



STRATEGIC ALIGNMENT OF YOUR RESEARCH INTEREST TO SBIR/STTR SUBTOPICS

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SUGGESTED STRATEGIES FOR POTENTIAL PROPOSERS

- Understand how your expertise can address NASA's technology needs
- Review previous solicitations
- Properly plan your proposal development process
- When the new solicitation is released, review it thoroughly
- Establish relationships with small businesses
- Make sure your proposal is compliant with the solicitation
- Work on your commercialization plan while your proposed idea is incubating



REVIEW PREVIOUS SOLICITATIONS



NASA SBIR WEBSITE

The screenshot shows the NASA SBIR/STTR website interface. At the top, the NASA logo is on the left, followed by the text 'SBIR/STTR' and 'Small Business Innovation Research / Small Business Technology Transfer'. To the right is a search bar with a magnifying glass icon and the text 'Advanced Search'. Below the search bar are three radio buttons: 'Site', 'Solicitations', and 'Awards', with 'Solicitations' being the selected option. A navigation menu below the search bar includes links for 'HOME', 'ABOUT SBIR/STTR', 'SOLICITATIONS', 'SCHEDULE & AWARDS', 'HANDBOOKS', 'MULTIMEDIA', and 'CONTACT US'. On the left side of the main content area, there is a vertical menu with five items: 'PRESS RELEASE MAR 2016', 'UPCOMING EVENT', 'TECHNOLOGIES', '2016 ROAD TOURS', and 'SPRING NEWSLETTER'. The 'PRESS RELEASE MAR 2016' item is highlighted in orange, and a white arrow points from the text 'Select "Solicitation"' to it. The main content area features a large background image of a space station module in orbit. Below this image, there is a white box containing the text 'Press Release Mar 2016', '2015 Phase II Selection Announcement', and 'NASA Selects American Small Business, Research Institution Projects for Continued Development'.

NASA SBIR/STTR
Small Business Innovation Research / Small Business Technology Transfer

Site Solicitations Awards

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PRESS RELEASE MAR 2016

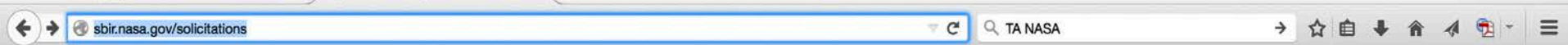
UPCOMING EVENT

TECHNOLOGIES

2016 ROAD TOURS

SPRING NEWSLETTER

Press Release Mar 2016
2015 Phase II Selection Announcement
NASA Selects American Small Business, Research Institution Projects for Continued Development

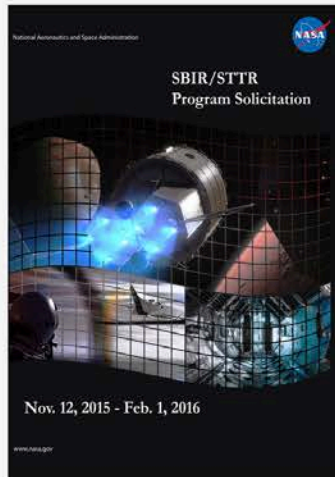
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Solicitations

The SBIR and STTR Solicitations are produced annually in partnership with NASA's Mission Directorates and Centers to focus on the Agency's priority mission needs. These needs are organized under topics and subtopics within the Solicitation. Solicitations for both programs are available online only.

Open and previous Solicitations are accessible below:

RECENT



FY 2016 SBIR/STTR Solicitation

Open from November 12, 2015 to February 01, 2016

Selections scheduled to be announced on April 28, 2016



Subscribe to the NASA SBIR/STTR Newsletter, The Concept, to receive information on upcoming Solicitation dates and other NASA SBIR/STTR news.

Previous Solicitations

- 2015 SBIR/STTR
- 2015 SBIR Select
- 2014 SBIR/STTR
- 2014 SBIR Select
- 2012 SBIR Select
- 2012 SBIR/STTR
- 2011 SBIR/STTR
- 2010 SBIR/STTR
- 2009 SBIR/STTR
- 2008 SBIR/STTR
- 2007 SBIR/STTR
- 2006 SBIR/STTR
- 2005 SBIR/STTR
- 2004 SBIR/STTR

Select the
Solicitation
of interest



SUBTOPICS BY MISSION DIRECTORATE

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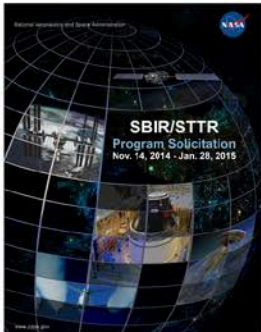
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NASA SBIR and STTR 2015 Program Solicitations

Opened on November 14, 2014 and closed on January 28, 2015

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Views by Technology Area **Views by Technology Taxonomy** **Download Solicitation**



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SBIR/STTR

Small Business Innovation Research / Small Business Technology Transfer

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View by

Mission Directorate

Technology Area

Legend

Subtopic has been amended

Expand All

The SBIR Program Solicitation topics and subtopics are developed by the NASA Mission Directorates and Centers in coordination with the NASA SBIR/STTR programs.

There are four Mission Directorates (MDs):

+

Aeronautics Research

NASA's Aeronautics Research Mission Directorate (ARMD) expands the boundaries of aeronautical knowledge for the benefit of the Nation and the broad aeronautics community, which includes the Agency's partners in academia, industry, and other government agencies. ARMD is conducting high-quality,... [Read more>>](#)

+

Human Exploration and Operations

The Human Exploration and Operations Mission Directorate (HEOMD) is chartered with the development of the core transportation elements, key systems, and enabling technologies required for beyond-Low Earth Orbit (LEO) human exploration that will provide the foundation for the next half-century of... [Read more>>](#)

+

Science

NASA leads the nation on a great journey of discovery, seeking new knowledge and understanding of our planet Earth, our Sun and solar system, and the universe out to its farthest reaches and back to its earliest moments of existence. NASA's Science Mission Directorate (SMD) and the nation's... [Read more>>](#)

+

Space Technology

The Space Technology Mission Directorate (STMD) enables a new class of missions by drawing on talent from the NASA workforce, academia, small businesses, and the broader space enterprise to deliver innovative solutions that dramatically improve technological capabilities for NASA and the Nation. The... [Read more>>](#)

Legend

Subtopic has been amended

Expand All

Cover

Noteworthy Changes

▶ Chapter 1 Program Description

▶ Chapter 2 Definitions

▶ Chapter 3 Proposal Preparation Instructions and Requirements

▶ Chapter 4 Method of Selection and Evaluation Criteria

▶ Chapter 5 Considerations

▶ Chapter 6 Submission of Proposals

▶ Chapter 7 Scientific and Technical Information Sources

Chapter 8. Submission Forms and Certifications

▶ Chapter 9. Research Topics for SBIR and STTR

▼ 9.1 SBIR Research Topics

Aeronautics Research

Human Exploration and Operations

Science

Space Technology

▶ 9.2 STTR Research Topics

Small Business Technology Transfer

▶ Appendices

Phase II Proposal Instructions

▶ Amendments



EXAMPLE: 2015 SMD SBIR SUBTOPICS

TOPIC S1 Sensors, Detectors, and Instruments

- **S1.01** Lidar Remote Sensing Technologies
- **S1.02** Microwave Technologies for Remote Sensing
- **S1.03** Sensor and Detector Technology for Visible, IR, Far IR and Submillimeter
- **S1.04** Detector Technologies for UV, X-Ray, Gamma-Ray and Cosmic-Ray Instruments
- **S1.05** Particles and Field Sensors and Instrument Enabling Technologies
- **S1.06** In Situ Sensors and Sensor Systems for Lunar and Planetary Science
- **S1.07** Airborne Measurement Systems
- **S1.08** Surface & Sub-surface Measurement Systems
- **S1.09** Atomic Interferometry
- **S1.10** Cryogenic Systems for Sensors and Detectors

TOPIC S2 Advanced Telescope Systems

- **S2.01** Proximity Glare Suppression for Astronomical Coronagraphy
- **S2.02** Precision Deployable Optical Structures and Metrology
- **S2.03** Advanced Optical Systems and Fabrication/Testing/Control Technologies for EUV/Optical and IR Telescope
- **S2.04** X-Ray Mirror Systems Technology, Coating Technology for X-Ray-UV-OIR, and Free-Form Optics

TOPIC S3 Spacecraft and Platform Subsystems

- **S3.01** Power Generation and Conversion
- **S3.02** Propulsion Systems for Robotic Science Missions
- **S3.03** Power Electronics and Management, and Energy Storage
- **S3.04** Unmanned Aircraft and Sounding Rocket Technologies
- **S3.05** Guidance, Navigation and Control

- **S3.06** Terrestrial and Planetary Balloons
- **S3.07** Thermal Control Systems
- **S3.08** Slow and Fast Light
- **S3.09** Command, Data Handling and Electronics

TOPIC S4 Robotic Exploration Technologies

- **S4.01** Planetary Entry, Descent and Landing and Small Body Proximity Operation Technology
- **S4.02** Robotic Mobility, Manipulation and Sampling
- **S4.03** Spacecraft Technology for Sample Return Missions
- **S4.04** Extreme Environments Technology
- **S4.05** Contamination Control and Planetary Protection

TOPIC S5 Information Technologies

- **S5.01** Technologies for Large-Scale Numerical Simulation
- **S5.02** Earth Science Applied Research and Decision Support
- **S5.03** Algorithms and Tools for Science Data Processing, Discovery and Analysis, in State-of-the-Art Data Environments
- **S5.04** Integrated Science Mission Modeling
- **S5.05** Fault Management Technologies

TOPIC S20 SMD Select Topics *

- **S20.01** Novel Spectroscopy Technology and Instrumentation
- **S20.02** Advanced Technology Telescope for Balloon and Sub-Orbital Missions



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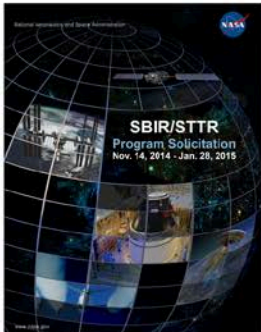
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SUBTOPICS BY TECHNOLOGY AREA

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View by Mission Directorate Technology Area

Legend Subtopic has been amended Expand All

- TA1 Launch Propulsion Systems
- TA2 In-Space Propulsion Technologies
- TA3 Space Power and Energy Storage
- TA4 Robotics, Telerobotics and Autonomous Systems
- TA5 Communication and Navigation
- TA6 Human Health, Life Support and Habitation Systems
- TA7 Human Exploration Destination Systems
- TA8 Science Instruments, Observatories & Sensor Systems
 - TA8.1 Science Instruments
 - TA8.2 Observations
 - TA8.3 Sensor Systems



SUBTOPICS BY TECHNOLOGY AREA

S1.01 Lidar Remote Sensing Technologies

Lead Center: LaRC

Participating Center(s): GSFC, JPL

NASA recognizes the potential of lidar technology in meeting many of its science objectives by providing new capabilities or offering enhancements over current measurements of atmospheric and topographic parameters from ground, airborne, and space-based platforms. To meet NASA's requirements for... [Read more>>](#)

S1.02 Microwave Technologies for Remote Sensing

Lead Center: JPL

Participating Center(s): GSFC

NASA employs active (radar) and passive (radiometer) microwave sensors for a wide range of remote sensing applications (for example, see <http://www.nap.edu/catalog/11820.html>). These sensors include low frequency (less than 10 MHz) sounders to G-band (160 GHz) radars for measuring precipitation and... [Read more>>](#)

S1.09 Atomic Interferometry

Lead Center: JPL

Participating Center(s): GSFC

Recent developments of laser control and manipulation of atoms have led to new types of precision inertial force and gravity sensors based on atom interferometry. Atom interferometers exploit the quantum mechanical wave nature of atomic particles and quantum gases for sensitive interferometric... [Read more>>](#)

S1.10 Cryogenic Systems for Sensors and Detectors

Lead Center: GSFC

Participating Center(s): ARC, JPL, KSC, MSFC

Cryogenic cooling systems often serve as enabling technologies for detectors and sensors flown on scientific instruments as well as advanced telescopes and observatories. As such, technological improvements to cryogenic systems further advance the mission goals of NASA through enabling performance... [Read more>>](#)





UNDERSTANDING HOW YOUR EXPERTISE CAN ADDRESS NASA'S TECHNOLOGY NEEDS



SPACE TECHNOLOGY TECHNICAL AREAS

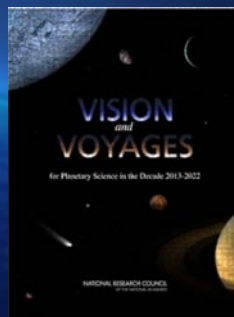
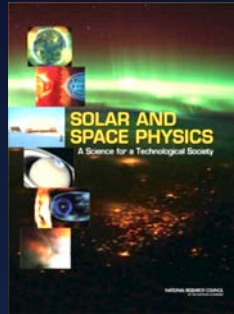
TA 1		LAUNCH PROPULSION SYSTEMS	TA 9		ENTRY, DESCENT, AND LANDING SYSTEMS
TA 2		IN-SPACE PROPULSION TECHNOLOGIES	TA 10		NANOTECHNOLOGY
TA 3		SPACE POWER AND ENERGY STORAGE	TA 11		MODELING, SIMULATION, INFORMATION TECHNOLOGY, AND PROCESSING
TA 4		ROBOTICS AND AUTONOMOUS SYSTEMS	TA 12		MATERIALS, STRUCTURES, MECHANICAL SYSTEMS, AND MANUFACTURING
TA 5		COMMUNICATIONS, NAVIGATION, AND ORBITAL DEBRIS TRACKING AND CHARACTERIZATION SYSTEMS	TA 13		GROUND AND LAUNCH SYSTEMS
TA 6		HUMAN HEALTH, LIFE SUPPORT, AND HABITATION SYSTEMS	TA 14		THERMAL MANAGEMENT SYSTEMS
TA 7		HUMAN EXPLORATION DESTINATION SYSTEMS	TA 15		AERONAUTICS
TA 8		SCIENCE INSTRUMENTS, OBSERVATORIES, AND SENSOR SYSTEMS			

<http://www.nasa.gov/offices/oct/home/roadmaps/index.html>



UNDERSTANDING NASA NEEDS

- In Science – “Decadal Surveys” and NASA-developed implementation documents
 - Planetary Science
 - http://solarsystem.nasa.gov/multimedia/download-detail.cfm?DL_ID=742
 - Astronomy and Astrophysics
 - <http://science.nasa.gov/astrophysics/special-events/astro2010-astronomy-and-astrophysics-decadal-survey/>
 - http://science.nasa.gov/media/medialibrary/2013/04/15/secure-ImpPlan_R2_15Apr2013.pdf
 - Heliophysics (Solar and Space Physics)
 - http://www.nap.edu/catalog.php?record_id=13060
 - http://www.nasa.gov/mission_pages/sunearth/news/decadal-2012.html
 - http://science.nasa.gov/media/medialibrary/2010/03/31/Heliophysics_Roadmap_2009_tagged-quads.pdf
 - Earth Science
 - <http://science.nasa.gov/earth-science/decadal-surveys/>
 - <http://esto.nasa.gov/>
- In Aeronautics Research
 - National Aeronautics R&D Plan
 - <http://www.whitehouse.gov/sites/default/files/microsites/ostp/aero-rdplan-2010.pdf>
 - Various Detailed NASA Aeronautics Research documents
 - <http://www.aeronautics.nasa.gov/programs.htm>





PLANNING YOUR PROPOSAL DEVELOPMENT PROCESS



NASA TECHNOLOGY AVAILABLE (TAV) AND INTELLECTUAL PROPERTY (IP)

- NASA's IP and non-patented software is available for use during an SBIR/STTR performance period
- A non-exclusive, royalty free research license is available during the performance period
- Software identified and requested under a SBIR/STTR contract must request a Software Usage Agreement
- Increase private-sector commercialization of innovations derived from Federal research and development funding
- TAV and IP can be found at <http://technology.nasa.gov>



GAIN ACCESS TO NASA'S PATENTED TECHNOLOGY PORTFOLIO

A screenshot of the NASA Technology Transfer Program website. The browser address bar shows "technology.nasa.gov" and the search bar contains "nasa technology roadmap". The website has a dark blue header with a NASA logo and navigation links: NEWS (News, features & press releases), MISSIONS (Current, future, past missions & launch dates), MULTIMEDIA (Images, videos, NASA TV & more), CONNECT (Social media channels & NASA apps), and ABOUT NASA (Leadership, organization, budget, careers & more). Below the header is a banner with the text "Bringing NASA Technology Down to Earth". The main content area features the "TECHNOLOGY TRANSFER PROGRAM" logo and the tagline "BRINGING NASA TECHNOLOGY DOWN TO EARTH". Below this, there are two columns. The left column is titled "NASA Technology Transfer Features" and shows a carousel of images, including a row of beer glasses. The right column is titled "Welcome to the T2 Portal" and features a video player with a man speaking, followed by text explaining the program's mission to make technologies developed for space exploration available to the public.



SEARCH FOR EXISTING PATENTED TECHNOLOGIES

The screenshot shows the NASA Technology Transfer Program website. The header features the program's logo and the tagline "BRINGING NASA TECHNOLOGY DOWN TO EARTH". Below the header, there's a section titled "NASA Technology Transfer Features" with a carousel of "Spinoff" magazine covers. To the right, a "Welcome to the T2 Portal" section includes a video and text about the program's mission. At the bottom, a "Search for NASA technologies" section has a search bar containing "Infrared sensors", a "Patents" dropdown menu, and a "Search" button. A blue arrow points to the search bar. Other sections include "Contact Us" and "T2 Social Media" with links to Twitter, YouTube, and LinkedIn.

technology.nasa.gov

nasa technology roadmap

TECHNOLOGY TRANSFER PROGRAM
BRINGING NASA TECHNOLOGY DOWN TO EARTH

NASA Technology Transfer Features

Spinoff 1998, Spinoff 2000, Spinoff 2002, Spinoff 2004, Spinoff 2006, Spinoff 2008, Spinoff 2010, Spinoff 2012, Spinoff 2014, Spinoff 2016, Spinoff 2018, Spinoff 2020

YEARS

In celebration of Spinoff's 40th year of publication, we've assembled 40 of the spinoffs that have had the greatest impact on society

Welcome to the T2 Portal

NASA's Technology Transfer Program ensures that technologies developed for missions in exploration and discovery are broadly available to the public, maximizing the benefit to the Nation.

Contact Us

Visit the [T2 Program Network](#) page to find out who we are and how you can reach us.

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Search for NASA technologies

Infrared sensors Patents Search



technology.nasa.gov

nasa technology roadmap

TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

NASA Technology Transfer Features

SPACE RACE

ENGAGE. COMPETE. LAUNCH.

Join the Space Race!
This startup challenge using NASA inventions will jump-start your business!

To learn more, go to technology.nasa.gov/spacerace

Learn more about how you can join the Space Race.

Features Archive

Search for NASA technologies

Infrared sensors Patents Search

Welcome to the T2 Portal

NASA's Technology Transfer Program ensures that technologies developed for missions in exploration and discovery are broadly available to the public, maximizing the benefit to the Nation.

Contact Us

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T2 Social Media



CONTACT A NASA TECHNOLOGY MANAGER TO DISCUSS LICENSING OR PARTNERSHIP OPTIONS


technology.nasa.gov/search/patent/Infrared sensors

nasa technology roadmap

Home Back


Infrared sensors Patents Search

139 results found for Infrared sensors (page 1).




Extreme Heat Resistant Ultraviolet and Infrared Sensor

NASA Langley Research Center has developed an ultraviolet and **infrared** radiation sensor system that can operate in extreme heat environments. The system was originally developed to monitor temperature and radiation during spacecraft re-entry. Thus, the design is survivable in a vacuum and can...



Novel Superconducting Transition Edge Sensor

NASA technologists have developed a novel, superconducting transition edge sensor (TES). Such TES devices are thermometers that are widely used for particle detection, e.g. X-rays, **infrared** photons, atoms, molecules, etc. Energy resolution is chiefly important in superconducting transition...



Functional Near-Infrared Spectroscopy (fNIRS) Cognitive Brain Monitor

Innovators at NASA's Glenn Research Center have developed a Functional Near-Infrared Spectroscopy (fNIRS) Cognitive Brain Monitor with improved signal processing to obtain more accurate data. fNIRS has been used successfully to monitor cognitive states and activity, and Glenn's system can be...

Patent of interest



LASTLY...

- Only contact NASA SMEs about our SBIR/STTR programs during our “Open Season”
- Refer to online resources for general SBIR/STTR questions (SBIR.NASA.gov or SBIR.gov)
- Ask direct technical questions with you meet with a NASA Scientist/Engineer/Program Manager



QUESTIONS????