



Small **B**usiness **I**nnovation **R**esearch
Small Business **T**echnology **T**Ransfer

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HUBZone Industry Day – Ohio Aerospace Institute

June 19, 2012

NASA Participating Centers

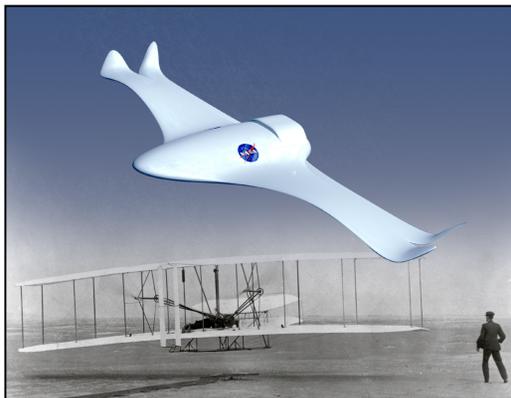


NASA SBIR/STTR OCT Transition



- Now as an integral part of Space Technology Program, they will continue to build on their rich history and invest in both ideas and small companies across the Nation.
- The Center Chief Technologists will enhance the coordination between the SBIR/STTR programs and Mission Directorates on topic development, selection and reporting processes .

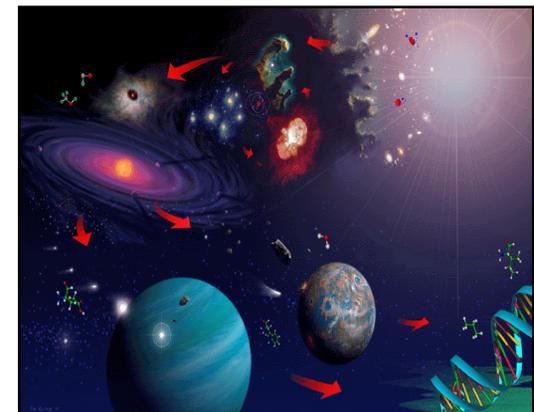
Aeronautics



Human Explorations and Operations



Science



SBIR/STTR Background – Program Purpose



The statutory purpose of the SBIR/STTR Programs is to strengthen the role of innovative small business concerns (SBC)s in federally-funded research or research and development (R/R&D).

Specific program purposes are to:

- (1) Stimulate technological innovation;
- (2) Use small business to meet Federal R/R&D needs;
- (3) Foster and encourage participation by socially and economically disadvantaged SBCs,
- (4) increase private sector commercialization of innovations derived from Federal R/R&D, thereby increasing competition, productivity and economic growth,
- (5) and through STTR encourage cooperative research and development with non-profit research institutions, such as a universities; with the primary objective of facilitating the transfer of technology from research institutions through the entrepreneurship of small business contracts

NASA Strategic Approach



- Every technology development investment dollar is critical to the ultimate success of NASA's mission
 - Ensure alignment and integration with Mission Directorates' priorities
 - Investments should be complementary with technologies being pursued by
 - other OCT investments and partnerships
 - Mission Directorates' programs and projects
 - prime contractors
 - other agency SBIR/STTR investments
- Ultimate objective is to achieve infusion of critical technologies into NASA's Mission Directorates'
 - flight programs/projects
 - ground or test systems
 - or other uses to advance NASA's mission
- Mission Directorates establish high priority needs and existing gaps
 - High priority needs are developed into topics for the annual solicitation
 - Subtopics may be clustered to support the development and maturation of critical technologies for infusion

Inherent Challenges of Space Systems



- Surviving Launch Conditions: high g-load, vibration, payload fairing, deployment
- Functioning in Extreme Environments: radiation, temperature, gravity, vacuum
- Limiting Power Availability
- High Degree of Autonomy and Reliability
- Long Range Communication and Navigation

SBIR/STTR: 3-Phase Programs (FY11 solicitations)



- **Phase 1**
 - Feasibility study
 - \$125K Contract Award
 - 6 months duration (SBIR)
 - 12 months duration (STTR)
- **Phase 2**
 - Technology Development
 - 2-Year Contract Award
 - \$750K (SBIR/STTR)
 - **\$150K Phase-2E / Phase 3 Bridge Option plus matching non-SBIR funds**
- **Phase 3**
 - Technology Infusion/Commercialization Stage
 - Use of non-SBIR Funding Agreements
 - Ability to award sole-source contracts without further need for Justification Other than Full and Open competition; (No JOFOC) based on specific SBIR authority

Budget and Award Numbers



SBIR	FY09	FY10	FY11	FY12**
Millions of \$	113.4	124.1	124.1	124
Phase 1 Awards	335	366	450	190-230
Phase 2 Awards	143	152	215	115
Phase 2E Awards	N/A	N/A	25	80

** estimates

STTR	FY09	FY10	FY11	FY12**
Millions of \$	13.6	14.1	14.1	14
Phase 1 Awards	32	42	45	22-28
Phase 2 Awards	16	18	27	10-14
Phase 2E Awards	N/A	N/A	0	TBD

Phase I FY12= 125K

Phase II FY12= 750K

Phase IIE FY12= 250K

2011 Aeronautics Research Topics



- Aviation Safety
- Fundamental Aeronautics
- Airspace Systems
- Aeronautics Test Technologies
- Integrated System Research Project (ISRP)



2011 Science Topics



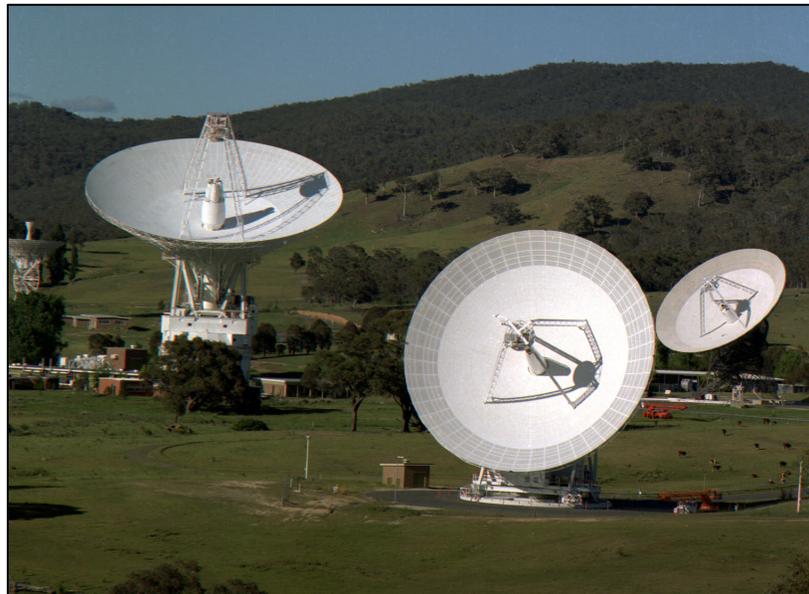
- Sensors, Detectors, and Instruments
- Advanced Telescope Systems
- Spacecraft and Platform Subsystems
- Low-Cost Small Spacecraft and Technologies
- Robotic Exploration Technologies
- Information Technologies



2011 Space Operation Topics (2012 Human Exploration and Operations Topics)



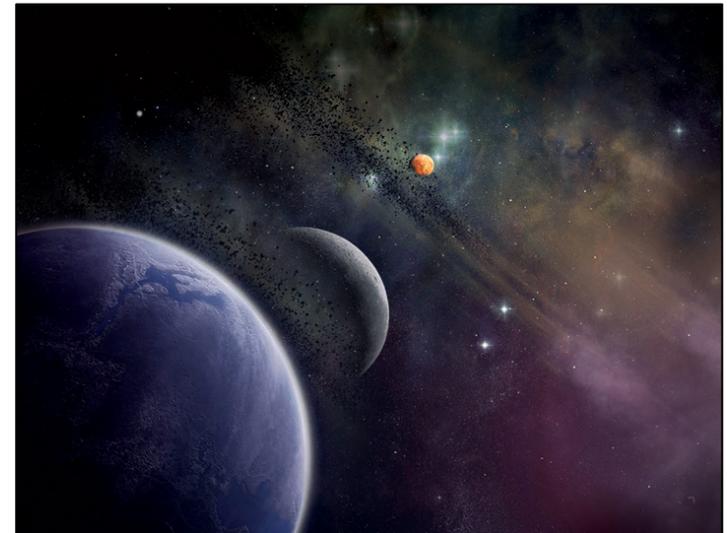
- Space Communications
- Space Transportation
- Processing and Operations
- Navigation



2011 Exploration Systems Research Topics (2012 Human Explorations and Operations Topics)



- In Situ Resource Utilization
- Advanced Propulsion
- Life Support and Habitation Systems
- Extra-Vehicular Activity Technology
- Lightweight Spacecraft Materials and Structures
- Autonomous Systems and Avionics
- Human-Robotic Systems
- High-Efficiency Space Power Systems
- Entry, Descent, and Landing (EDL) Technology
- Cryogenic Propellant Storage and Transfer
- Radiation Protection
- Exploration Crew Health Capabilities
- Exploration Medical Capability
- Behavioral Health and Performances
- Space Human Factors and Food Systems
- Space Radiation
- Inflight Biological Sample Preservation and Analysis



Nature of NASA Phase 1 and 2 SBIR & STTR Contracts



- SBIR contracts are fixed price contracts to be completed on a best effort basis.
- Company will own resulting intellectual property (data, copyrights, patents, etc.).
- Government has royalty-free rights for government use of intellectual property.
- Government protects data from public dissemination for four years after contract ends.
- NASA is a potential customer.

SBIR – Eligibility Checkpoints



- Organized for-profit U.S. small business (500 or fewer employees)
- At least 51% U.S. owned and independently operated
- Small business located in the U.S.
- P.I.'s primary employment with small business during the project

Before Submitting a Proposal



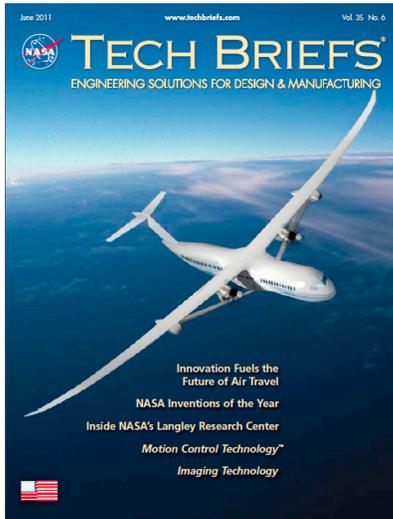
- Review prior year solicitation: <http://sbir.nasa.gov/>.
- Search and identify specific technical areas (subtopics) and lead center(s) of your interest.
- Request subject matter expert contact information from respective field center program POCs.
- E-mail/Call technical POCs and initiate dialogues.
- Learn technology needs and priorities.
- Visit and brief NASA on your companies capabilities, if the opportunity presents itself.

Proposal Review & Selection Criteria



- Proposal Review
 - Factor 1: scientific/technical merit and feasibility (50%)
 - Factor 2: experience, qualifications and facilities (25%)
 - Factor 3: effectiveness of the proposed work plan (25%)
 - Factor 4: commercial merit and feasibility (adjectival)
- Proposal Ranking and Selection
 - NASA Project/Mission Alignment
 - Value, Priority and Infusion Potentials
 - Champion/Advocate

Outreach & Publications



<http://www.techbriefs.com/>



<http://www.sti.nasa.gov/tto/>



<http://ipp.nasa.gov/innovation/index.html>



NASA SBIR/STTR Newsletter
<http://sbir.gsfc.nasa.gov/SBIR/newsletter.html>

<http://sbir.nasa.gov>

SBIR/STTR Program Current Year Submission & Schedule



2012 Program Solicitation

- Opening Date: TBD
- Closing Date: TBD
- Announcement: TBD

<http://sbir.nasa.gov>

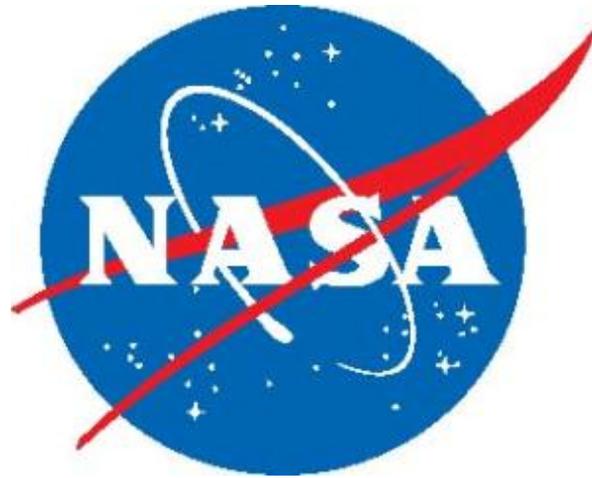


Challenge



Help us determine how we can create a more effective partnership between the genius of the American entrepreneur and the power of the federal government.

--Charlie Bolden, NASA Administrator



National Aeronautics and Space Administration

www.nasa.gov