

# The Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR) Program Interagency Policy Committee Report to Congress

**Office of Science and Technology  
Small Business Administration**

**Participating Agencies**

**Department of Defense  
Department of Health & Human  
Services  
Department of Energy  
National Aeronautics & Space  
Administration  
National Science Foundation  
Department of Agriculture  
Department of Homeland Security  
Department of Education  
Department of Commerce  
Environmental Protection Agency  
Department of Transportation**

## **SBIR/STTR Outreach**

***September 15, 2014***

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## 1. Executive Summary

**Purpose.** This report responds to the statutory requirement in the Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) Reauthorization Act of 2011 (Reauthorization Act), which was included in the [2012 Defense Authorization Act \(P.L.112-81\)](#)<sup>1</sup>. The Reauthorization Act requires the Interagency Policy Committee (IPC) to review the issues regarding increased outreach about the SBIR/STTR programs to socially disadvantaged small businesses and small business that are located in underserved communities.

**Key Issues.** The key issues that need to be addressed include the following: (1) determine cost effective and innovative ways to conduct outreach and education to socially disadvantaged small businesses and small businesses that are located in underserved communities; (2) ensure accurate data reporting on awards to such small businesses; and (3) determine the effectiveness of the outreach efforts by continuing to review program participation by these small businesses.

### Key Recommendations.

- Unify the outreach effort across the SBIR/STTR Programs for cost effectiveness.
- Implement new methods of communication and outreach tools using state, regional and local agencies and trade groups.
- Develop a new series of narratives around the programs highlighting its impact to these communities and its correlation around economic development and prosperity.
- Monitor the outreach efforts and compare to program participation by socially disadvantaged small businesses and small businesses that are located in underserved communities.

## 2. Introduction

The Reauthorization Act created the SBIR/STTR Interagency Policy Committee (IPC) to review certain issues and make policy recommendations to Congress on ways to improve program effectiveness and efficiency. The IPC is co-chaired by the White House Office of Science and Technology Policy (OSTP) and the Small Business Administration (SBA) and includes representatives from Federal agencies that participate in the SBIR or STTR programs to review certain issues and make policy recommendations to Congress on ways to improve program effectiveness and efficiency.

### **a. Background**

Congress established the SBIR program in 1982 and the STTR program ten years later to assist small business concerns (SBCs) in obtaining Federal research and development (R&D) funds to build a strong economy and support technological innovation as discussed below:

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<sup>1</sup> <http://www.gpo.gov/fdsys/pkg/PLAW-112publ81/pdf/PLAW-112publ81.pdf>

- **SBIR:** Requires federal agencies with extramural R&D budgets over \$100 million to set aside a percentage of their annual extramural R&D budget for small businesses. This percentage was 2.5% prior to FY 2012, and increased to 2.6% in FY 2012 and will continue to increase by 0.1% each year until it reaches a base requirement of 3.2% in FY 2017.
- **STTR:** Modeled after the SBIR program, STTR requires federal agencies with extramural budgets exceeding \$1 billion to set aside a percentage of their annual extramural R&D budget for SBCs that work in cooperation with universities, federally funded research and development centers, and other non-profit scientific and educational institutions. This percentage was 0.3% in FYs 2004-2011, and legislation increased this minimum to 0.35% for FYs 2012 and 2013, with continued increases through 2016. The goal is to facilitate the transfer of technology and research from these institutions to commercial use and encourage innovation.

**b. Program Objectives**

The Small Business Act indicates that “assistance” provided by the SBIR and STTR programs “be given to small-business concerns to enable them to undertake and obtain the benefits of research and development in order to maintain and strengthen the competitive free enterprise system and the national economy.”<sup>2</sup>

The [SBIR Policy Directive](#) identifies the following primary objectives:

- Stimulate technological innovation;
- Meet Federal R&D needs while strengthening the role of small businesses;
- Foster and encourage participation in innovation and entrepreneurship by socially and economically disadvantaged persons and women-owned small businesses; and
- Increase private-sector commercialization of innovations derived from Federal research and development funding.

In addition, the Reauthorization Act added several new initiatives including:

- Permitting agencies to direct some SBIR funds to firms that are owned by multiple venture capital operating companies (VCOs), hedge funds, or private equity firms;
- Allowing agencies to provide one additional Phase II award to small businesses to extend a study;
- Providing for a Commercialization Readiness Program at DOD and pilot programs at civilian agencies;
- Reducing processing times;
- Allowing agencies to use 3% of program budgets for administration and oversight;
- Reducing vulnerability of Fraud Waste and Abuse (FWA);
- Improving program evaluation; and
- Increasing commercialization and outreach.

In general, the SBIR/STTR Reauthorization Act underscored the need for improved commercialization, outreach, and program evaluation. In December 2013 the lead SBIR/STTR Program Managers in conjunction with White House Office of Science & Technology Policy (OSTP) facilitated the creation of five sub-working groups that fall under the “Fueling Small Business Innovation” component of the President’s Lab to Market Commercialization Agenda.

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<sup>2</sup> 15 U.S.C. § 638(a).

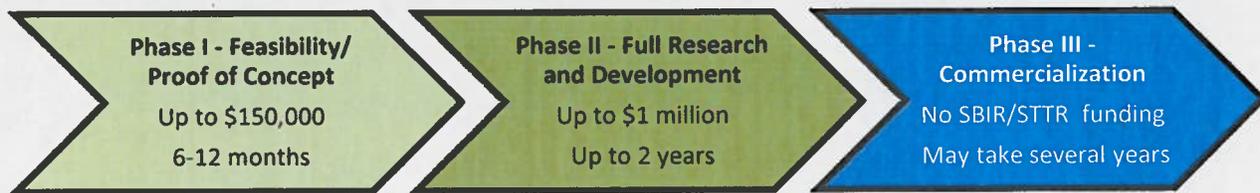
These five groups are:

- 1) Outreach & Communications
- 2) Commercialization Pathways
- 3) Awards Efficiency & Efficacy
- 4) Databases & Interagency Exchange of Information
- 5) Asset Mapping

Going forward these five groups are tasked with various short-term and long-term projects that fall within scope of various facets covered in the President’s Lab to Market Commercialization Agenda. They will seek to identify issues, challenges, and provide further recommendations for consideration amongst the various SBIR/STTR program managers as well for SBA and OSTP consideration as it relates to the SBIR/STTR program.

**c. SBIR/STTR Process**

To bring technology from ideas to commercialization, both programs utilize a three phase approach:



- **Phase I – Feasibility/Proof of Concept.** Using a competitive process, federal agencies award up to \$150,000 to a small business to perform research/research and development (R/R&D) for up to 6-12 months on a specific topic in order to establish its technical merit, feasibility, and commercial potential. During this phase, federal agencies assess both the performance of the small business and the potential of the technology prior to providing further Federal support in Phase II.
- **Phase II – Full Research and Development.** Based on the results achieved in Phase I, federal agencies will decide whether to continue R/R&D efforts into Phase II based on the scientific, technical, and commercial merit and feasibility of the idea. If the federal agency decides to continue into Phase II, they will award up to \$1 million to the small business to continue R/R&D efforts for up to 2 years.
- **Phase III - Commercialization.** No specific SBIR funding is associated with Phase III, however, some agencies may include follow-on non-SBIR funded R&D or production contracts for products or services intended for use by the U.S. Government. The objective of Phase III, is for the small business to pursue commercialization objectives resulting from the Phase I/II R/R&D activities. The Small Business Act<sup>3</sup> defines commercialization as
  - “the process of developing products, processes, technologies, or services; and”

<sup>3</sup> 15 U.S.C. § 638(e)(10).

- “the production and delivery (whether by the originating party or by others) of products, processes, technologies, or services for sale to or use by the Federal Government or commercial markets.”

A significant advantage to Phase I/II award winners is that federal agencies may pursue sole source contracts to utilize technology developed through prior SBIR/STTR awards which automatically qualify as a Phase III activity.

The SBIR/STTR program needs to consider the success at attracting qualified small businesses to the program, the successful transitions between phases, and the impact of the technology in terms of commercialization.

**d. Socially Disadvantaged and Underserved Populations**

This particular report focuses on SBIR/STTR outreach to socially disadvantaged, and underserved areas. Agencies have been increasing outreach efforts in the most recent years, but there is still much more work to be done. There is a need to improve outreach to women, minorities, and the 27 underserved states and territories as previously identified from the SBIR/STTR annual reports and independently by National Academy of Sciences (NAS) studies<sup>45</sup> to increase SBIR/STTR participation. SBA and the partnering 11 federal agencies have begun collecting data on how big the fissures are between these groups and the number of SBIR and STTR awards made each year.

Data reported shows the following concerning awards to these underserved populations:

- Data on women and minority program participation
  - From 2010-2013, awards to women owned firms in both the SBIR and STTR program have increased from 7.43% to 9.22% .
  - From 2010-2013, awards to minority owned firms have grown from 3.39% to 4.57% with a slight dip in between those years.
  - The peak years for awards were 1995 at 9.59% for women and 1994 for minorities with 9.14%, which we believe was partially due to a larger budget during that time period.
- Data on underserved areas
  - Awards have mostly been made to small businesses located in California, Massachusetts, New York and the Washington, DC metro area (combining Virginia, Maryland and the District of Columbia)
  - Those areas have won over 50% of all SBIR/STTR awards

We note that there is anecdotal evidence from various SBIR/STTR agency program managers regarding potential under-reporting by awardees that are socially disadvantaged or small businesses located in underserved communities. There is a newly created working group, which is part of the President’s Lab to Market Commercialization Agenda under the Fueling Small Business Innovation Research section that is reviewing this issue as well as researching all the issues and recommendations set forth in this report. The group will also determine how the program can improve overall participation rates among stakeholders and

<sup>4</sup> [http://www.nap.edu/catalog.php?record\\_id=11989](http://www.nap.edu/catalog.php?record_id=11989) (An Assessment of the SBIR Program)

<sup>5</sup> <http://sites.nationalacademies.org/PGA/step/sbir/>

where and how gaps can be minimized. The working group is currently reviewing the best practices and metrics to provide feedback and a path forward from the technology development perspective for the OSTP and SBA co-led IPC meetings.

### **3. Recommendations/Next Steps**

In summary SBA and the 11 federal agencies will continue to work in tandem and collaboratively through the Outreach & Communications working group within the interagency policy committee team for the President's Lab to Market Commercialization agenda around Fueling Small Business Innovation. Below are key recommendations and next steps, many of which are already occurring and will continue to grow and build off as we move forward.

#### **a. *Unify Outreach Efforts***

SBA along with the 11 federal agencies has taken the lead on creating an inter-agency outreach plan to provide for cost effectiveness and to ensure that efforts are not duplicated via the Outreach and Communications working group of the Fueling Small Business Innovation under the President's Lab to Market Commercialization agenda. However, all agencies will assess their current outreach structures and plans to identify gaps and create tactics to remove the missing parts, while goal aligning where practical under the SBIR/STTR banner.

#### **b. *Implementation of New Methods of Communication and Outreach Tools***

The outreach and communications working group has put in place a game-plan to use both technology and face-face education and outreach efforts to targeted groups in order to increase their participation in the SBIR/STTR program. The use of various information technology driven social media platforms (Twitter, LinkedIn, Facebook, etc...) will help agencies leverage their resources and provide a farther reach to find new and diverse participants in the program. The program will tap government (federal, state and local), industry, and academic sources for new avenues of outreach.

Over the years, all of the 11 federal agencies involved with the SBIR/STTR program, have in concert and independently conducted numerous webinars promoting their various solicitations. Recently, SBA partnered with the National Council of Entrepreneurial Technology Transfer (NCET2) to put on a free 2 year webinar series<sup>6</sup> around the SBIR/STTR program with the specific purpose of increasing awareness and outreach to new innovation pipelines across the country. This webinar series (modeled after a similar focused series by NCET2 around IP-Law and SMEs<sup>7</sup>) is being conducted under the auspices of the White House Lab to Market Commercialization-Fueling Small Business Innovation interagency working group. A few examples of the webinar topics presented include updates on the Reauthorization Act, Commercialization, Understanding a specific Federal Agency's SBIR/STTR Program and Structure (e.g., DHS, DOE, DARPA, and NIH, etc...). We plan to continue this type of outreach to targeted groups of people. All of the material created via these webinar series is housed under the SBIR.gov website for anyone interested in the program to utilize and learn more.

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<sup>6</sup> [http://center.ncet2.org/index.php?option=com\\_content&view=article&id=690](http://center.ncet2.org/index.php?option=com_content&view=article&id=690)

<sup>7</sup> [http://center.ncet2.org/index.php?option=com\\_content&view=article&id=445](http://center.ncet2.org/index.php?option=com_content&view=article&id=445)

Additionally the 11 federal agencies work in concert to help facilitate the execution of The National Innovation Summit and National SBIR/STTR conference each year which welcomes thousands to DC to learn more about the program and facilitate an open air of awareness and communication between the public and private stakeholders involved in the program.

**c. *Crafting the Right Narrative***

Over the past year the 11 federal agencies, during the monthly SBIR/STTR program managers meetings and beyond, have been highlighting success stories for greater awareness internally and externally. With these success stories, we can better convey the mission and fruitful benefits of this program. From small business creation to workforce development to emerging industries that can trace its origin to the SBIR/STTR program. For instance it was recently found out from research conducted by the Institute for Defense Analysis-Science and Technology Policy Institute, that mainstream commercial 3D Printing can trace its seed financing origins in part to the SBIR/STTR program dating back to the early 1990's.<sup>8</sup> This type of information is very useful and critical in better understanding the benefits of this program and how each of the 11 federal agencies play crucial role in seeding next generation technology development and deployment.

**d. *Outreach to New Innovation Pipelines with the Underserved Communities***

To ensure better awareness about the program, will require the right tool sets to help educate prospective applicants on how to participate in the SBIR/STTR programs across the 11 federal agencies. It is pertinent that accurate information from all of the stakeholders is gathered and disseminated. This is an issue being addressed by the working groups so that we can ensure a better managed and effective program that entices the appropriate participants across all 50 states. In particular the 27 states (AK, AR, DC, DE, HI, IA, ID, KS, KY, LA, ME, MO, MS, MT, ND, NE, NV, OK, PR, RI, SC, SD, TN, UT, VT, WV, WY) with the lowest success in the SBIR/STTR program will be a major focus of outreach awareness efforts to ensure that we are adequately tapping into the right innovation pipelines and encouraging the next generation of high-tech growth entrepreneurs. Key contacts have been identified from these 27 states in addition to all of the states with higher rates of success, with the aim to work closely with them on our outreach efforts. Additionally the 11 federal agencies are working on efforts to serve historically underserved communities through outreach efforts with a number of external stakeholder organizations. Approaching these various groups, identified below, will better help the SBIR/STTR program to reach the ideal applicants to participate and encourage buildout of next generation science and technology development.

The outreach to particular groups include:

- Historically Black Colleges and Universities (HBCU)
- National Society of Black Engineers
- Society of Hispanic Professional Engineers
- Society of Asian Scientists and Engineers
- American Indian Science and Engineering Society (AISES)
- Minority Business Development Agency (MBDA)
- US Black Chamber of Commerce
- US Hispanic Chamber of Commerce

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<sup>8</sup> <https://www.ida.org/~media/Corporate/Files/Publications/STPIPubs/ida-p-5091.ashx>

- Society of Women Engineers;
- Association for Women in Science
- Minority Serving Institutions
- SBA District Offices
- Small business Development Centers
- Women's Business Centers
- SCORE chapters
- HubZones
- National Women's Business Council
- Universities for Women
- Society of Women Engineers
- Association for Women in Science
- Minority Serving Institutions, Societies, Associations, and Trade Organizations
- National Association for Equal Opportunity in Education
- State Science & Technology Institute
- National Conference of State Legislatures
- National Governors Association
- LGBT Technology Partnership
- Veterans-Related Service Groups

Within the resources available to them, agencies should work together in uniformity through the SBA to do outreach to targeted groups and underserved areas.

1. Hold the annual conference in an area that is underserved to encourage more companies in the underserved areas to participate in the program. Work with special interest chambers of commerce (e.g., Women, Hispanic, Black, LGBT etc.) will also encourage diverse participation in the program.
2. Build a mentorship program within SBIR so that experienced companies may recruit and mentor newer companies.
3. Create recruitment materials for various mediums that include foundational content such as SBIR and STTR 101, how-to guides for new entrants to the program, and success stories. These recruitment guides can be state specific and also highlight either woman owned firms or social disadvantaged owned firms.
4. Reach out to state economic development agencies to educate them on the SBIR and STTR programs so that they may tell their citizens to participate.
5. Work with universities in underserved states to educate them on SBIR and STTR.
6. Allocate administrative funds to specifically enable outreach for SBIR and STTR participation.
7. Hold regional conferences in areas that are underserved specifically to do outreach and increase applications by small business located in these areas.
8. Facilitate further encouragement and creation of student internship programs that encourage young people coming out of school to create their own companies and eventually apply to the SBIR program for initial R&D funding.
9. Continue to create and promote webinars that are content specific to reach out to socially disadvantaged small businesses and small businesses located in underserved communities.

10. Create target metrics, goals, and outcomes related to socially disadvantaged and underserved state participation.
11. Use proactive email marketing through the SBIR website to forward solicitations to companies that have not been involved in SBIR. This can be done using GovDelivery.
12. Utilize social media to tap the younger tech based sector.
13. Combine outreach efforts amongst agencies that cross over industries to strategically source outreach money.
14. Create and fund Accelerators and also educate ones that exist currently on the SBIR program.
15. Contact state and local based organizations and small business service providers in underrepresented areas to increase awareness among small businesses residing in these zones.
16. Upgrade website materials and content to recruit women, socially disadvantaged individuals, and small businesses from underserved areas.
17. Hold entrepreneurial boot camps for new applicants, which would be targeted towards socially disadvantaged owned small businesses and small businesses located in underserved communities.