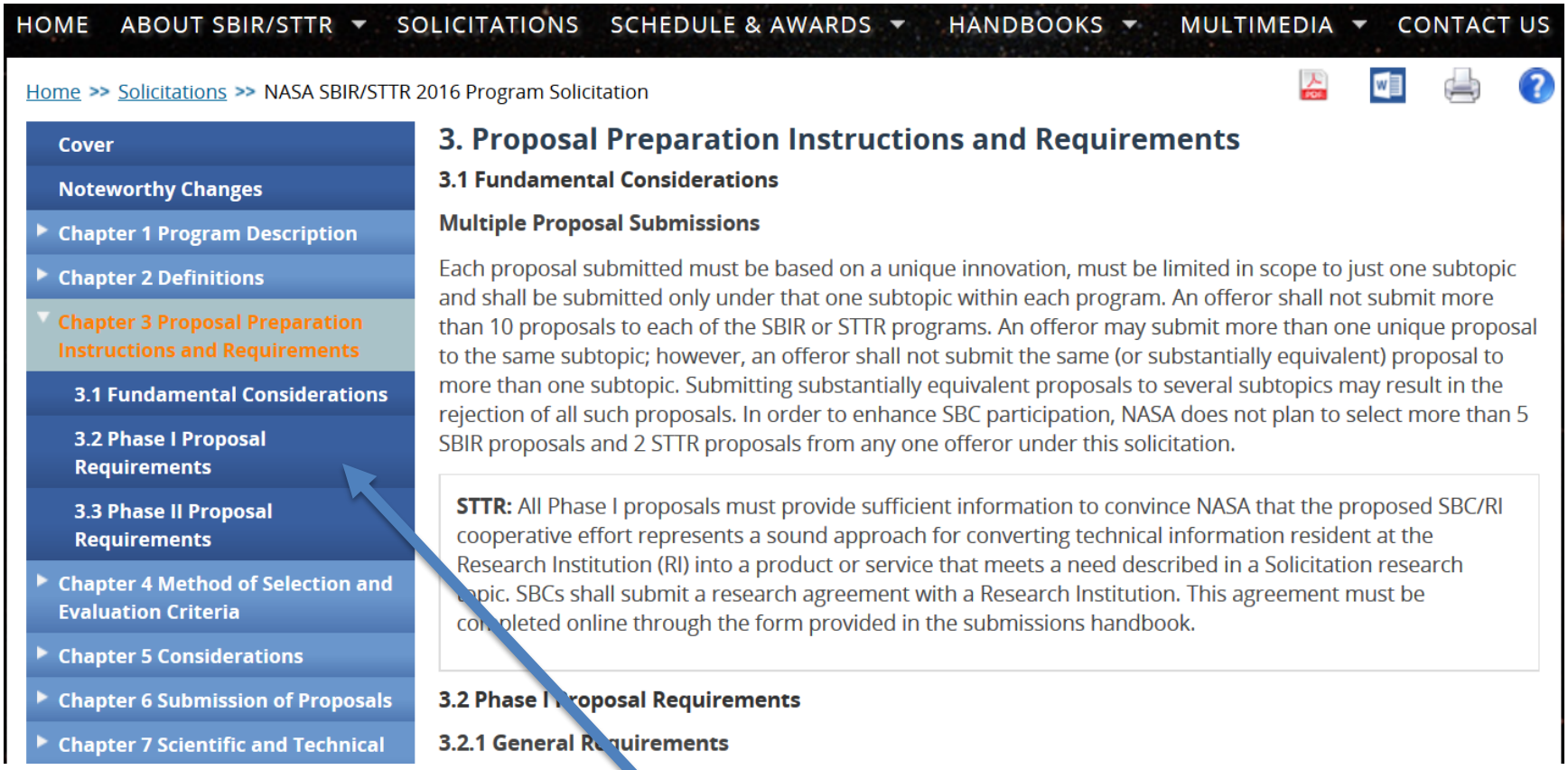
5.14 Required Registrations and Submissions

5.14.1 Firm SBA Firm Registry

SBA maintains and manages a Company Registry at (http://www.SBIR.gov) to track ownership and affiliation requirements for all companies applying to the SBIR Program. The SBIR policy directive requires each small business concern (SBC) applying for a Phase I or Phase II award to register in the Company Registry prior to submitting an application. A PDF document with the SBC registration information is available for download by the SBC upon successful registration. This PDF document must be saved by the SBC for inclusion in applications submitted to SBIR agencies. All SBCs must report and/or update ownership information to SBA prior to each SBIR application submission or if any information changes prior to award.

From the NASA SBIR/STTR Proposal Submission Electronic Handbook (EHB), the SBC must provide their unique SBC Control ID that gets assigned by SBA upon completion of the Company Registry registration, as well as upload the PDF document validating their registration. This information is submitted to NASA via a Firm level form in the Activity Worksheet and is applicable across all proposals submitted by the SBC for that specific solicitation.

Proposal Requirements



Click on 3.2 for Phase I Proposal Requirements

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

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)

Reasons for Application Being Rejected

- [ ] **L**- Late Proposal(Sect. 6.3)
- [ ] **X**- Exceeds 25 Page Limit(Sect. 3.2.2)
- [ ] **F**- Font Size less than 10 Points(Sect. 3.2.2)
- [ ] **M**- Margins less than 1 inch(Margins less than 1 inch (Sect. 3.2.2))
- [ ] **D**- Duplicates/Similar Proposal(s)(Sect.3.1)

Duplicates Proposal(s)#:: _____ (format:xx.xx-xxxx eg:A1.01-0000)

- [ ] **W**- Withdrawn(Sect. 6.5)

Withdrawn Notice Date: _____ (format: mm/dd/yyyy eg: 07/30/2010)

- [ ] **N**- Incomplete Proposal: Form((Forms A, B, C, Firm Level Forms,Parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, Briefing Chart) (Sect.3.2.4))

(Please fill the missing parts in the box below): _____

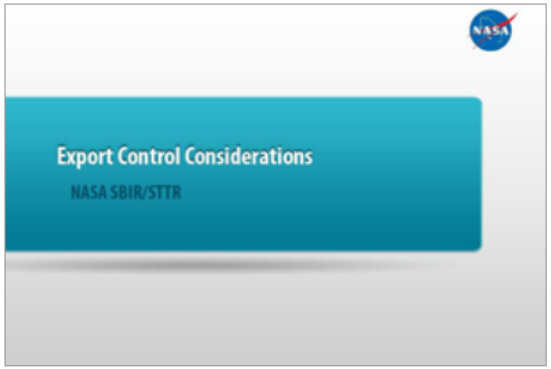
Fraud, Waste and Abuse

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.

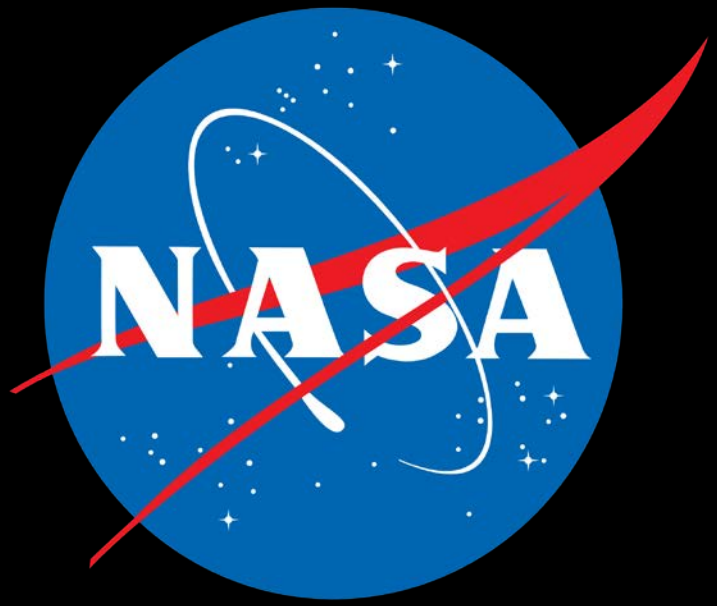
RELATED LINKS

- Solicitations
- Participation Guide
- Program Contacts
- Sources of Assistance
- FAQs

Click on Multimedia →Training Resources →FWA Training

Contact NASA SBIR/STTR

www.sbir.nasa.gov



Dr. Joseph Grant
Deputy Program Executive

Email: Joseph.Grant-1@nasa.gov

NASA Help Desk: 301.937.0888

Email: sbir@reisys.com