



**Science Mission
Directorate**

SBIR Program

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Topics

- **Changes in NASA's SBIR Program**
 - SBIR budget
 - 2012 Subtopics Allocation
 - Special Subtopics Pilot Program
- **SMD's Technology Overview**
 - **SMD's SBIR Topics/Subtopics**

- **NASA's Small Business Innovative Research (SBIR) Program funds small businesses to develop technologies and capabilities that can be used to enhance NASA missions and objectives**
- **SBIR budget:**
 - 2.6% of extramural R&D budget in FY'12
 - 2.7% of extramural R&D budget in FY'13
 - 2.8% of extramural R&D budget in FY'14
 - 2.9% of extramural R&D budget in FY'15
 - 3.0% of extramural R&D budget in FY'16
 - 3.2% of extramural R&D budget in FY'17 and each fiscal year thereafter
- **SBIR contracts are two phase:**
 - Phase I: Six month, up to \$150K (Up to \$100K for PY'12)
 - Phase II: Two year, up to \$1M (Up to \$700K for PY'12)
 - Phase 2E: Up to \$250K if program/project contributes funds
- **Phase III, non-SBIR development funds with a path to infusion into a NASA mission**

Subtopics Allocation from SBIR PMO

- Due to limited budget available in FY'13, the allocation of subtopics as follows:

	PY 2011 Subtopics	PY 2012 Subtopics	
ARMD	35	17	-51.4%
HEOMD	57	36	-36.8%
SMD	36	27	-25.0%
SBIR Total	128	80	-37.5%

Commercial Readiness Pilot Program for NASA SBIR Program

- **For PY'12 solicitation, SBIR program will use up to 10% of the funds allocated to SBIR program to start a pilot program for:**
 - For awards for technology development, testing, evaluation, and commercialization assistance for SBIR Phase II technologies; or
 - To support the progress of research, research and development, and commercialization conducted under the SBIR program to Phase III
 - **To implement this pilot program NASA will create “Special Subtopics” which would solicit technologies that can substantially advance the mission of the agency. For PY'12 solicitation:**
 - NASA will identify a small set of subtopics, approximately 6-8 for PY 2012, that will, if successful, be those projects with primary access to dedicated Phase III funds. Special Subtopics will be unique and different from the “standard” subtopics, and will be reviewed using different criteria
- **The Budget and expected awards for Phase 1 and Phase 2 are:**

Phase 1	\$200K	2 to 3 awards
Phase 2	\$1.5M	1 to 2 awards

Criteria for a Special Subtopic

- **Program Management Criteria**

- **Identified Potential Source(s) of Infusion:** Given the objective to support a Phase 3 at the end of the Phase 2 effort, there should be at least a Program within a Mission Directorate, or within the Space Technology Program, where technology can be infused if it proves successful

- **Technical Criteria**

- Technologies that can be identified as:
 - A particularly high Mission Directorate priority, as called out specifically by an NRC decadal survey pointing to that technology
 - Within the “Top 16” Technology Priorities for NASA space technology recently identified by the NRC, in its review of the Space Technology Roadmaps.
 - Highly promising small business technologies that, in addition to being of value to NASA, have a strong opportunity for non-NASA commercial success
 - Subtopics where NASA and External Peer Review assessments are both “Very Good” or “Excellent”

- **Subtopics are chosen that can *realistically* benefit from the level of investment of this Phase 2 -- \$1.5 million**

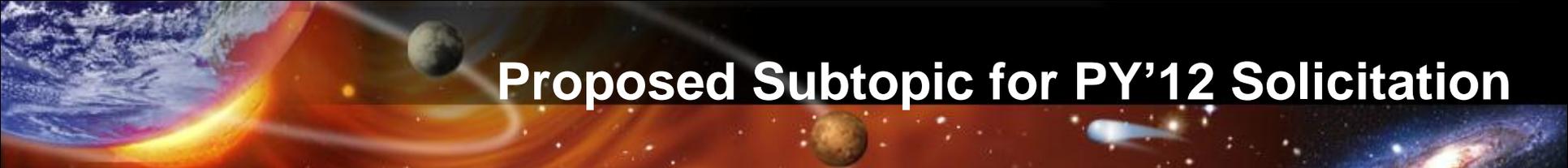
- **Subtopics for which the level of investment of this Phase 2, \$1.5 million, could yield significantly better results than the standard Phase 2 investment of \$750K.**

SMD Technology Overview

- **SMD manages technology at the Division level**
 - Astrophysics
 - Earth
 - Heliophysics
 - Planetary
- **Technology development tasks TRLs range from concept (0/1) to flight hardware (6-9)**
- **Technology process:**
 - A focused, science-driven approach, and open competitive program solicited through ROSES (Research Opportunities in Space and Earth Science) and peer reviewed.
- **Technology investments directly relate to the needs outlined in each Division's respective NRC Decadal Survey reports**

Proposed Subtopic for PY'12 Solicitation (cont'd)

- **S1 Sensors, Detectors and Instruments**
 - S1.01 Lidar Remote Sensing Technologies
 - S1.02 Microwave Technologies for Remote Sensing
 - S1.03 Sensors 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 Cryogenic Systems for Sensors and Instrument Enabling Technologies
 - S1.07 In Situ Sensors and Sensor Systems for Lunar and Planetary Science
 - S1.08 Airborne Measurement Systems
 - S1.09 Surface & Sub-surface Measurement Systems
- **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
 - S2.04 Optics Manufacturing and Metrology for Telescope Optical Surfaces



Proposed Subtopic for PY'12 Solicitation

- **S3 Spacecraft and Platform Subsystems**
 - S3.01 Command, Data Handling, and Electronics
 - S3.02 Power Generation and Conversion
 - S3.03 Propulsion Systems
 - S3.04 Power Electronics and Management, and Energy Storage
 - S3.05 Unmanned Aircraft and Sounding Rocket Technologies Robotic Exploration Technologies
- **S3 Robotic Exploration Technologies**
 - S4.01 Planetary Entry, Descent and Landing Technology
 - S4.02 Robotic Mobility, Manipulation and Sampling
 - S4.03 Spacecraft Technology for Sample Return Missions
 - S4.04 Extreme Environments Technology
- **S4 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